



The engineered systems and component parts in these pages represent the best available technology and design for maximum performance in door and window sealing systems. Because of ZERO INTERNATIONAL's technology leadership, our products continually evolve as we both anticipate and respond to our customers' and market needs. For timely updates on new products and enhancements, we encourage you to visit regularly our online catalog at www.zerointernational.com, where you can also download drawings for specification documents and hardware schedules.

Together our catalog and websites for ZERO and affiliated companies are your gateway to practical value vested in a long history of innovation dating to 1924 when two Hungarian immigrants, starting out with nothing, established a new company and named it "Zero." Over the decades, we have earned a worldwide reputation for exacting standards in product design and quality. Today, our end users and their specifiers ask for "ZERO, no substitutes" when they want the best value in products that perform reliably over years of hard use. And our OEM partners turn to ZERO for expertise and superior quality that give them a competitive edge in crowded markets.

Experience in this demanding industry proved from the beginning that "one size fits all" does not apply to gasketing. So we look at functionality to

design performance-based sealing systems that work right for specific applications to block air, light, water, fire, smoke and sound. Our purpose is to build the best possible product for its use. Quality remains a constant for ZERO.

There's more to ZERO than ever. We're a full-line company providing a single source for integrated, specialized door sealing systems, including high-performance hinges, gasketing and thresholds. And we offer a wide variety of door louvers and vision lites through our Advantage Lites & Louvers subsidiary, which can be viewed at www.a-ll.com.

We support all of our product lines using extensive in-house production capabilities combined with engineering strength and ingenuity to solve problems creatively. We make our own rubber extrusions through our IND-EX subsidiary at www.ind-ex.biz. Our INTUMET division produces our intumescent material for fire and smoke gasketing, as well as firestopping applications. We also make our own photoluminescent material for compliance with New York City and IBC 2009 requirements for exit path markings.

These unparalleled capabilities afford unique flexibility in responding to special requirements. We listen to our customers. We deliver exactly what you need. And we make sure it lasts.

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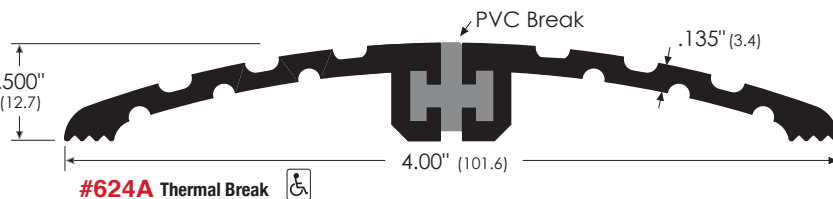
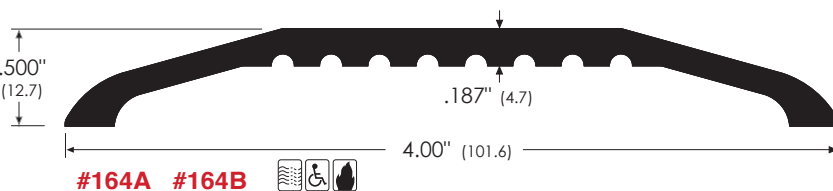
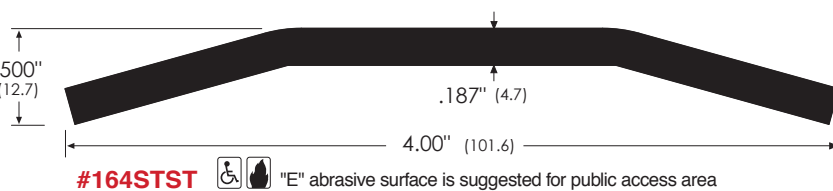
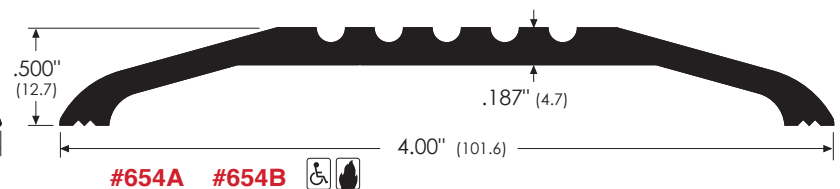
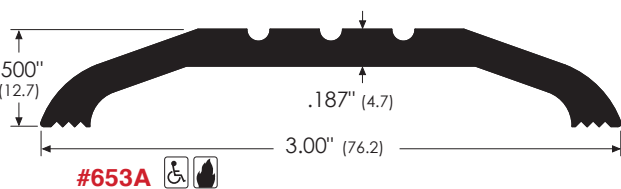
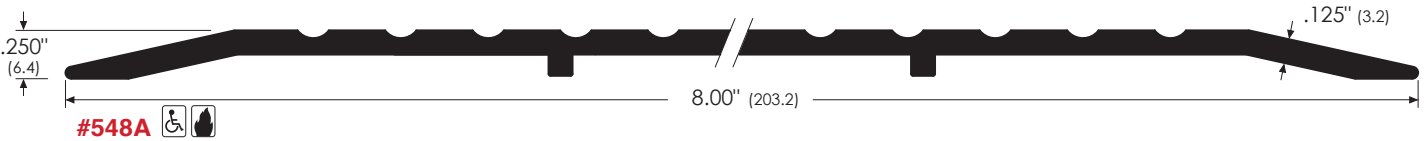
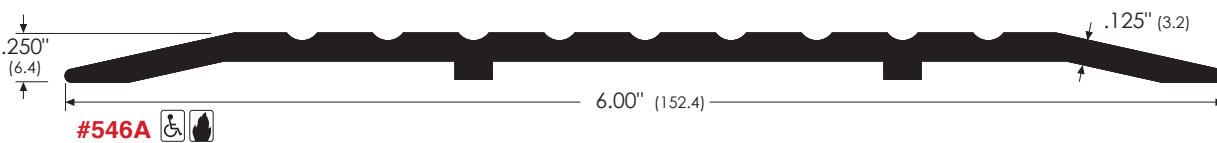
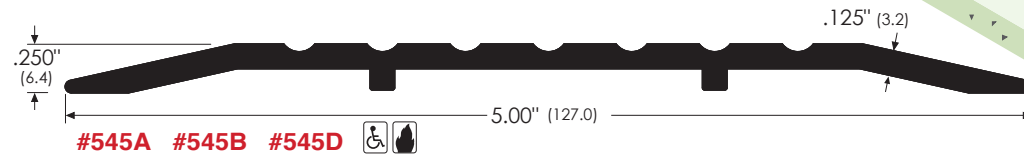
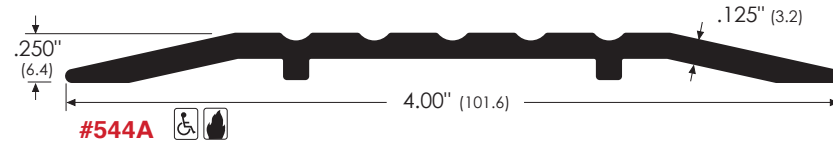
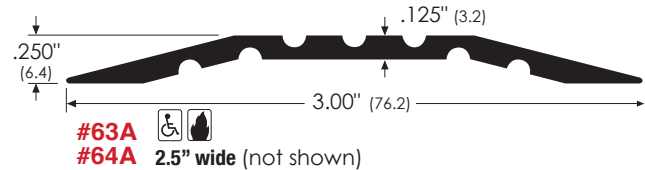
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Utility Thresholds

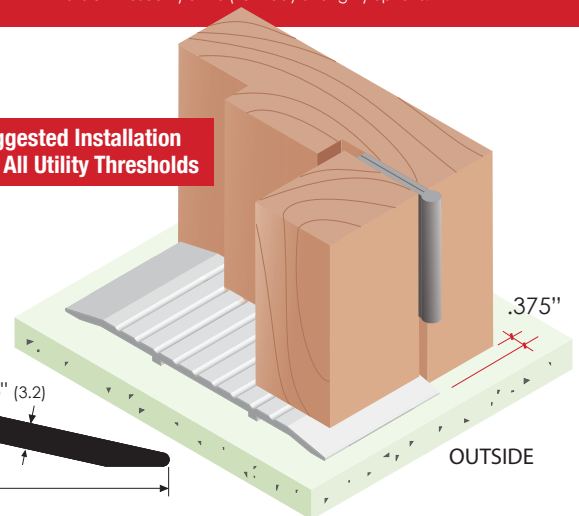


Note: A = Aluminum B = Bronze
D = Dark Bronze Anodized STST = Stainless Steel
Thresholds can be ordered with E (Epoxy Abrasive), EL (Epoxy Abrasive Photoluminescent) or V3 (Full Body Strength) options.

Thresholds



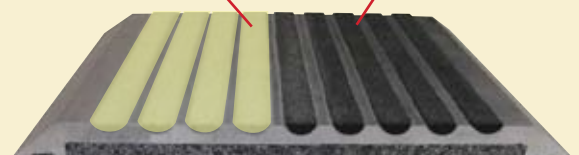
Suggested Installation For All Utility Thresholds



OPTIONS:

■ **Non-Slip Epoxy Abrasive.** Thresholds can be ordered with non-slip epoxy abrasive particles bonded into the grooves. The tread provides a coefficient of friction of 1.02 dry and 0.98 wet to comply with ADA, OSHA and most local building code requirements. To order, add -E or -EL after the item number. Example : #657A-E or #657A-EL

EL - Epoxy Abrasive Photoluminescent **E - Epoxy Abrasive**



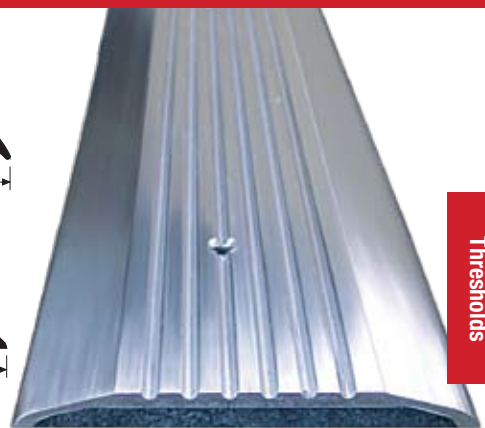
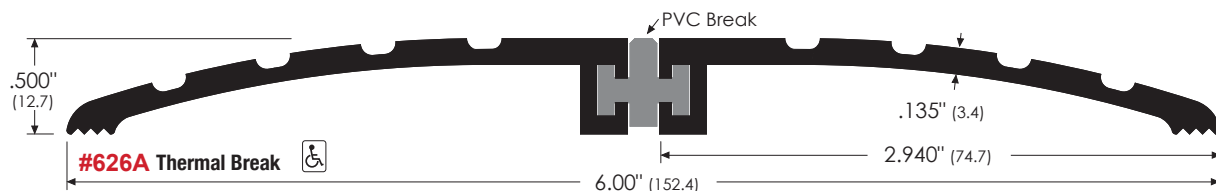
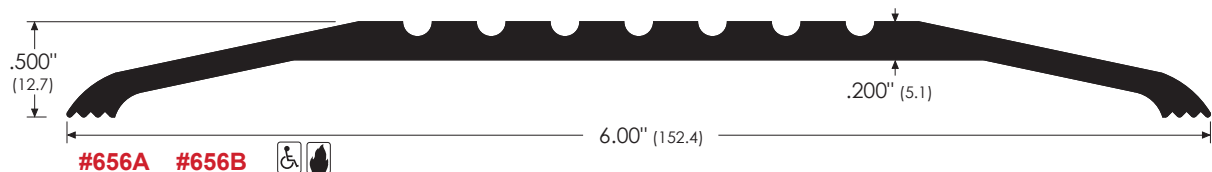
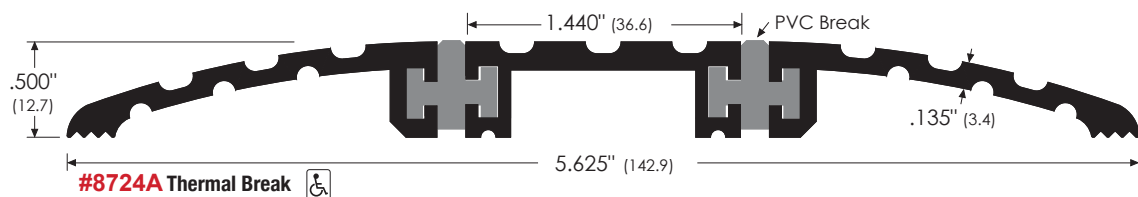
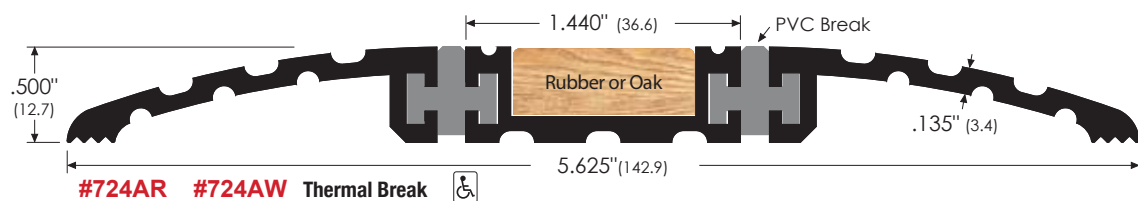
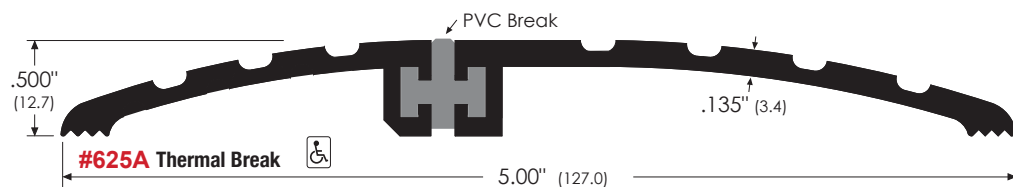
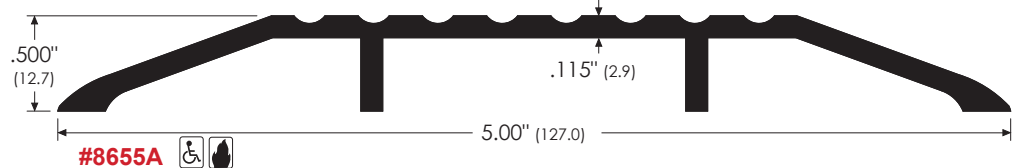
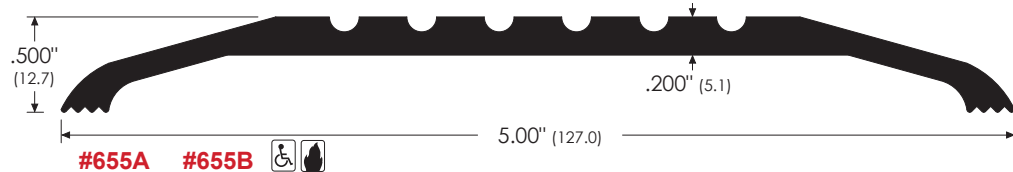
V3 - Full Body Strength

■ **Full Body Strength.** An aluminum composite filler containing aluminum oxide and silicone carbide. Ideal applications include heavy commercial traffic in supply rooms, manufacturing buildings, schools, cafeterias, automobile dealers, hospitals, industrial facilities. To order, add -V3 after the item number. Example: #657A-V3

Utility Thresholds



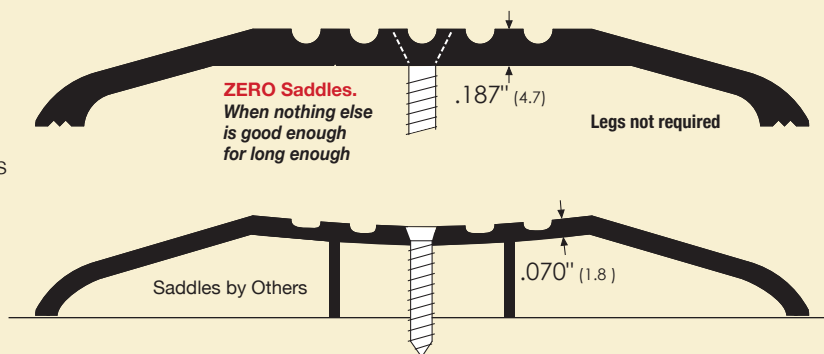
Note: A = Aluminum B = Bronze
R = Rubber W = Oak
Thresholds can be ordered with E (Epoxy Abrasive), EL (Epoxy Abrasive Photoluminescent) or V3 (Full Body Strength) options.



Thresholds

Which would you rather walk on or install?

Both pass the ANSI standard load test, but the ZERO threshold also passes the test of time and weight. The heavier-gauge material in our thresholds allows you to drill and screw right through and into concrete. Lighter-gauge thresholds can buckle and often loosen because screws cannot be tightened fully. Be sure you get the best....specify the heavier gauge when you need thresholds.

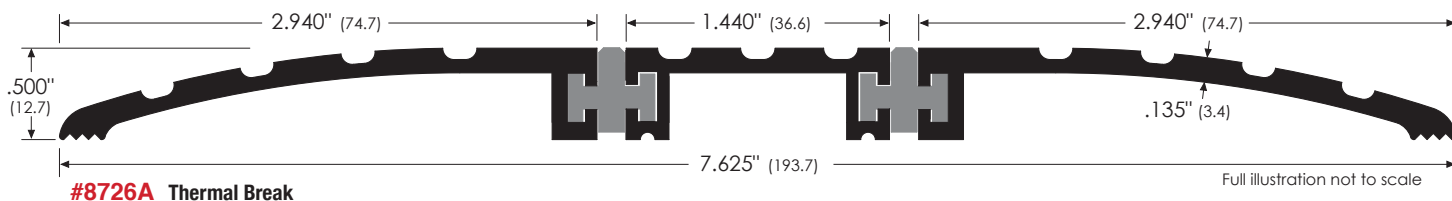
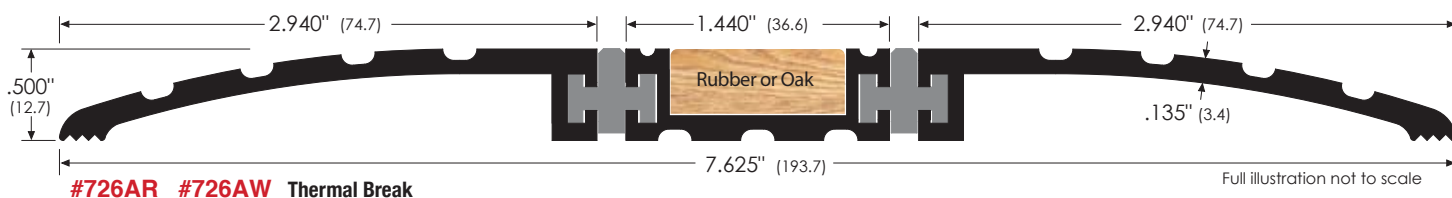
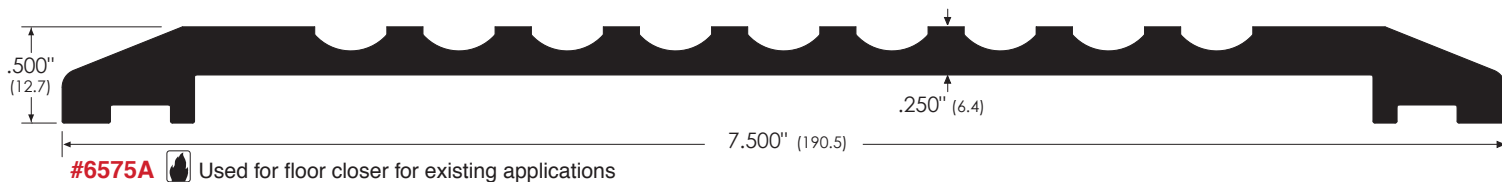
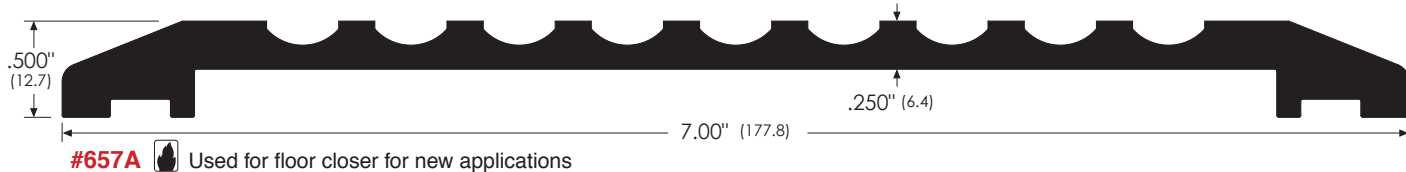
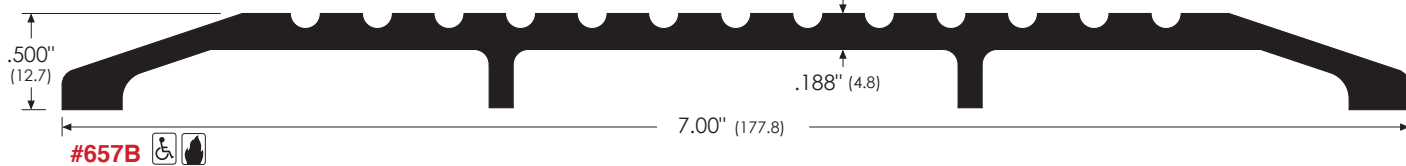


Utility Thresholds



Note: A = Aluminum B = Bronze
R = Rubber W = Oak
Thresholds can be ordered with E (Epoxy Abrasive), EL (Epoxy Abrasive Photoluminescent) or V3 (Full Body Strength) options.

Thresholds

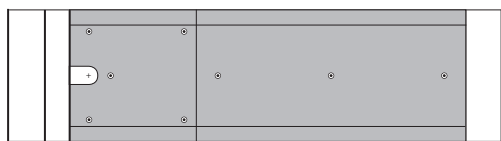


Floor Closer Threshold & Cover Plate Assemblies

When ordering please specify handing. Template required.

TYPE 1

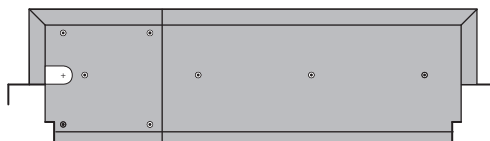
For doors hung in center of frame



Left Hand Shown

TYPE 3

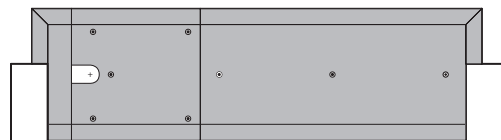
For use with all offset closers and pivot sets



Left Hand Shown

TYPE 4

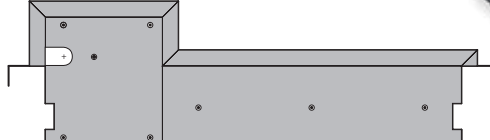
For doors hung flush with face of frame



Left Hand Shown

TYPE 5

For use with offset closers and pivot sets



Left Hand Shown

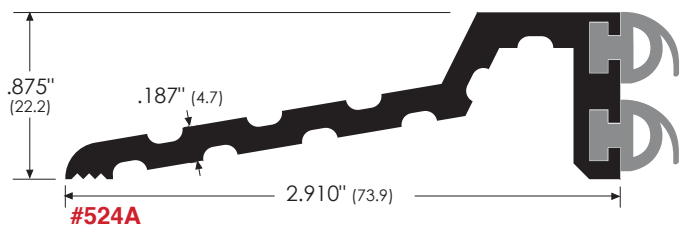
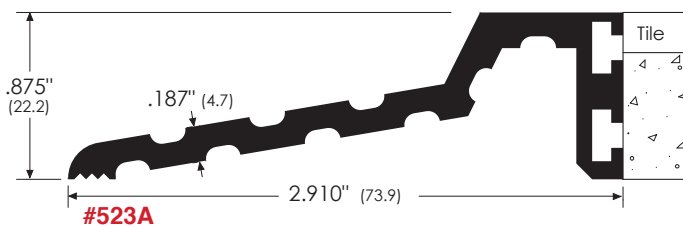
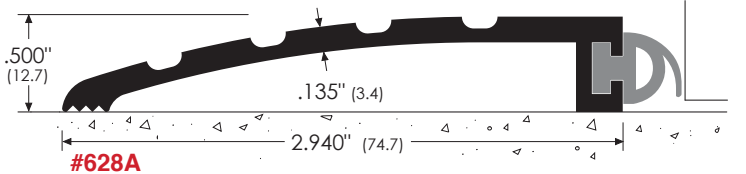
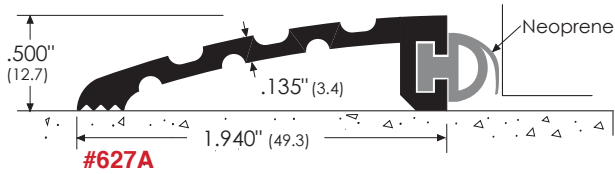
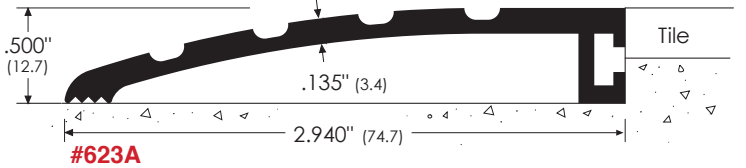
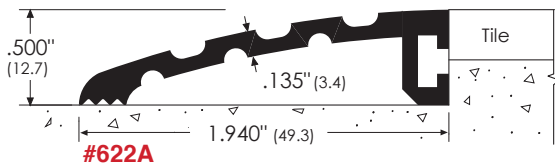
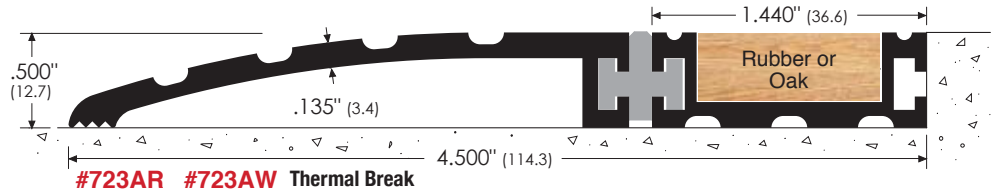
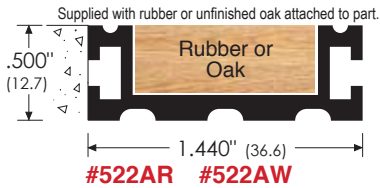
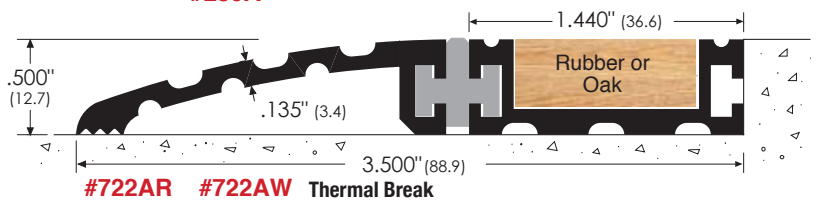
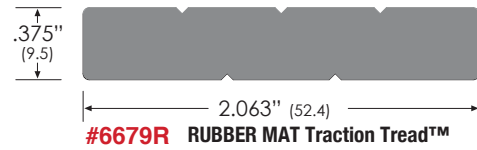
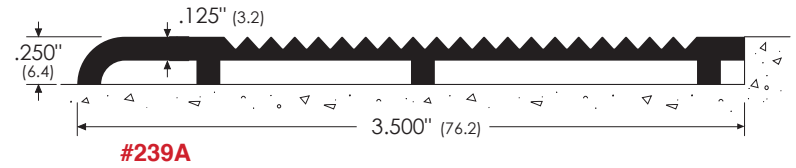
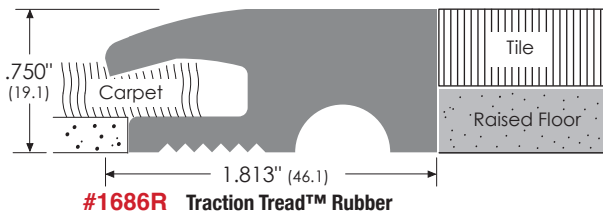
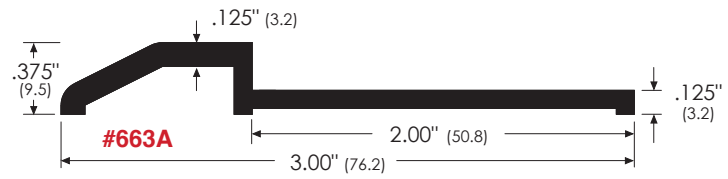
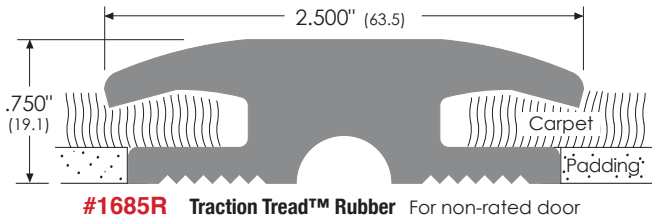
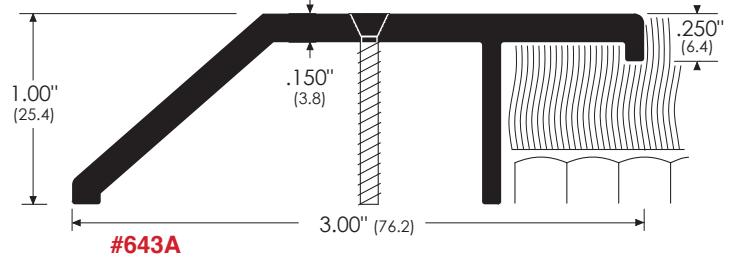
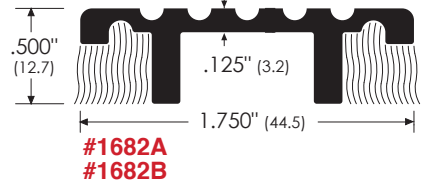
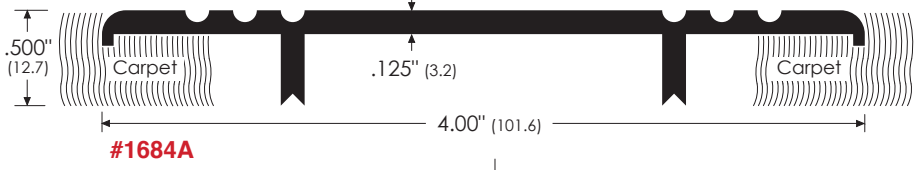
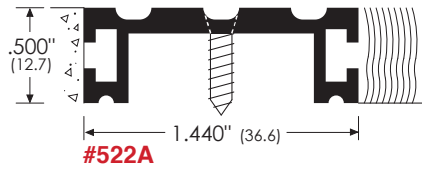
TYPE 3 shown



Carpet Divider and Thermal Break Threshold



Note: A = Aluminum
R = Rubber
B = Bronze
W = Oak
Thresholds can be ordered with E (Epoxy Abrasive), EL (Epoxy Abrasive Photoluminescent) or V3 (Full Body Strength) options.



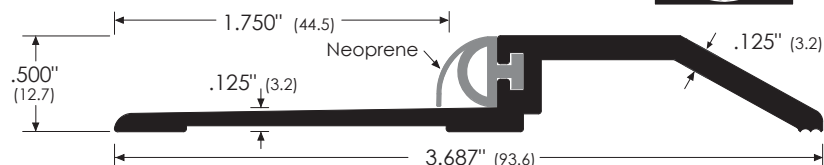
Thresholds

Rabbeted Thresholds

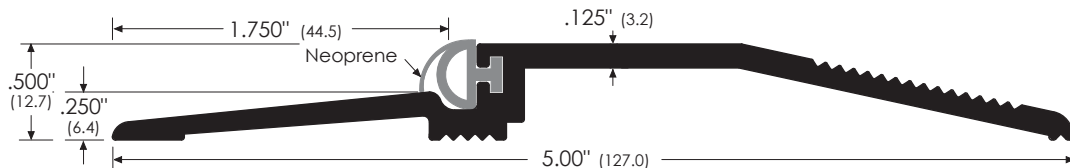


Note: A = Aluminum
D = Dark Bronze Anodized
Thresholds can be ordered with E (Epoxy Abrasive), EL (Epoxy Abrasive Photoluminescent) or V3 (Full Body Strength) options.

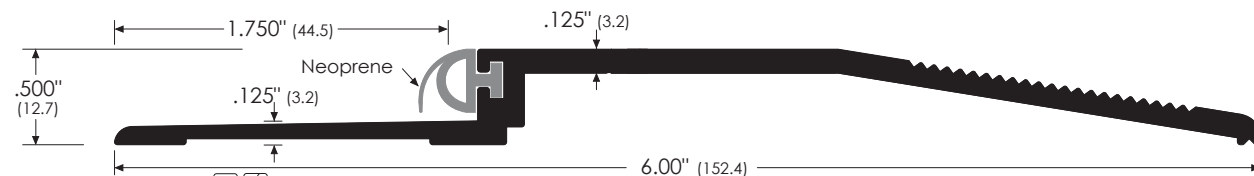
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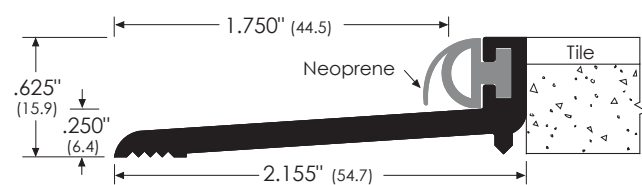
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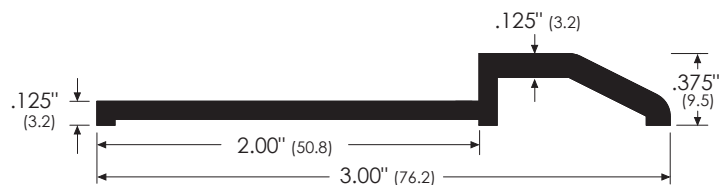
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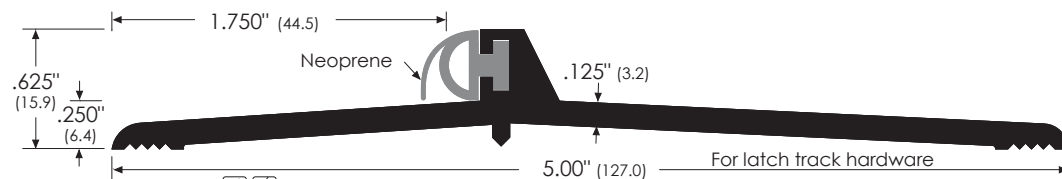
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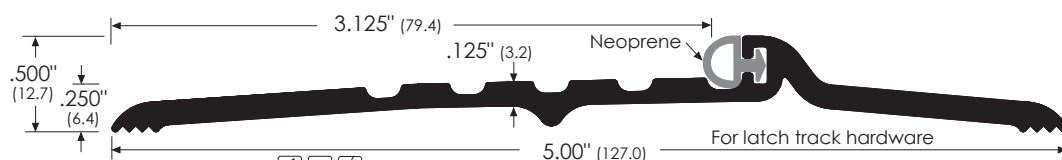
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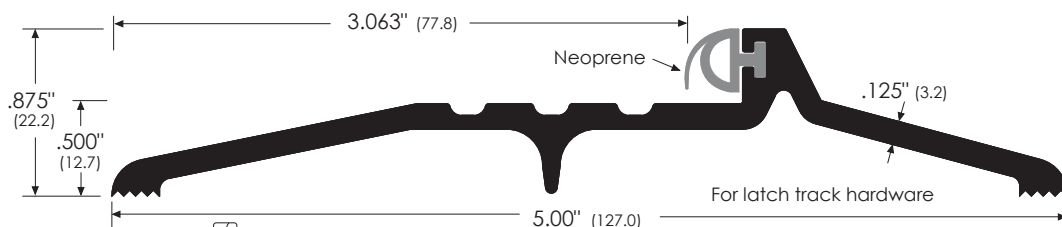
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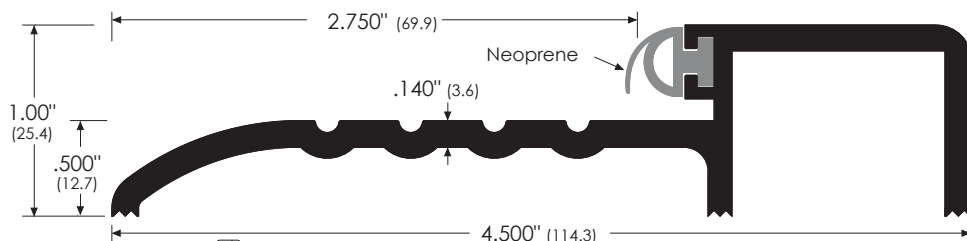
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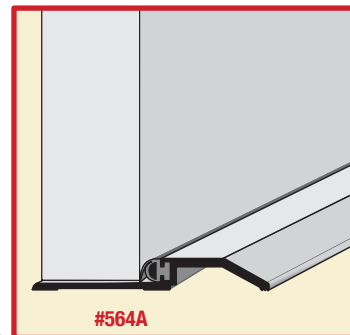
#65A #65B



#560A



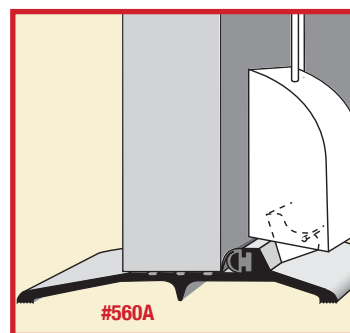
#561A



#564A



#560A



#560A

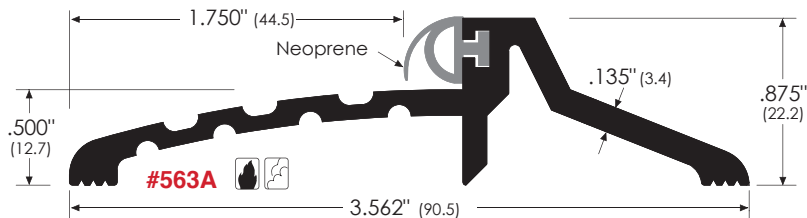
SPECIFY THIS SPECIAL FEATURE
EBF= Extruded Bulb/Finger
The Neoprene gasket is designed with an extra lip for double seal protection, and to compensate for any warping or misalignment during installation.
ZERO Compress-O-Matic®

Rabbeted Thresholds



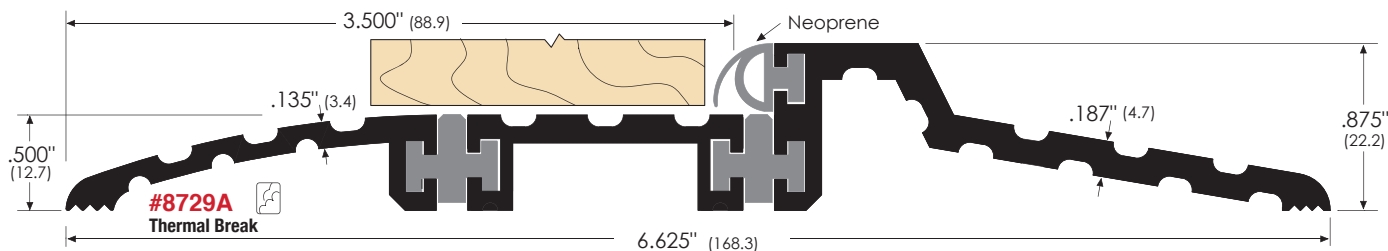
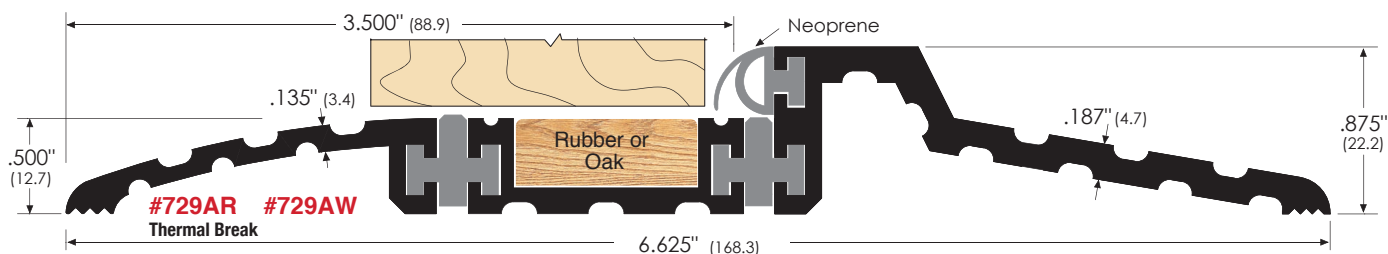
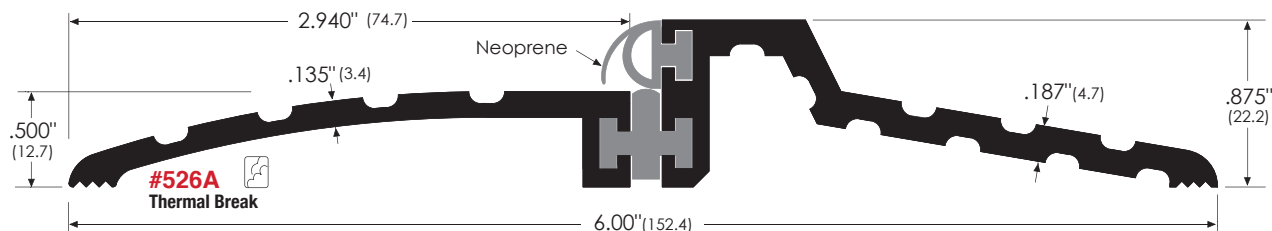
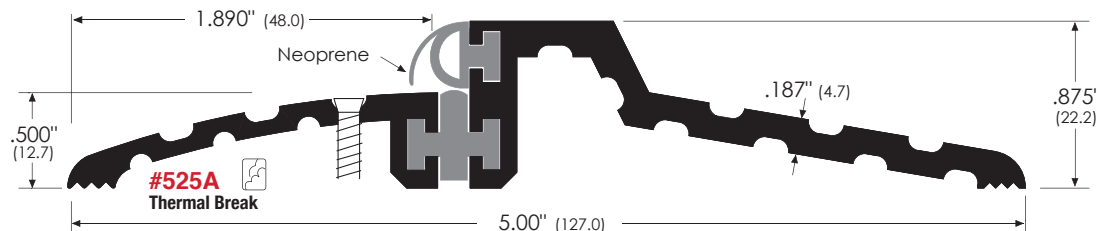
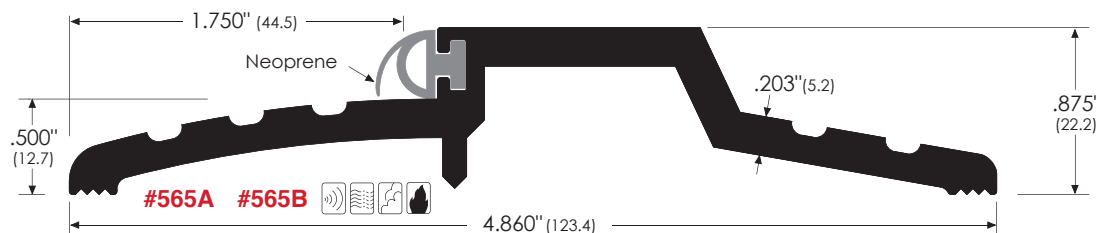
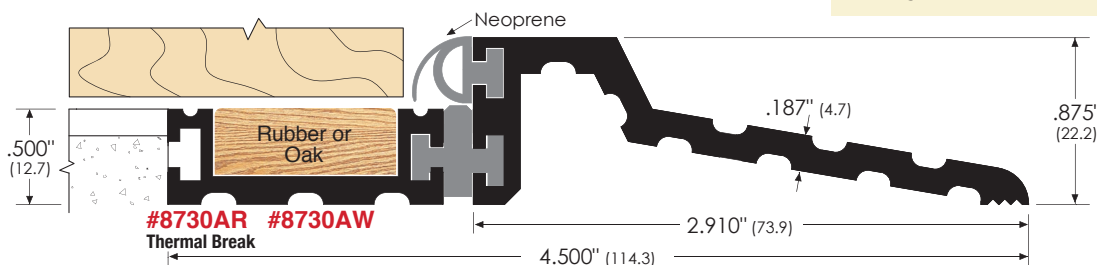
Note: A = Aluminum B = Bronze
R = Rubber W = Oak

Thresholds can be ordered with E (Epoxy Abrasive), EL (Epoxy Abrasive Photoluminescent) or V3 (Full Body Strength) options.



#226 Stainless Steel Sleeve Anchor Optional for all thresholds

- An expansion anchor and 1/4" - 20 x 3" flat head machine screw in one unit.
- Easy installation. Place threshold in position and drill 1/4" dia. x 3 1/2" deep hole through countersunk hole in threshold. Drop the anchor in place and tighten with screwdriver.



Thresholds

Ramps



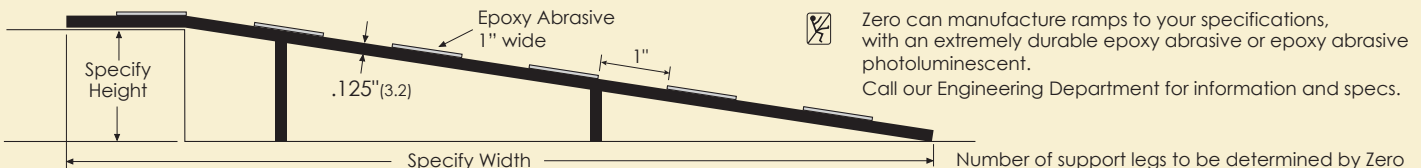
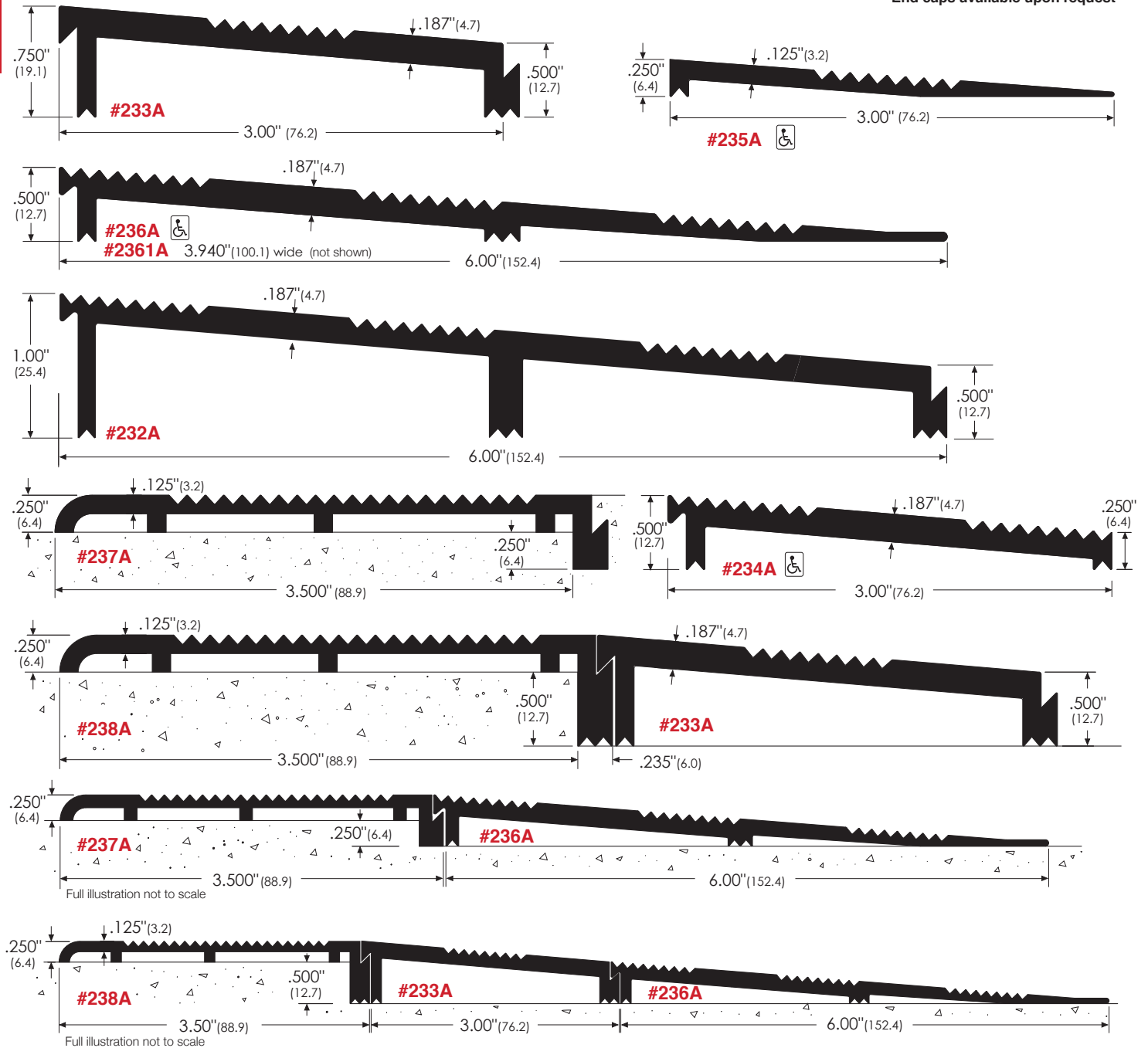
Note: A = Aluminum

Thresholds can be ordered with E (Epoxy Abrasive), EL (Epoxy Abrasive Photoluminescent) or V3 (Full Body Strength) options.

Thresholds



End caps available upon request



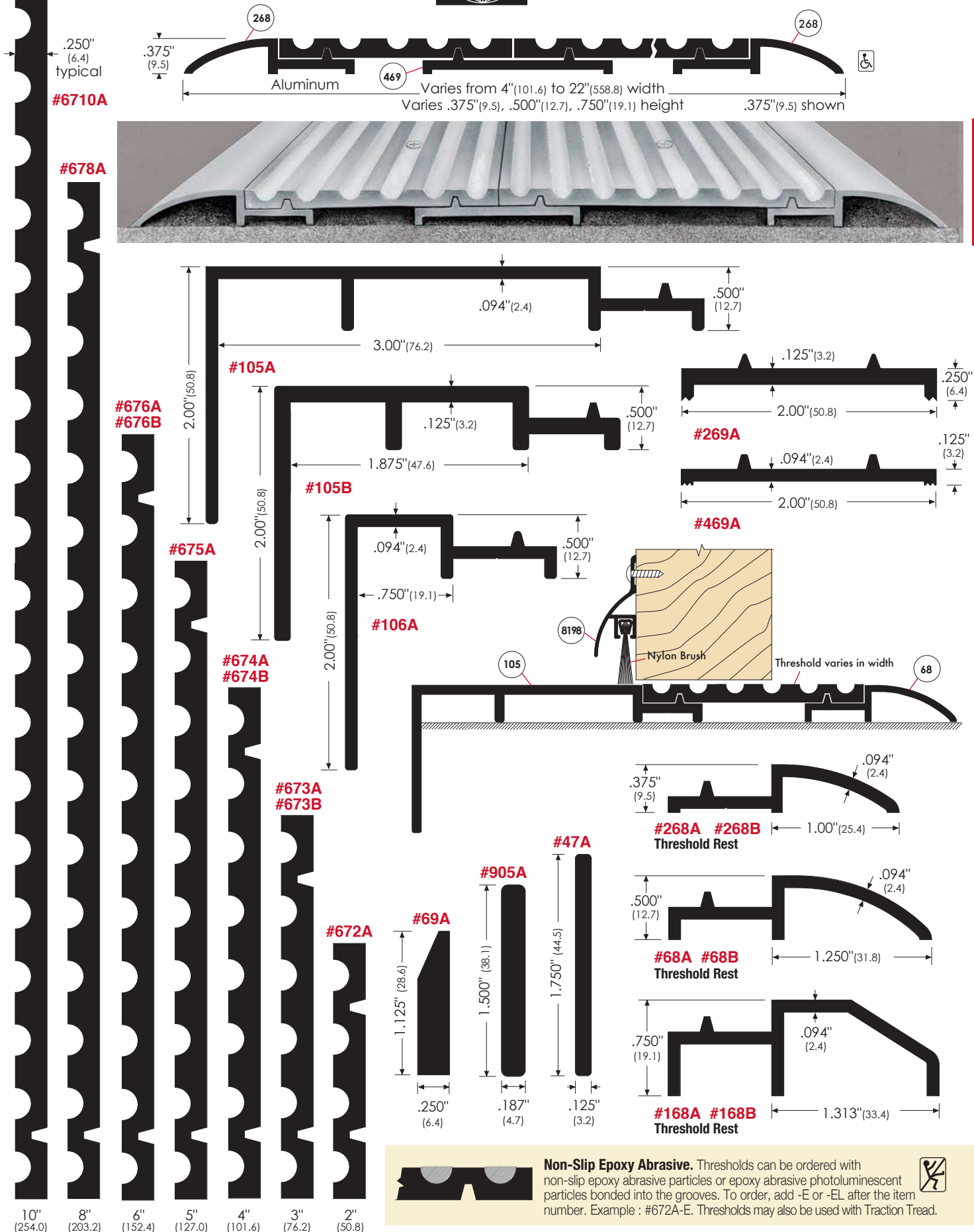
Zero can manufacture ramps to your specifications, with an extremely durable epoxy abrasive or epoxy abrasive photoluminescent. Call our Engineering Department for information and specs.

Adjustable Thresholds



Note: A = Aluminum B = Bronze

Thresholds can be ordered with E (Epoxy Abrasive), EL (Epoxy Abrasive Photoluminescent) or V3 (Full Body Strength) options.



Adjustable Thresholds



Note: A = Aluminum B = Bronze
E = Epoxy EL = Epoxy Photoluminescent
Thresholds can be ordered with E (Epoxy Abrasive) or EL (Epoxy Abrasive Photoluminescent).

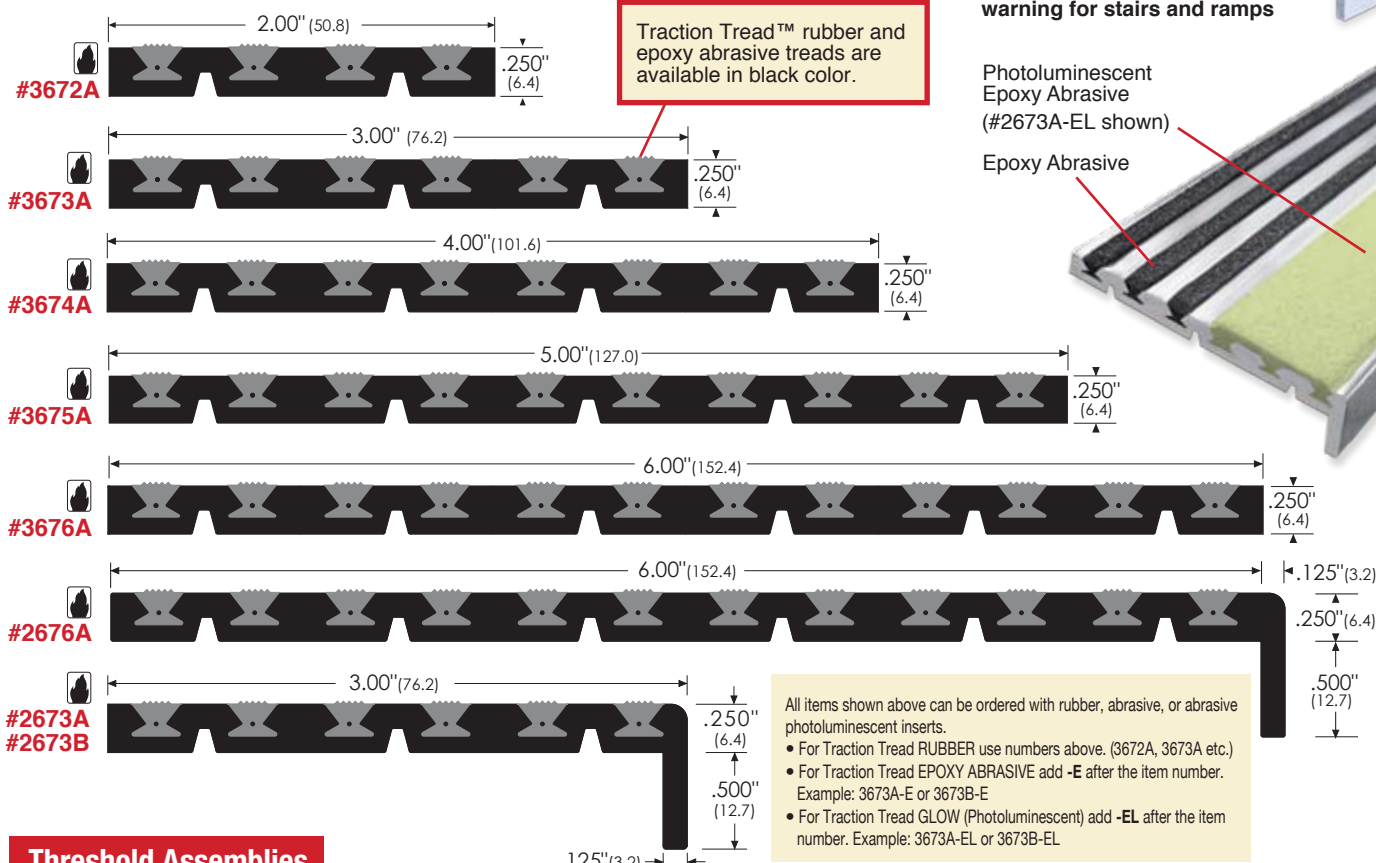
Traction Tread Thresholds and Nosings are available with an epoxy abrasive (non-slip particles) bonded into the grooves, or with formulated rubber inserts.

RUBBER TRACTION TREAD : Attractive, smooth, tough rubber inserts that are flush with the aluminum surface for **indoor applications**. The aluminum / rubber combination is easy to cut and drill at the jobsite. Superior non-slip traction with great longevity.

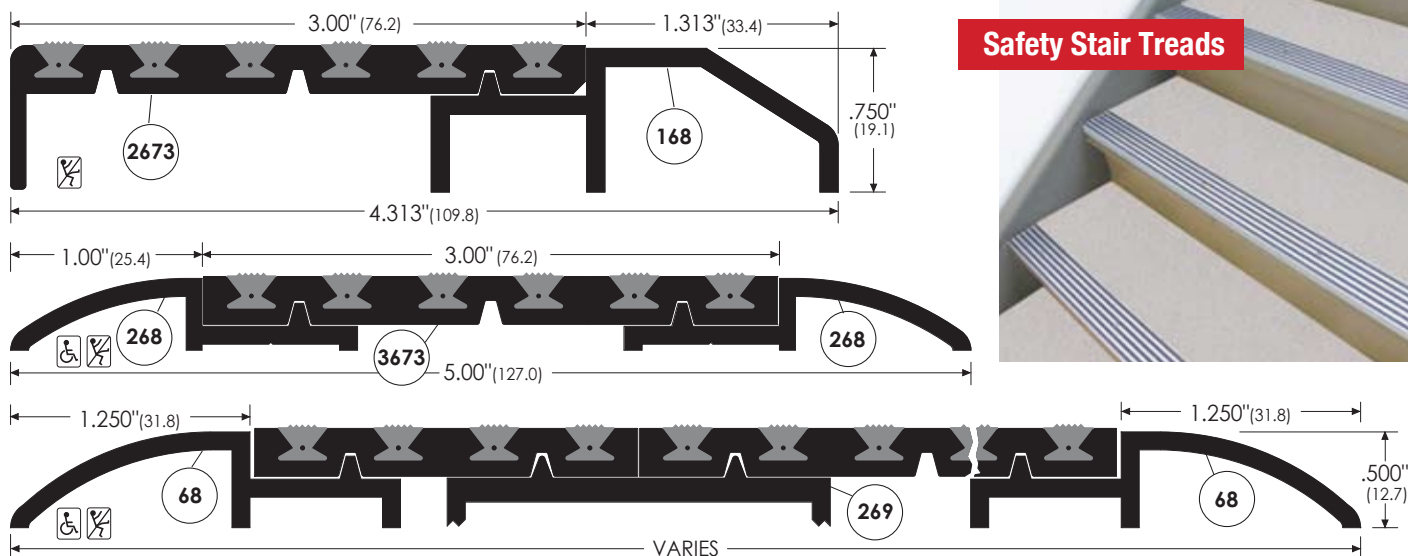
ABRASIVE TRACTION TREAD : The ultimate safety surface. This extremely durable surface provides a high degree of safety for **outdoor applications** and is ideal for schools, hospitals, industrial buildings. The epoxy abrasive particle mix is bonded to the aluminum base.

TRACTION TREAD GLOW : Rubber or abrasive traction tread integrated with epoxy abrasive photoluminescent tread. For **indoor applications**.

Thresholds



Threshold Assemblies



Safety Stair Treads



Expansion Joints Adjustable Thresholds

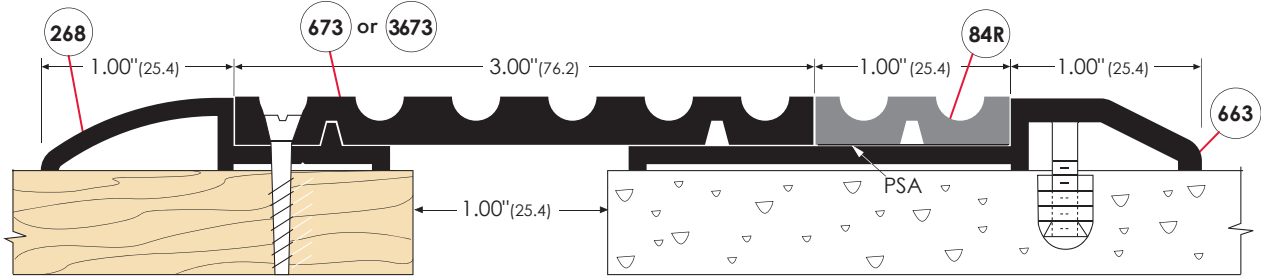


Note: A = Aluminum
R = Rubber

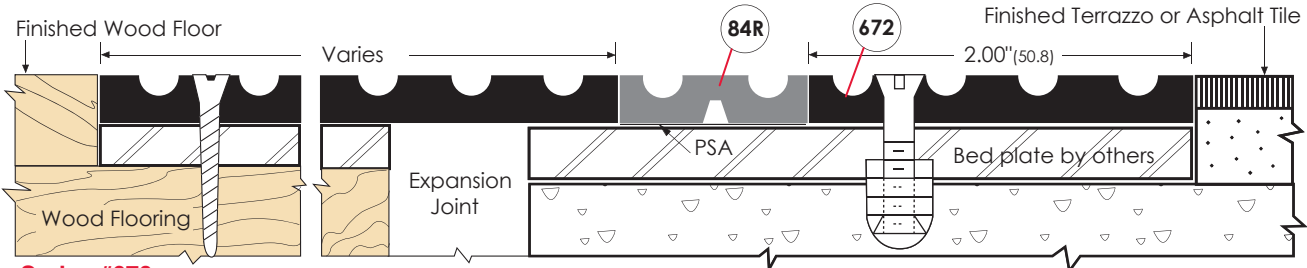
STST = Stainless Steel

Thresholds can be ordered with E (Epoxy Abrasive) or EL (Epoxy Abrasive Photoluminescent).

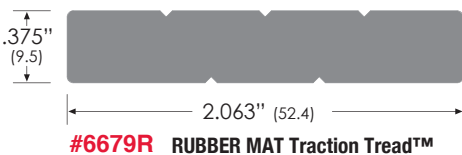
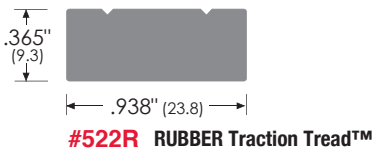
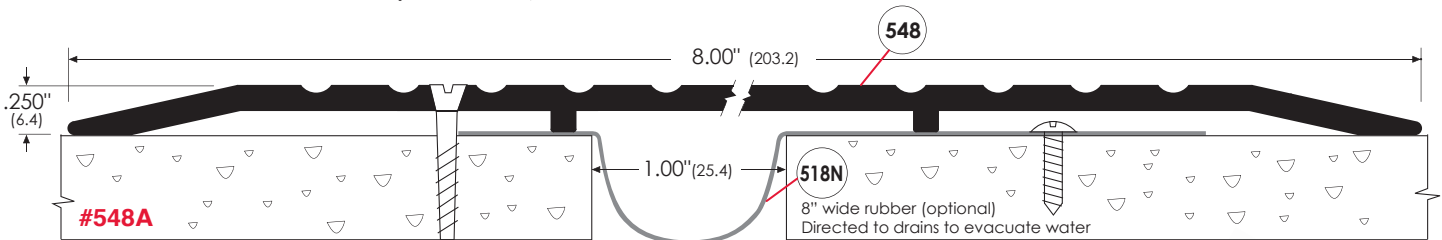
Thresholds



Series #671 Floor Covers for 1" Expansion Joints, surface



Series #670 Floor Covers for 1" Expansion Joints, recessed



Anchors



Stainless Steel Thresholds

- Custom orders. Other sizes available upon request.
- Epoxy Abrasive option

#164STST
4" wide (shown)
Available in different widths

#164-16STST-E
16" wide with Epoxy Abrasive (shown)
Available in different widths

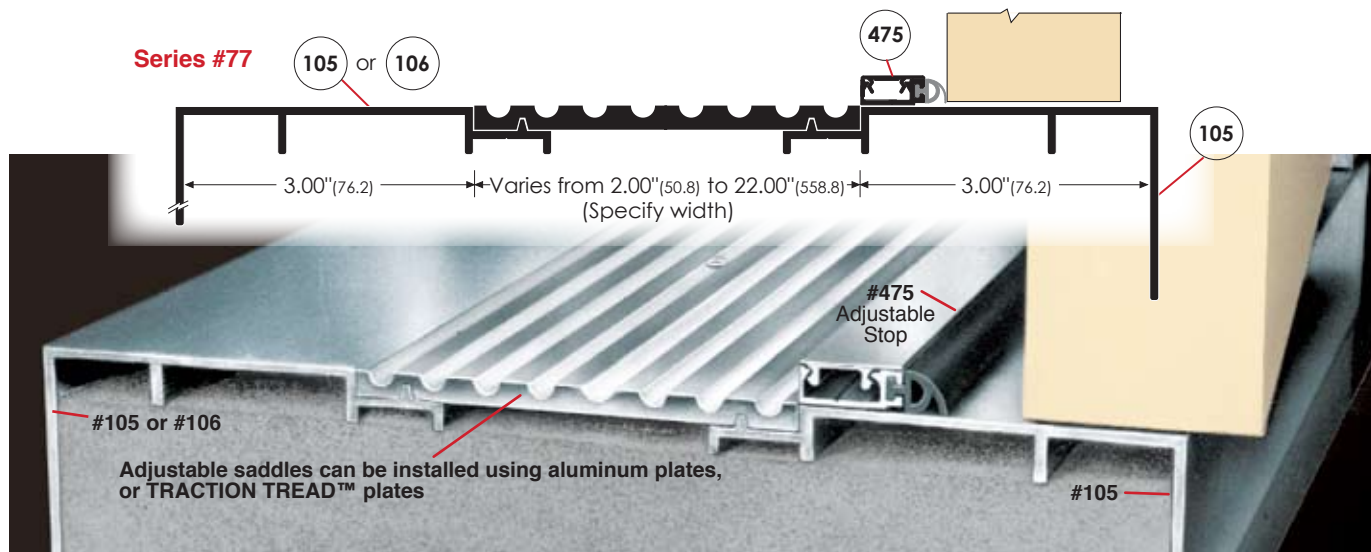
Bulkhead Thresholds & Cover Plates



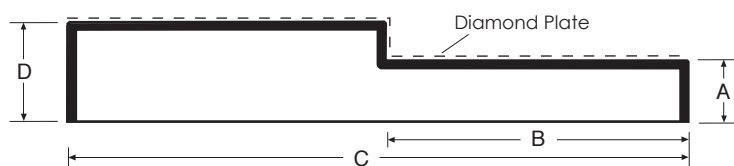
Note: A = Aluminum S = Steel STST = Stainless Steel

Thresholds can be ordered with E (Epoxy Abrasive), EL (Epoxy Abrasive Photoluminescent) or V3 (Full Body Strength) options.

Thresholds

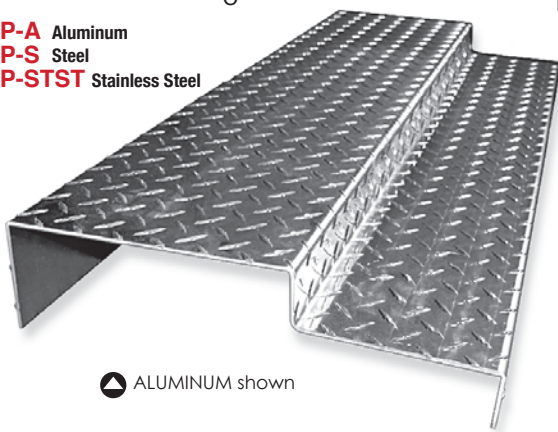


Diamond-Plate Bulkhead Thresholds



#669 DP-A Aluminum
#669 DP-S Steel
#669 DP-STST Stainless Steel

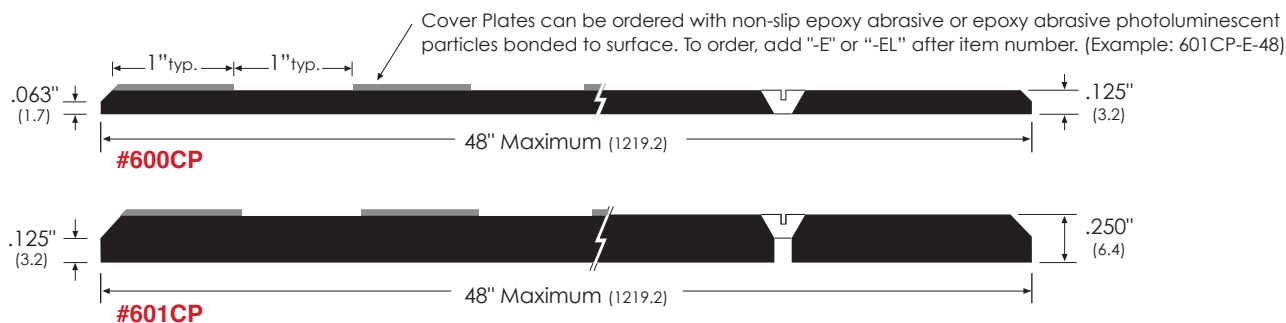
Custom Order
Specify dimensions
A, B, C, D



Aluminum Cover Plates #600CP, 601CP

For Expansion Joints

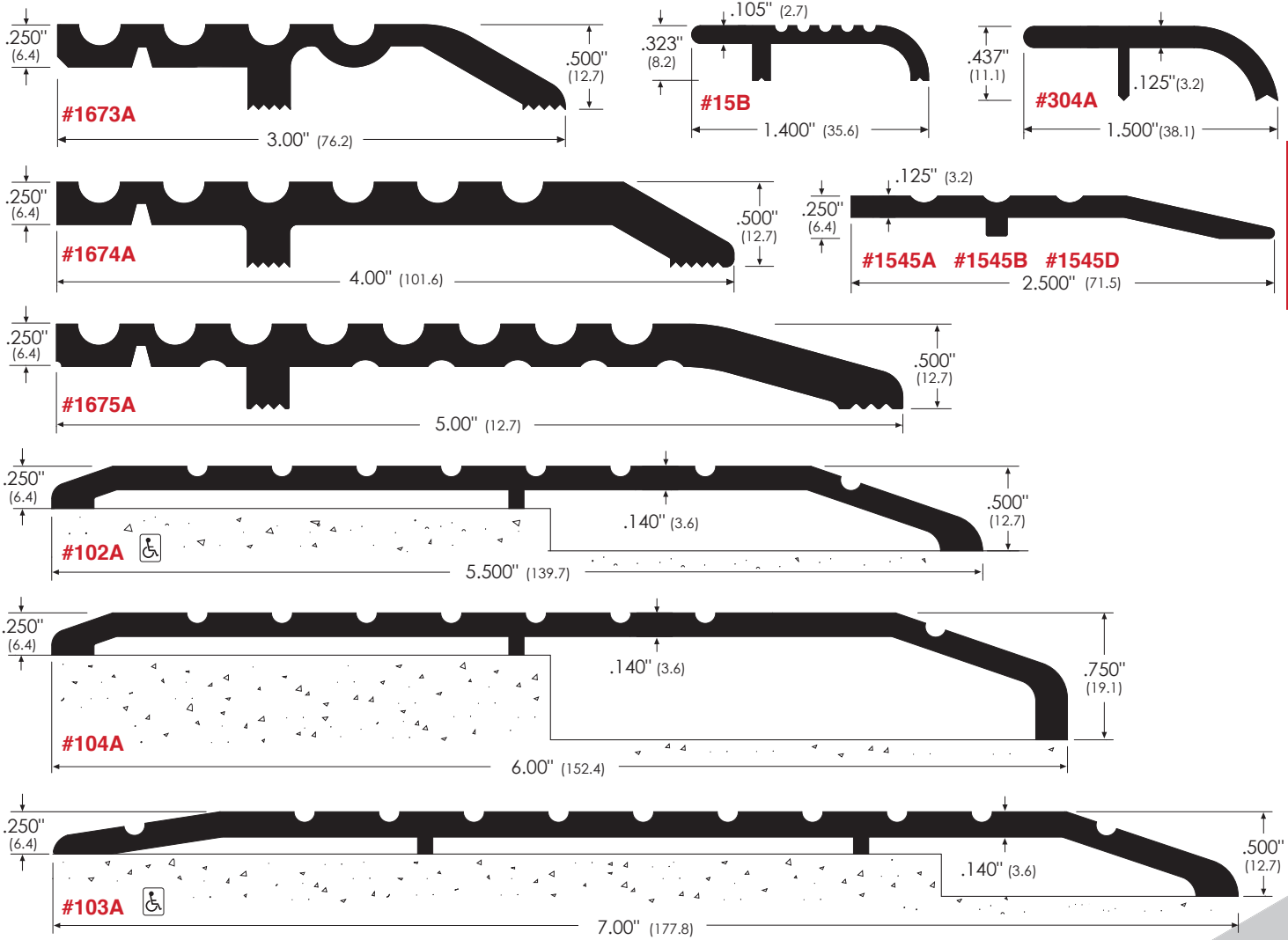
- Available in widths to 48", lengths to 120".
- Edges are not beveled unless specified.
- Plates are not drilled unless specified. (Supply detail).
- Sheet metal screws are supplied unless specified.



Butt and Transition Thresholds



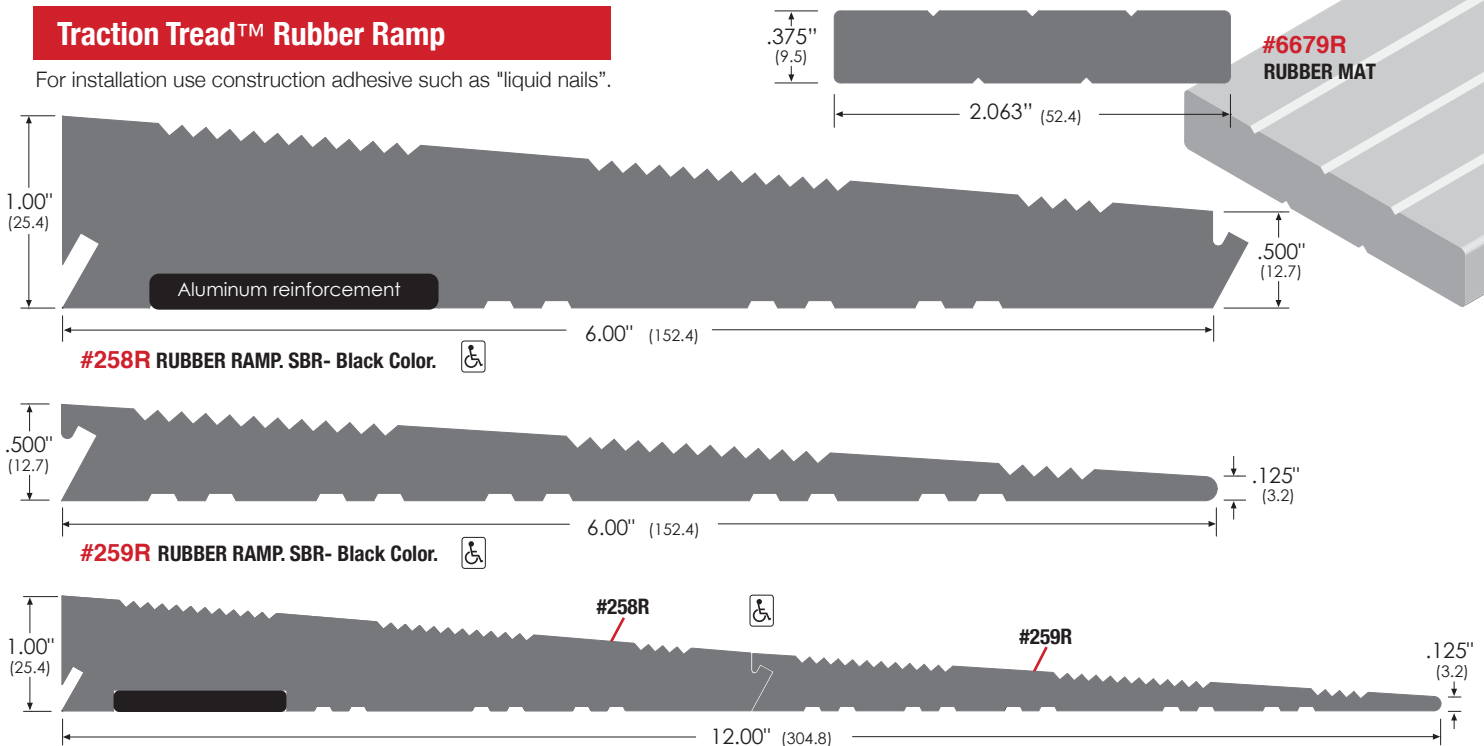
Note: A = Aluminum
R = Rubber
B = Bronze
D = Dark Bronze Anodized
Thresholds can be ordered with E (Epoxy Abrasive), EL (Epoxy Abrasive Photoluminescent) or V3 (Full Body Strength) options.



Thresholds

Traction Tread™ Rubber Ramp

For installation use construction adhesive such as "liquid nails".

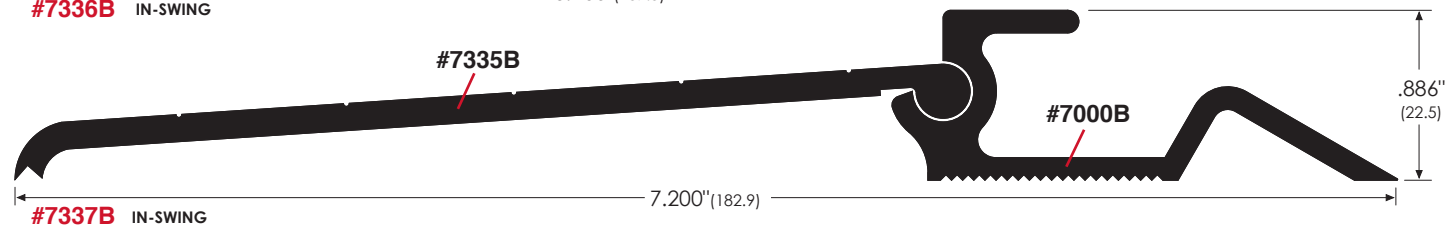
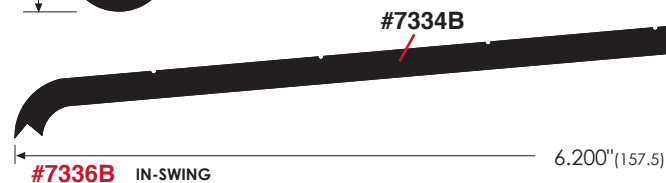
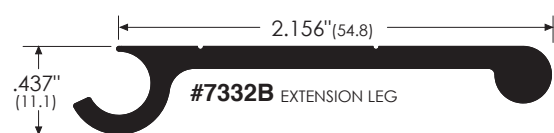
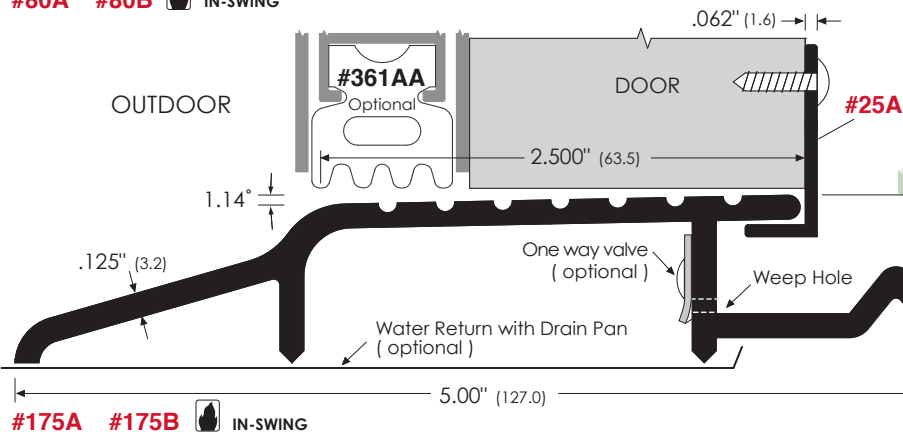
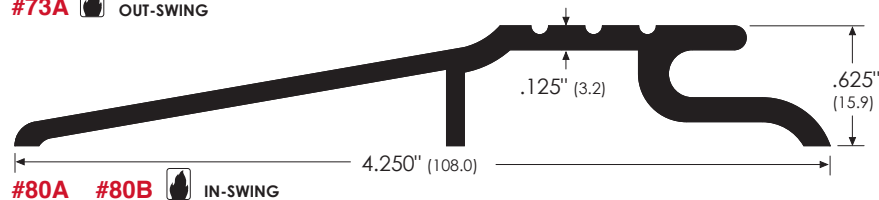
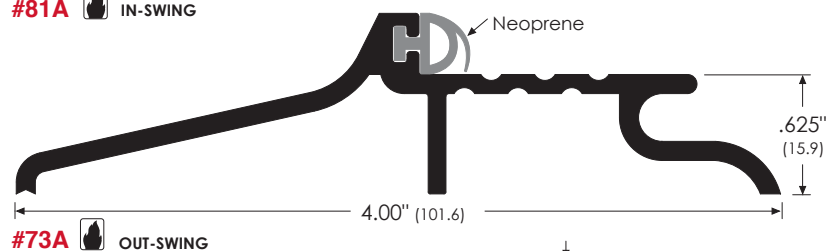
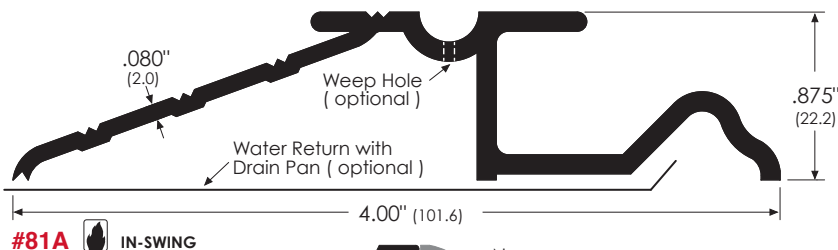
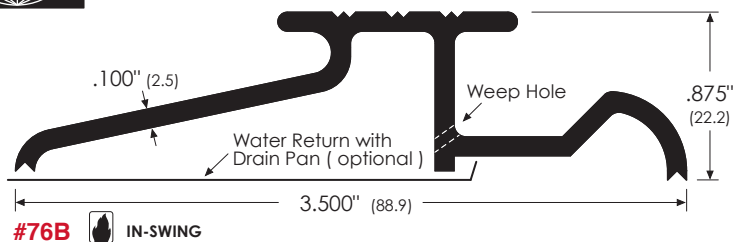
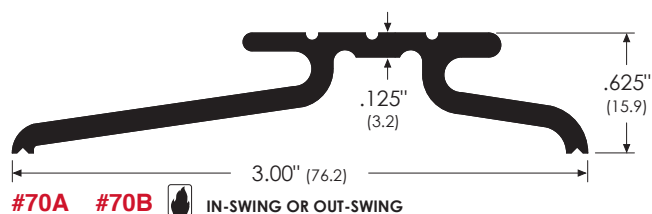


Interlocking Thresholds

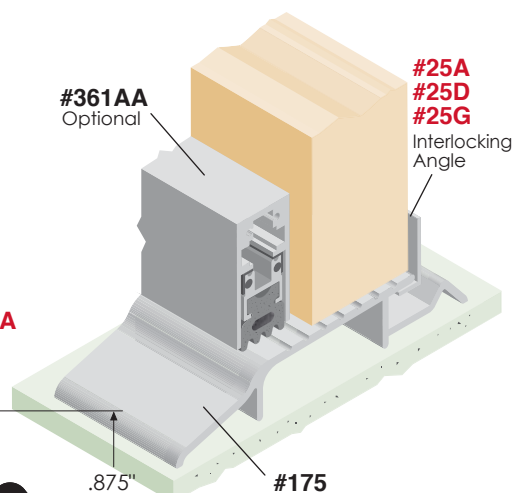
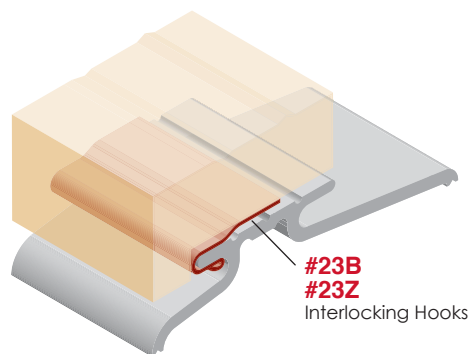


Note: A = Aluminum
B = Bronze
D = Dark Bronze Anodized
G = Gold Anodized
Z = Zinc
Thresholds can be ordered with E (Epoxy Abrasive), EL (Epoxy Abrasive Photoluminescent) or V3 (Full Body Strength) options.

Thresholds

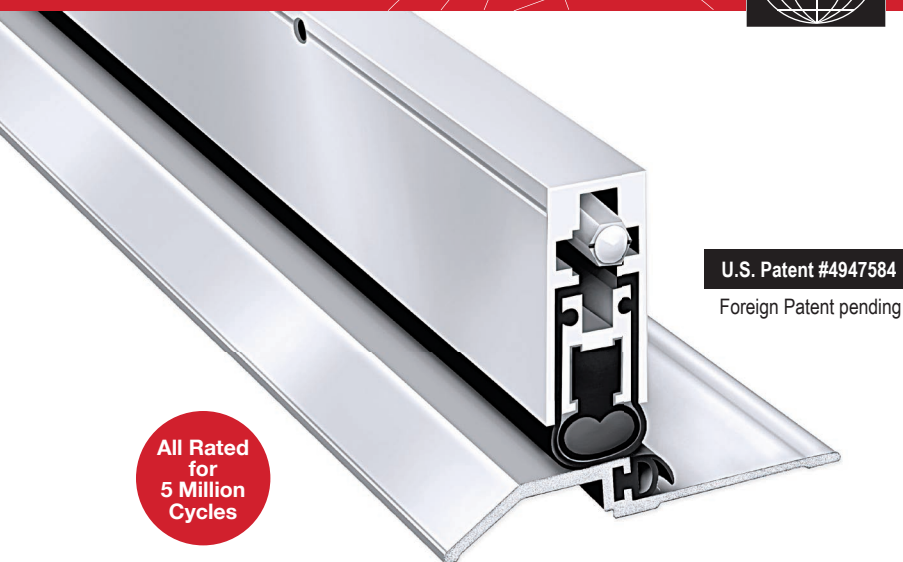


Accessories

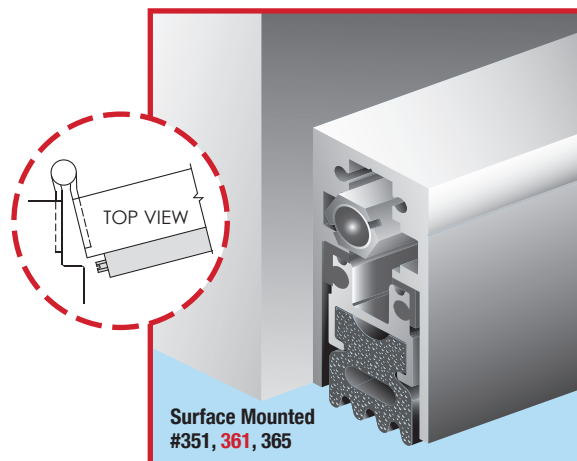


Adjustable Interlocking Thresholds

Automatic Door Bottoms Sill Protection



Automatic Door Bottoms Mountings

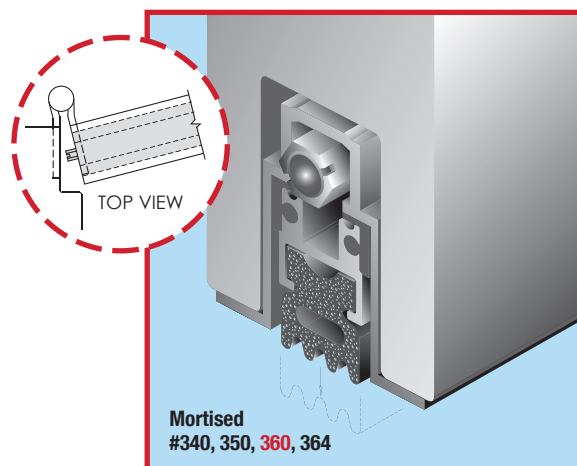
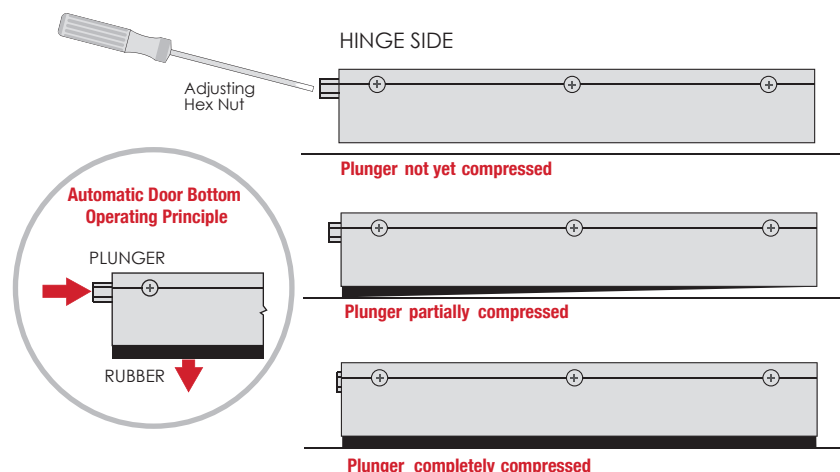
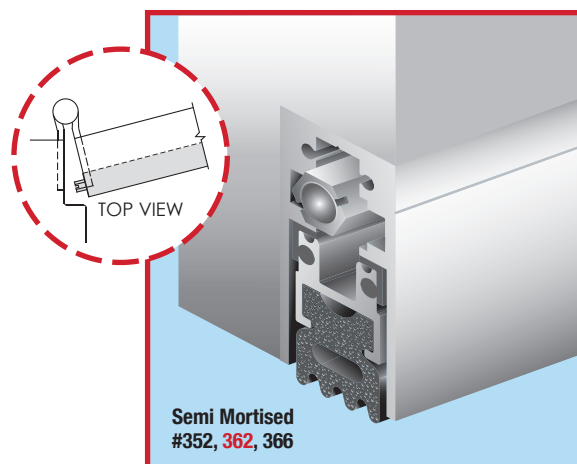


Door Bottoms

ZERO's patented **automatic door bottom** technology ensures a tight seal against the floor or saddle. As the door is closed, an adjustable "plunger" is compressed against the door frame, activating a concealed flat spring mechanism. This mechanism drops the seal smoothly from the housing in a scissor-like motion as illustrated below. The door seal compresses tightly even on uneven surfaces and retracts automatically when the door is opened.

Door bottoms are available in specialized versions for various applications, including: "light spring" for ADA access doors; lead linings for X-ray doors; carbon-filled silicone rubber gasketing for EMI/ RFI doors; and security door bottom. Most Zero door bottoms block penetration by air, sound, smoke and flames.

All ZERO automatic door bottoms function the same way. The concealed spring mechanism causes the insert seal to activate on the hinge side first. It prevents the seal from dragging along the floor or threshold while the door is being closed to avoid door hang-up or closing delay.



Specifications:

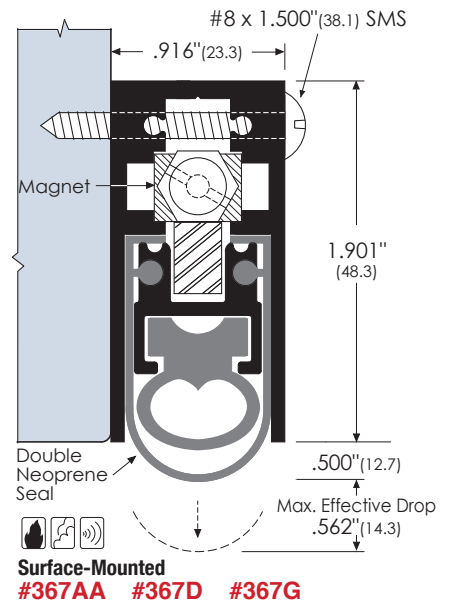
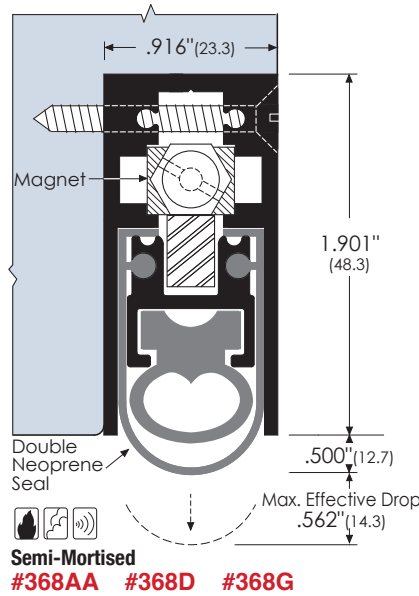
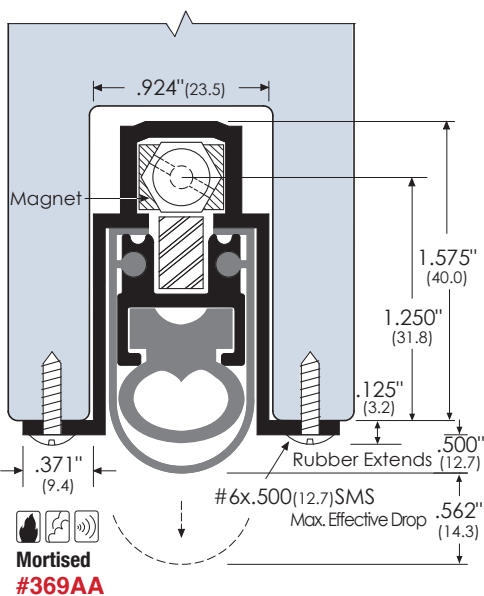
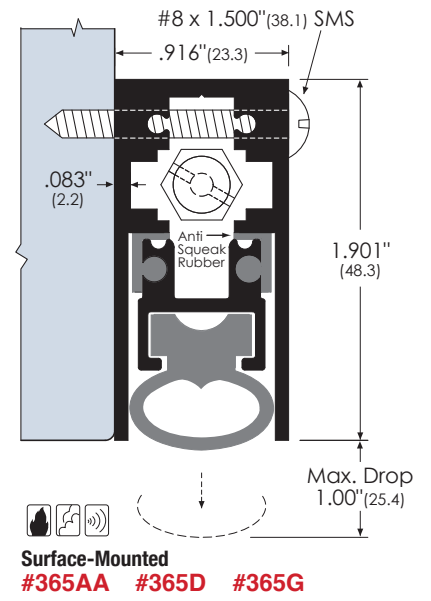
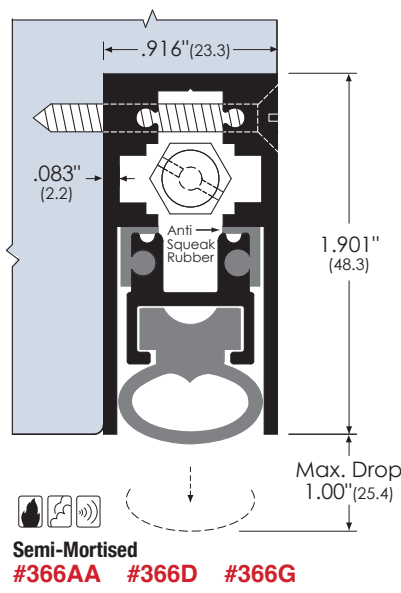
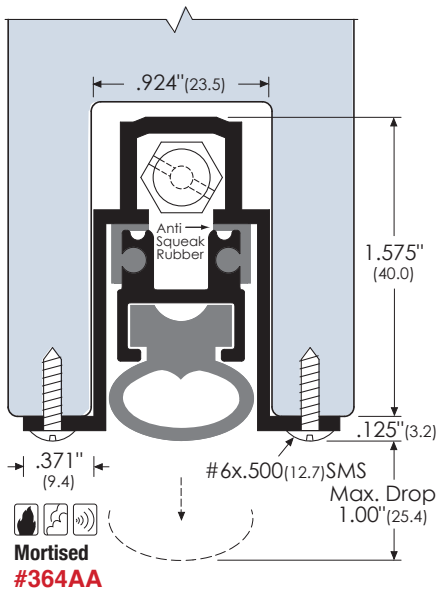
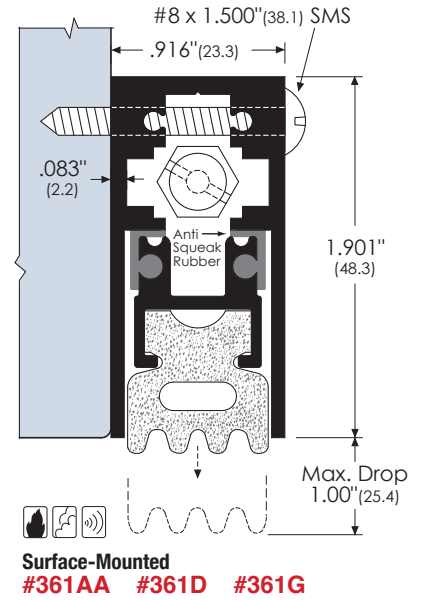
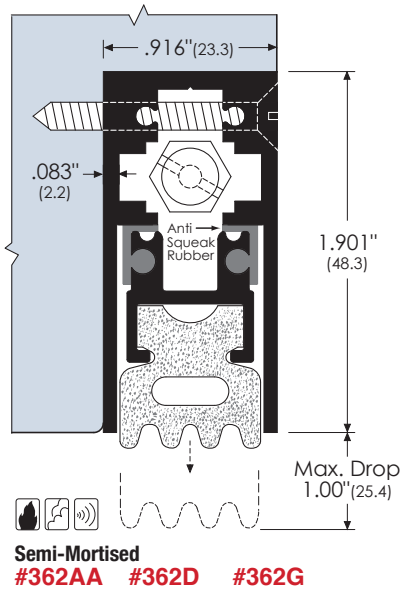
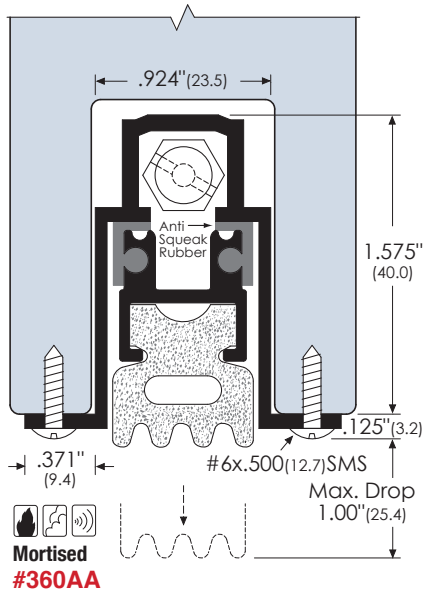
- Maximum drop 1", unless specified differently.
- Reversible -- same unit used for left or right-handed door.
- #351, 361, 365 -- rated for up to "A" label (3hrs.)
- #360, 364, 367, 369 -- rated for up to "B" label (1 1/2hrs.)
- #360, 361, 362 supplied with closed-cell sponge neoprene, self-extinguishing, under MIL R 6130 Type II Class A, B, C.
- #350, 351, 352, 354, 365, 366, 364 supplied with solid neoprene extrusion, self-extinguishing, under MIL R6855 Type II Class 40 oil resistant.
- **All rated for 5 million cycles.**

Sill Protection Automatic Door Bottoms - Heavy Duty



Note: A = Aluminum
AA = Clear Anodized
D = Dark Bronze Anodized
G = Gold Anodized

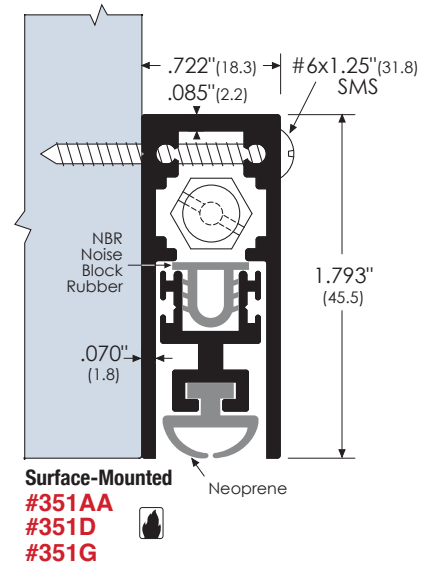
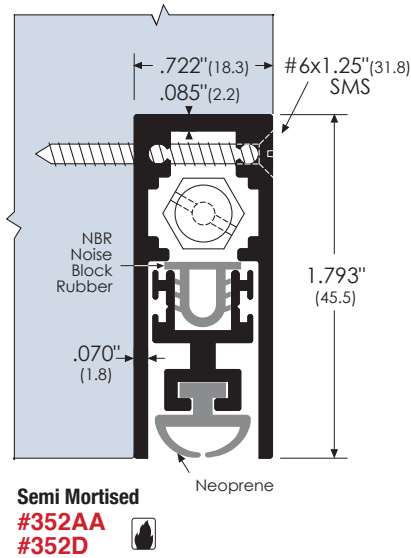
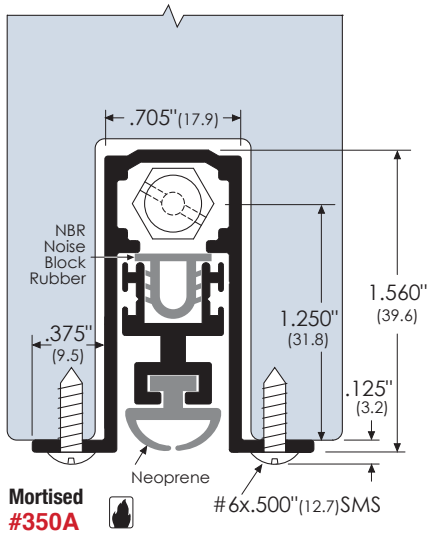
Door Bottoms



Sill Protection Automatic Door Bottoms - Regular Duty



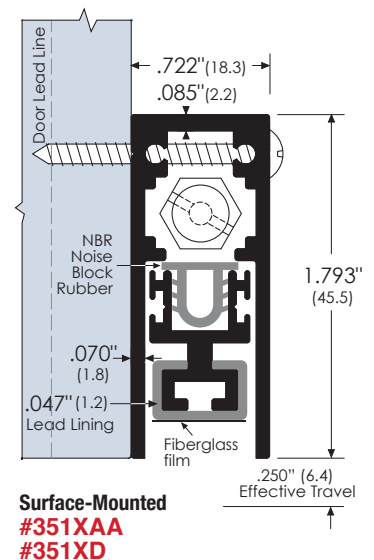
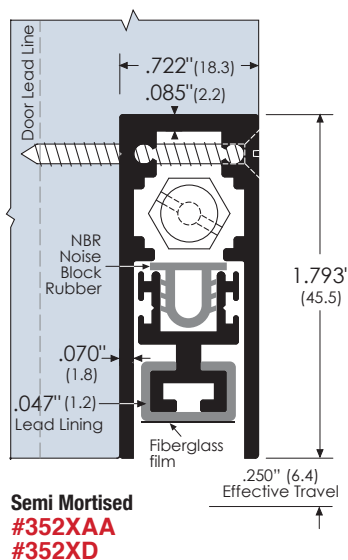
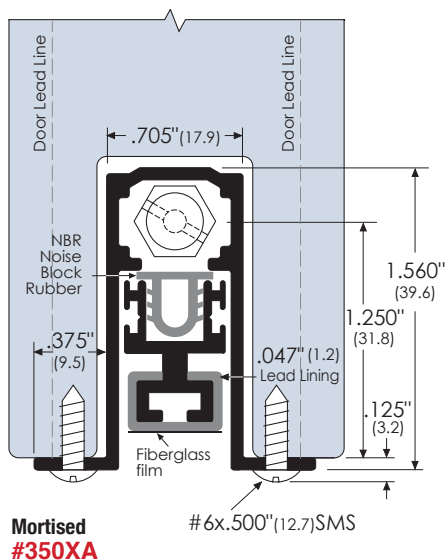
Note: A = Aluminum G = Gold Anodized
AA = Clear Anodized X = Lead-Lined
D = Dark Bronze Anodized



Door Bottoms

Lead-Lined Automatic Door Bottoms

Models **#350**, **#351**, **#352** can be used with lead-lined doors and frames to insure complete X-RAY protection. Lead linings are also useful for rodent control, and are available as an option with all regular-duty surface-mounted, semi-mortised and mortised models. Maximum effective drop .250" (6.4).



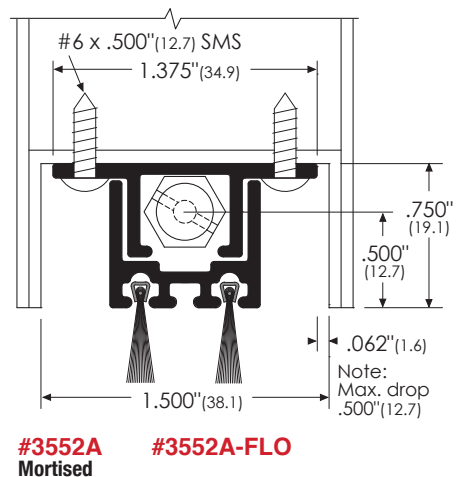
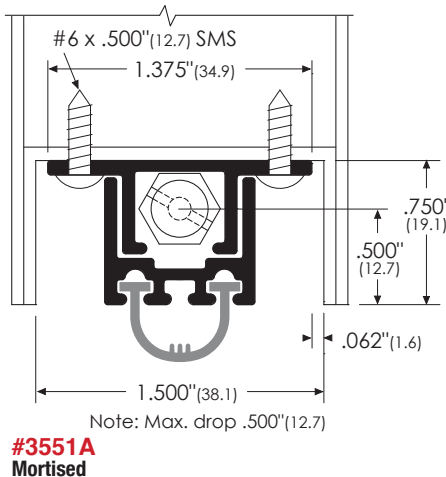
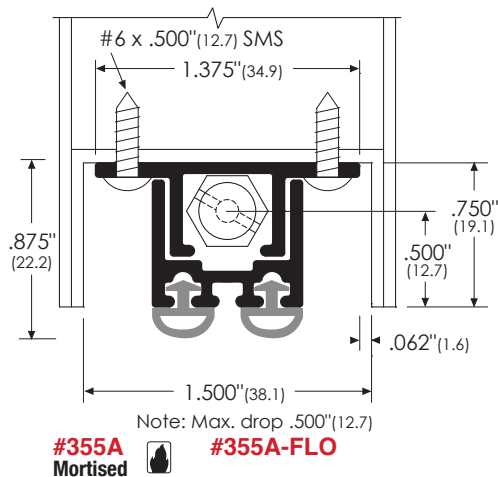
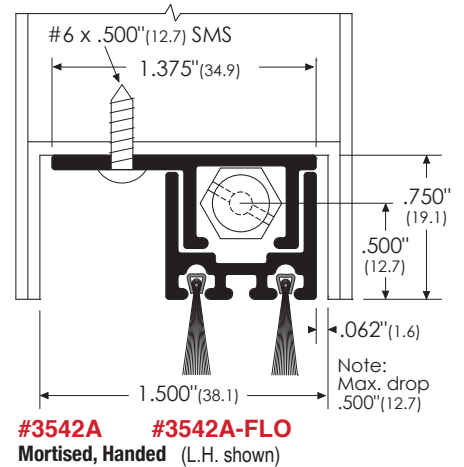
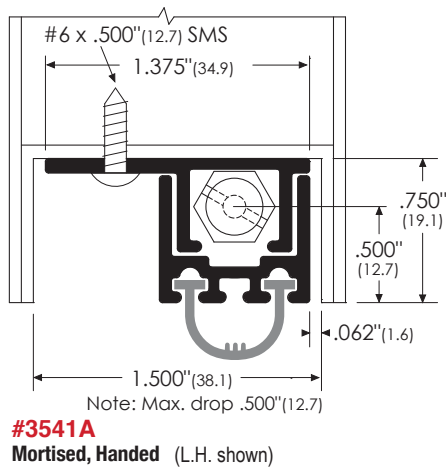
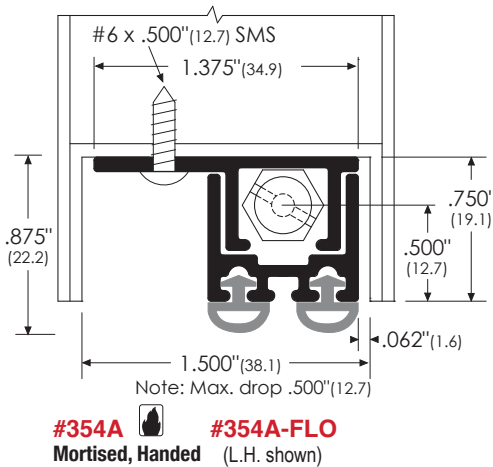
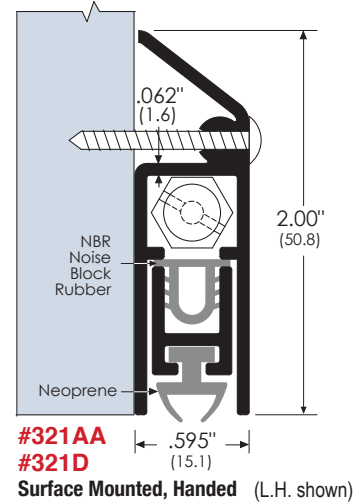
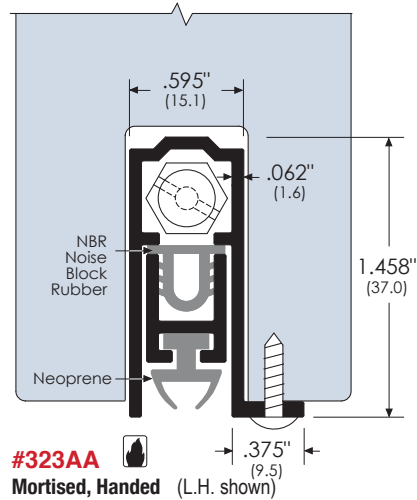
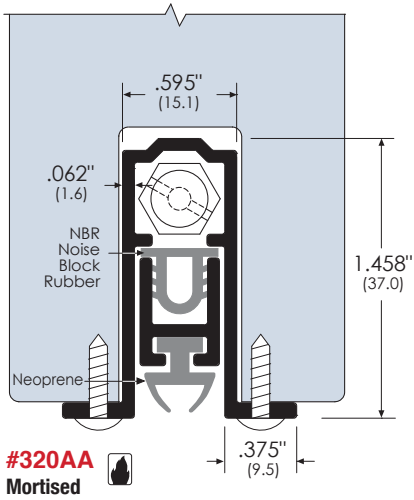
Sill Protection Automatic Door Bottoms - Regular Duty



Note: A = Aluminum
AA = Clear Anodized

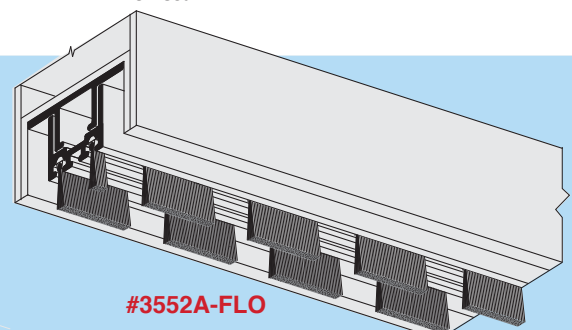
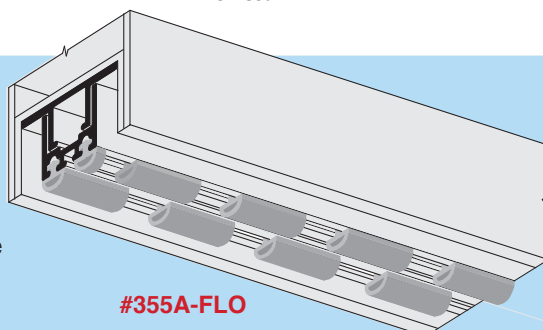
A- FLO = FLO option
D = Dark Bronze Anodized

Door Bottoms

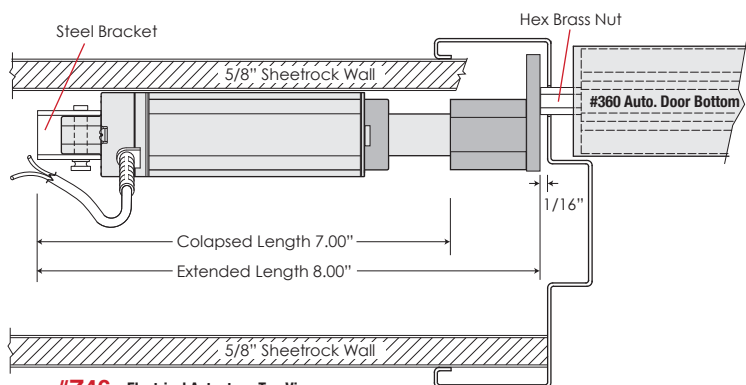


FLO Option

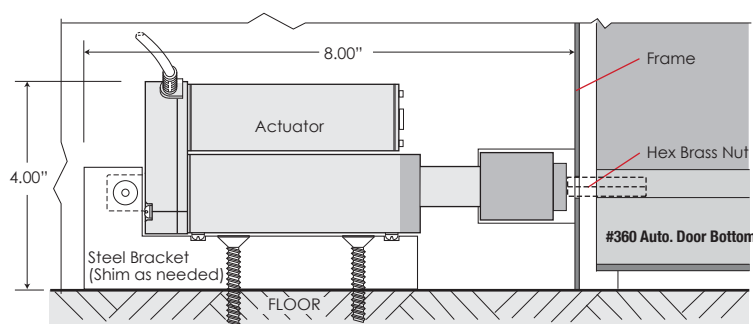
Available for door bottoms
#354, #355, #3542, #3552.
Neoprene or brush seals are
notched and overlapped to
facilitate airflow.



Sill Protection Automatic Door Bottoms - On Standby and End Caps



#Z46 Electrical Actuator - Top View



#Z46 Electrical Actuator - Side View

Automatic Door Bottom on Standby **#Z46 Electrical Actuator 24 Volt DC.**

This door bottom features an electrical actuator. Instead of functioning automatically each time the door opens and closes, the door bottom drops in place and seals the gap under the door only when triggered electrically.

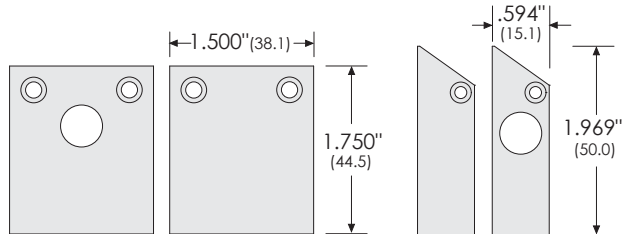
Designed for applications where gaps under the door are desired for ventilation but must be sealed under specified emergency conditions, this specialized option is ideal for laboratories needing standby systems to help contain spills and related fumes. Also suitable for standby fire and smoke protection for hotel guest rooms in situations where door bottom gaps are normally used to improve air circulation. Can also be used in our #1010 Security & Control System.



Door Bottoms

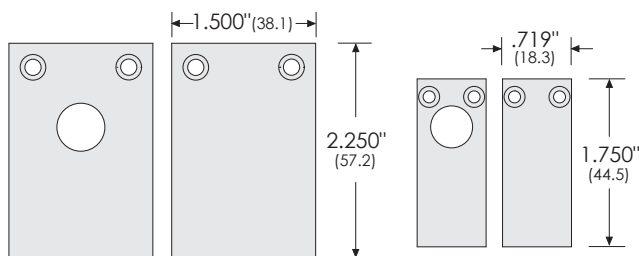
END CAPS - Standard

Aluminum plate .063" thick. Supplied standard with #320, 321, 350, 351, 360, 361, 365, 367.



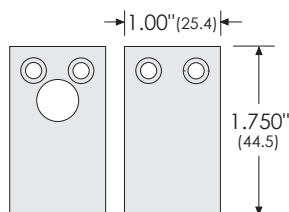
#320 End Cap

#321 End Cap



#350, #360, #364, #369 End Cap

#351 End Cap



#361, #365, #367 End Cap

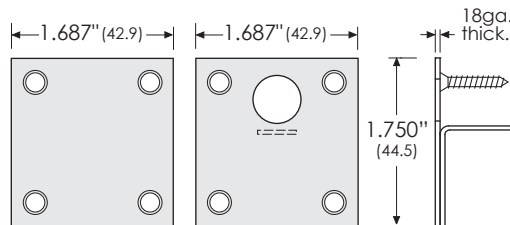


#7258Z Fastener

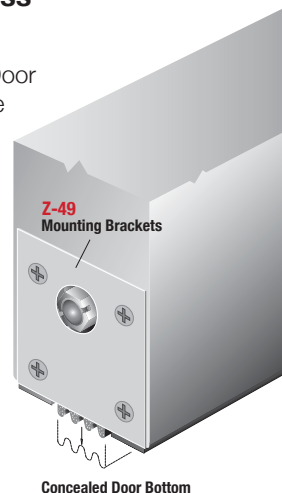
END CAPS - Options

● Concealed Door Bottom - Easy Access **#Z49 Mounting Brackets**

Z49 brackets are designed to secure Automatic Door Bottoms to the door using no bottom screws. The unit can be removed from either end without taking the door off the frame. (Specify to order, e.g. #360-Z49)



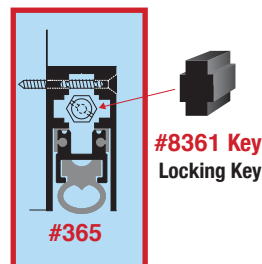
#Z49 Steel Prime Grey



Concealed Door Bottom

● Locking Key

Fits over adjusting nut. Not for used with an end cap.

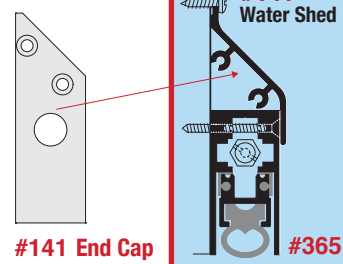


#365

**#8361 Key
Locking Key**

● Water Shed

For #361, #365, #367 (With Counter-sink screws.)



#141 End Cap

**#141
Water Shed**

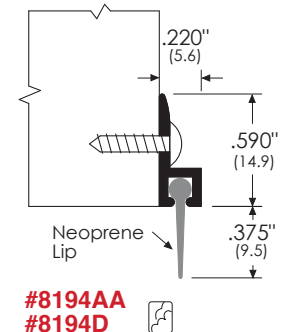
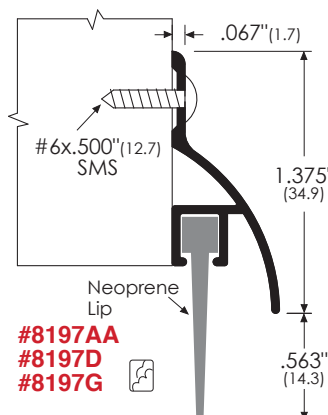
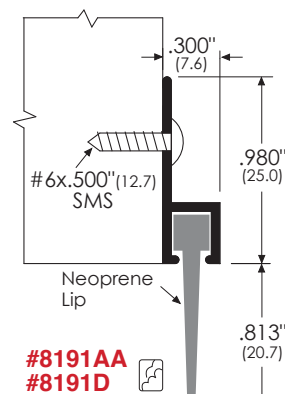
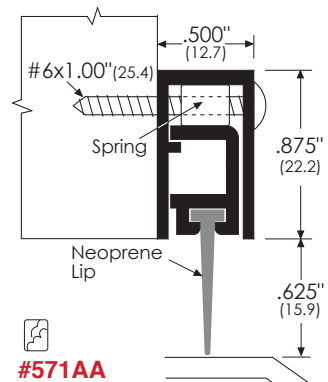
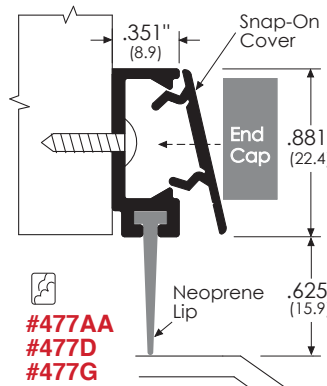
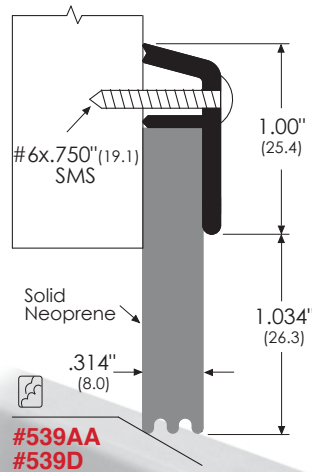
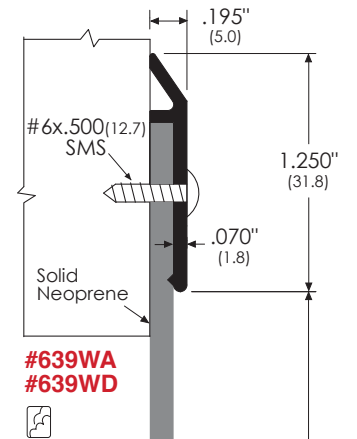
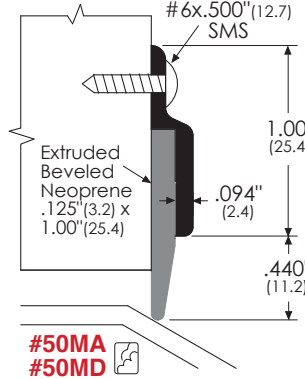
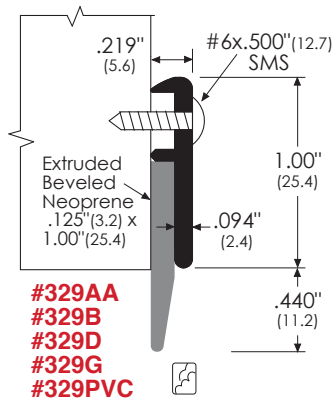
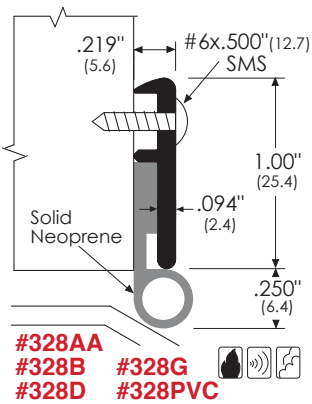
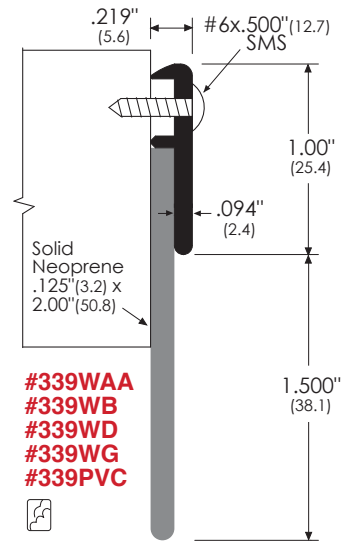
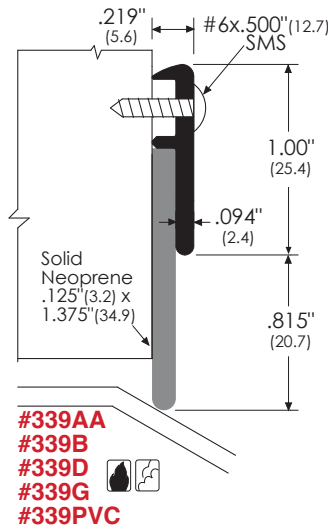
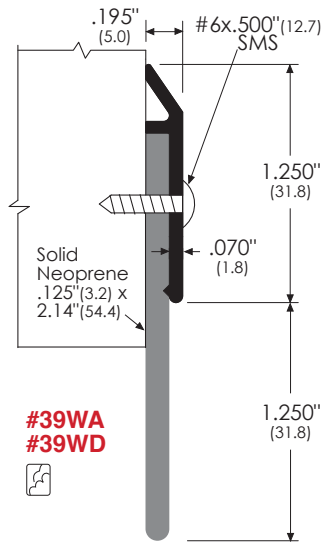
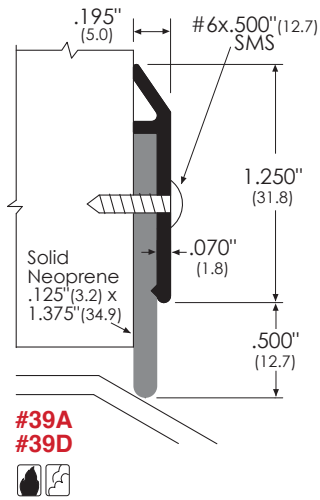
Sill Protection Sweeps



Note: A = Aluminum
AA = Clear Anodized
B = Bronze

D = Dark Bronze Anodized
G = Gold Anodized
PVC = Polyvinyl, clear

Door Sweeps

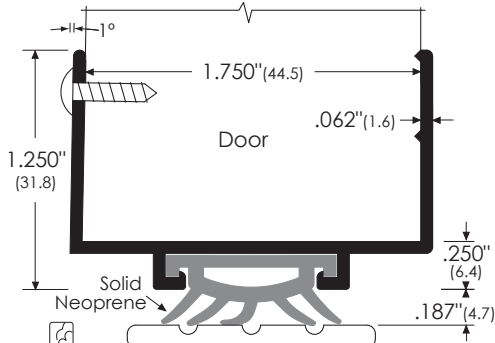


Sill Protection Sweeps

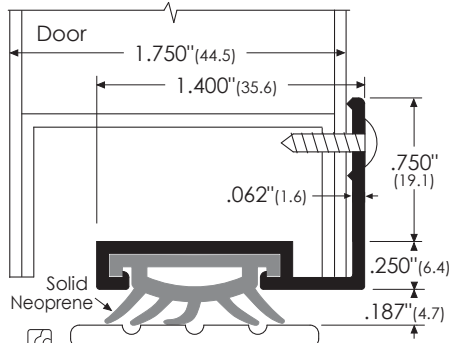


Note: A = Aluminum
D = Dark Bronze Anodized
R = Rubber

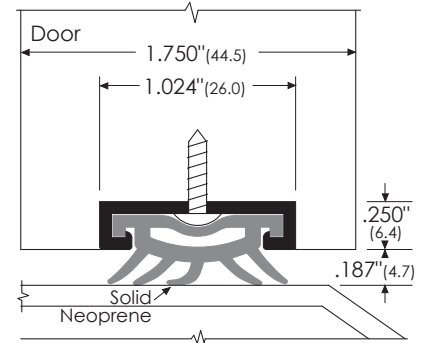
AA = Clear Anodized
FLO = Flo Option



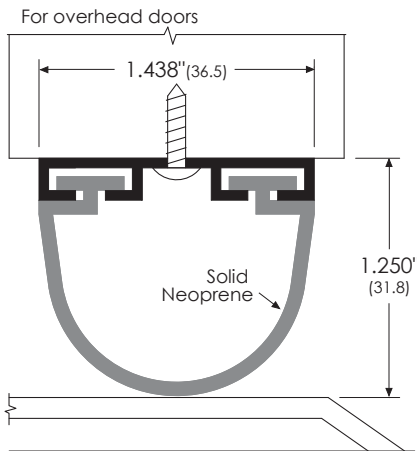
#111A
#111A-FLO



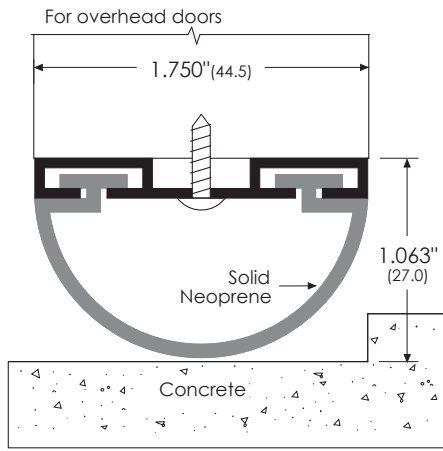
#153A **#153A-FLO**
#153D **#153D-FLO**



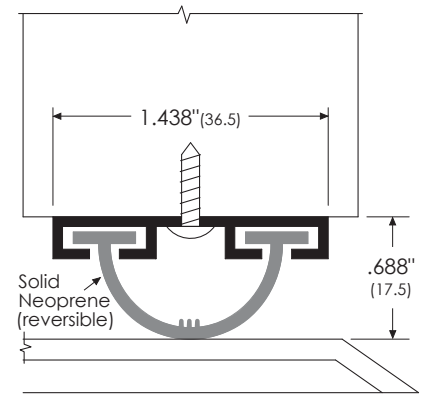
#253A
#253A-FLO



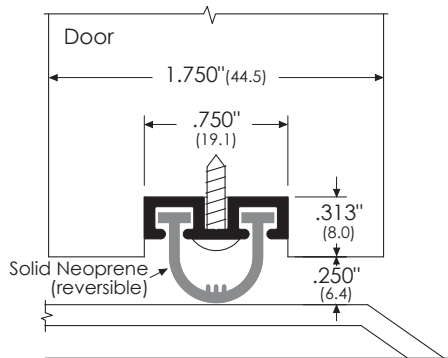
#452A



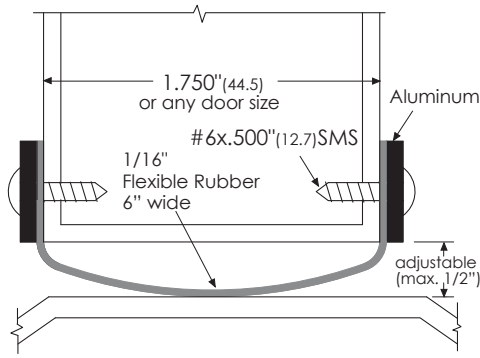
#72A



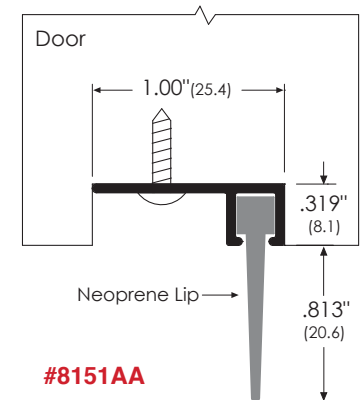
#52A



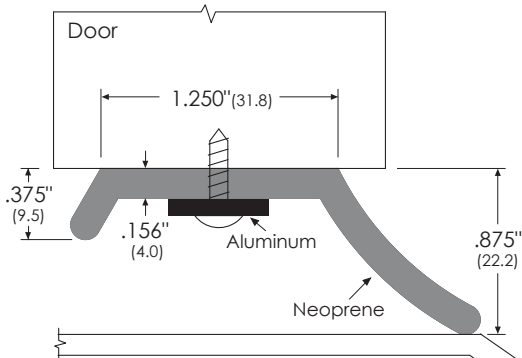
#53A



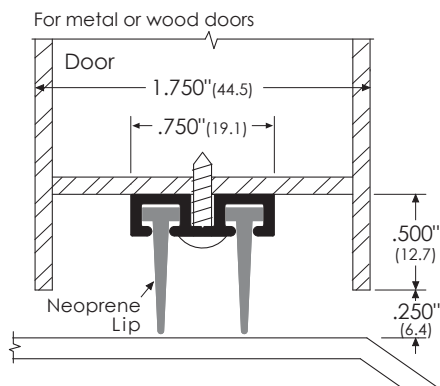
#511A



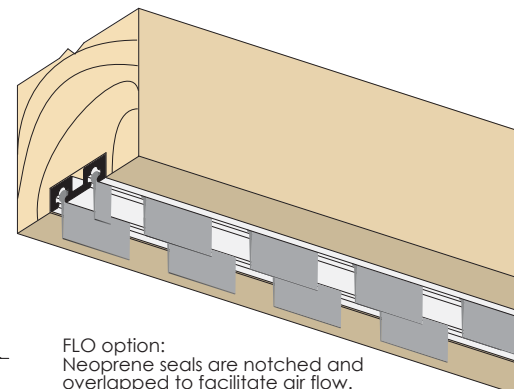
#8151AA



#8049R



#381A **#381A-FLO**



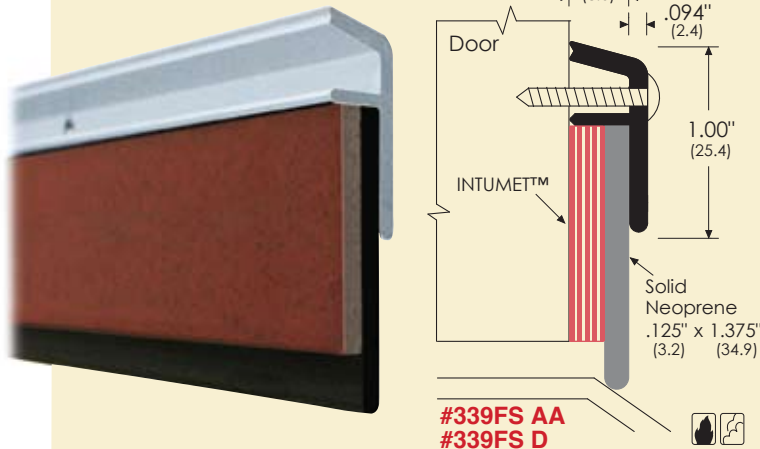
FLO option:
Neoprene seals are notched and overlapped to facilitate air flow.

Door Sweeps

Restore Lost Fire Rating

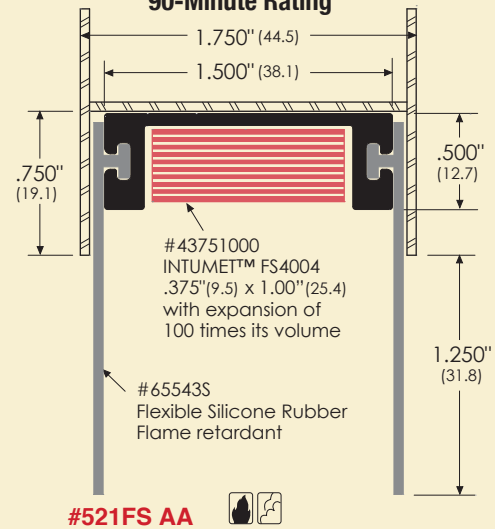
Maximum 0.5" (12.7mm) clearances allowed at the bottom of fire-rated doors do not leave much room for error. Fire ratings lost when installation or alignment problems cause larger clearances can be restored using these INTUMET™ solutions, without the costs of structural changes or door replacement.

20-Minute Rating



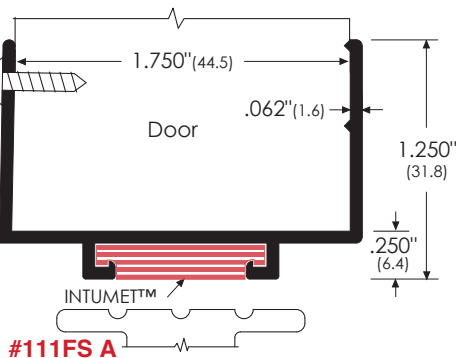
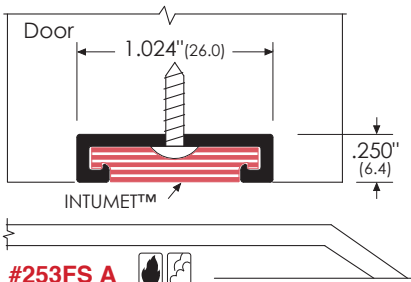
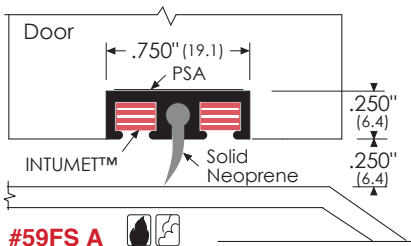
Restore for 20 minute fire-rated wood doors and metal doors with excessive undercut up to 1.250". ITS-listed to positive pressure UBC 7-2 1997.

90-Minute Rating



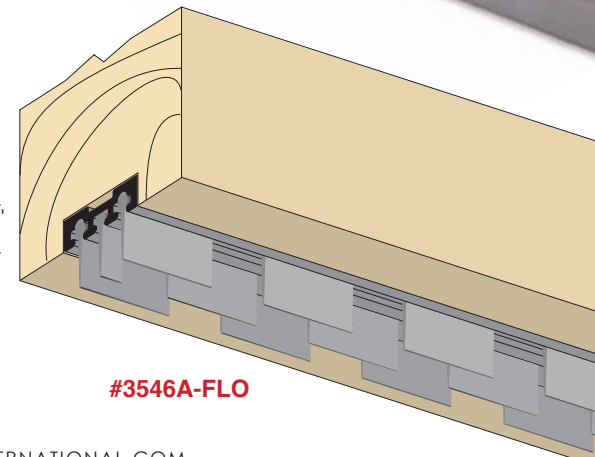
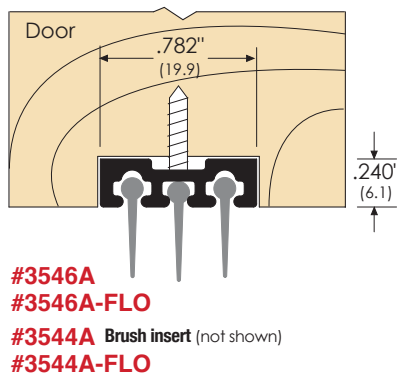
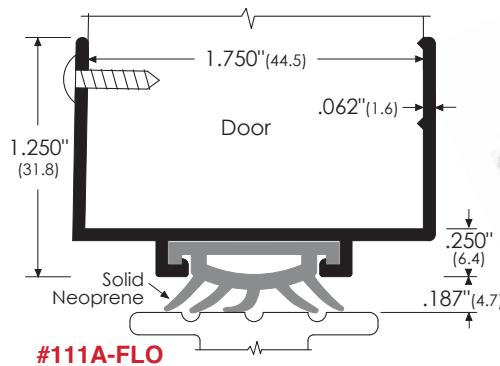
Restore for 90 minute fire-rated metal doors with excessive undercut up to 1.250". Tested under UL 10C, UBC 43-2, NFPA 252 standards by an independent laboratory.

Other products with Intumescent



FLO Option Door Sweeps

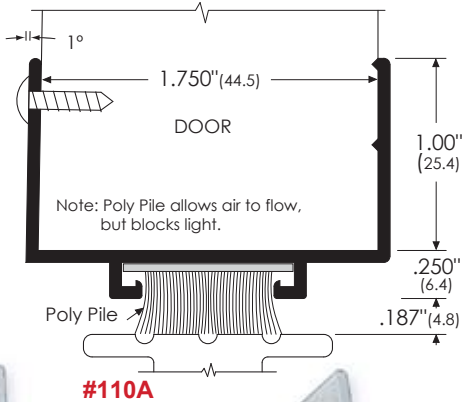
Door sweeps with FLO Option are designed with neoprene or brush seals that are notched and overlapped. This feature allows air to flow while blocking light.



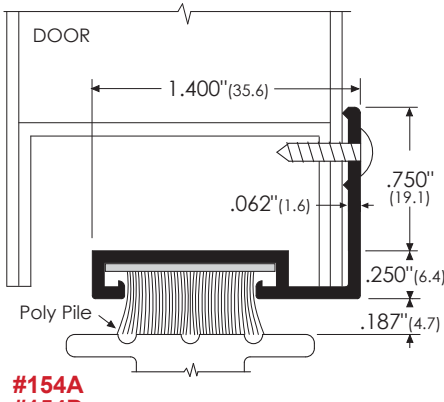
Sill Protection Sweeps



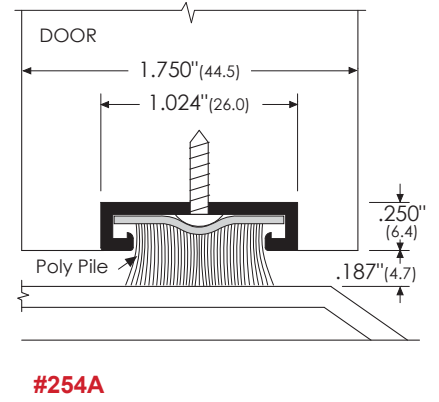
Note: A = Aluminum AA = Clear Anodized
D = Dark Bronze Anodized
G = Gold Anodized



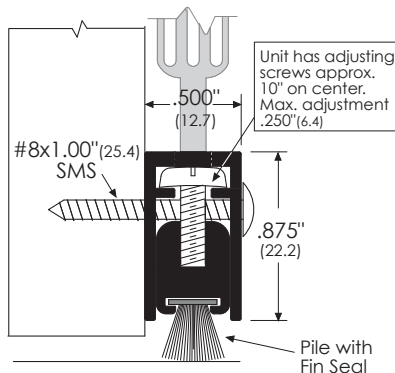
#110A



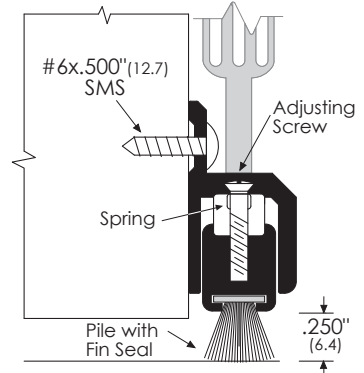
#154A
#154D



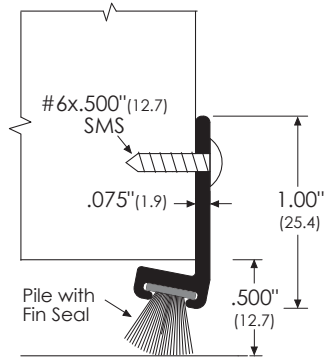
#254A



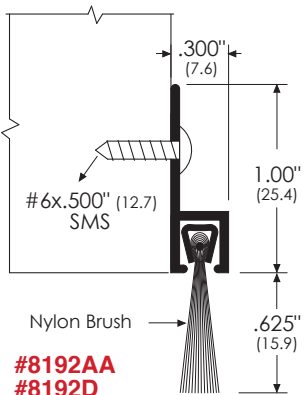
#871AA



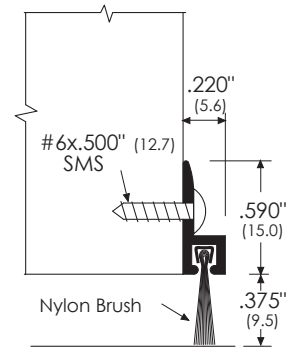
#255AA



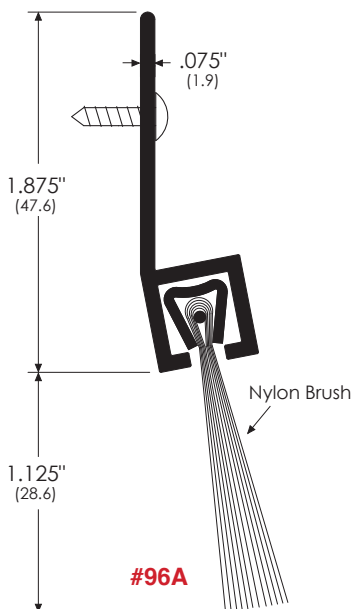
#98A
#98D



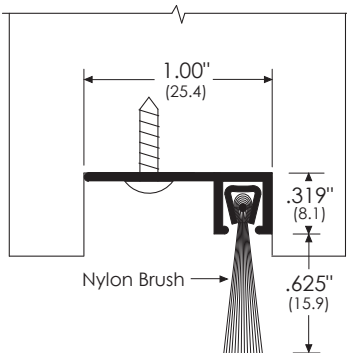
#8192AA
#8192D



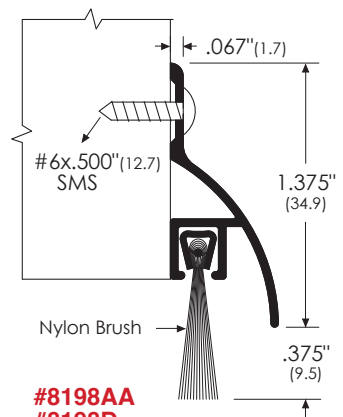
#8193AA
#8193D



#96A



#8149AA

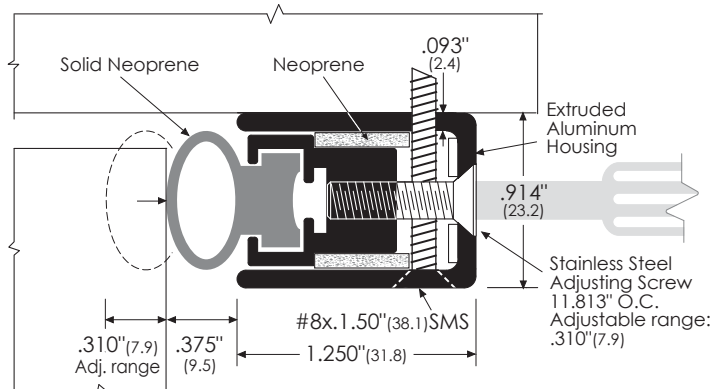


#8198AA
#8198D
#8198G

Adjustable Sealing Systems- Jamb Applied

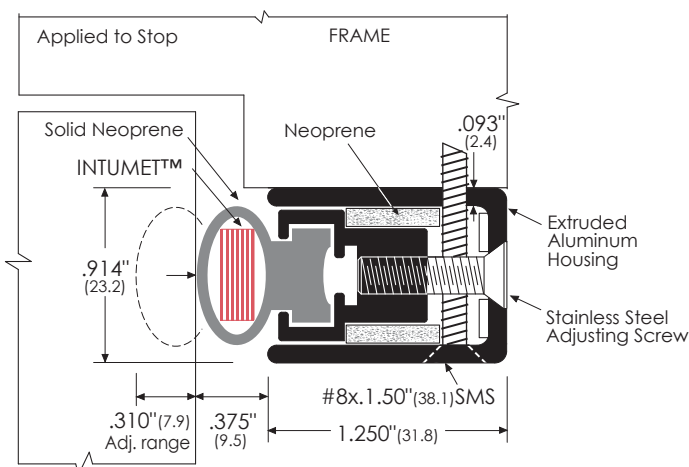


Note: AA = Clear Anodized
G = Gold Anodized
STST = Stainless Steel
D = Dark Bronze Anodized
SP = Steel Prime



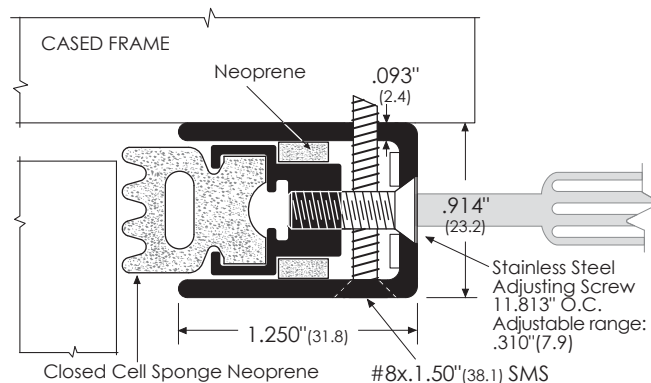
#770AA #770D ZERO Compress-O-Matic®

45 min. as a stop
90 min. when applied to stop
90 min. when applied as a stop & installed with FS1001 INTUMET™ strip



#770FS AA #770FS D #770FS G

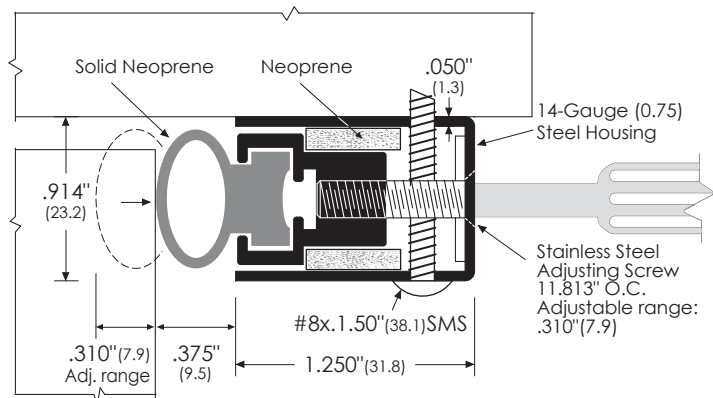
770FS has 180 min. fire rating for metal doors when applied to 5/8" stop



#170AA #170D #170G



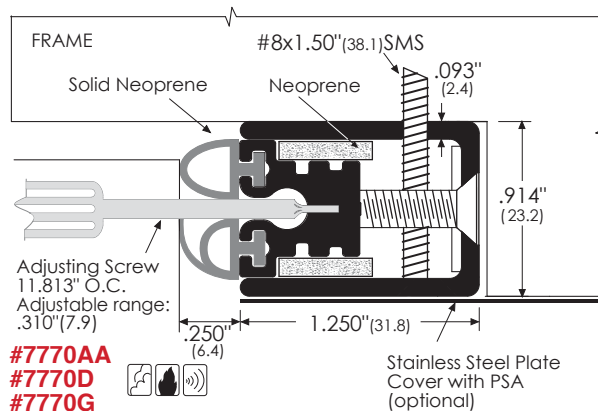
Positive Pressure Listed for 16 gauge steel cased opening. Up to 60 and 90 minutes for single and pairs. For wood or metal door assemblies.



POSITIVE PRESSURE FIRE RATINGS

#770SP #770STST

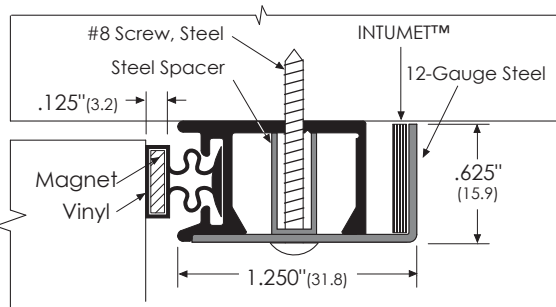
90 min. as a stop to wood & metal doors



#7770AA #7770D #7770G



ZERO Compress-O-Matic®



#837SP

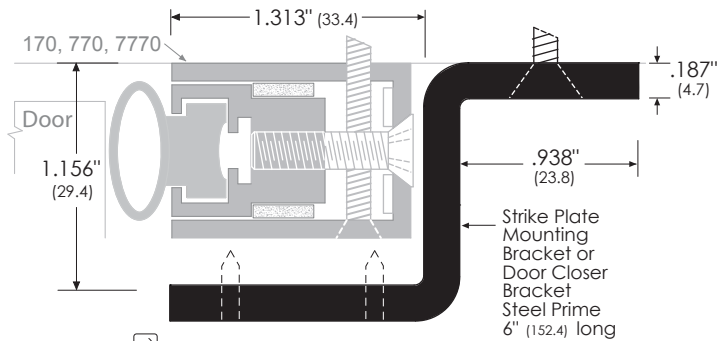


Adjustable Sealing Systems - Jamb Applied

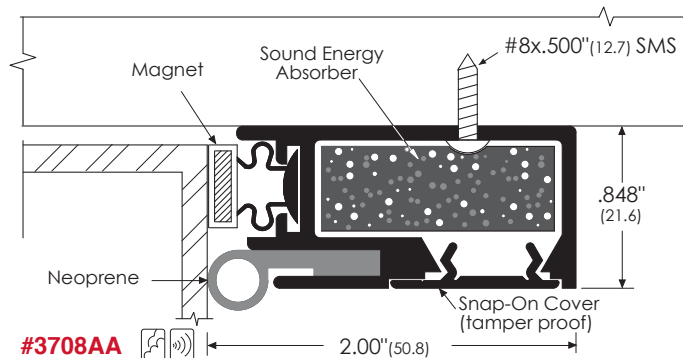


Note: A = Aluminum
D = Dark Bronze Anodized
STST = Stainless Steel

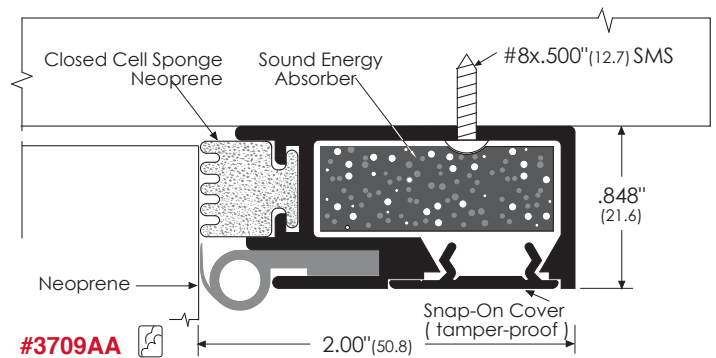
AA = Clear Anodized
SP = Steel Prime



#770SPB

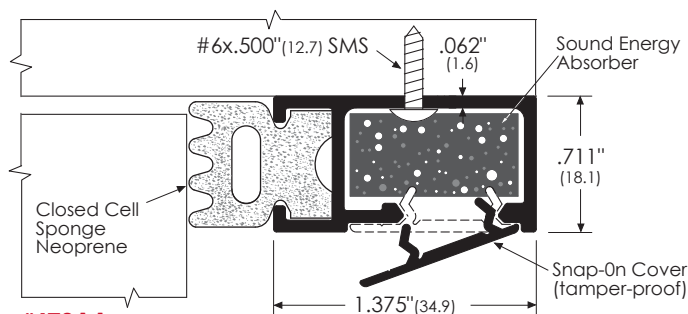


#3708AA

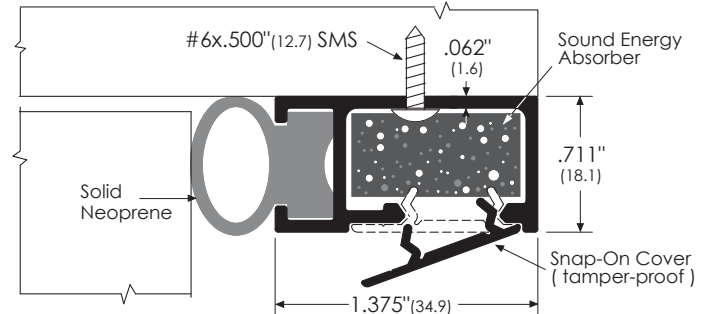


#3709AA

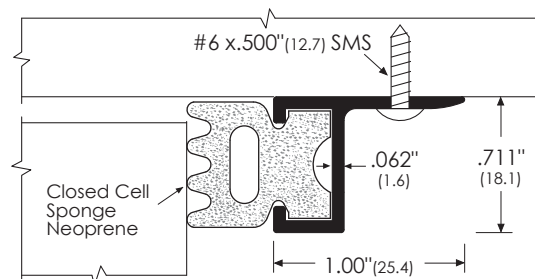
Head & Jamb



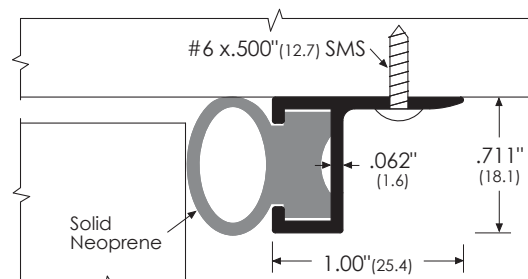
#470AA
#470D



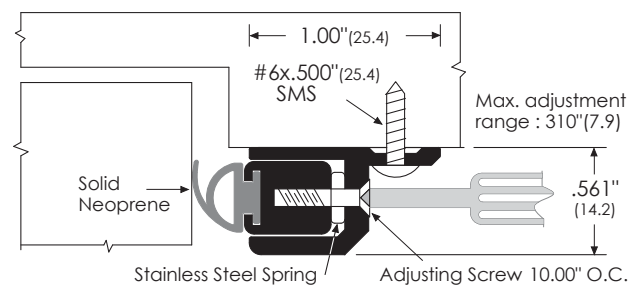
#472AA ZERO Compress-O-Matic®



#270A

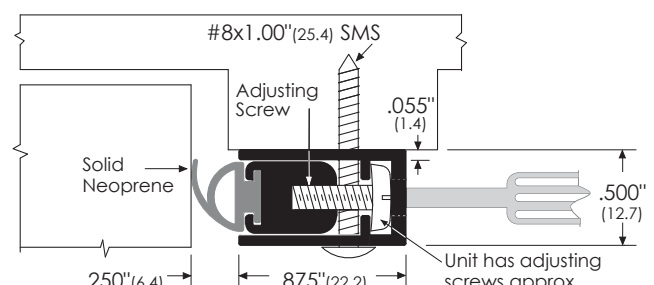


#272A ZERO Compress-O-Matic®



#712AA ADJUSTABLE & SPRING LOADED
ZERO Compress-O-Matic®

Use 3 3/4" backset or lever handle (not knobs)

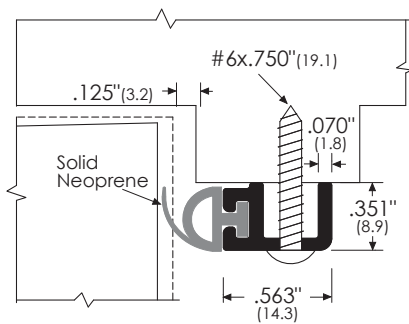


#870AA
#870D ZERO Compress-O-Matic®

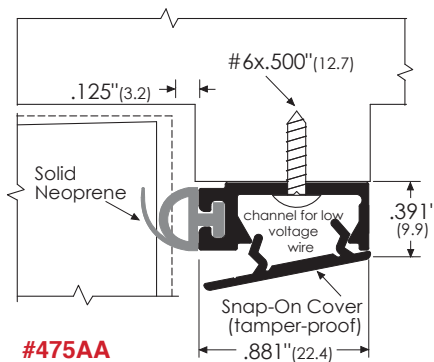
Head and Jamb Protection



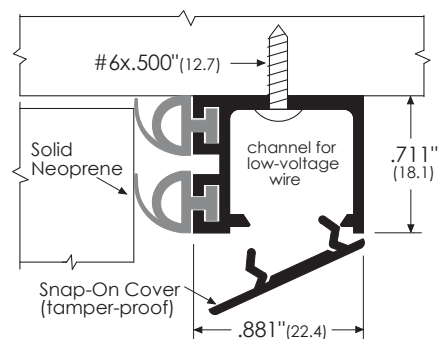
Note: A = Aluminum
B = Bronze
G = Gold Anodized
AA = Clear Anodized
D = Dark Bronze Anodized
SP = Steel Primed



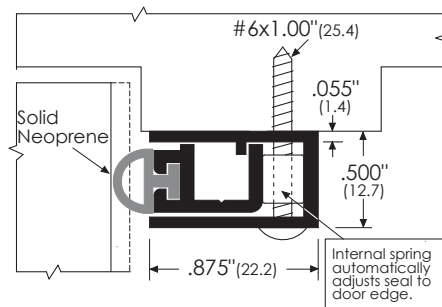
#485A
#485D
#485G
ZERO Compress-O-Matic®



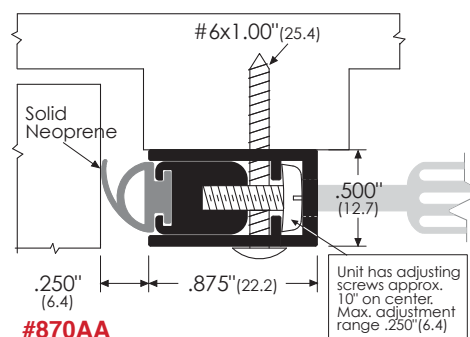
#475AA
#475D
#475G
ZERO Compress-O-Matic®



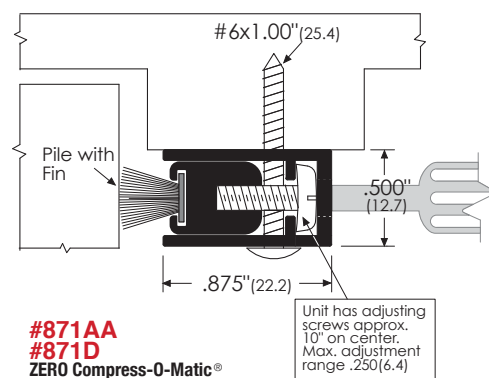
#478AA
#478D
ZERO Compress-O-Matic®



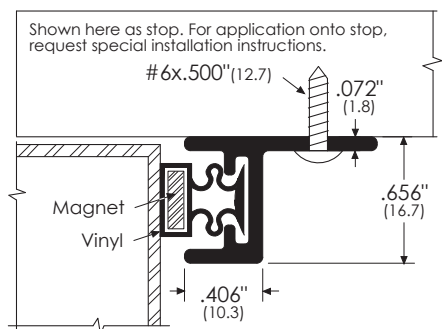
#570AA
#570D
ZERO Compress-O-Matic®



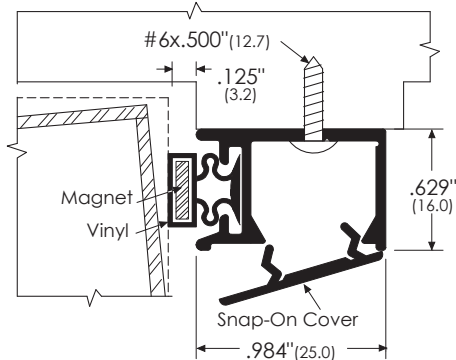
#870AA
#870D
ZERO Compress-O-Matic®



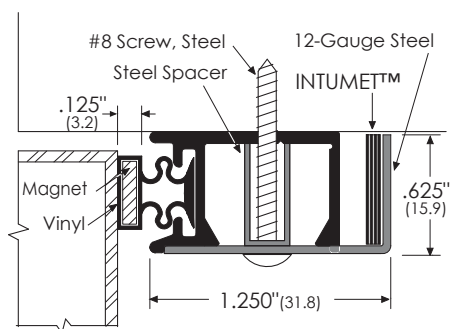
#871AA
#871D
ZERO Compress-O-Matic®



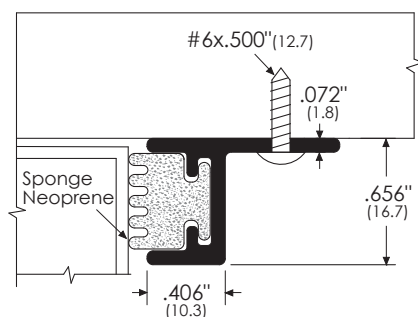
#370A
#370D



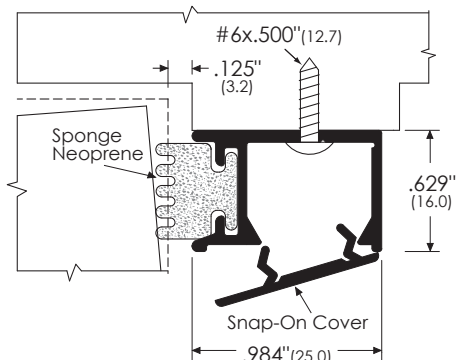
#375AA
#375D



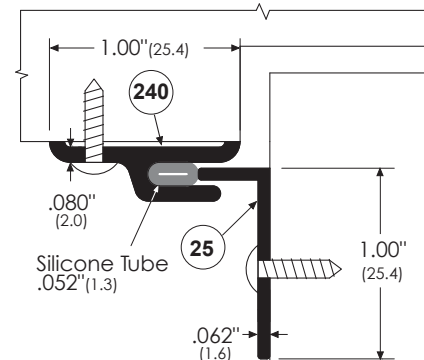
#837SP



#1370A
#1370D



#376AA
#376D



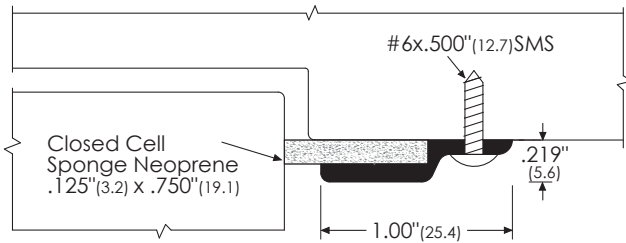
Head and Lock-side Jamb Series 42
Security seal - when installed with tamper-proof fasteners.

Head and Jamb Protection

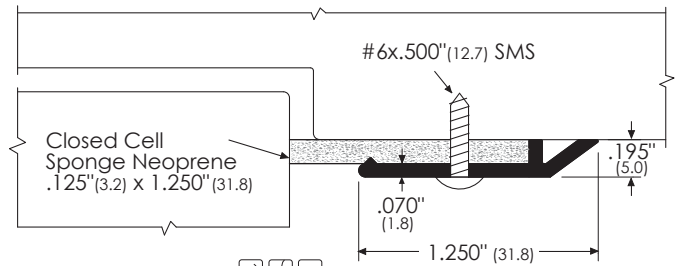


Note: A = Aluminum
B = Bronze
FS = Intumet™
PVC = Polyvinyl, clear

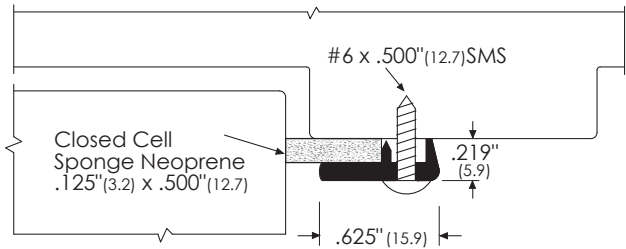
AA = Clear Anodized
D = Dark Bronze Anodized
G = Gold Anodized



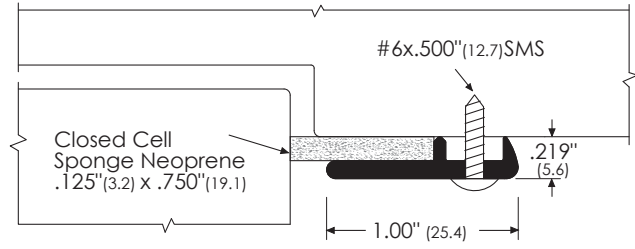
#50A
#50D



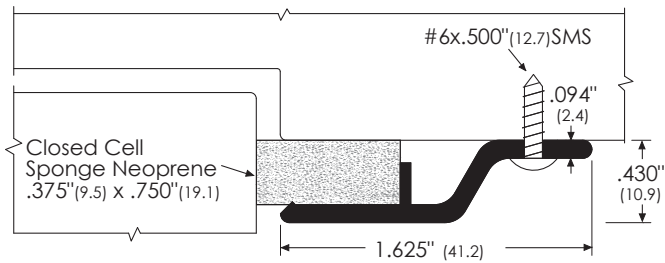
#139A **#139D**



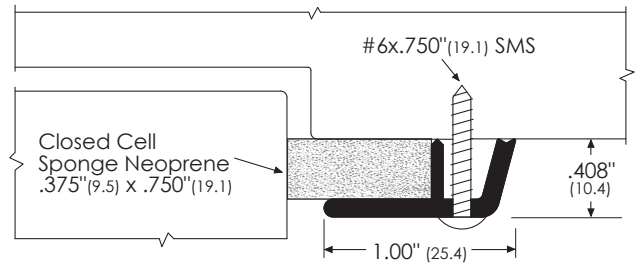
#312A



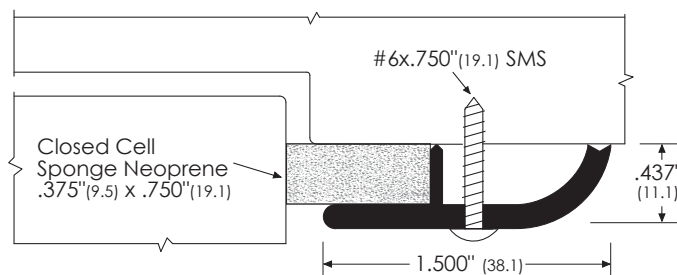
#314AA **#314B**
#314D **#314G**
#314PVC



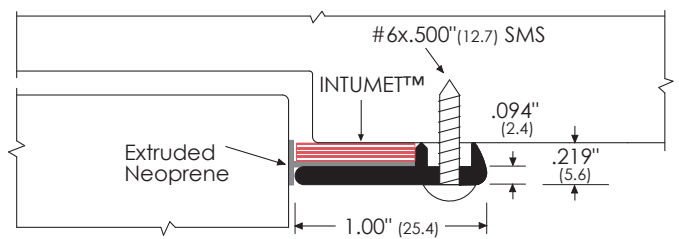
#140A



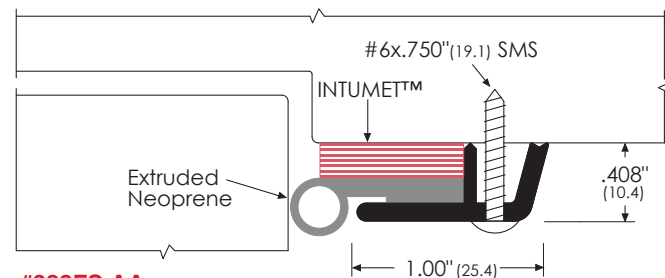
#318AA
#318D



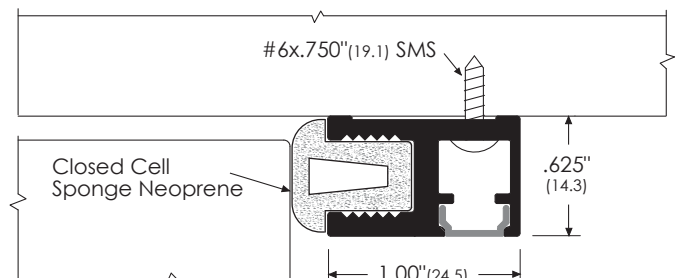
#322A



#302FS AA **#302FS B**
#302FS D **#302FS G**



#328FS AA
#328FS D
ZERO Compress-O-Matic®



#8881AA
ZERO Compress-O-Matic®

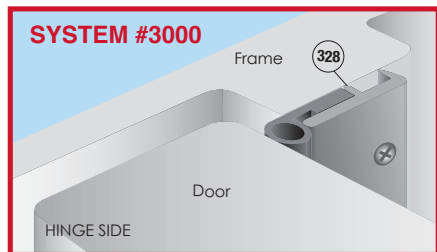
Head & Jamb

Head and Jamb Protection

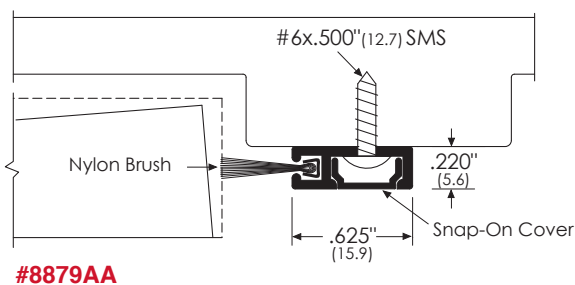
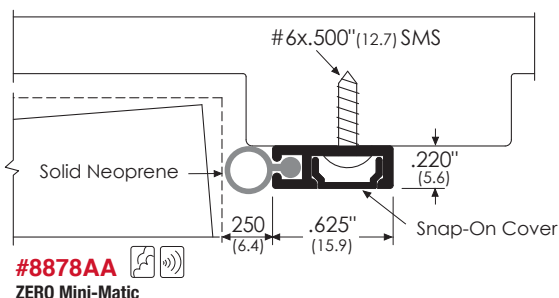
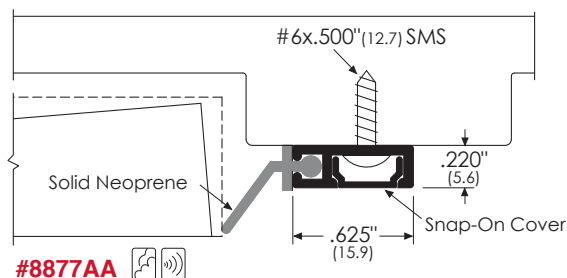
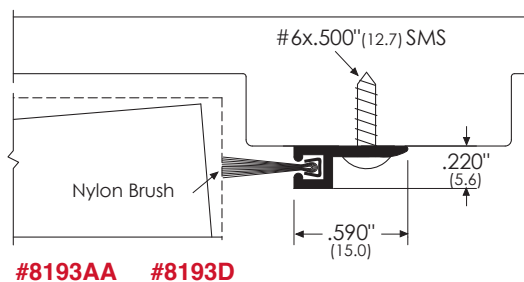
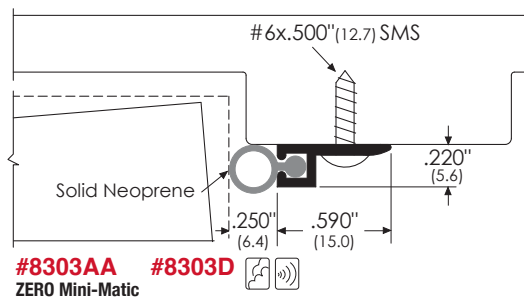
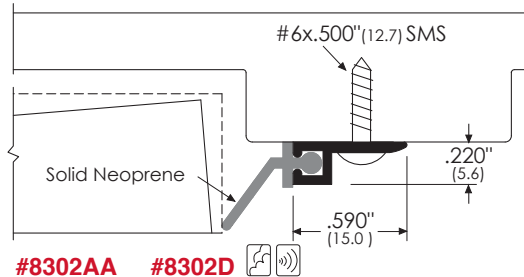
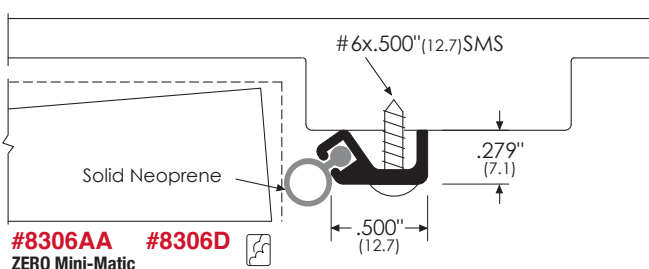
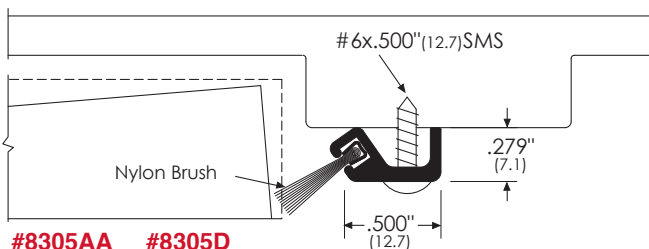
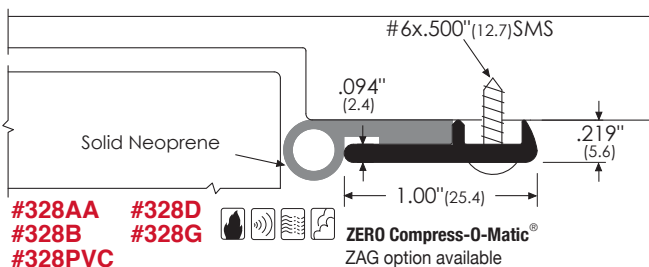
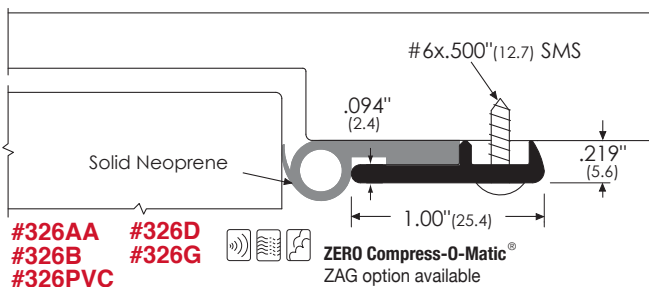


Note: A = Aluminum
B = Bronze
G = Gold Anodized
ZAG = Anti-Ligature gasketing

AA = Clear Anodized
D = Dark Bronze Anodized
PVC = Polyvinyl, clear



System #3000 consists of:
#328 (hinge side)
#326 (head & lock sides)

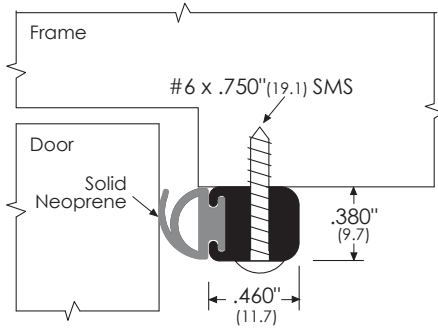


Head and Jamb Protection



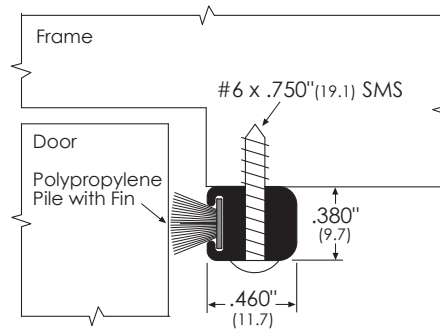
Note: A = Aluminum
D = Dark Bronze Anodized
G = Gold Anodized

AA = Clear Anodized
FS = Intumet™

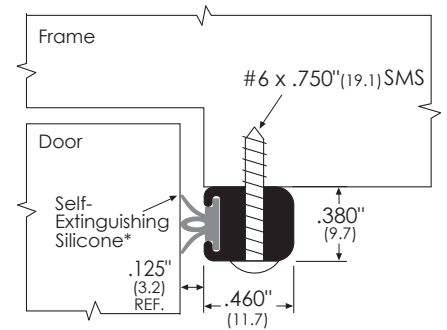


ZERO Compress-O-Matic®

#31AA
#31D
#31G

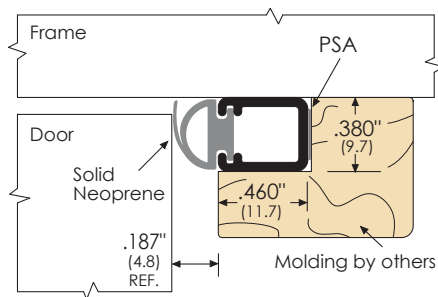


#32AA
#32D
#32G



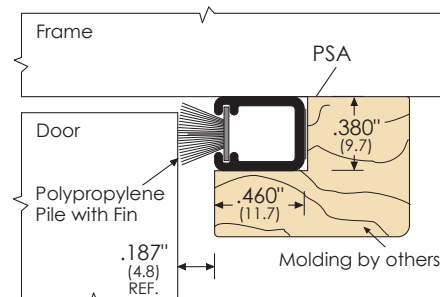
* For very small clearances between door & frame

#33AA
#33D
#33G

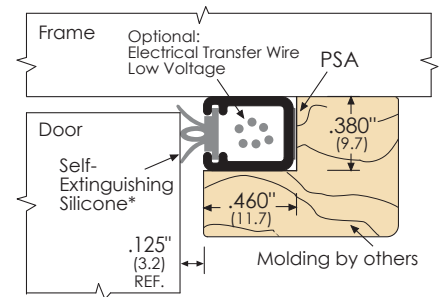


ZERO Compress-O-Matic®

#5831AA
#5831D
#5831G

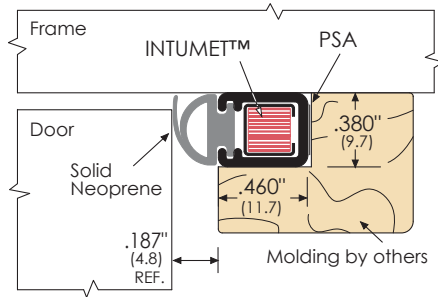


#5832AA
#5832D
#5832G



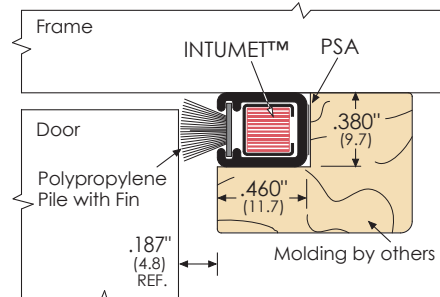
* For very small clearances between door & frame

#5833AA
#5833D
#5833G

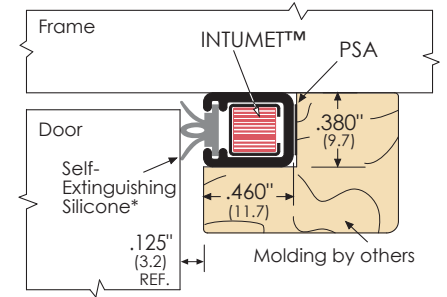


ZERO Compress-O-Matic®

#5831FS-AA
#5831FS-D
#5831FS-G

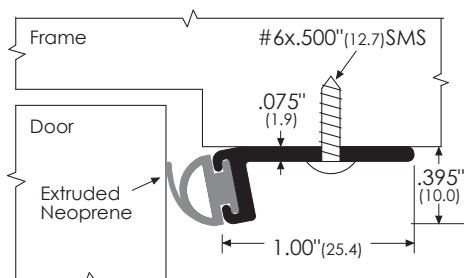


#5832FS-AA
#5832FS-D
#5832FS-G



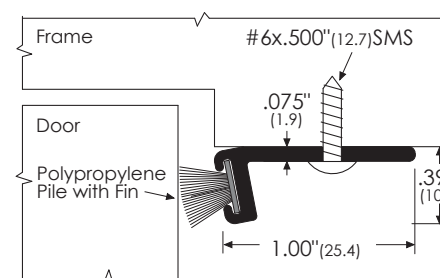
* For very small clearances between door & frame

#58FS-AA
#58FS-D
#58FS-G

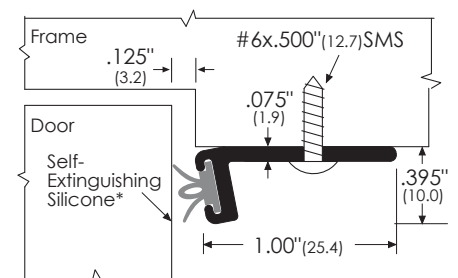


ZERO Compress-O-Matic®

#99A
#99D



#98A
#98D



* For very small clearances between door & frame

#100A
#100D

Head & Jamb

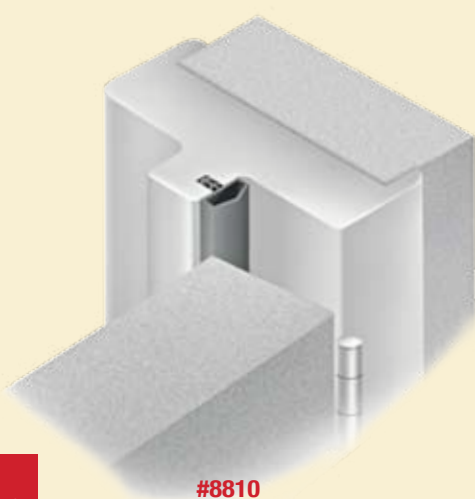
Kerf Frame Weatherstripping



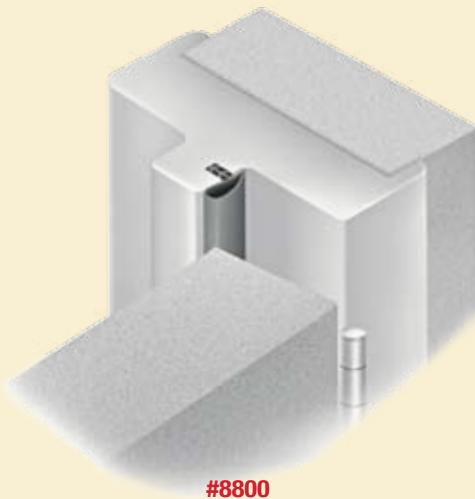
Note: Br = Brown
N = Neoprene*
PSA = Self Adhesive Tape
P-Gy = Pile, Grey
S-Bk = Silicone, Black
S-Wh = Silicone, White
Y-Bk = Polyvinyl*, Black
Y-Wh = Polyvinyl*, White
(*Also available in Silicone material upon request)

See manufacturer specifications for minimum required clearance between door and frame.
Most items shown are available in self-extinguishing, non-staining neoprene or silicone.
Contact factory for custom materials, colors and shapes. Specify quantity. (Minimum order required)

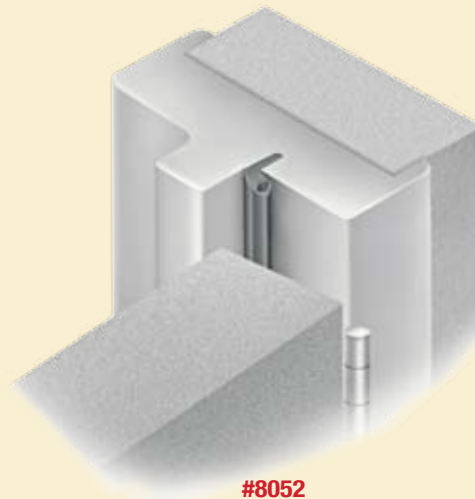
Door Seals



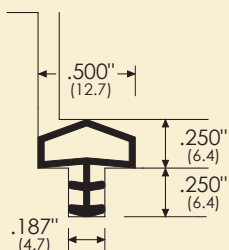
#8810



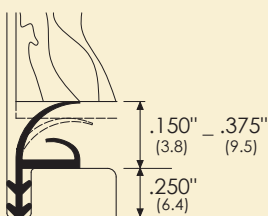
#8800



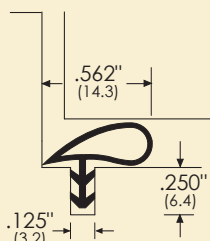
#8052



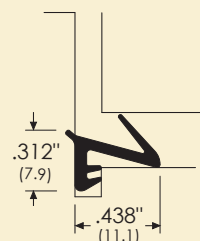
#8810N



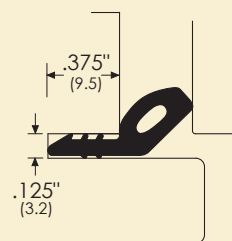
#8004N



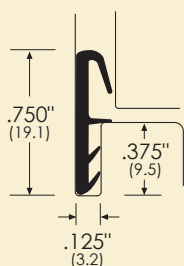
#8800S-Bk
#8800S-Wh



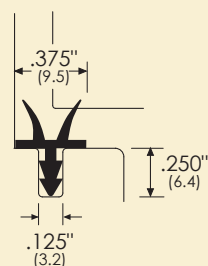
#8841Y-Bk



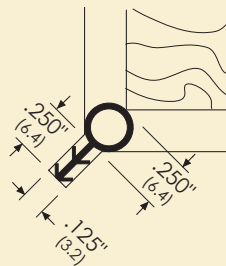
#8052N



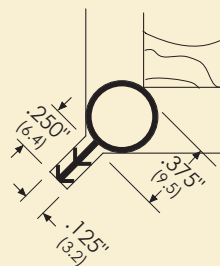
#8043N



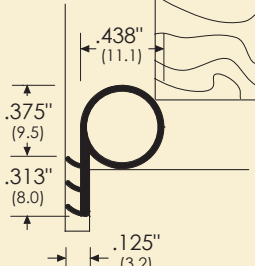
#8048S-Bk



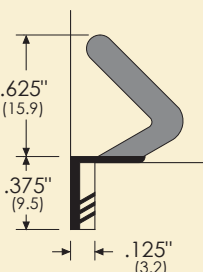
#8054S-Bk
#8054S-Wh



#8055S-Bk



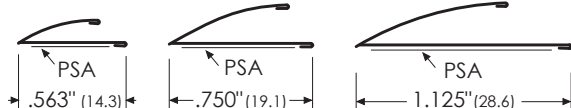
#8056Y-Wh



#8053Q-Br
#8053Q-Wh

Cushion Spring

34 B.&S. Gauge Bronze Spring
35 B.&S. Gauge Stainless Steel

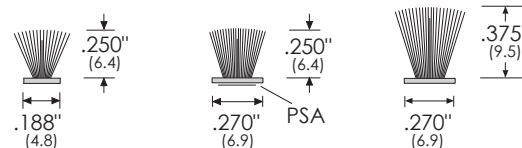


#118B
#118S

#119B

#119WB
#119WS

Pile Brush



#8136P-Gy

#137P-Bk-PSA
#137P-Gy-PSA

#34P-Bk
#34P-Gy

Self-Adhesive Weatherstripping



Note:

N = Neoprene

S-Bk = Silicone, Black

S-Wh = Silicone, White

PSA* is equipped with 3M self-adhesive tape

All products are available with ZAG feature (Anti-Ligature)

S-Br = Silicone, Brown

S-Cl = Silicone, Clear

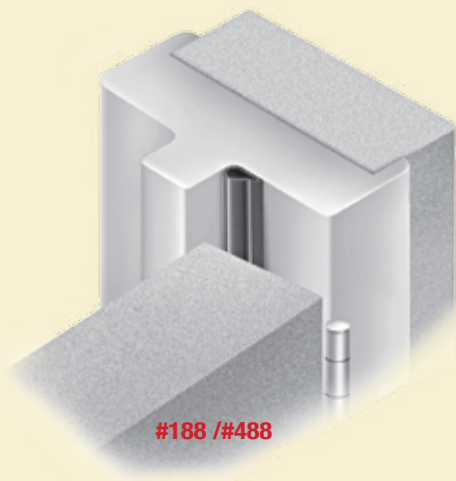
S-Gy = Silicone, Grey

FS = Intumet™ Rubber

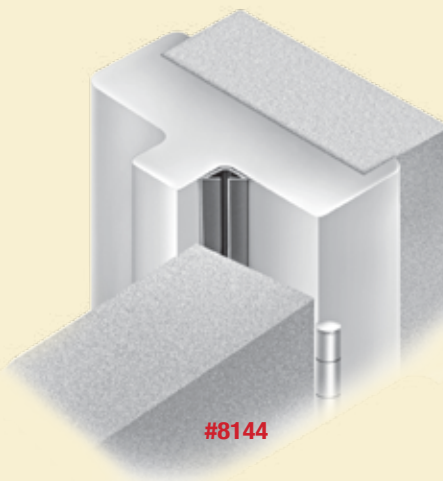
Y-Bk = Polyvinyl, Black

BIO = Antibacterial

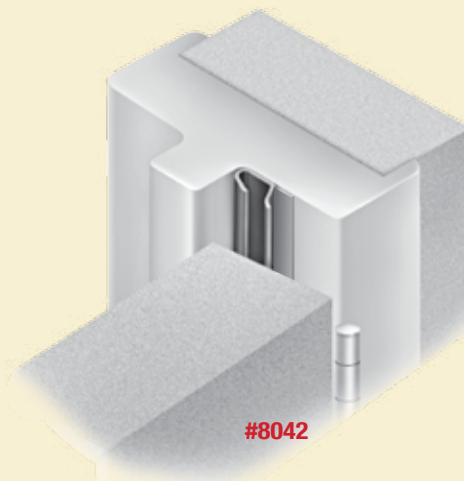
Gasketing, White



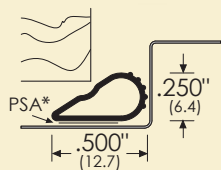
#188 / #488



#8144

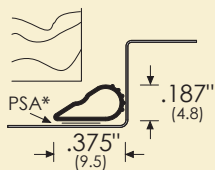


#8042



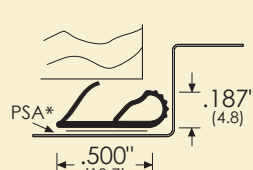
#188S-Bk #188S-Wh
#188S-Br #188FS
#188S-Cl #188BIO
#188S-Gy

ZERO Compress-O-Matic®

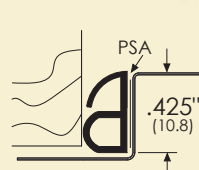


#488S-Bk #488S-Wh
#488S-Br #488FS
#488S-Cl #488BIO
#488S-Gy

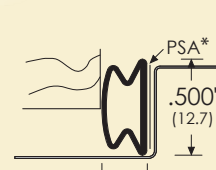
ZERO Mini-Matic®



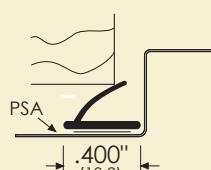
#8145S-Bk
ZERO Compress-O-Matic®



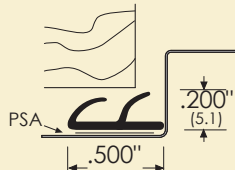
#824N



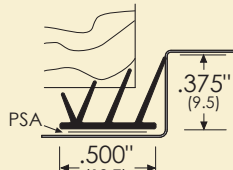
#8216S-Bk



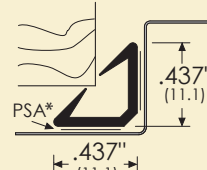
#117S-Bk



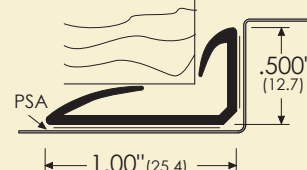
#8042S-Bk



#8150S-Bk



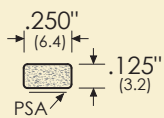
#8144S-Bk
#8144S-Wh
#8144 FS



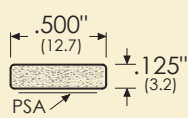
#8160Y-Bk

Door Seals

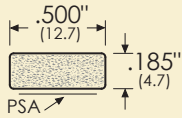
Closed Cell Sponge Neoprene



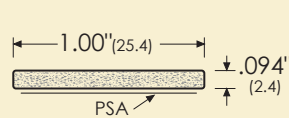
#8172N



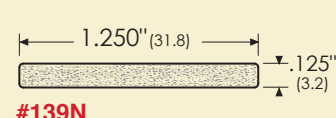
#8770N



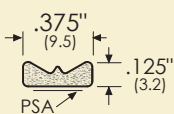
#312N



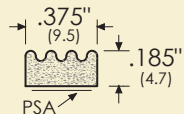
#8780N



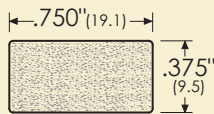
#139N



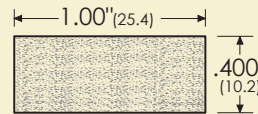
#826N



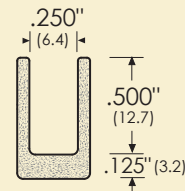
#926N



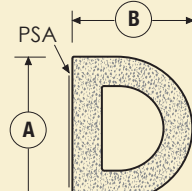
#318N



#3708N



#2070N



Part#	A	B
#810	.625" (15.9)	.625" (15.9)
#811	.750" (19.1)	.625" (15.9)
#812	1.00" (25.4)	.500" (12.7)
#813	1.250" (31.8)	.625" (15.9)

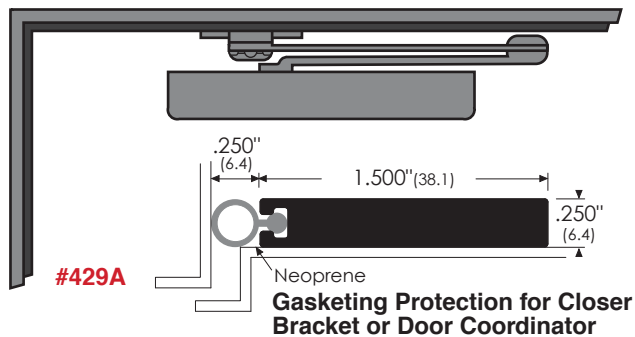


Head and Jamb Protection



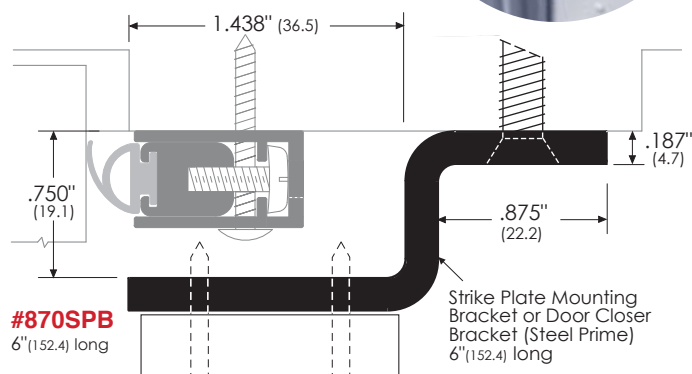
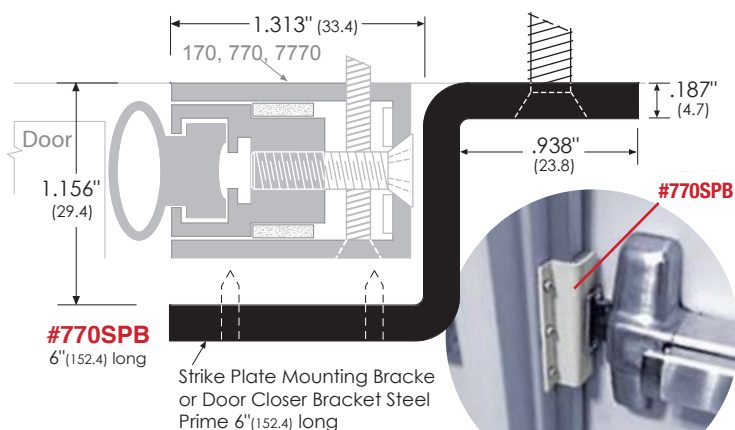
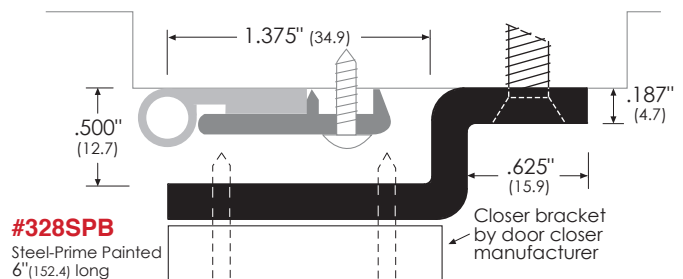
Note: A = Aluminum
D = Dark Bronze Anodized
SP = Steel Primed

B = Bronze
G = Gold Anodized



STRIKE PLATE MOUNTING BRACKETS

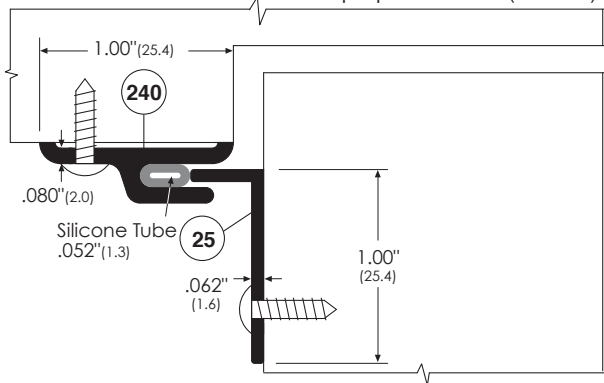
(Custom sizes available upon request)



Series 42A

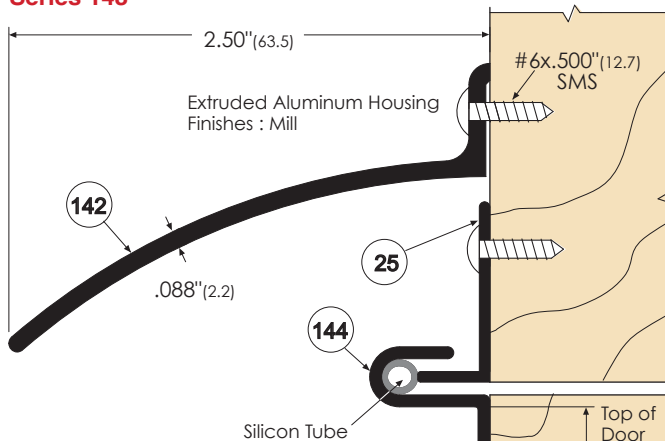
Head and Lock-side Jamb

Security seal—when installed with tamper-proof fasteners (#7272ST).



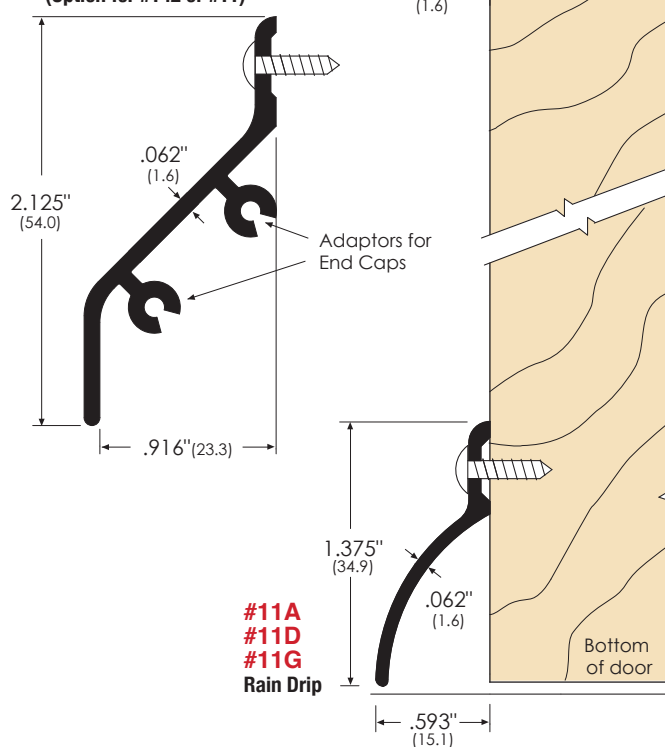
INTERLOCKING WATER SHED For Outswinging Doors

Series 148



#141A

(Option for #142 or #11)

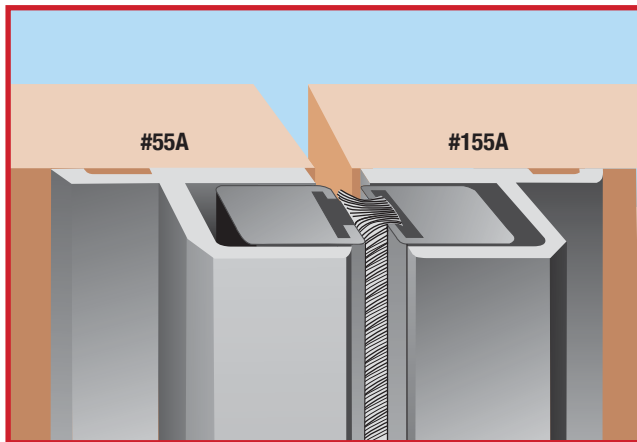


#11A
#11D
#11G
Rain Drip

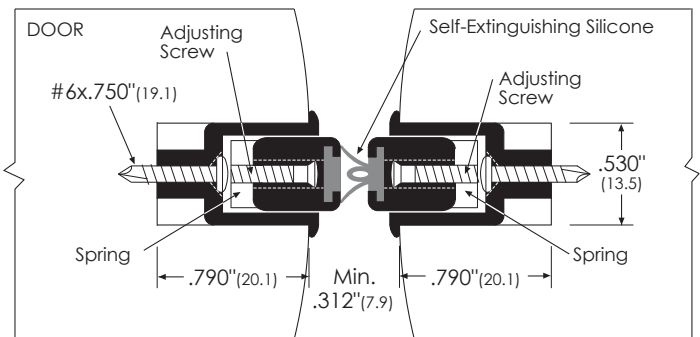
Meeting Stiles - Both Doors Active



Note: AA = Clear Anodized D= Dark Bronze Anodized
FS = Intumet™ Rubber G= Gold Anodized



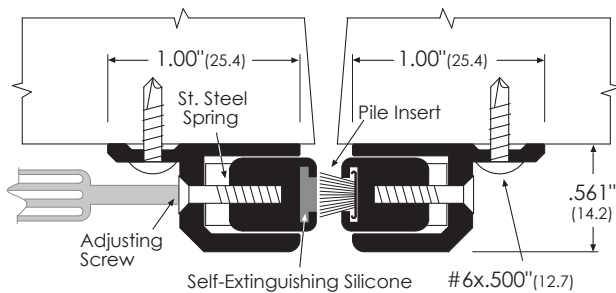
Adjustable Mortised Astragal



#56AA
#56D
#56G

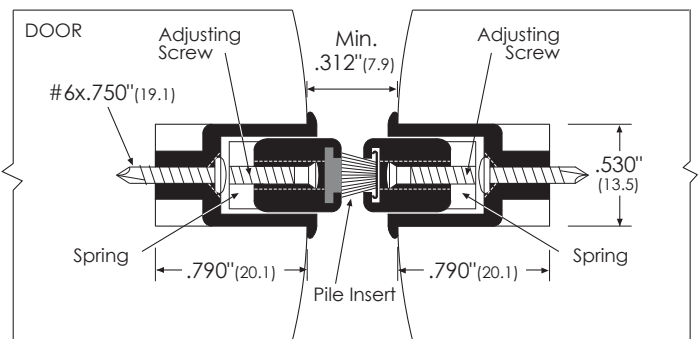
#557AA
#557D
#557G

Adjustable Surface Astragal



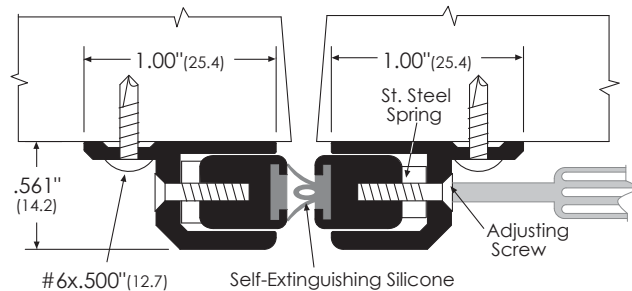
#55AA
#55D

#155AA
#155D



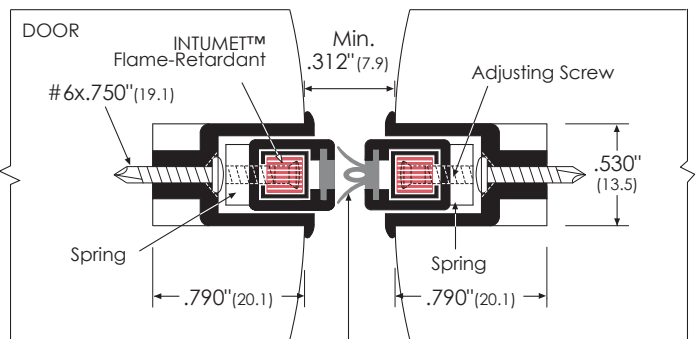
#56AA
#56D
#56G

#156AA
#156D
#156G



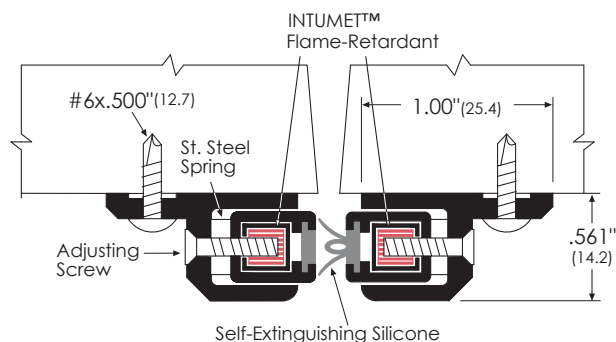
#55AA
#55D

#555AA
#555D



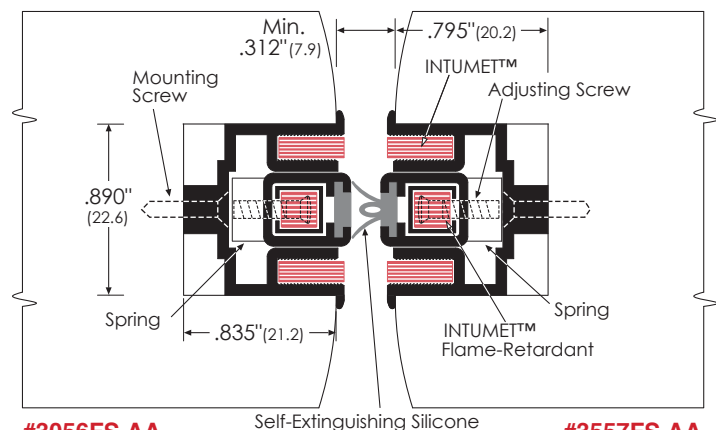
#56FS AA
#56FS D
#56FS G

#557FS AA
#557FS D
#557FS G



#55FS AA
#55FS D

#555FS AA
#555FS D



#3056FS AA
#3056FS D
#3056FS G

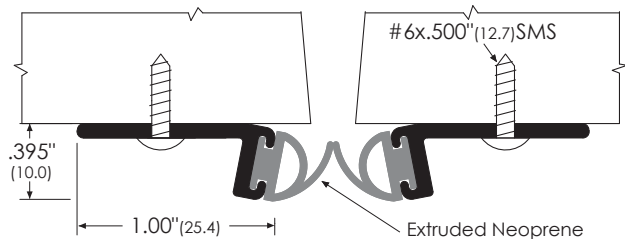
#3557FS AA
#3557FS D
#3557FS G

Meeting Stiles

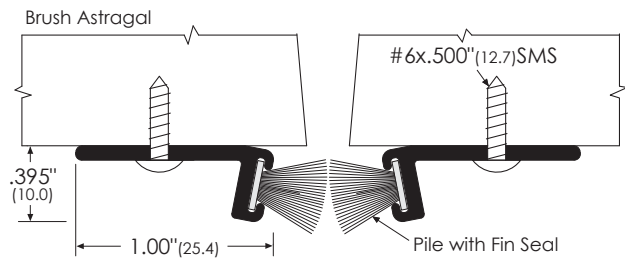
Meeting Stiles - Both Doors Active



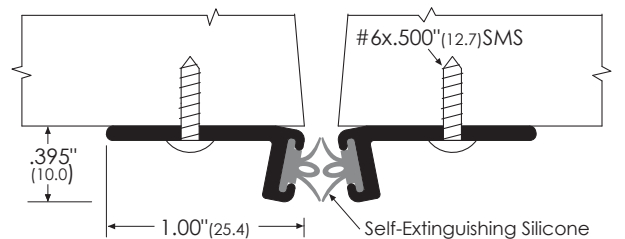
Note: A = Aluminum
B = Bronze
G = Gold Anodized
AA = Clear Anodized
D = Dr. Bronze Anodized



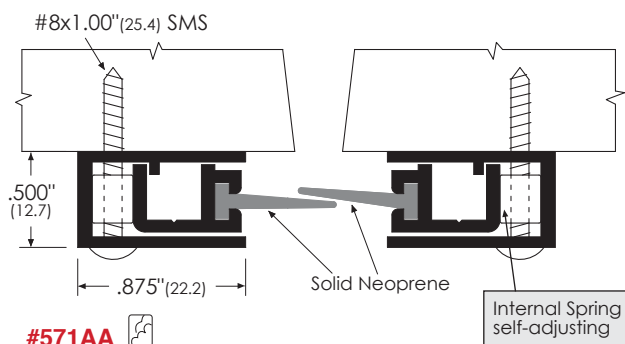
#99A
#99D



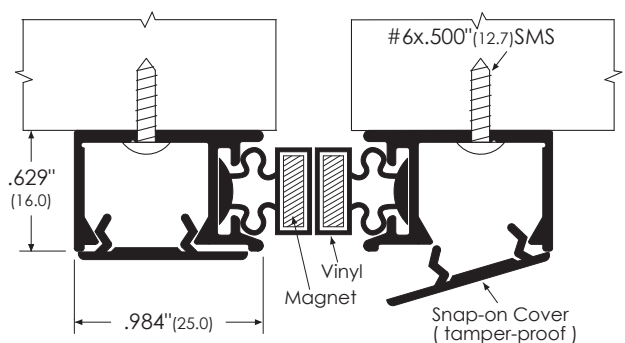
#98A
#98D



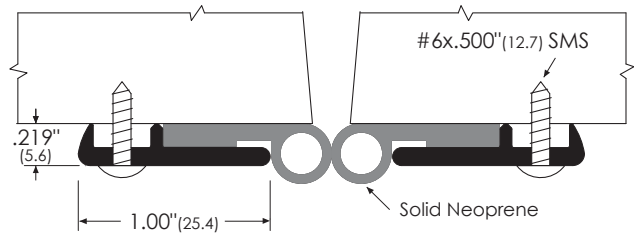
#100A
#100D



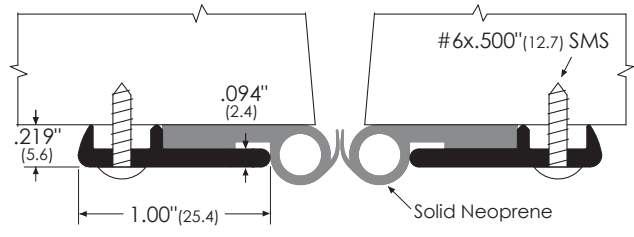
#571AA
#571D



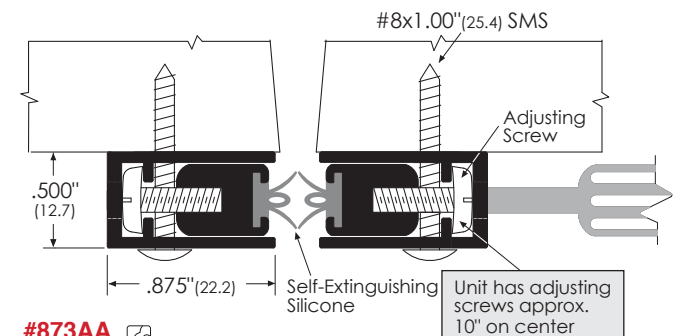
#375AA



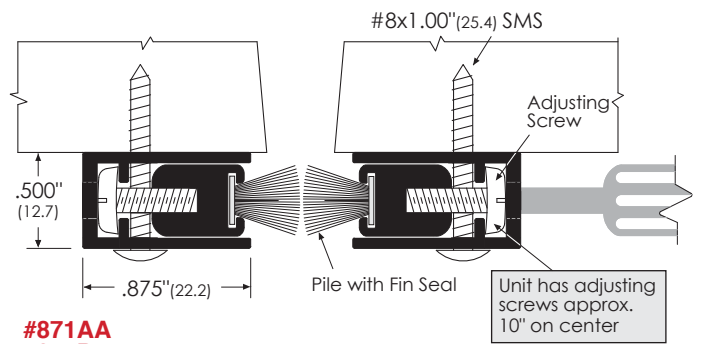
#328AA
#328D
#328B
#328G



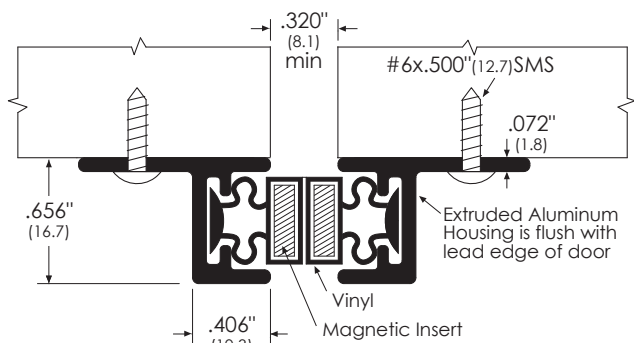
#326AA
#326D
#326B
#326G



#873AA
#873D



#871AA
#871D



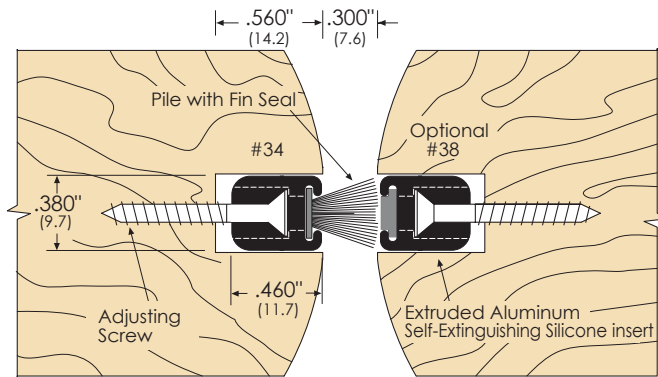
#370A
#370D

Meeting Stiles - Both Doors Active



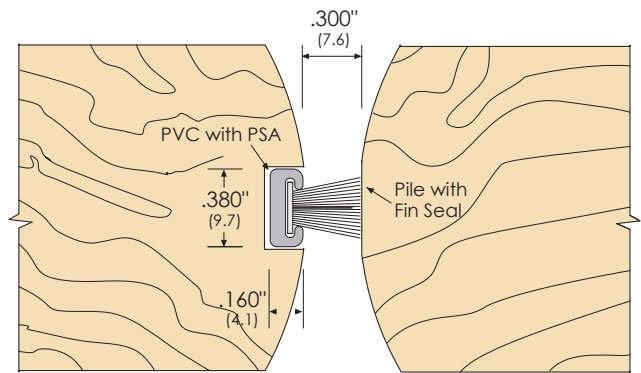
Note: A = Aluminum
B = Bronze
G = Gold Anodized
V = Solid PVC, Brown color

AA = Clear Anodized
D = Dr. Bronze Anodized
S-Bk = Silicone, black

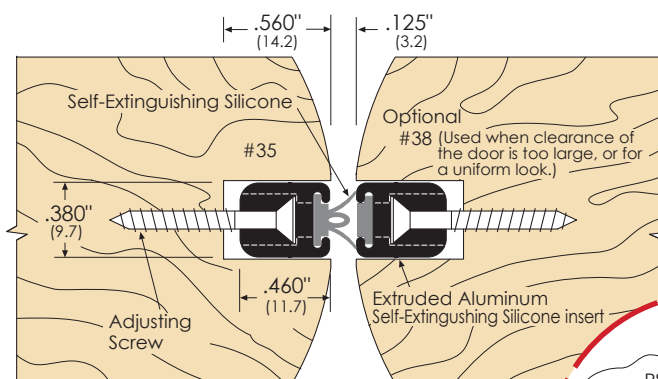


#34AA #34D #34G

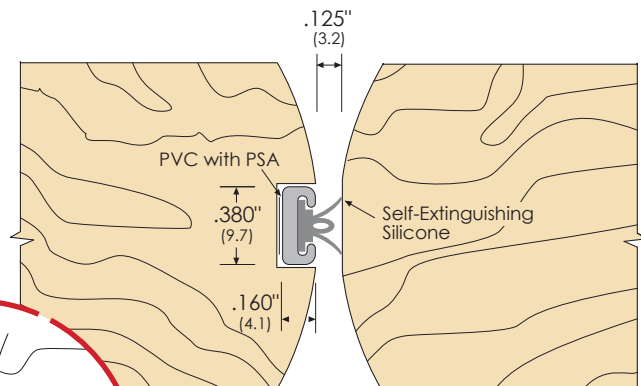
#38 is used when clearance of the door is too large, or for a uniform look.



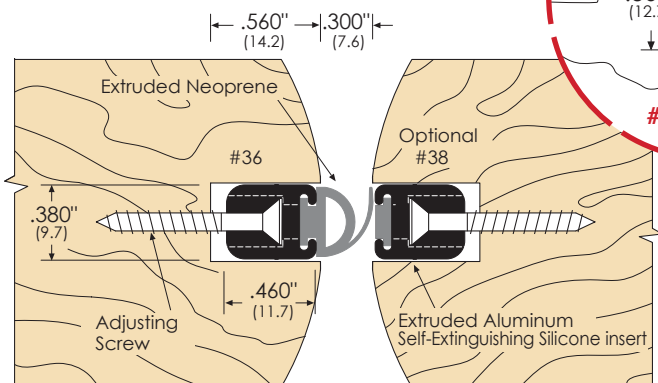
#398V



#35AA #35D #35G

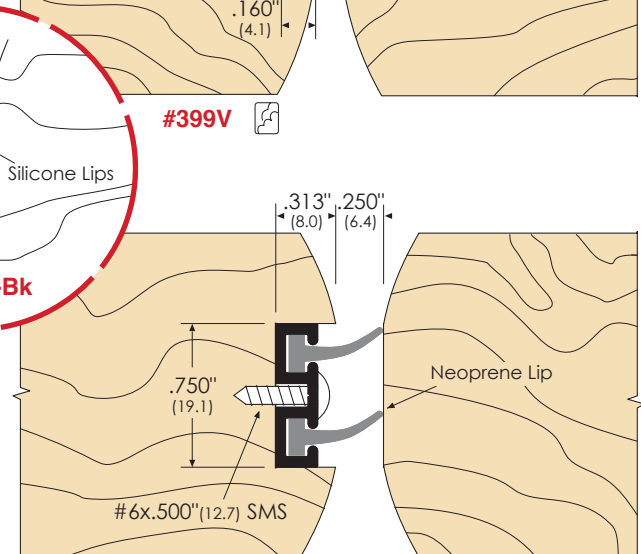


#399V

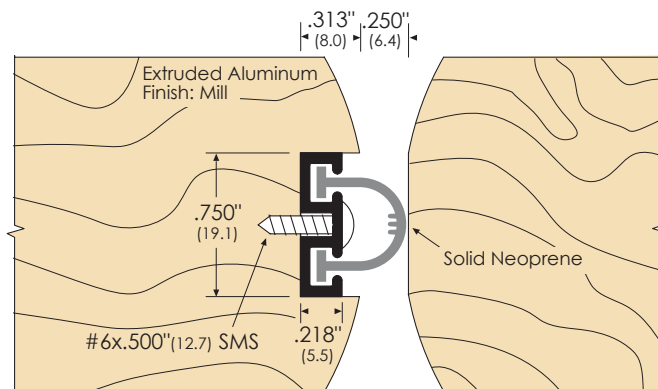


#36AA #36D #36G

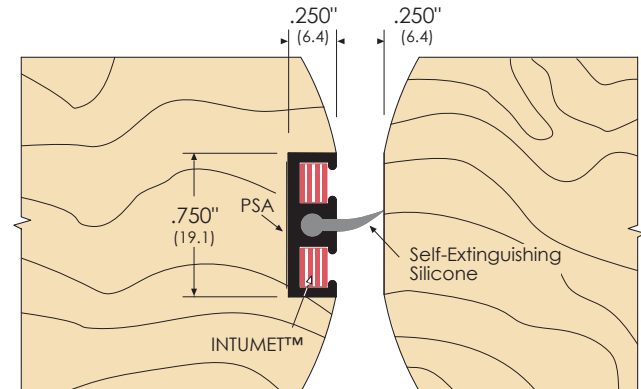
#38 is used when clearance of the door is too large, or for a uniform look.



#381A



#53A



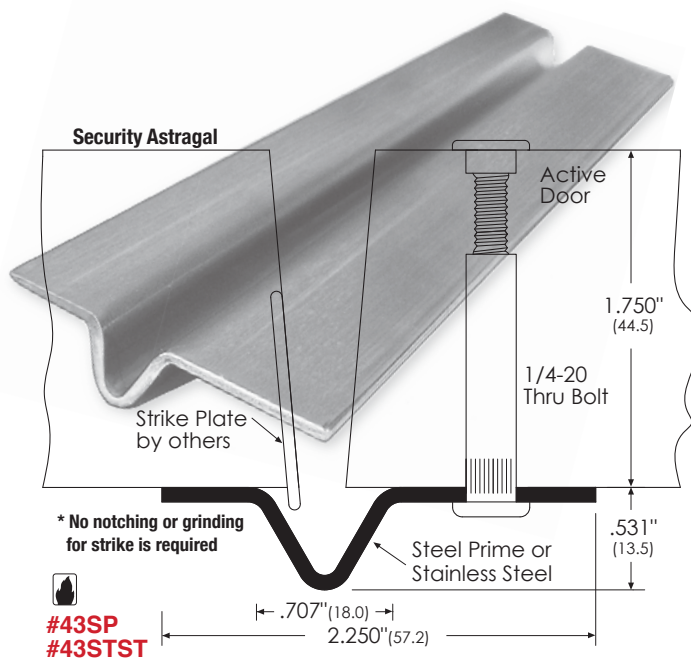
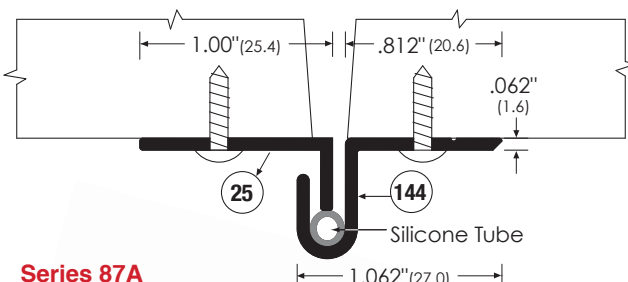
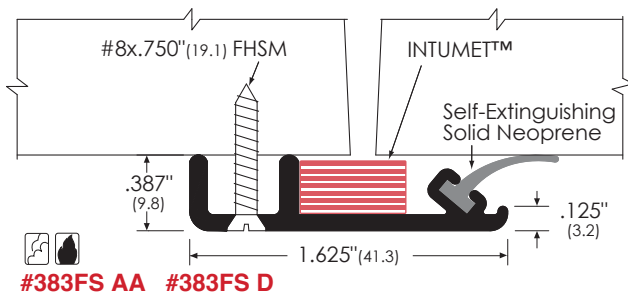
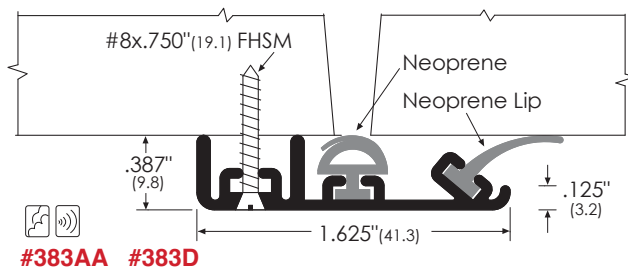
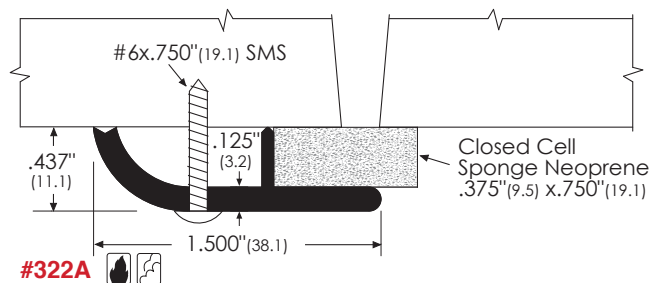
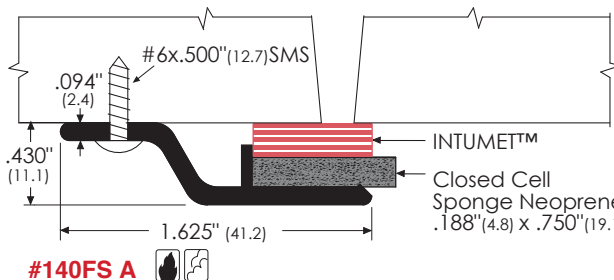
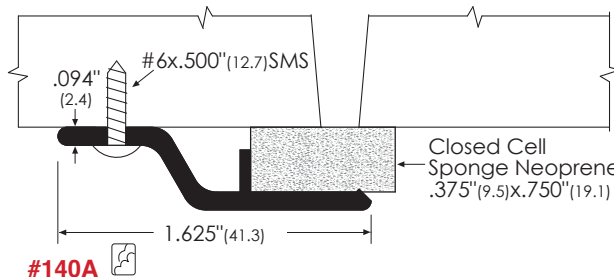
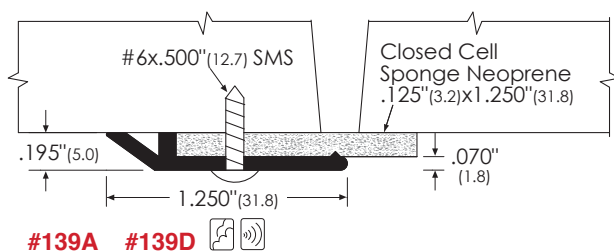
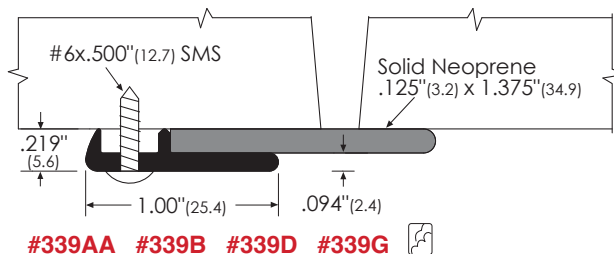
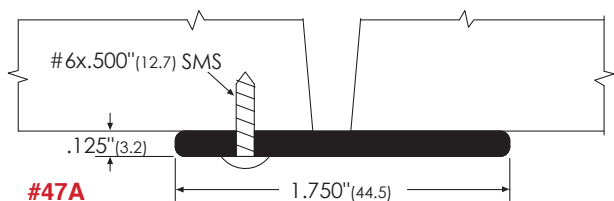
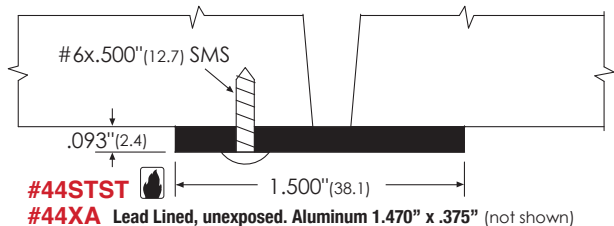
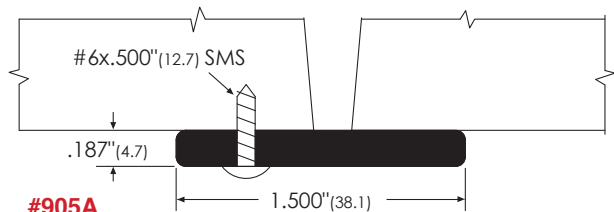
#59FS A #159FS A
(without neoprene, door clearance .125" - not shown)

Meeting Stiles - One Door Active



Note: A = Aluminum
B = Bronze
G = Gold Anodized
SP = Steel Prime

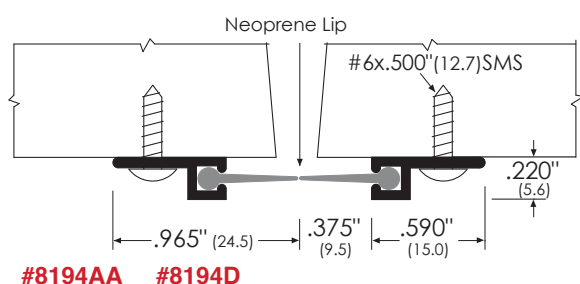
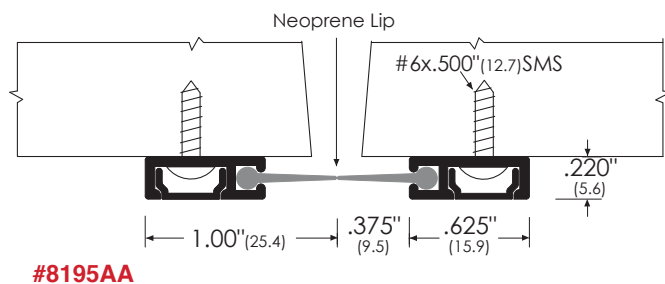
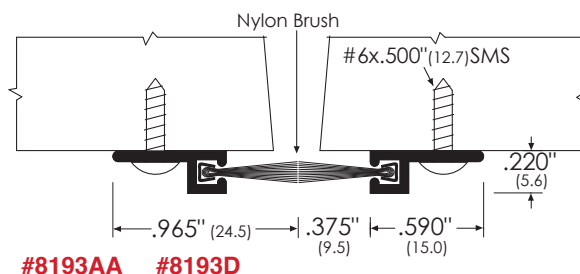
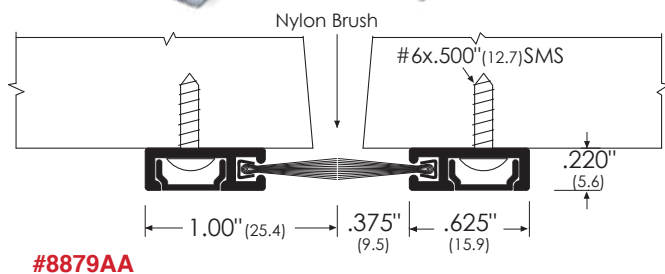
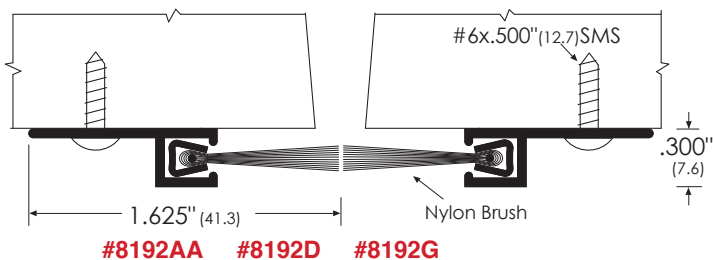
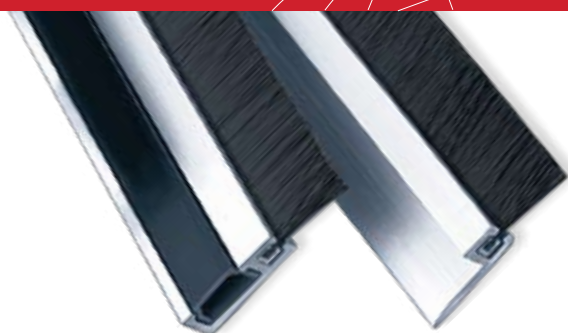
AA = Clear Anodized
D = Dark Bronze Anodized
STST = Stainless Steel
FS = INTUMET™ Rubber



Meeting Stiles - Both Doors Active



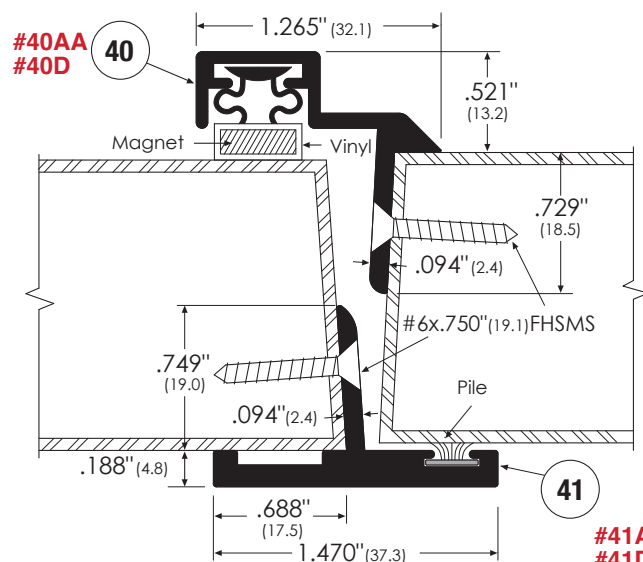
Note: A = Aluminum D = Dark Bronze Anodized
AA = Clear Anodized G = Gold Anodized



Meeting Stiles - One Door Active

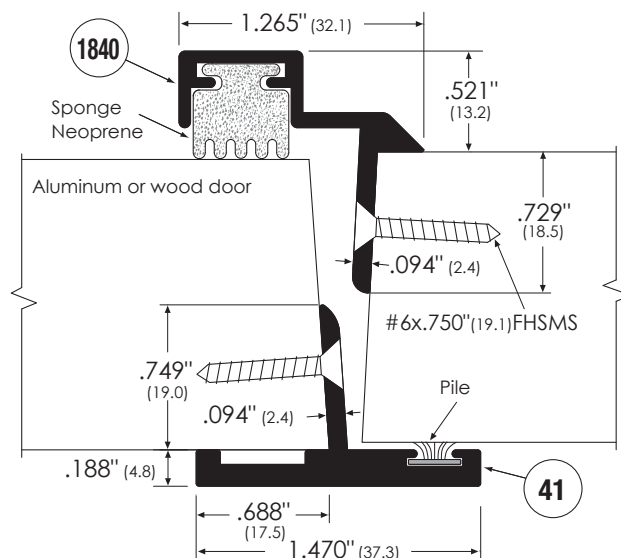
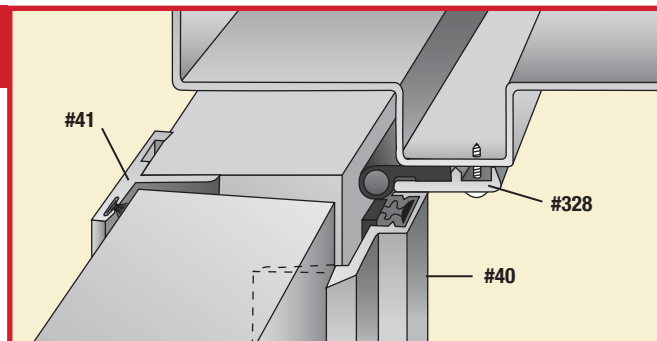
#40, #440 MAGNETIC ASTRAGAL

#41 Exterior Security Astragal



#41 EXTERIOR SECURITY ASTRAGAL

#440 (not shown) FOR USE ON 90° DOORS



Meeting Stiles

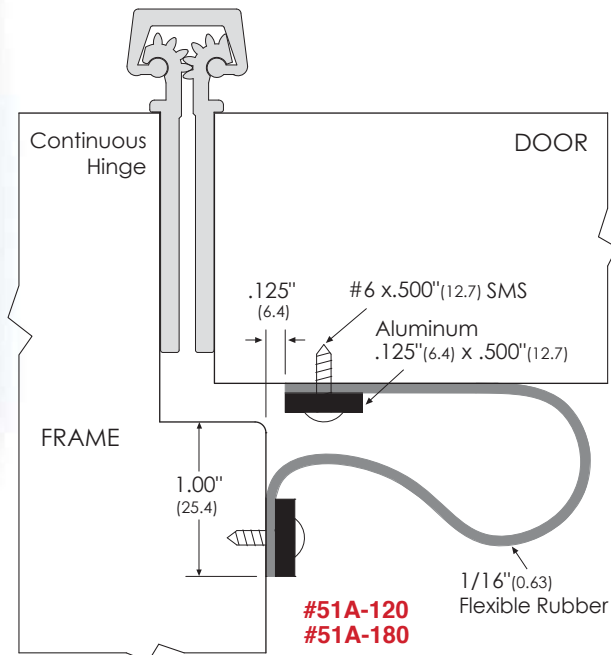
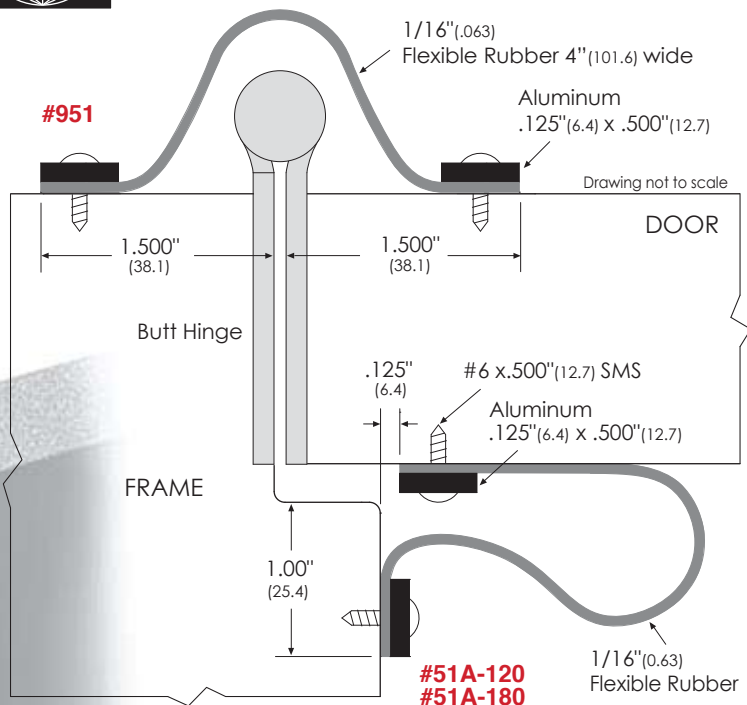
Finger-Guard

Hand and finger protection for heavy-duty industrial applications, child care, school safety, hospitals, and the workplace.
A commercial-quality, maintenance-free product.
Aluminum and flexible rubber available in grey color.

#51A-120 (6" wide) For door opening up to 120°

#51A-180 (8" wide) For door opening up to 180°

#951 Cover for mortise type hinges





ZERO BioWall™ Antibacterial Gasketing

Zero developed **BioWall™ antibacterial** rubber in response to rising hygienic standards and increasing demand for practical, antimicrobial applications in many facilities. Applications range from hospitals, nursing homes and doctors' offices, to veterinary facilities, to schools. Wherever minimizing microbial exposures is crucial to occupant and visitor well-being, **BioWall** can help maintain a sanitary work environment.

Breakthrough technology

This revolutionary, non-toxic rubber inhibits and suppresses microbial growth and reproduction. It was formulated using revolutionary, non-toxic infusion technology, combined with proprietary extrusion technology, natural antimicrobial ingredients, and breakthrough synthetics. It provides long-lasting defense against bacteria, fungi, molds and other microorganisms.

Long service life

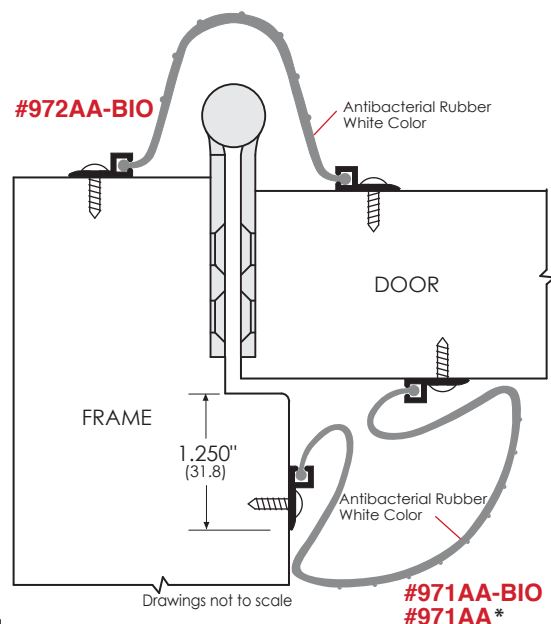
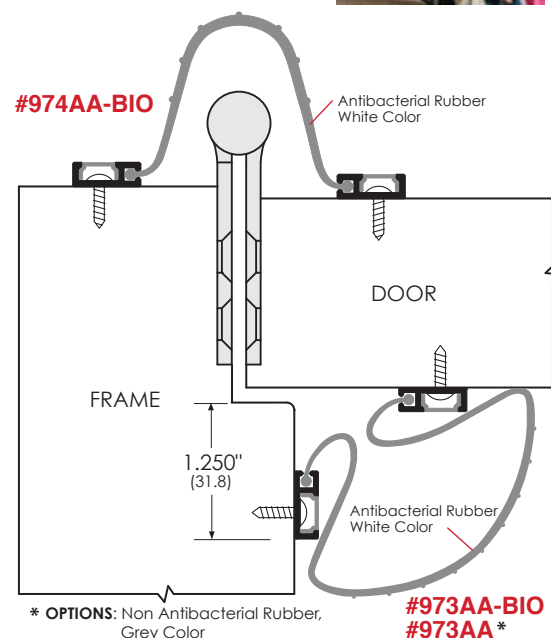
Our technology provides natural resistance to abrasion, washing, and exposure to UV radiation and various chemicals. Zero BioWall antibacterial gasketing is designed to withstand surface wear and tear to maintain long-lasting antimicrobial protection.



ZERO BioWall Finger Protection

- Antibacterial hand and finger protection for child care facilities, hospitals and nursing homes, doctors' offices, and other locations requiring highest standards of hygiene.
- Available in two versions. Mountings in models #973 and #974 are concealed with additional BioWall rubber for aesthetics and enhanced antibacterial protection.

ZERO Bio-Wall technology is also available as a special order for gasketing.



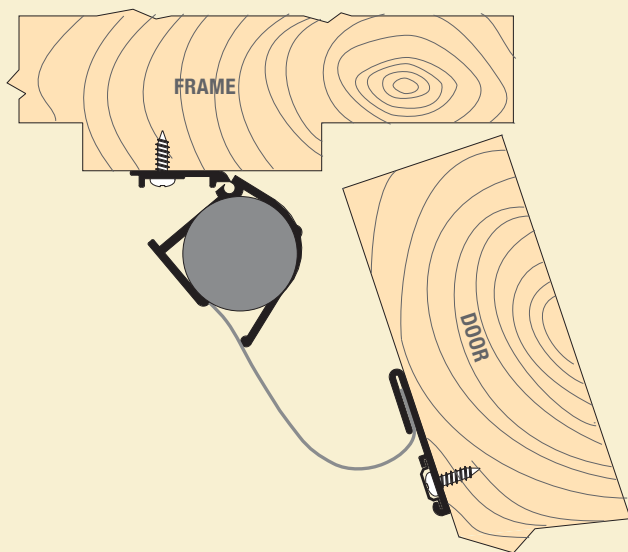
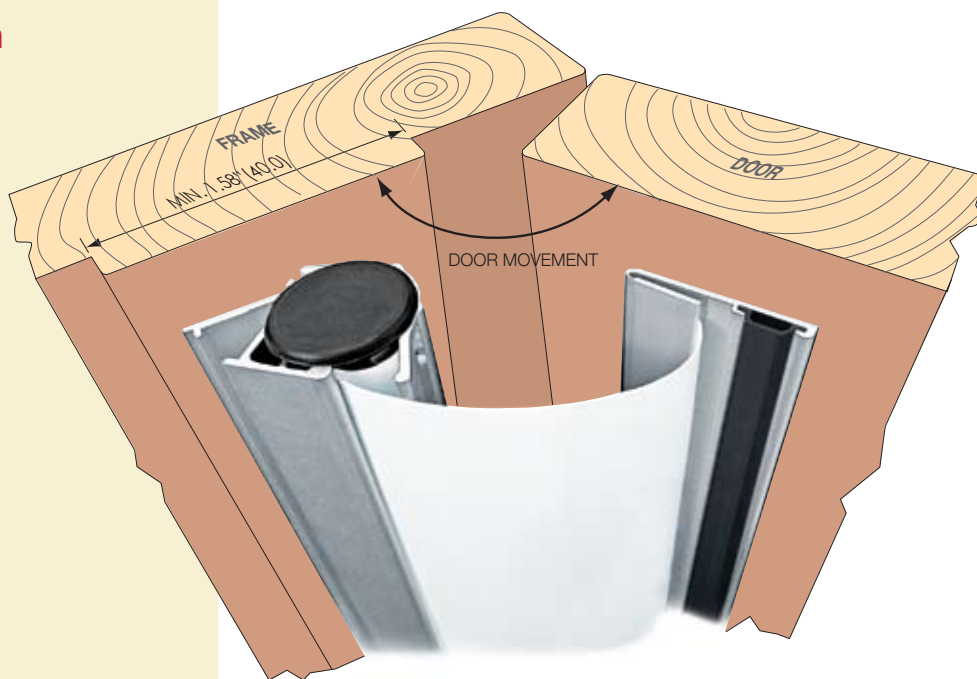
Finger Guard

Roller Finger Protection

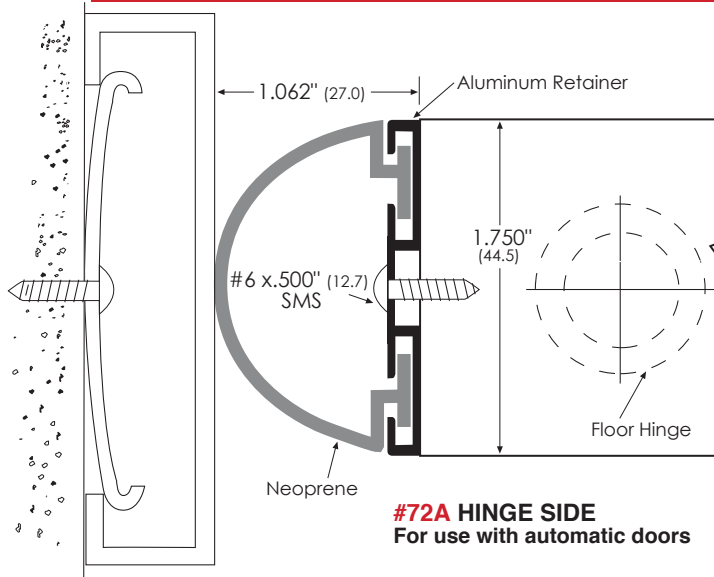
Clear anodized aluminum roller blind finger protection system to prevent fingers being trapped between the edge of the door and the frame. Suitable for use on single-action doors whether they are manually or power-operated. Blind insert stock color is black with white available on request. Please note that the frame stop must be at least 1.58" (40mm) in order to fit the roller blind. This product is supplied with mounting screws and double-sided tape to help with installation. Standard length allows sufficient coverage without need for cutting or splicing.

#975A-Bk 76" (1930) long, black blind insert

#975A-Wh 76" (1930) long, white blind insert

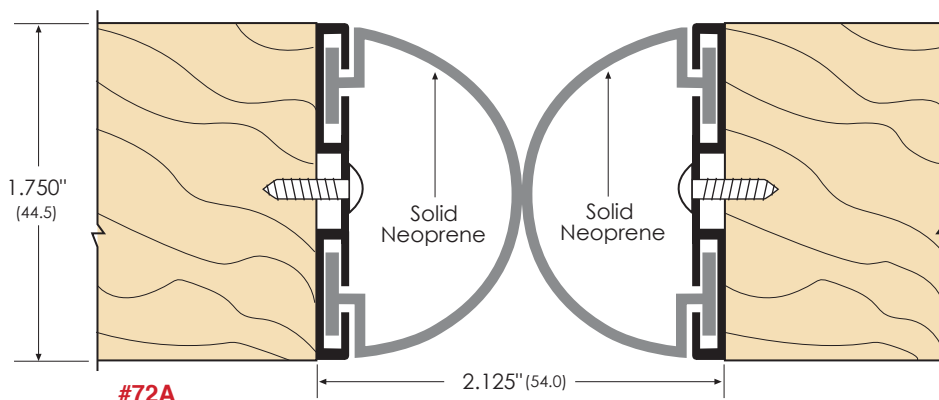


Safety Strip - Finger Guard, Double-Acting Single Doors



#72A HINGE SIDE
For use with automatic doors

Safety Strip - Finger Guard, Double-Acting Pair of Doors



ERO # Z108 Heavy-Duty Spring Recoil Door Holders



The Z108 surface-mounted, swing-limiting door holder is suitable for exterior vestibule and interior doors. Single-acting spring absorbs shocks when the door is opened.

The Z108 surface-mounted, swing-limiting door holder is suitable for exterior, vestibule and interior doors. Single-acting spring absorbs shocks when the door is opened.

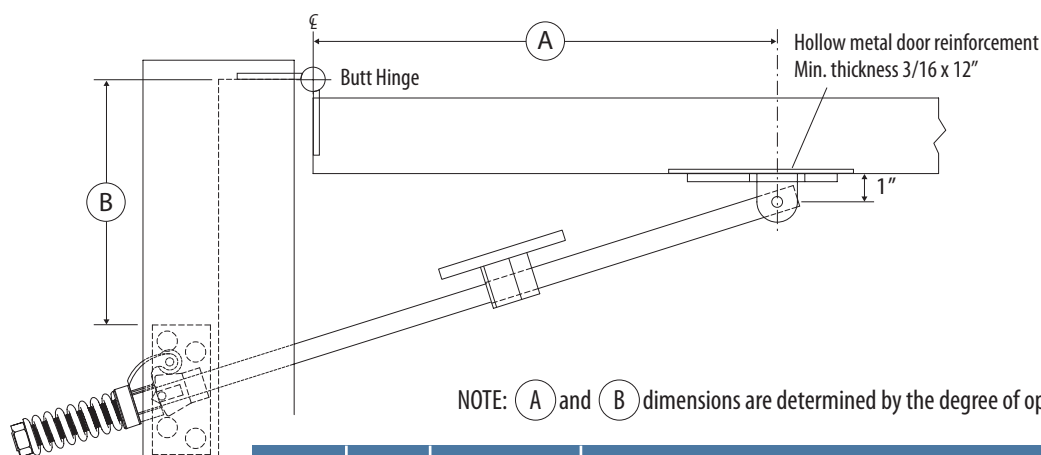
- Stainless steel components, chrome finish
- Reversible, non-handed alignment
- Single point hold-open and increments of 5° from 85° to 110°
- Automatic hold-open and release by push and pull on door
- For stop only turn hook mechanism 90°, adjustable spring tension
- 5' to 7'(1524 to 2134) shock compression following hold-open point
- Maximum door opening 110°, minimum door thickness 1 1/4"(44.5)
- Supplied with wood, machine screws and grommet nuts

- Bar 1/2"(12.7) diameter 300 Series stainless steel
- Jamb bracket stainless steel
- Adjustable hold-open tension

- Applies to surface overhead stops used in hollow metal and fire wood doors

- BHMA Number C08511

#Z108-0 To suit door widths 23" - 28.9" (583 - 735), rod length 15.4"(391)
#Z108-1 To suit door widths 29" - 34.9" (736 - 887), rod length 19.5"(495)
#Z108-2 To suit door widths 35" - 40.9" (888 - 1040), rod length 22.9"(581)
#Z108-3 To suit door widths 41" - 46.9" (1041 - 1192), rod length 26.2"(665)
#Z108-4 To suit door widths above 47" (1193), rod length 30"(763)



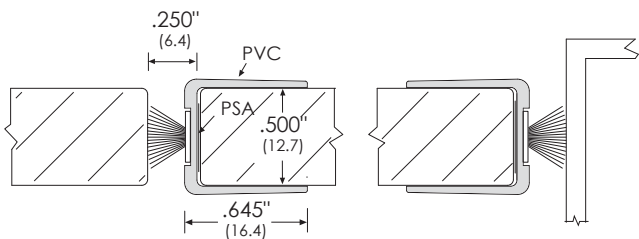
ADJUSTMENT NUT
For increasing and decreasing
hold-open tension

NOTE: (A) and (B) dimensions are determined by the degree of opening required. See table below.

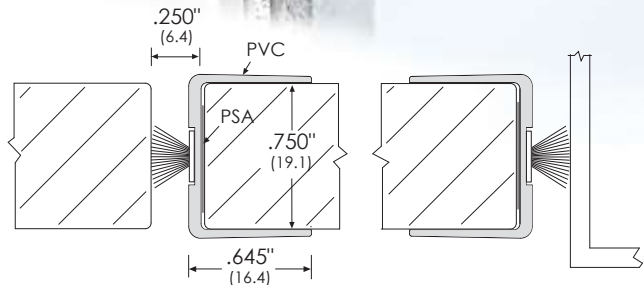
1-1/4" to 2-3/8" (31.8 to 60.3) DOOR THICKNESS BUIT & OFFSET PIVOT	MODEL#	DOOR OPENING	HOLD-OPEN DEGREE											
			85° H.O.		90° H.O.		95° H.O.		100° H.O.		105° H.O.		110° H.O.	
			(A)	(B)	(A)	(B)	(A)	(B)	(A)	(B)	(A)	(B)	(A)	(B)
	#Z108-0	23" to 28 -15/16" (584.2 to 735.0)	5-3/8" (136.5)	8-1/4" (209.6)	5" (127.0)	7-7/8" (200.0)	4-11/16" (119.1)	7-9/16" (192.1)	4-3/8" (111.1)	7-1/4" (184.2)	4-1/8" (182.6)	7" (177.8)	3-7/8" (98.4)	6-3/4" (171.5)
	#Z108-1	29" to 34 -15/16" (736.6 to 887.4)	7-15/16" (201.6)	11-7/8" (301.6)	8-3/8" (212.7)	10-1/4" (260.4)	7-15/16" (201.6)	9-13/16" (249.2)	7-1/2" (190.5)	9-3/8" (238.1)	7-3/16" (182.6)	9-1/16" (230.2)	6-7/8" (174.6)	8-3/4" (222.3)
	#Z108-2	35" to 40 -15/16" (889.0 to 1039.8)	10-9/16" (268.3)	14-1/8" (358.8)	10-15/16" (277.8)	12-5/16" (312.7)	10-7/16" (265.1)	11-13/16" (300.0)	9-15/16" (252.4)	11-5/16" (287.3)	9-1/2" (241.3)	10-7/8" (276.2)	9-1/8" (231.8)	10-1/2" (266.7)
#Z108-3	41" to 46 -15/16" (1041.4 to 1192.2)	13-1/4" (336.6)	16-7/16" (417.5)	13-9/16" (344.5)	14-1/2" (368.3)	12-15/16" (328.6)	13-7/8" (352.4)	12-3/8" (314.3)	12-5/16" (312.7)	11-7/8" (301.6)	12-13/16" (325.4)	11-7/16" (290.5)	12-3/8" (314.3)	
#Z108-4	47" - UP (1193.8 - up)	15-1/2" (393.7)	19-13/16" (503.2)	15-7/8" (403.2)	17-11/16" (449.3)	15-3/16" (385.8)	17" (431.8)	14-1/2" (368.3)	16-5/16" (414.3)	13-15/16" (354.0)	15-3/4" (400.1)	13-3/8" (339.7)	15-3/16" (385.8)	



PVC Housing with Poly Pile Seal

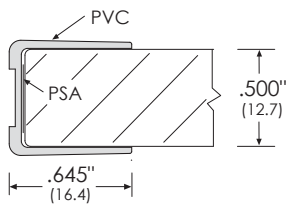


#137
For .500" (12.4mm) thick doors

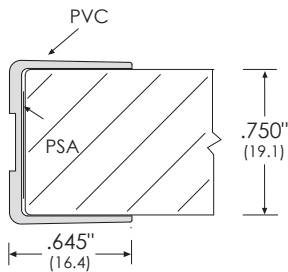


#138
For .750" (19.1mm) thick doors

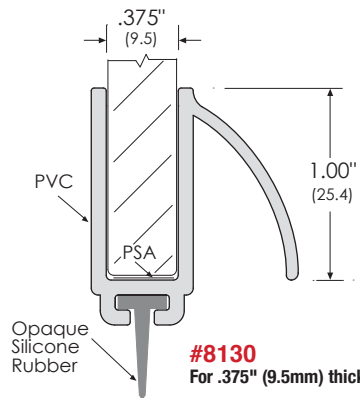
Glass Edge Protection



#135
For .500" (12.4mm) thick doors

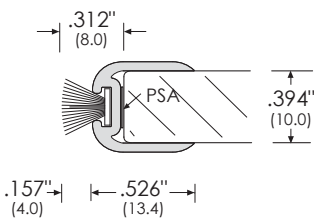


#136
For .750" (19.1mm) thick doors

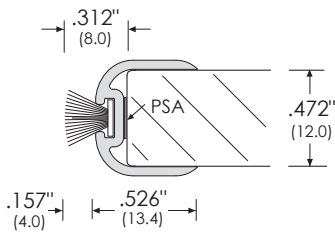


#8130
For .375" (9.5mm) thick doors

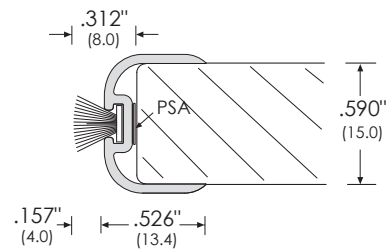
Polycarbonate Seals



#8136
For .394" (10mm) thick doors



#8137
For .472" (12mm) thick doors



#8138
For .590" (15mm) thick doors

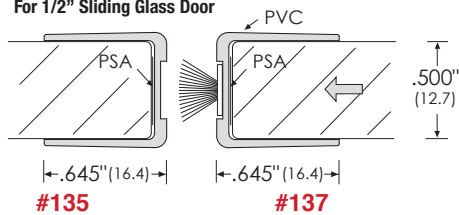
Glass Door Weatherstripping



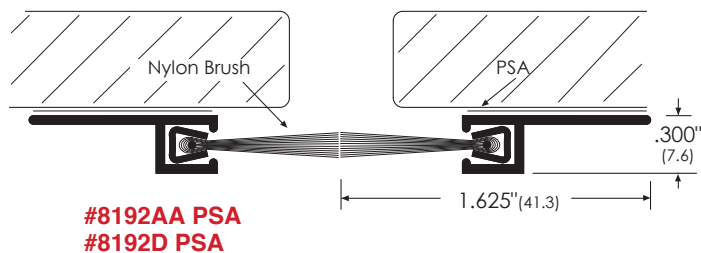
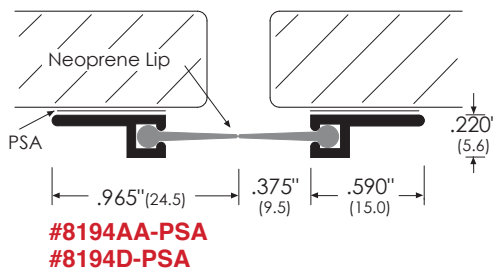
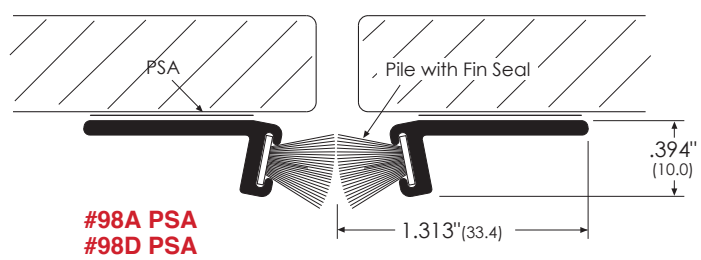
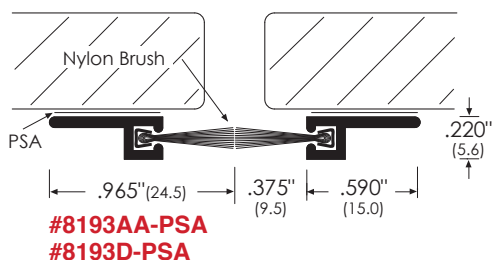
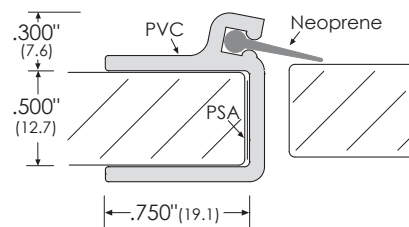
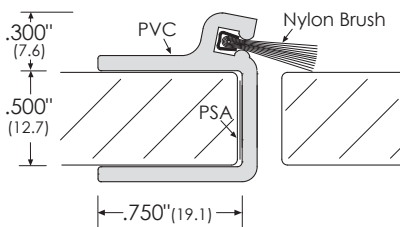
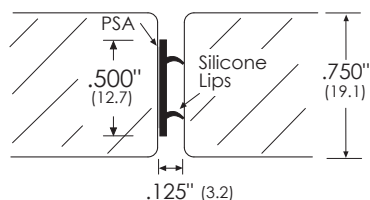
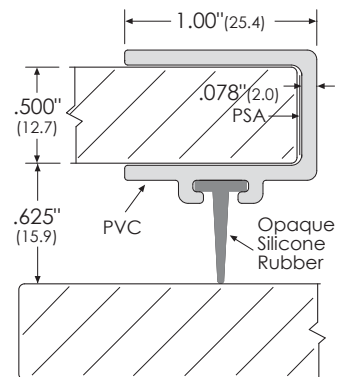
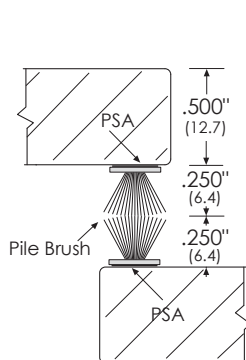
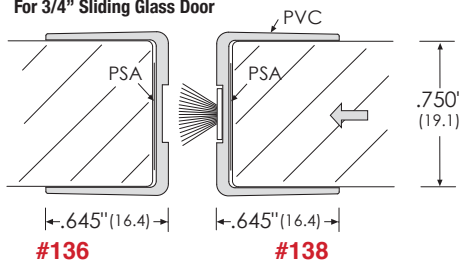
Note: AA = Clear Anodized D = Dark Bronze Anodized
P-Bk = Pile, Black color P-Gy = Pile, Grey color
PSA = Self-Adhesive S-Bk = Silicone, Black

Sliding Doors Edge Protection

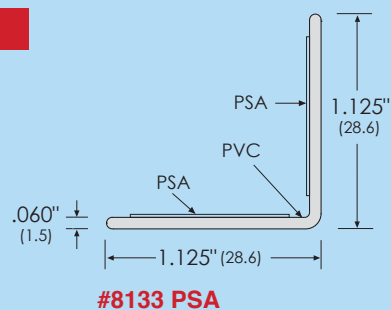
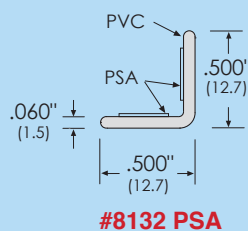
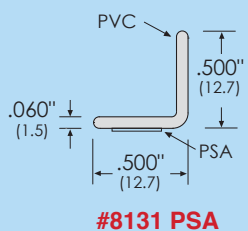
For 1/2" Sliding Glass Door



For 3/4" Sliding Glass Door



Corner Protector



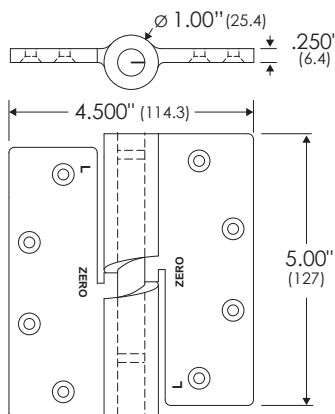
Glass Door

CAM LIFT MORTISE HINGES

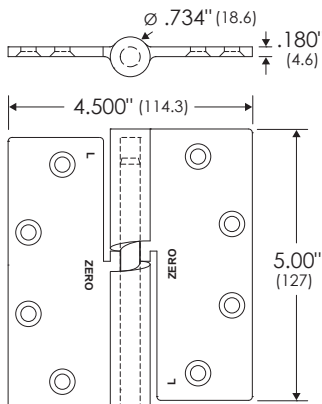
Mortise-Type Cam Hinges for use with EMI/RFI and sound-insulating doors utilizing acoustical seals. The cam action greatly improves the sealing characteristics along the door perimeter, lifting and lowering the door with the swing. Available for right or left-hand swinging doors. CAM LIFT Hinges will not bind door closures when doors are hung within accepted industry standards. (Tested with LCN 4041 Series original). Finish: 630 (US32D). Sold in pairs.



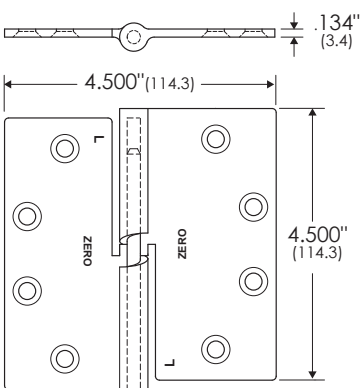
#Z950 L.H. Shown
#Z9500 (not shown)



#Z953
L.H. Shown



#Z955
L.H. Shown



Part #	Door Rating (1 1/2 pairs)	Screw Size (metal doors)	Lift (180° opening)
Z955	Up to 200 lbs.	12-24 x 3/4" UC	3/16"
Z953	Up to 300 lbs.	12-24 x 3/4"	1/4"
Z950	Up to 500 lbs.	12-24 x 3/4"	5/16"
Z9500	Up to 900 lbs.	5/16-18 x 3/4"	5/16"



#7250Z
12-24 x 3/4"



#7255Z
12-24 x 3/4" UC



#7252ST
5/16-18 x 3/4"



#7251Z
12 x 1 1/4" SMS
For wood doors

CAM LIFT HINGES SPECIFICATIONS

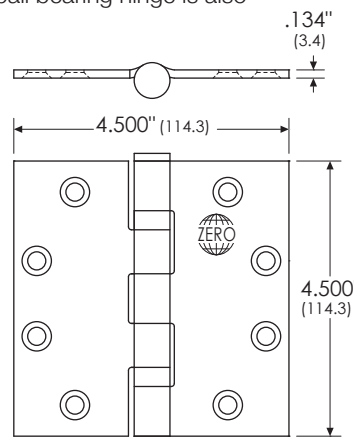
- HINGE:** 1020 Stainless Steel, precision investment cast.
- PIN:** Hardened tool steel. Hardened & chrome finished to Rockwell C 60 to meet ASME/ANSI B 18.3 specs.
- TYPE:** Mortise/ Handed - specify right or left hand.
- CLEARANCE:** Minimum clearance at head of frame is 3/16". For doors greater than 1-3/4" clearance is 1/4".
- FINISH:** 630 (US32D)
- NOTE:** For Z950 and Z9500 screws must be engaged no less than .350" in ASTM A-36 steel reinforcement.

Full Mortise Hinges

Stainless Steel and Steel hinges. Five knuckle, two ball bearings, NRP pin. A non-ball bearing hinge is also available.



#Z961

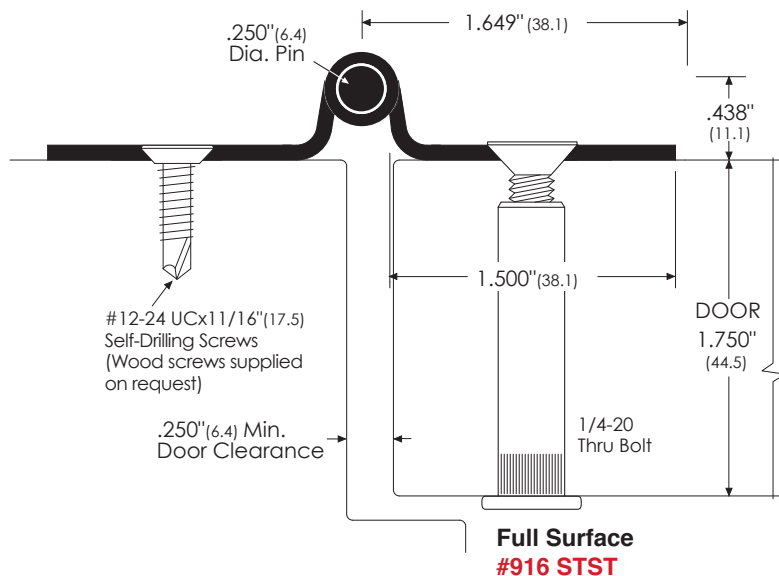
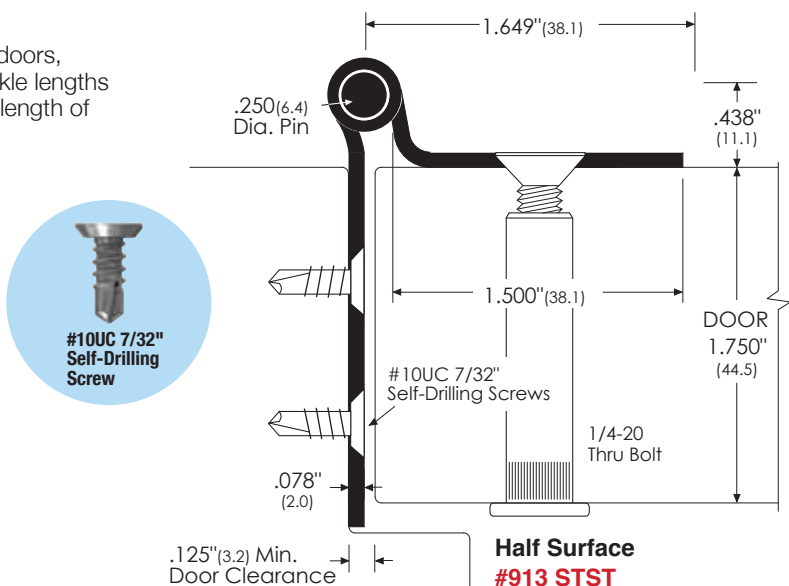
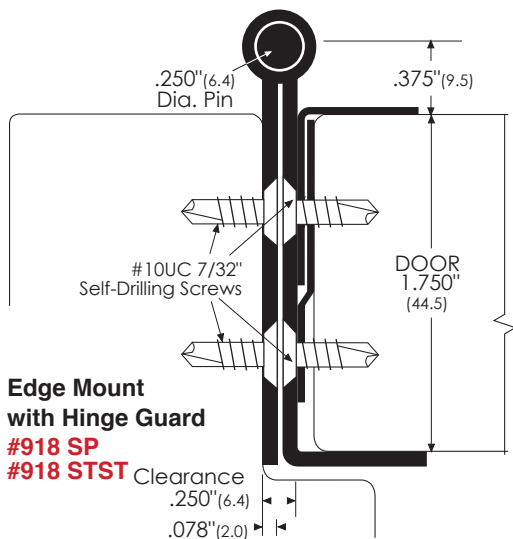
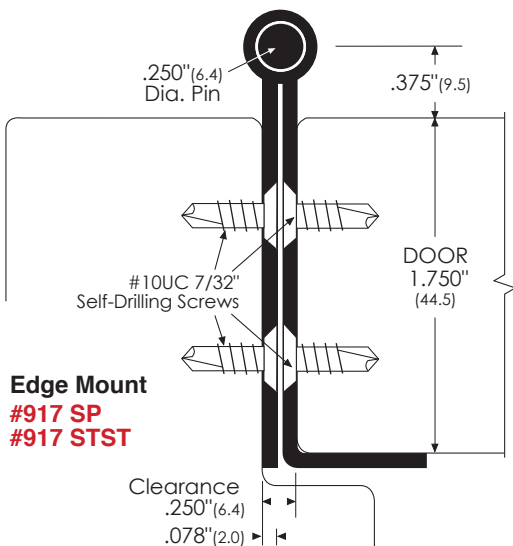
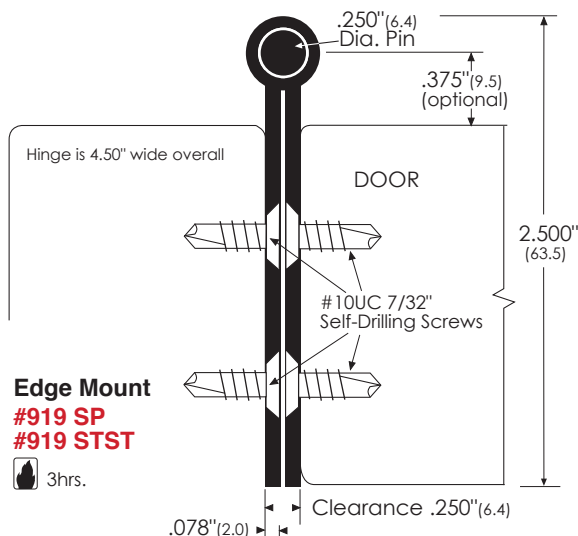


Part #	Finish	Material	Size	Thickness
ZBB 960	630 (32D)	Stainless Steel	4.5" (114.3) x 4.5" (114.3)	.134" (3.4) Gauge
ZBB 961	626 (26D)	Steel Dull Chrome	4.5" (114.3) x 4.5" (114.3)	.134" (3.4) Gauge
ZBB 991	626 (26D)	Steel Dull Chrome	5.0" (127) x 4.5" (114.3)	.134" (3.4) Gauge
Z 961	600 (USP)	Steel Primed	4.5" (114.3) x 4.5" (114.3)	.134" (3.4) Gauge

Packed AWS & AMS - Boxed pair & half

UNIPIN™ (Barrel-Type Hinges)

Heavy-duty continuous hinge for high-traffic wood or metal doors, 304-type stainless steel, has nylon washers with 2.00" knuckle lengths and .250" diameter stainless steel pin which runs parallel to length of hinge. Door frame reinforcements are not required.



FIRE RATING FOR HINGES



FIRE RATINGS

(910, 919 Type) Tested under ASTM 152, UL10B, for up to 3 hours.

(914 Type) Tested under UBC7-2, NFPA 25-2, UL10B for up to 45 min.

20 Minutes:

- Steel doors & steel frames in drywall or masonry.
- Wood doors & steel frames in drywall or masonry.

45 Minutes:

- Steel doors & steel frames in drywall or masonry.
- Wood doors & steel frames in drywall or masonry.

60 Minutes:

- Steel doors & steel frames in drywall or masonry.
- Wood doors & steel frames in drywall or masonry.

90 Minutes:

- Steel doors & steel frames in drywall or masonry.
- Wood doors & steel frames in drywall or masonry.

Limitations:

- Minimum 16 gauge steel for 90-minute rating.
- Maximum opening for single door - 4'0" x 8'0"
- Maximum opening for pair of doors - 8'0" x 8'0"



FIRE RATINGS (911 Type with multi-point pin)

3 Hours:

- Steel doors & steel frames in masonry.
- Minimum 16 gauge steel frames and doors.

Limitations:

- Maximum opening for single door - 3'0" x 9'0"

Continuous Hinges



Note: AA = Clear Anodized D = Dark Bronze Anodized
DB = Double Bearing (Heavy Duty)

UNIGEAR HINGES

High-performance, heavy-duty, integrated door hinges that dissipate kick-back and impact shock while maintaining smooth, effortless door swing. Unlike conventional hinges, the UNIGEAR hinge spreads stress along the full length of the door and frame. Heavy-gauge aluminum alloy with solid support blocks of self-lubricating DELRIN™, UNIGEAR is perfect for new or retrofit construction. Options include "fire-rated," hospital tips (HT) and electrified pass-through hinges (EPT). The UNIGEAR is tamperproof and weather-resistant and is available for doors up to nine feet.

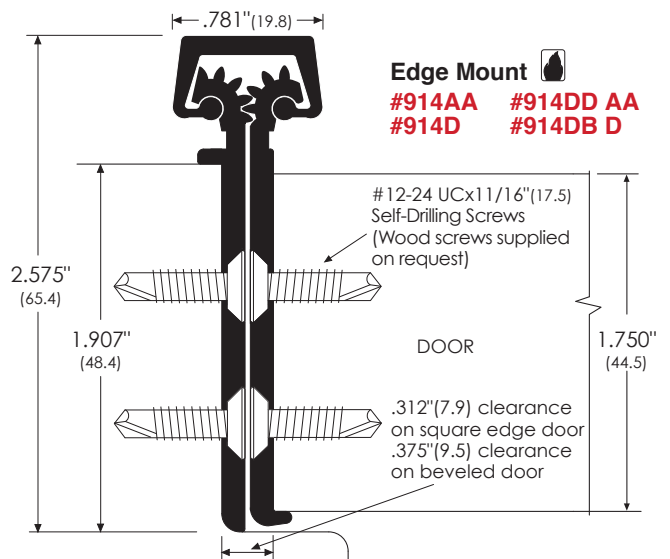
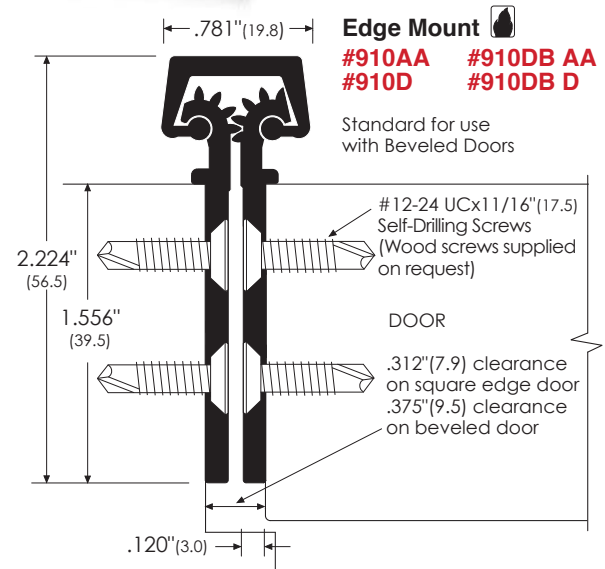
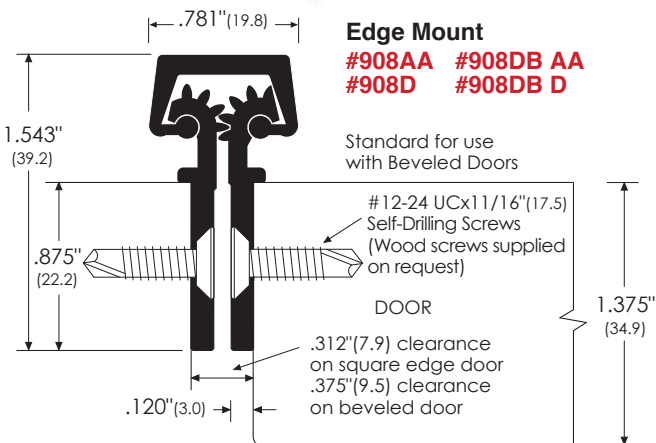
- All hinges are supplied with template screw holes on request.
- Custom lengths available on request.
- Door/ frame reinforcements are not required in most applications.



Hospital Tip



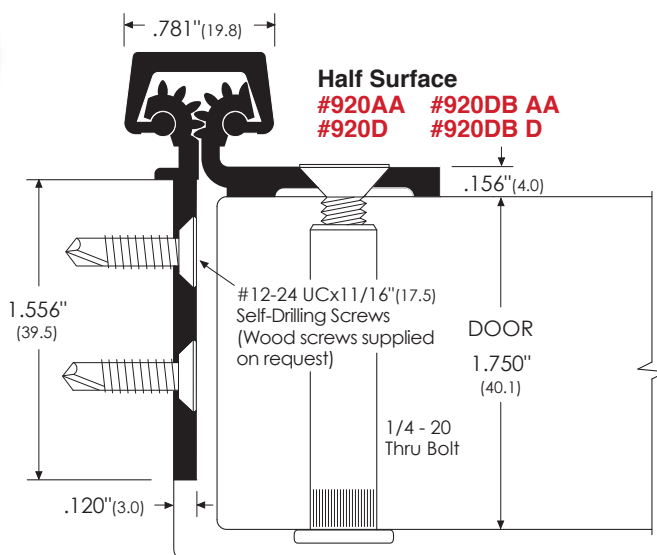
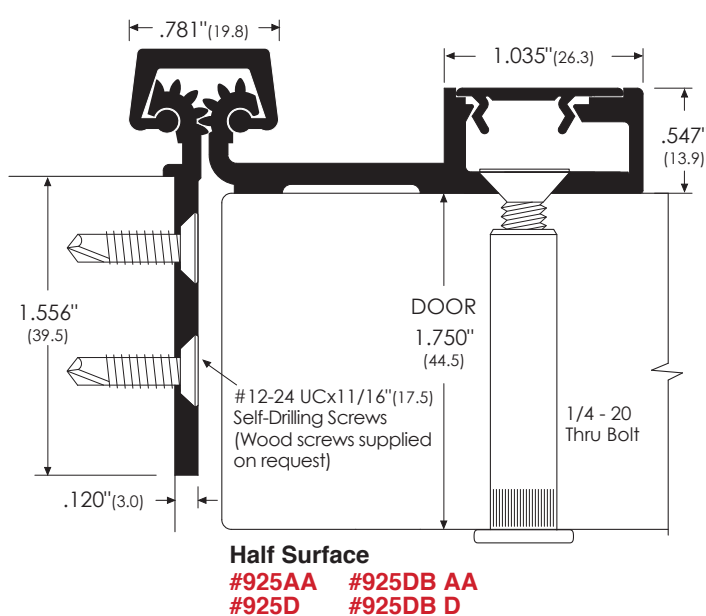
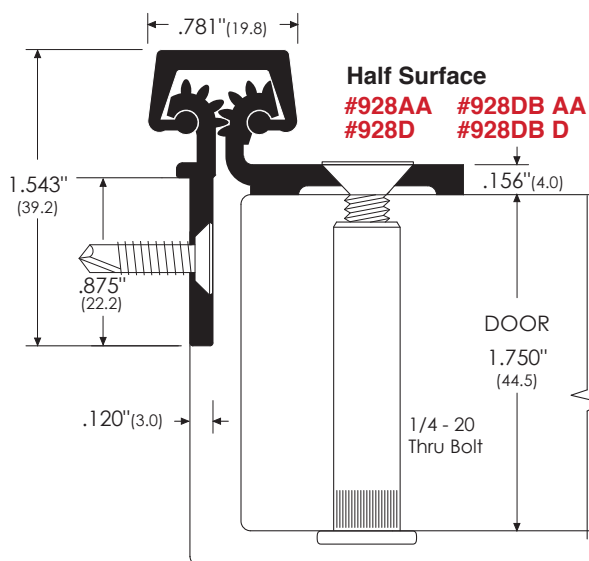
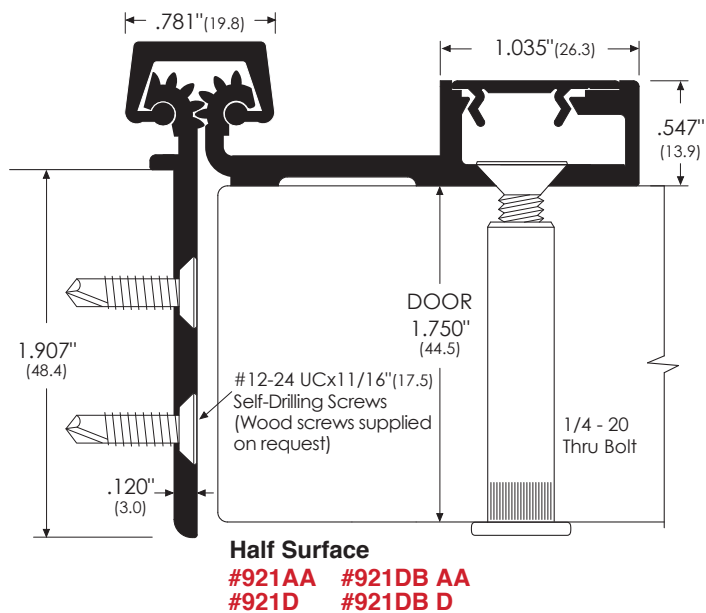
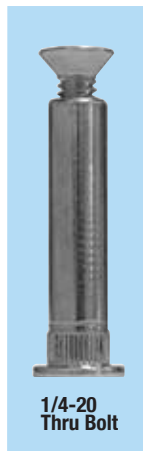
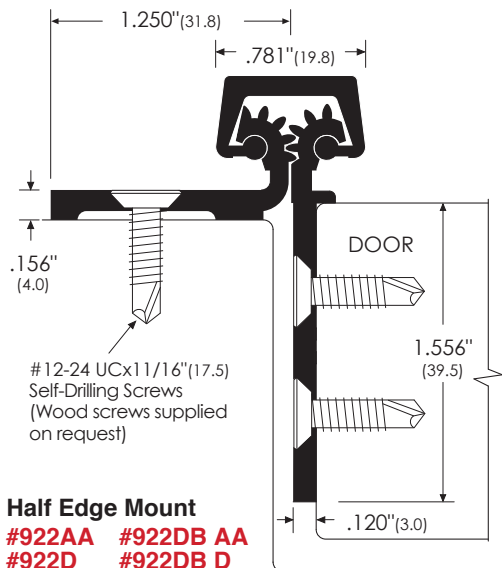
School Option



Continuous Hinges



Note: AA = Clear Anodized DB = Dark Bronze Anodized
D = Double Bearing
(Heavy Duty)



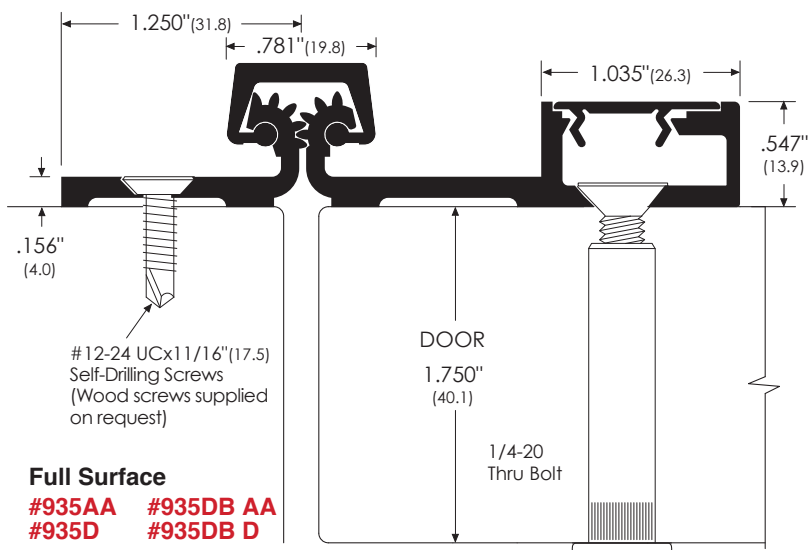
Hinges

Continuous Hinges



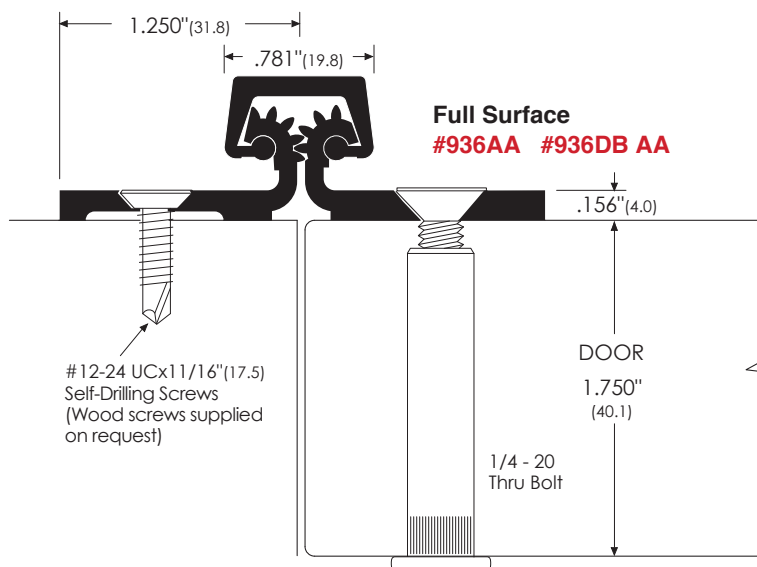
Note: AA = Clear Anodized
D = Dark Bronze Anodized
DB = Double Bearing (Heavy Duty)

SP = Steel Prime
STST = Stainless Steel
ZAG = Anti-Ligature



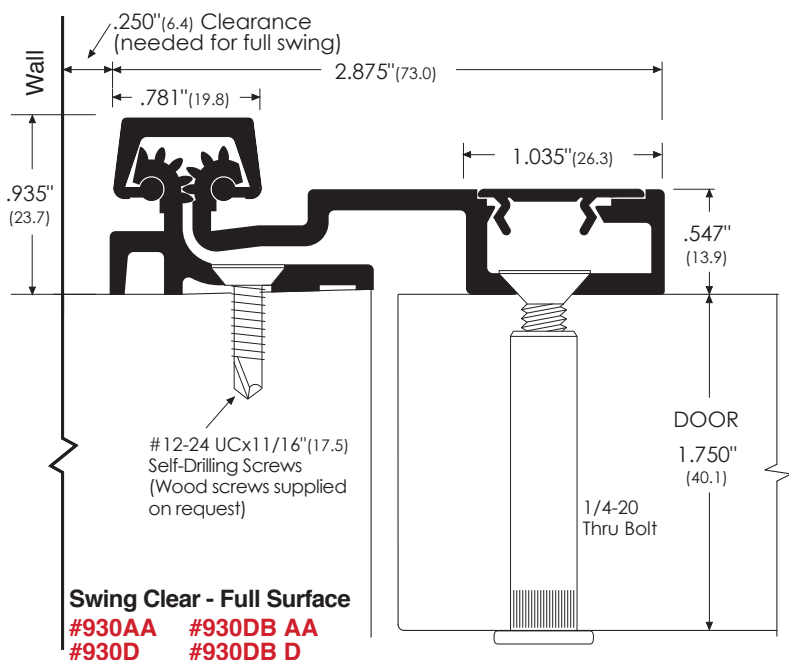
Full Surface

#935AA #935DB AA
#935D #935DB D



Full Surface

#936AA #936DB AA



Swing Clear - Full Surface

#930AA #930DB AA
#930D #930DB D

Options:



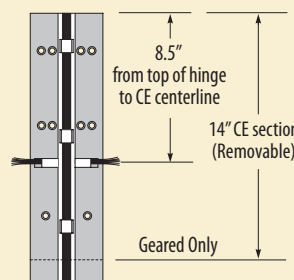
HT - Hospital Tip

Angle-cut hinge preparation to make doorways safer.



SC - School Option

The UNIGEAR can be specified with a non-removable cap at the hinge top to guard against foreign material being dropped in.



CE (Concealed Electric) - UNIGEAR Hinge Formerly #912

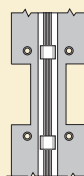
Electrified Feature enables hook-up of alarms, buzzers and locks. 26 gauge wires are used (typical 6).

* CE section is removable, without need to re-hang the door.

#911 Fire-Rated UNIGEAR Hinge

Multi-point, hardened steel anchor pins for an added measure of security. For 3 hr. doors, 108" or less.

3hrs.



EPT (Electric Power Transfer) - UNIGEAR Hinge #910

Cut out to accommodate Von Duprin (or equivalent) power transfer unit. Specify hand opening when ordering.

Note :

UNIGEAR Continuous Hinges are available with the "standard" number of bearings, and with double the number "DB" of bearings per length. DB hinges are recommended for heavy-duty or high-traffic doors. Available in any length.

Regular-duty hinges are used on standard-use doors and doors up to 220 lbs.

Double-bearing (DB) hinges are used on medium or high-use doors and doors up to 475 lbs. (Consult manufacturer for proper sizing of door width and weight.)

Template hole pattern allows for advance door and frame preparation.

Standard

83" - 16 bearings
95" - 18 bearings
107" - 21 bearings

"DB" (Double Bearing)

83" - 32 bearings
95" - 36 bearings
107" - 42 bearings

Tests:

Dynamic and static load test for compliance with ANSI A156.1(BHMA 101) for 350,000 cycles at 15 cycles per minutes.

	RESULTS	ALLOWED
Dynamic load lateral	0.007	0.062
Dynamic load vertical	0.028	0.105
Static load lateral	0.015	0.062
Static residual lateral	0.000	0.062

All hinges meets these requirements.

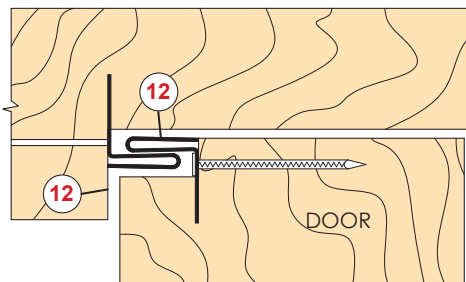
All UNIGEAR and UNIPIN Hinges are supplied with #12-24x11/16" Type F screws (self-cutting thread).

Weatherstripping - Wood Doors and Wood Frames

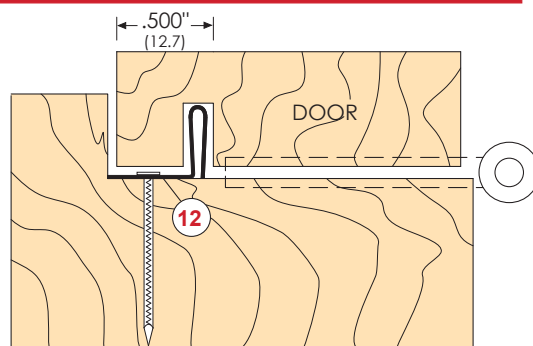
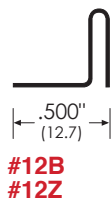


Note: B = Bronze S = Stainless Steel
Z = Zinc

Series 10F (In-swing, Out-swing) Specify Series 10F & door size

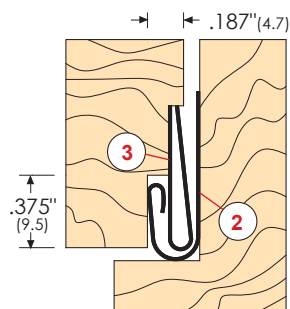


HEAD & LOCK-SIDE JAMB

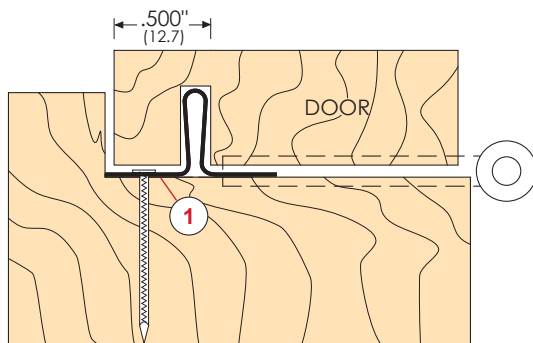
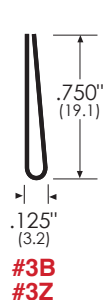
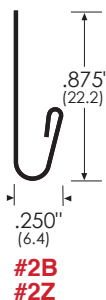
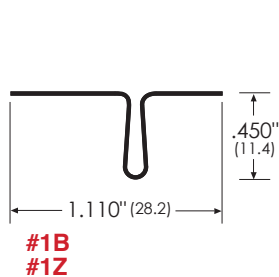


HINGE-SIDE JAMB

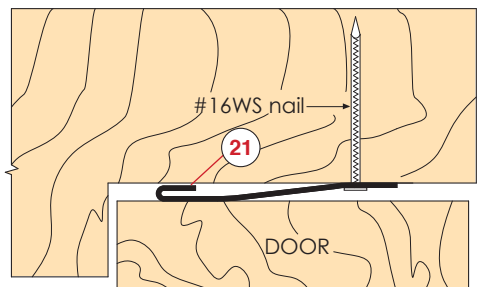
Series 132 (In-swing) Specify Series 132 & door size



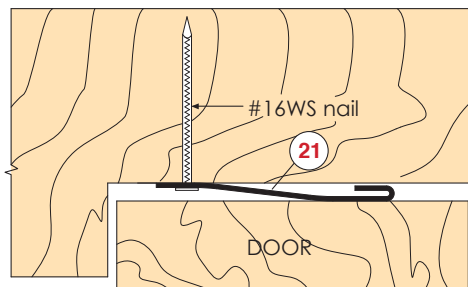
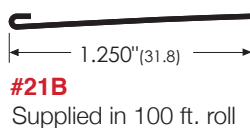
#16 x 7/8" nails 2" O.C.



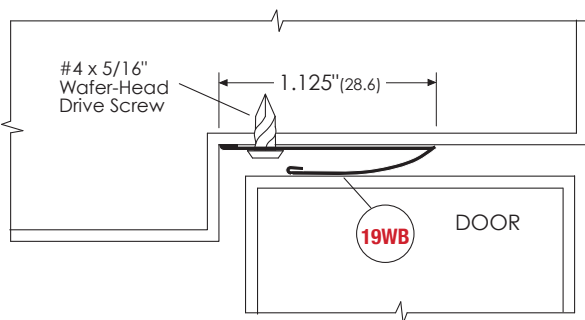
HINGE-SIDE JAMB



HEAD & LOCK-SIDE JAMB



HINGE-SIDE JAMB

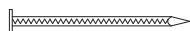


FOR HOLLOW METAL DOORS

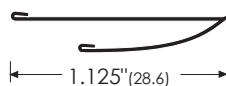
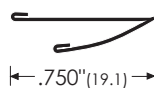
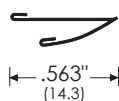
#4 x 5/16" wafer-head drive screws used for installation on metal doors

FOR WOOD DOORS

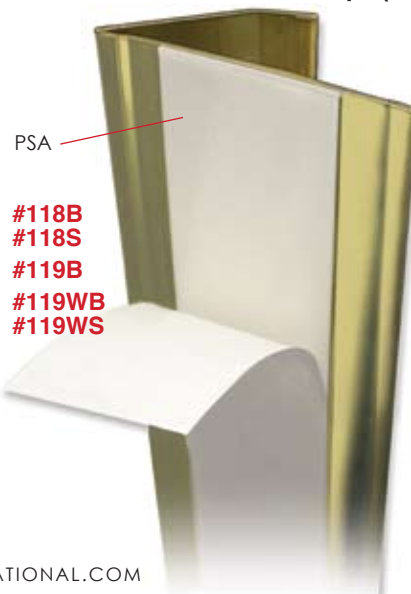
#16 x 7/8" weatherstrip nails used for installation on wood doors



34 B.&S. Gauge Bronze Spring or 35 B.&S. Gauge Stainless Steel



Available with self-adhesive tape (PSA)



Weatherstripping

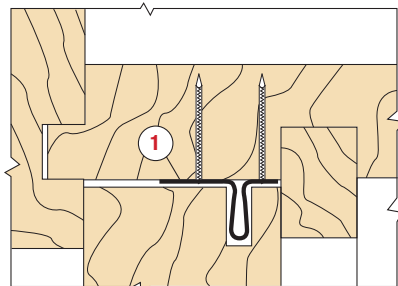
Weatherstripping Double-Hung Wood Windows



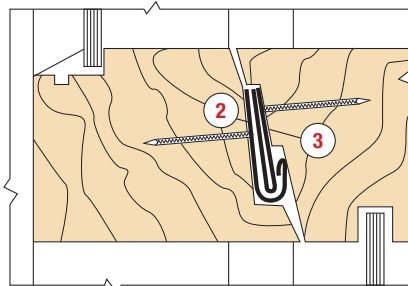
Note: B = Bronze
Z = Zinc

Series 6

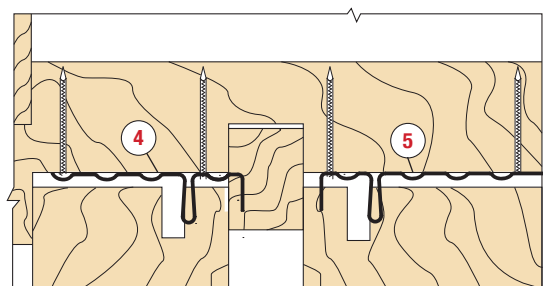
Window Protection



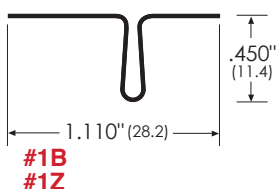
HEAD AND SILL



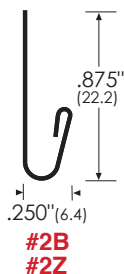
MEETING RAILS



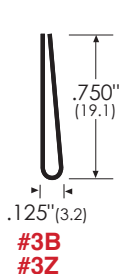
JAMB



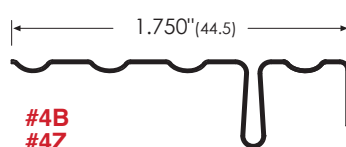
#1B
#1Z



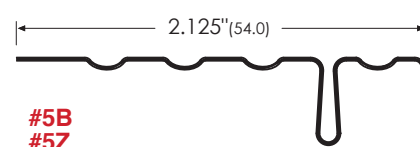
#2B
#2Z



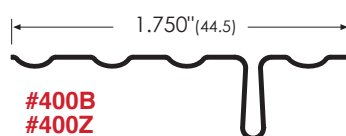
#3B
#3Z



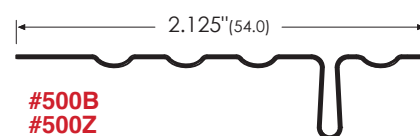
#4B
#4Z



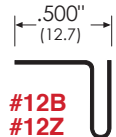
#5B
#5Z



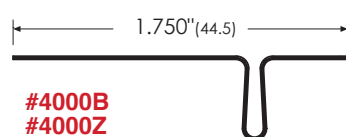
#400B
#400Z



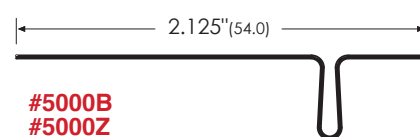
#500B
#500Z



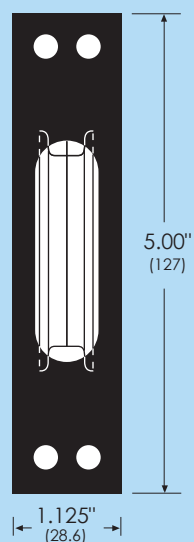
#12B
#12Z



#4000B
#4000Z



#5000B
#5000Z



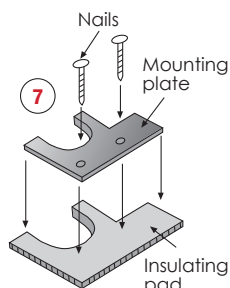
#245 Sash Pulley
Sash Weight-120 lbs.
Std. Finish-Satin Brass

#245 BB
Ball Bearing Pulley
Sash Weight-250 lbs.
Std. Finish-Polished &
Lacquered

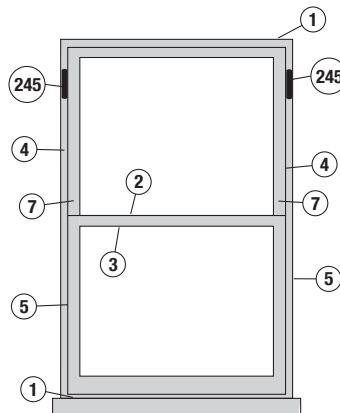


#635 Chain
100 lb. rating
Copper Dip

#645 Chain
500 lb. rating
Copper Dip



#7 Weather Check



To comply with the Board of Education, City Of New York, Standard 8F-04, specify as follows:

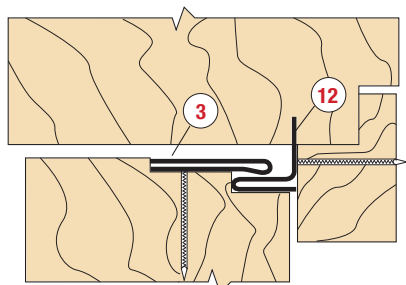
1S-Sill:
Use .045" material (#16 gauge)

2-Meeting:
Use .020" material (#10 gauge)

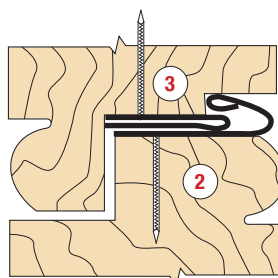
3, 4, 5:
Use .018" material (#9 gauge)

Material : Zinc

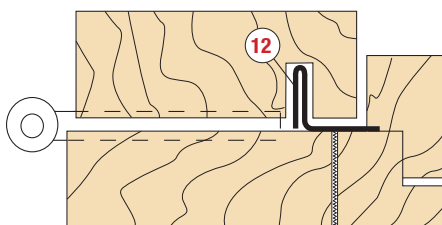
Series 30 Casement-Type Wood Window - Open Out



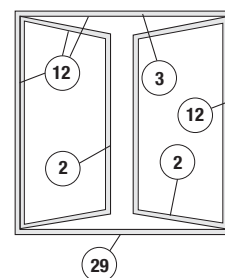
HEAD & LOCK-SIDE JAMB



MEETING STILES



HINGE-SIDE JAMB



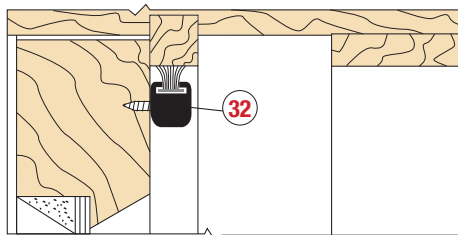
Weatherstripping Double-Hung Wood Windows



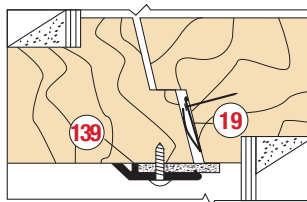
Note: A = Aluminum
B = Bronze
G = Gold Anodized
Z = Zinc

AA = Clear Anodized
D = Dark Bronze Anodized
PR = PVC (flexible)

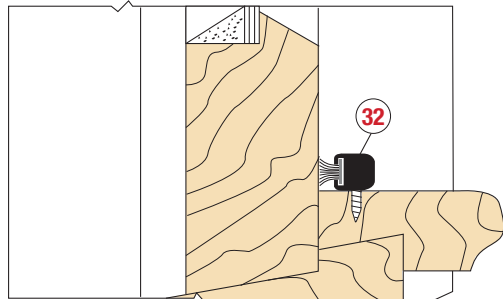
Series 20 Double-Hung Wood Windows



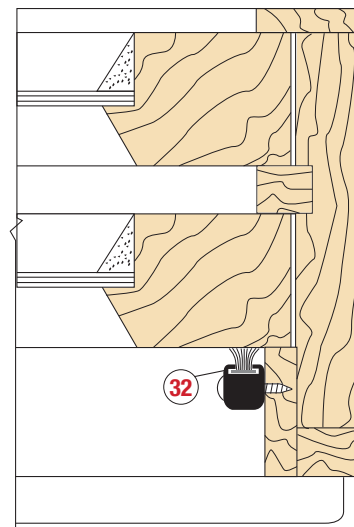
HEAD



MEETING RAIL



SILL



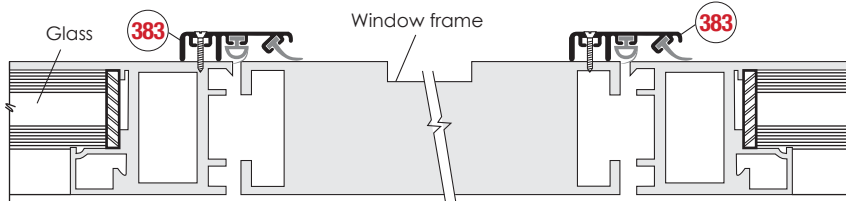
JAMB

Options For Lower Sash

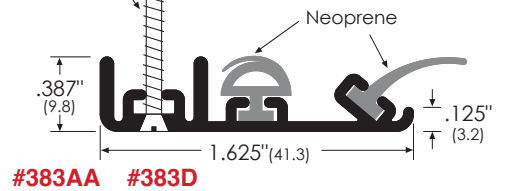


Window Protection

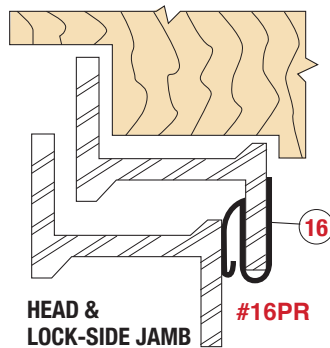
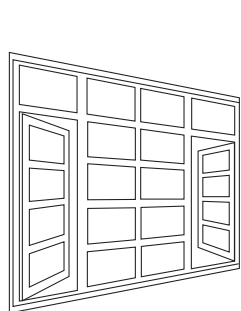
Pivoting-Type Windows



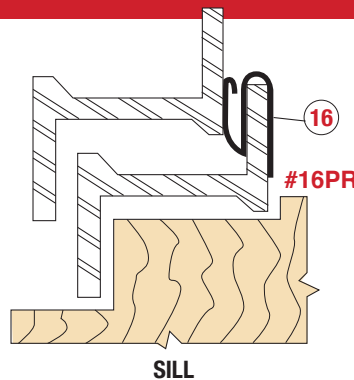
#8x.750" (19.1) FHSM



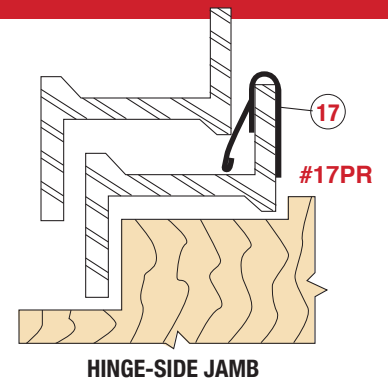
Series 17 Casement-Type Metal Windows



HEAD & LOCK-SIDE JAMB #16PR

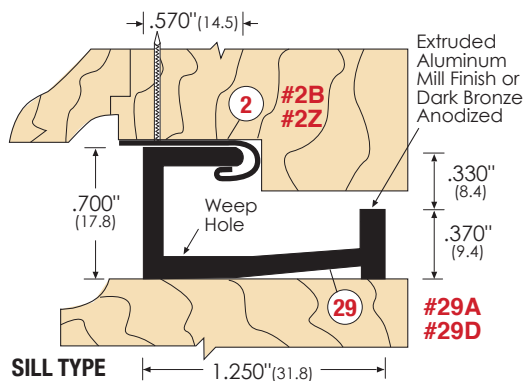


SILL

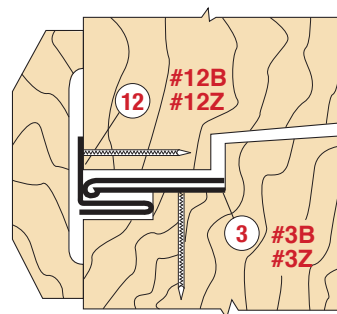


HINGE-SIDE JAMB

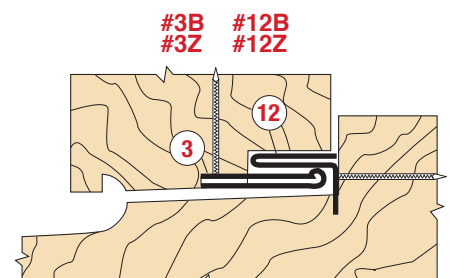
Series 30 Casement-Type Wood Window - Open In



SILL TYPE



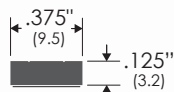
ASTRAGAL TYPE



SILL OUT-OPENING

Magnets

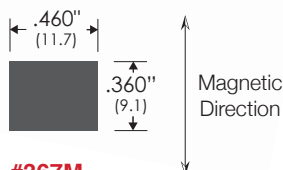
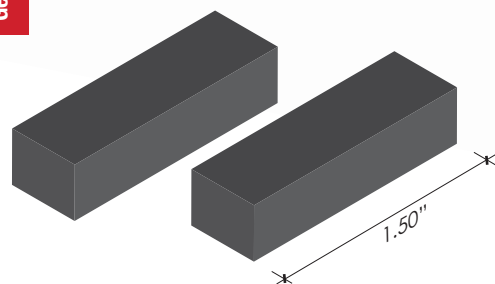
General Purpose



#370M

Flexible Magnetic Strips

- Provides standard energy with holding power on one side
- Lightweight, reusable, nonrigid, nonconductive
- Applications: Latches, gaskets, door seals. Can also be used in sensing devices, or to dampen noise and vibration
- Available in dark brown color. Supplied in coils up to 21 ft. (6.4m)



#367M

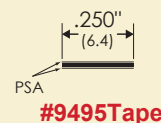
Ferrite Magnet

- Material: Hard Ferrite (Ceramic) Magnet
- Size: 1.5\"(38.1) x .46\"(11.7) x .36\"(9.1)
- Br (Residual Induction) > 3900 Gs
- Hc (Coercive Force) > 3000 Oe
- Bd Hd Max (Maximum Energy Product) > 3.50 MGOe
- Max. Practical Operating Temperature: 392°F
- Applications: To help close / latch and hold a sliding door

Double-Coated Tapes

3M™ Double-Coated Tape 9495LE

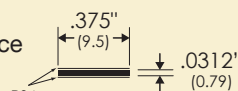
- 3M™ Double-Coated Tapes with 3M™ Laminating Adhesive 300LSE provides high bond strength to most surfaces, including many low-surface-energy plastics such as polypropylene and powder-coated paints. The acrylic adhesive also provides excellent adhesion to surfaces contaminated lightly with oil typically used with machine parts.
- The bond strength of 3M Laminating Adhesive 300LSE increases as a function of time and temperature, and has very high initial adhesion.
- Relative High Temperature Operating Ranges:
Long Term (days, weeks) ----- 200°F (93°C)
Short Term (minutes, hours) ---- 300°F (149°C)
- Shear Strength - ASTM D3654 modified - (.5 inch² sample size)
1000gr at 72°F (22°C) >10,000 minutes
500gr at 158°F (70°C) >10,000 minutes
- Peel Strength
288 oz/in (wood), 256 oz/in (metal)
- Available in coils. Size .250\"(6.4) X 180ft. (54.8m)
- Humidity Resistance, UV Resistance, Water Resistance, Chemical Resistance.
- RoHs Compliant / REACH Compliant (European Union's "Restriction of Hazardous Substances" (RoHs) initiative and with European REACH regulations).



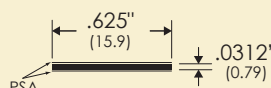
#9495Tape

Double-Coated Foam Tapes

- A closed cell foam tape, both sides coated with a high performance rubber adhesive. Rubber-based pressure-sensitive adhesive tape has good adhesion and high initial tack qualities.
- Excellent sealing for efficient operation and secure bonding.
- Good resistance to humidity, mild acids, oil and grease.
- Excellent conformability and compressibility.
- Good adherent on textured and irregular surfaces.
- Available in coils, white color. Sizes available:
.0312\"(0.79) X .375\"(9.5) X 216ft.(65.8m)
.0312\"(0.79) X .625\"(15.9) X 216ft.(65.8m).



#137Tape



#138Tape



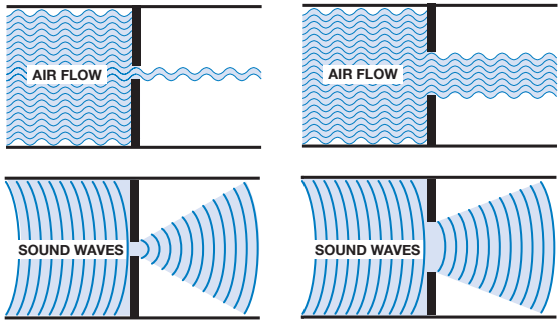


ZERO's **SOUND TRAP sound control systems** are solving sound problems in all types of facilities—including performing arts centers, recording studios, commercial offices, hospitals, schools, churches, hotels and apartment buildings, as well as industrial plants, embassies and government buildings.

ADJUSTABLE GASKETING: KEY TO OUR SUCCESS

Nobody does sound control better than ZERO. Our sound seals and systems are built to withstand the stress of the installation process and perform reliably. We use advanced technology to master two critical challenges: creating an effective sound barrier at the perimeter of the door AND preventing gaps in that barrier for the life of the assembly.

Gaps in sound barriers are a major problem because sound travels through any opening with very little loss. While the amount of air flowing through a gap increases in proportion with the size of the gap, the size of the gap in a sound barrier does not matter. A small hole transmits almost as much sound as a much larger gap.



Because of this phenomenon, any unsealed gaps effectively cancel out the noise reduction benefits of even the highest-rated sound doors. To be effective, acoustical door assemblies require gasketing that provides a **complete, uninterrupted and air-tight** seal around head, jamb and sill. If all sides of the door are not sealed, the gasketing used will provide little or no sound-control value.

Imperfect alignment is a common cause of gaps even in newly installed gasketing. Problems can also surface later on as buildings shift and settle and doors cycle through changes in temperature and humidity. ZERO solves the problem efficiently with adjustable gasketing.

Models such as the **#770 adjustable jamb-applied gasket** are designed to perform consistently over time. When clearances increase, a few turns of a screwdriver is all it takes to restore a sound-tight seal.



PROVEN SOLUTIONS FOR
SEALING THE GAPS

Our featured SOUND TRAP gasketing systems can satisfy a wide range of commercial and industrial sound-control applications for single swinging doors – as well as provide privacy behind double doors for typical office applications.

SOUND TRANSMISSION CLASS (STC) TABLE		
STC	PERFORMANCE	DESCRIPTION
50 - 60	Excellent	Loud sounds heard faintly or not at all.
40 - 50	Very Good	Loud speech heard faintly but not understood.
35 - 40	Good	Loud speech heard but hardly intelligible.
30 - 35	Fair	Loud speech understood fairly well.
25 - 30	Poor	Normal speech understood easily and distinctly.
20 - 25	Very Poor	Low speech audible.

Sound Transmission Class (STC) ratings indicate the ability to prevent the transfer of sound from one area to another. For example, 12 inches of reinforced concrete would be rated at 56 STC, while 1/4" plate glass is 26 STC.

ZERO SOUND TRAP SYSTEMS HIGH LEVEL RATING				
GASKETING SYSTEM	HEAD & JAMB	SADDLE	DOOR BOTTOM	STC RATING
STC 1	3708 & 119WB	564B	367	53 STC
STC 2	770 & 119WB	564B	367	52 STC
STC 3	770 & 119WB	656B	367	51 STC
STC 4	170 & 119WB	564B	367	51 STC
STC 5	485 & 119WB	565B	361	49 STC

All systems tested with STC 55 Doors (rated as panels).

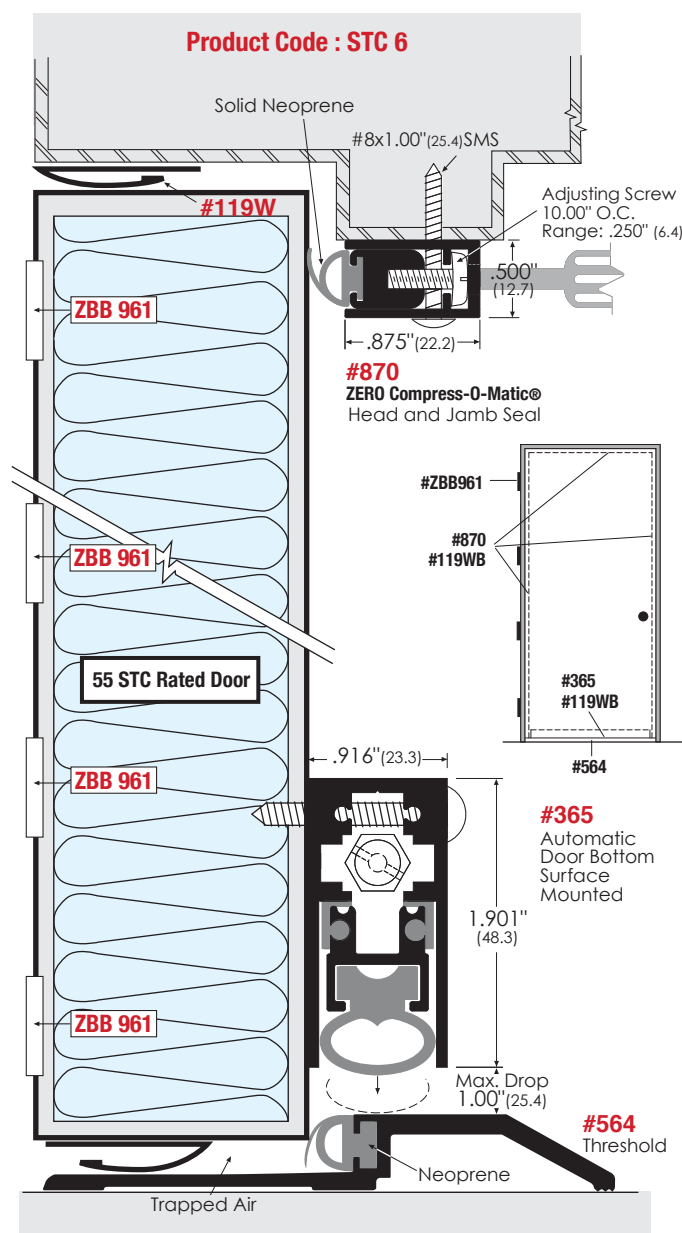
The integrity of the system, properly installed, is essential to its sound rating. ZERO guarantees the performance of SOUND TRAP systems in rated assemblies provided that other manufacturers' gasketing products are not combined with ZERO components.



Sound Control

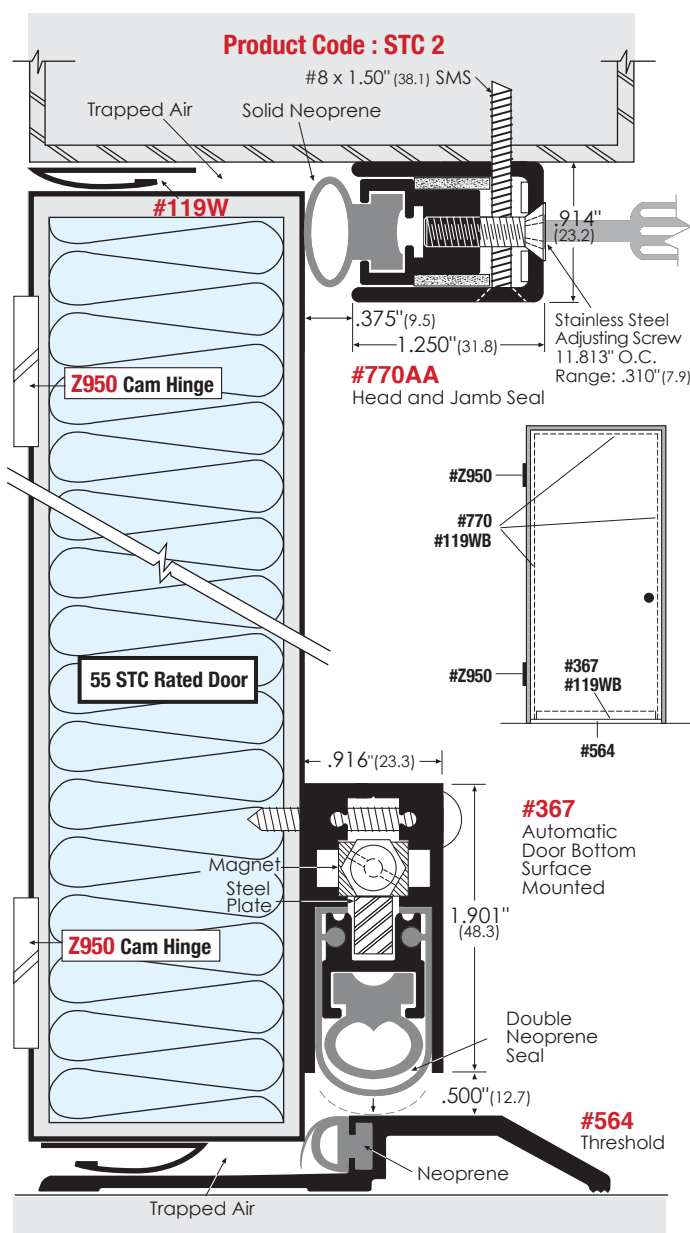
SOUND TRAP 49 STC SEALING SYSTEM

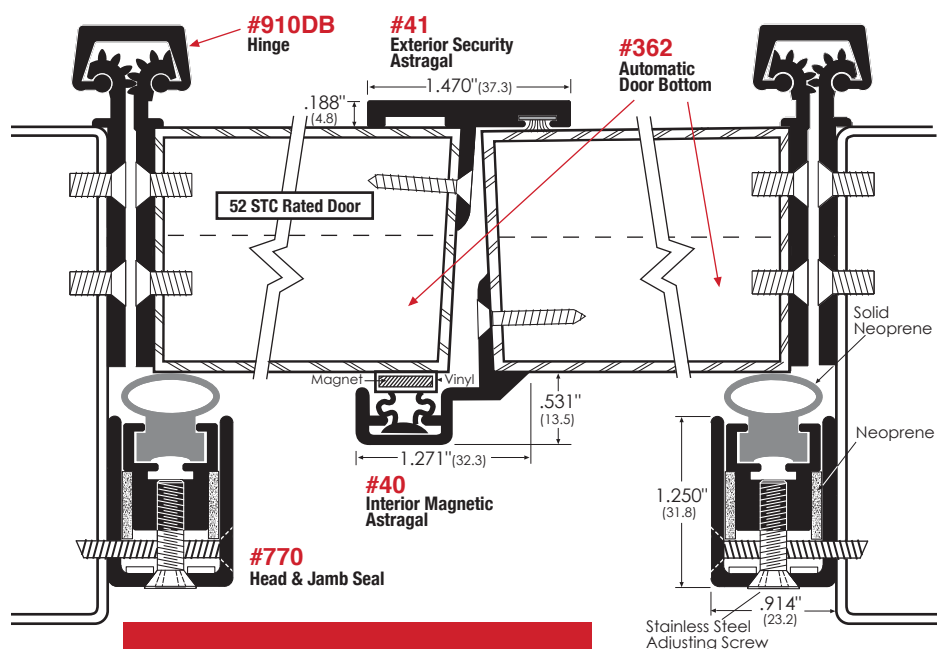
SOUND TRAP 49 STC rated systems for single doors feature several alternative head and jamb seals designed for use with frame stops. The 49 STC value they provide means that loud speech will be heard only faintly and cannot be understood on the opposite side of the door. That level of acoustic performance provides very good sound control suitable for a variety of applications ranging from busy schools to multi-family residential buildings and any settings requiring private conversations, such as doctors' offices, counseling centers and churches. A metal frame **with a stop** is required.



SOUND TRAP 52 STC SEALING SYSTEM

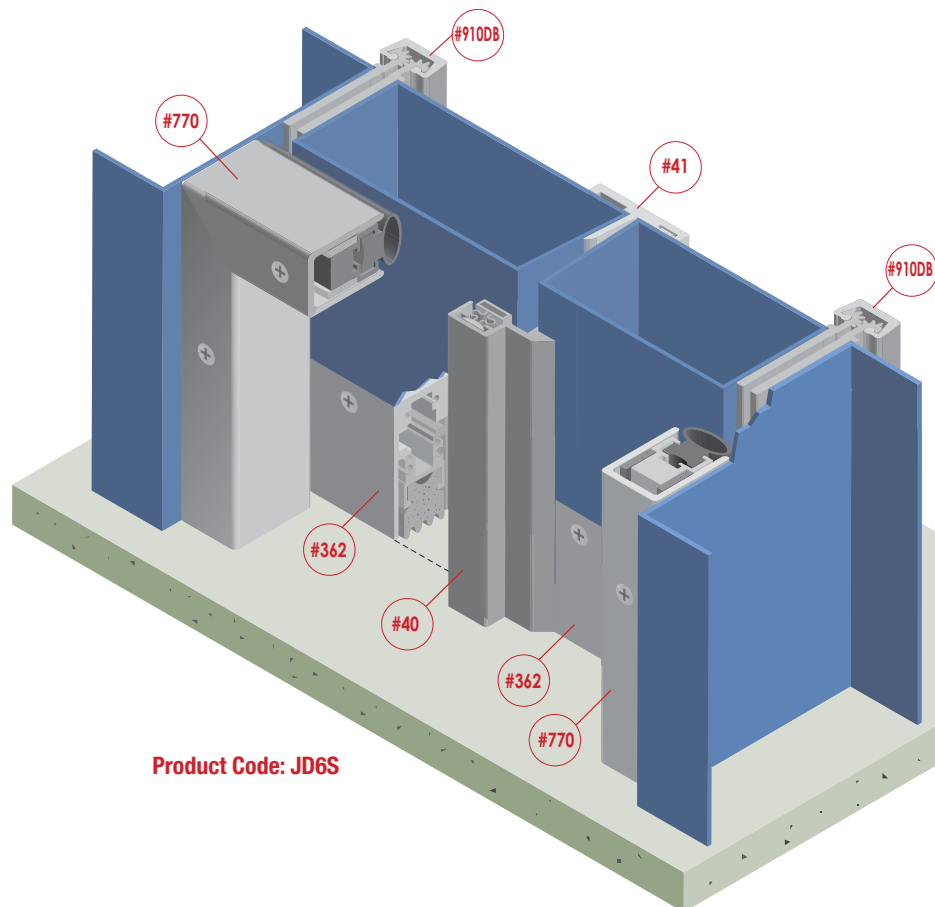
Our **SOUND TRAP 52 STC** rated systems are designed for use with sound-rated single metal doors with a cased-opening frame. They provide an STC 52 rating when properly fitted with STC 55 or higher acoustical doors. That level of sound control means loud sounds will be heard only faintly, or not at all, on the opposite side of the door, which satisfies the typical needs of recording studios and performance halls. It is also suitable for office buildings and other commercial facilities that need to mute very loud noise originating from outside, such as the sound of aircraft overhead or heavy traffic nearby, as well as interior equipment noise. A metal frame **without a stop** is required in order to use the Model #770 adjustable head and jamb seal, which is an important component in this system. The #770 is recommended for ensuring the highest possible rating for most purposes.



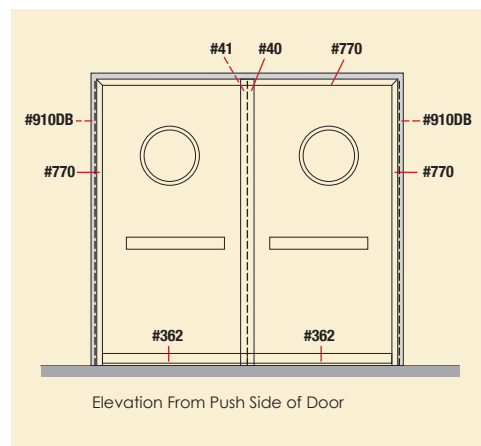


SOUND TRAP System #JD6S

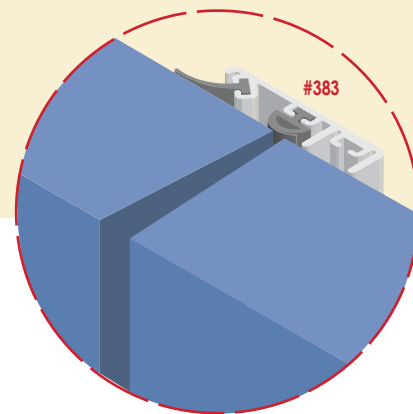
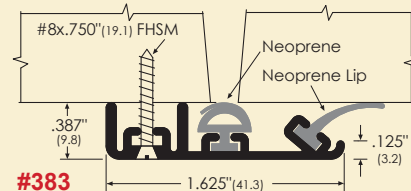
Pairs of doors pose additional challenges for sound control because there are more openings to seal. The need for a meeting stile means there will always be relatively more sound leakage through pair assemblies than with single doors. Properly fitted with STC 52 or higher acoustical doors, ZERO's **SOUND TRAP-PAIRS** system for metal doors achieves an office-friendly STC rating of 41 with an optimal configuration that balances those limitations with appropriate, cost-effective technology.



Product Code: JD6S



For a pairs configuration with suitable wood doors, you need Model #383 astragals for the meeting stile. #383 provides three sets of seals to block sound: the neoprene bulb with extra "lip" of neoprene in the primary seal at the meeting edge, plus another neoprene "finger" for added sound cushioning against the active door.



#200STC - Acoustical Louvers



#200STC
#200STC-G Galvanized

For use with:
1 3/8" and 1 3/4" doors

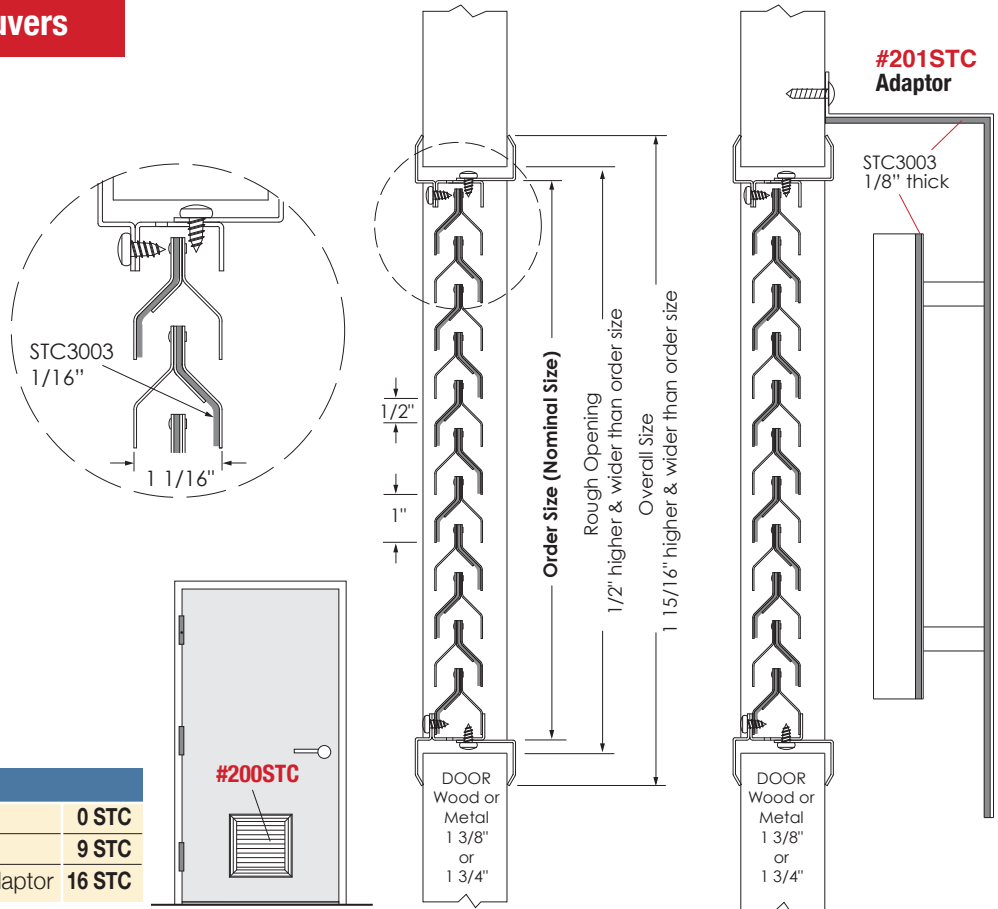
Construction:
Cold Rolled Steel
Frame 20 gauge. Blades 20 gauge
0.62" thick STC3003 sheet

Finish:
Grey Powder-Coated primer.
Other colors available upon request.

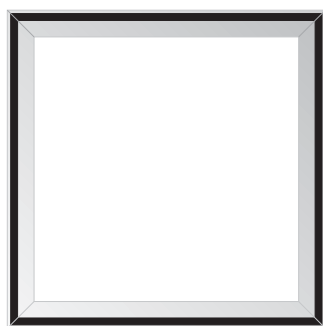
Tested Rating:

Door with standard louver	0 STC
Door with 200STC louver	9 STC
Door with 200STC louver & 201 STC Adaptor	16 STC

Louver free flow area: 43%

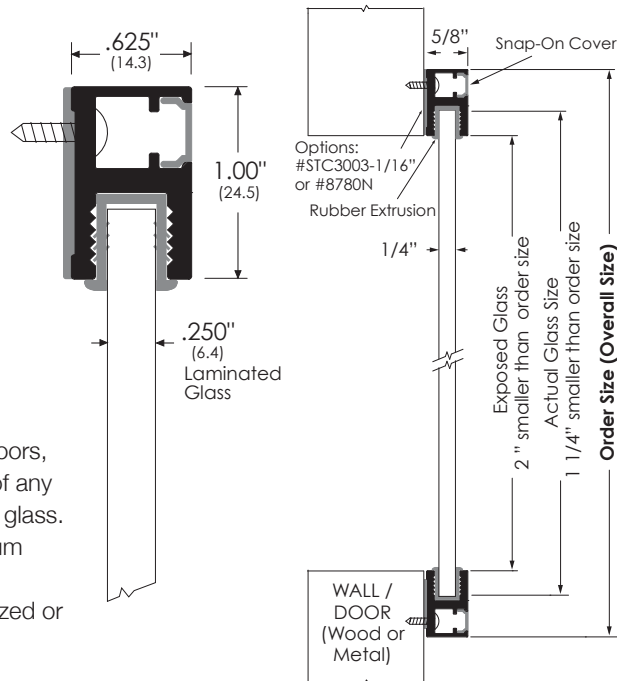


#8880 - Vision Lite for Doors, Walls and Acoustical Windows

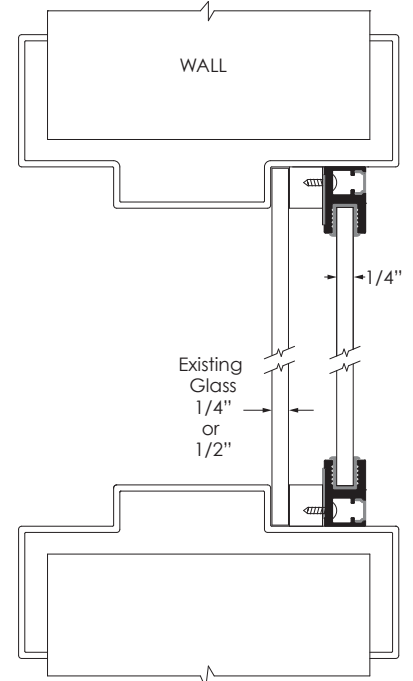


#8880AA
#8880D

To increase sound rating for doors, walls and acoustical windows of any thickness. Used with 1/4" thick glass. (Glass sold separately.) Aluminum extrusion frame with concealed screws. Available in clear anodized or dark anodized finish.

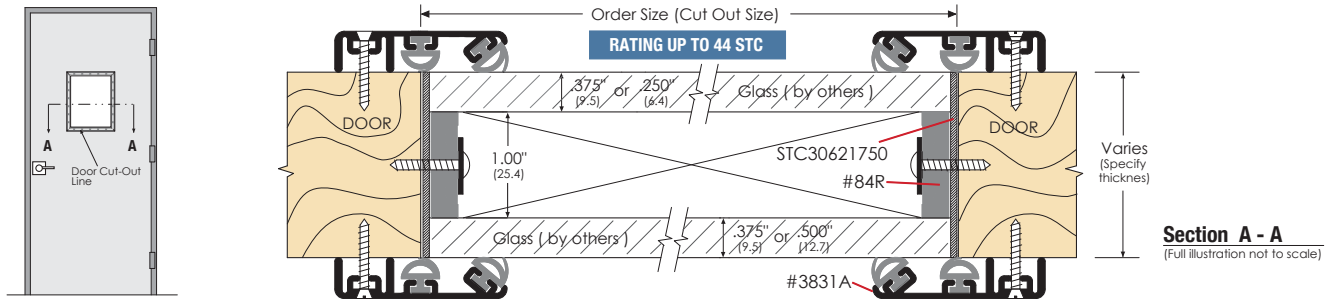


● **APPLICATION ON DOOR**
Surface mounted.

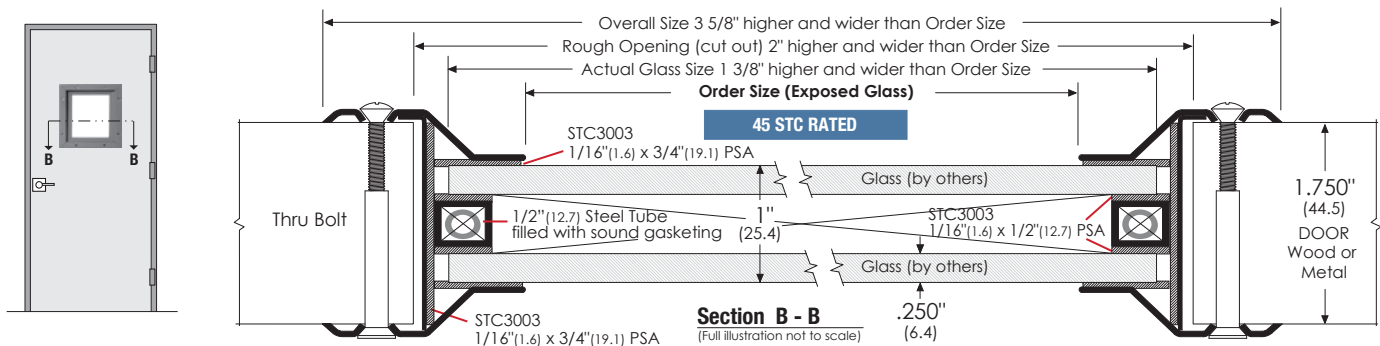


● **APPLICATION ON WINDOW**
Surface mounted on any edge of window frames.

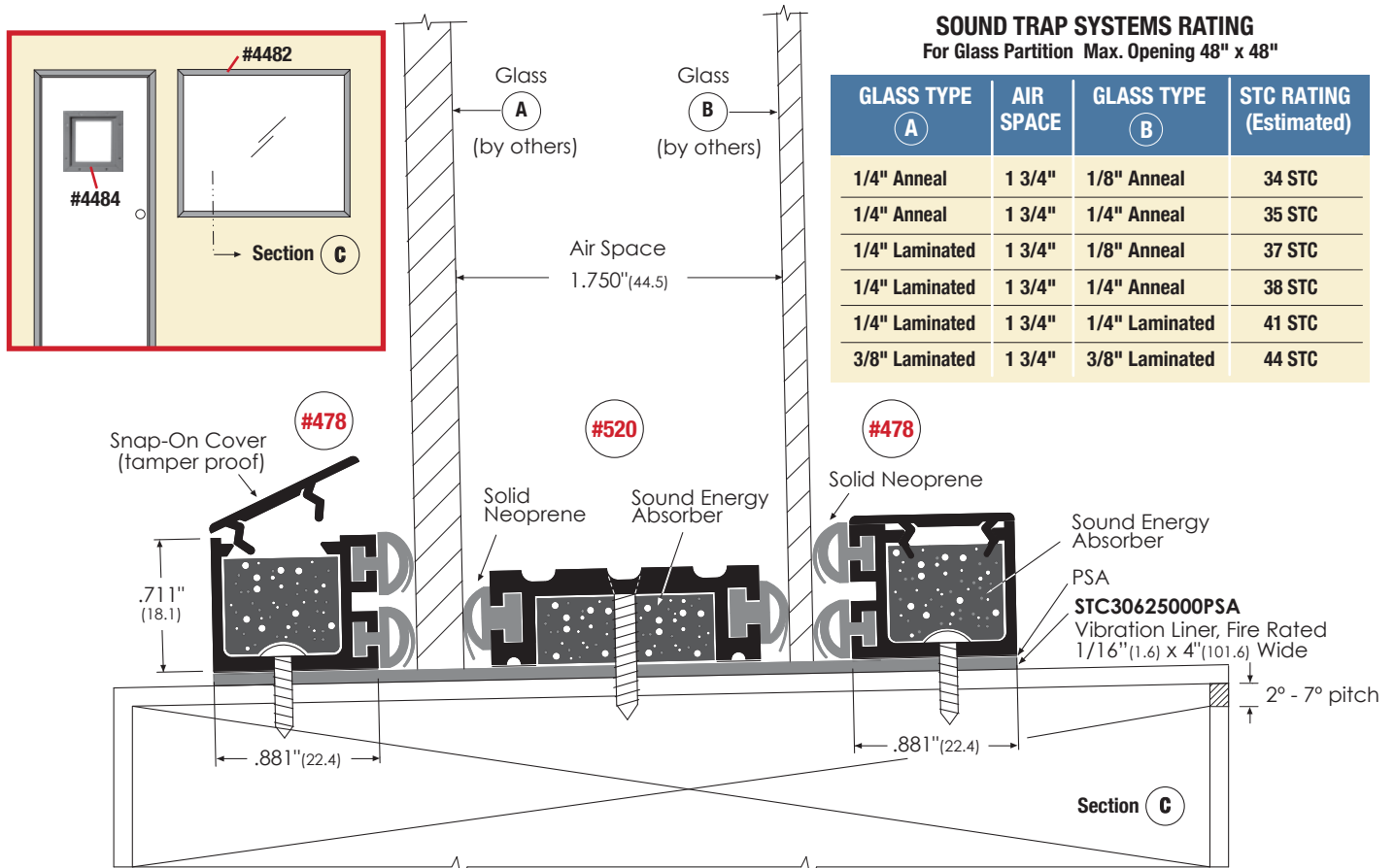
System #4483 - Vision Lite™ Sound Trap™ For Doors Over 1 3/4" Thick



System #4484 - Vision Lite™ Sound Trap™ For 1 3/4" Doors



System #4482 - Window and Curtain-Wall Sound-Rated Performance Partition



Structural Acoustics

Sound-damping materials and products used to isolate or insulate structural elements in floors and walls perform a vital role in reducing vibrations to minimize sound transmission. Zero's structural acoustical solutions use proprietary extruded rubber formulated for optimal sound absorption and maximum durability.

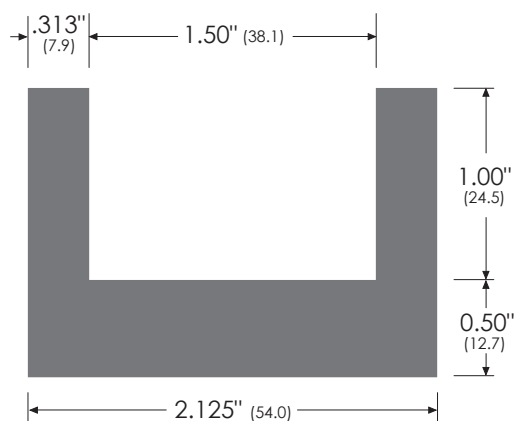
Use U-Shoe Suspension Isolators to "decouple" and acoustically isolate floor joists from the rest of the structure. Structural Silencing Tape can be applied directly to both floor joists and wall studs to absorb and dampen vibrations.

U-Shoe Suspension Isolators #1020R

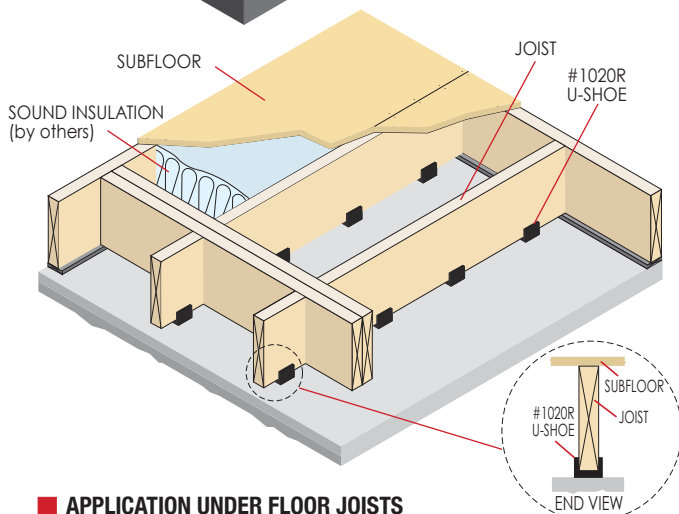
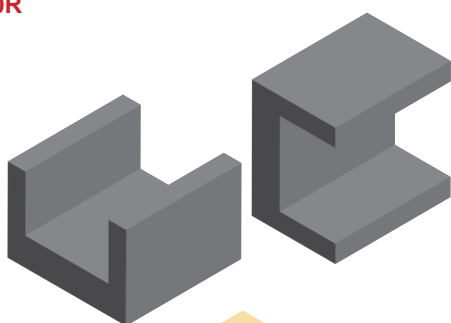
- "Damping shoes" support and acoustically isolate floor framing members, i.e., joists.
- Extruded EPDM rubber formulated to reduce or eliminate vibrations.
- Shaped to accommodate standard joint dimensions.

Dimension: 1.50"(38.1) wide x 2.125"(54.0) high x 2"(50.8) long

Color: Black



#1020R



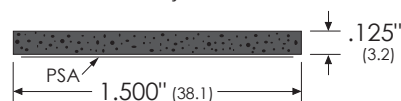
■ APPLICATION UNDER FLOOR JOISTS

Structural Silencing Tape #1050R

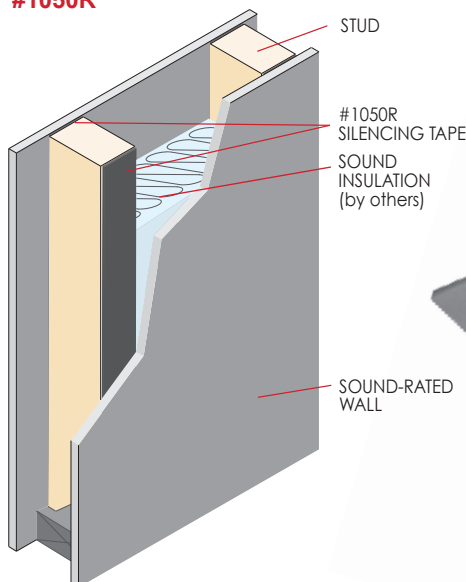
- Extruded low-density, high-elasticity neoprene rubber, self-adhesive one side.
- Absorbs and dampens vibrations.
- Designed for application to floor joists and wall studs.
- Apply to joists or studs, and install floor or wall construction as usual.
- Supplied in 75-foot coils.

Dimension: 1.500"(38.1) wide x .125"(3.2) thick

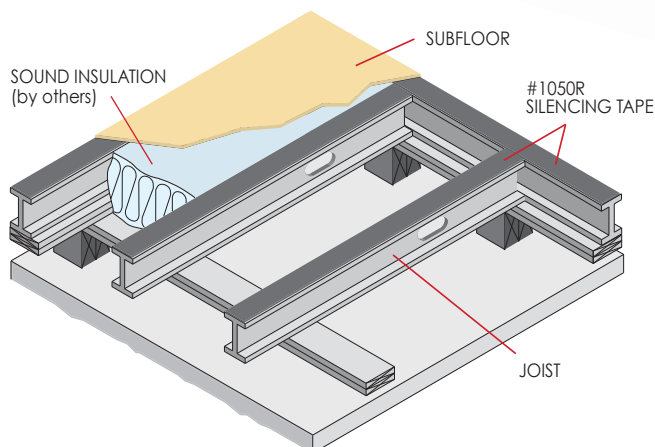
Color: Grey



#1050R



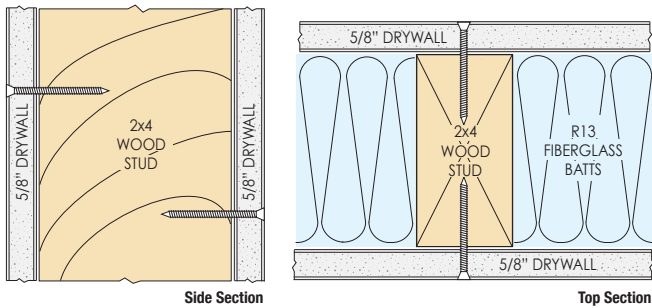
■ APPLICATION ON WALL STUDS



■ APPLICATION ON FLOOR JOISTS

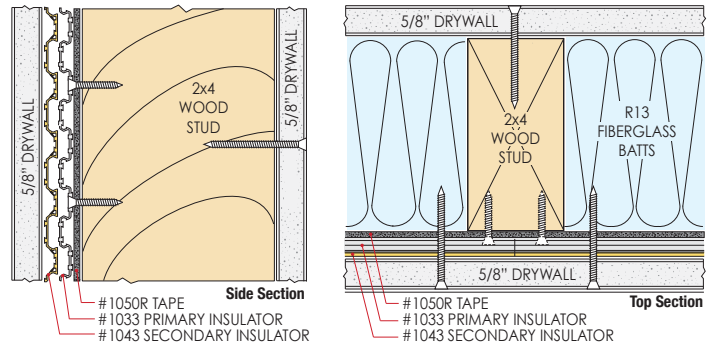
Standard Wall Construction

Tested System at **40 STC**



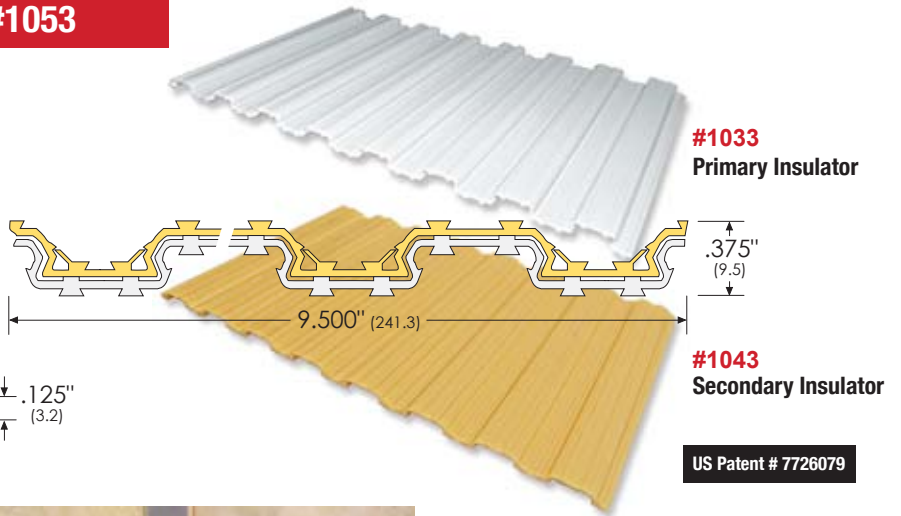
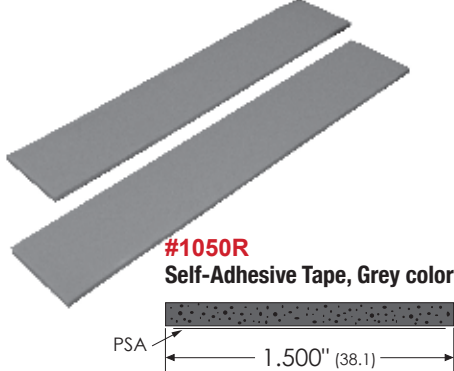
Zero Sound Trap Insulator System #1053

Tested System at **52 STC**



SOUND TRAP Insulator System #1053

The system contains 3 parts



1 #1050R Self-Adhesive Tape, applied to the studs



2 #1033 - Primary Insulator, fastened horizontally to the studs

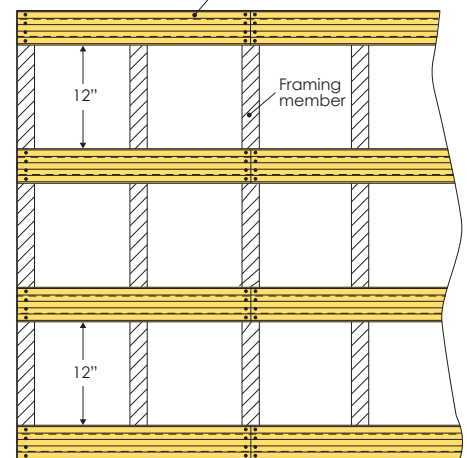


3 #1033 - Primary Insulator



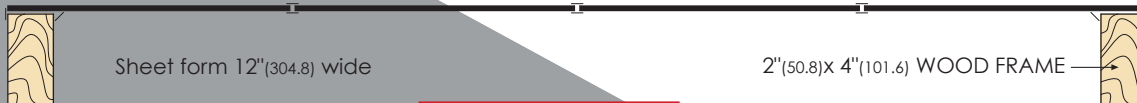
4 #1043 - Secondary Insulator, snapped on primary insulator

Wall Framing #1033 / #1043



Fasten the drywall with 1 7/8" drywall screws, 12.00" O.C. per standard.

STC 3003 - 1/16"(1.5mm)



STC RATING : 19
DEFICIENCIES : 24
OITC RATING : 15

Sound Transmission COEFFICIENT

Frequency	STC
125 Hz	10 db
250 Hz	10 db
500 Hz	16 db
1000 Hz	19 db
2000 Hz	24 db
4000 Hz	31 db
Sound Trans. Class:	19

STC 3003 - 1/8"(3mm)



STC RATING : 24
DEFICIENCIES : 32
OITC RATING : 19

Sound Transmission COEFFICIENT

Frequency	STC
125 Hz	14 db
250 Hz	15 db
500 Hz	20 db
1000 Hz	23 db
2000 Hz	37 db
4000 Hz	33 db
Sound Trans. Class:	24

STC 3003 SOUND SHEET Sound Barrier

offers OEM manufacturers a lighter-weight, high-performance alternative to conventional sound core materials in their acoustical doors. Suitable for layering during construction, SOUND SHEET is a fireproof INTUMET™ intumescent material that acts as a dense sound barrier layer. It is nearly as effective as solid lead in stopping the transmission of sound and can dramatically increase STC values. As the STC 3003 material weighs much less than lead, it provides major cost savings in shipping, as well as easier manufacturing and installation.

Available in standard black color sheets, size of 12"(304.8) x 96"(2438.4) or 36"(914.4) x 84"(2133.6) and in various thicknesses: 1/16"(1.5), 1/8"(3), 1/4"(6.3), and 3/8"(9.5).

This product has been tested in metal doors up to STC 56, as well as wood doors up to STC 46 for 1 3/4" thick doors.

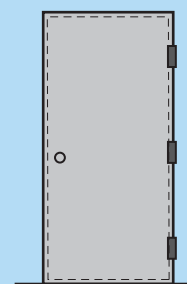
FOR METAL DOORS

Use two pieces of 1/4"(6.3) thick STC3003 for a rating of 48 STC.

FOR PANEL WOOD DOORS

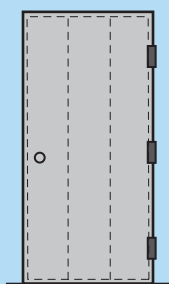
Use one sheet of 3/16"(4.8) thick as part of the core for a rating of 37 STC.

1 3/4"(44.5) Metal Door with Lead Lining

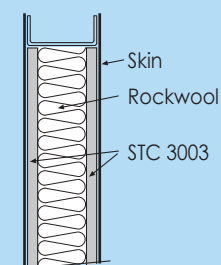


Weight : 360 lbs.
STC Rating : 56

1 3/4"(44.5) Metal Door with STC 3003 Lining



Weight : 280 lbs.
STC Rating : 55



Door section





Positive Pressure Fire Solutions for Doors



ZERO's many years of leadership and innovations in developing fire and smoke seals for international and U.S. positive pressure code requirements have produced top-quality components and engineered gasketing systems that meet the highest standards of design and life safety.

Our expertise in intumescent technology provides special value for the entire building team spanning a wide range of fire protection applications. We manufacture our proprietary INTUMET™ intumescent materials at our New York facility, ensuring convenient sourcing and stable pricing for our domestic customers. And when standards or specific applications require intumescent protection for door openings, our **SOFT PUFF™** INTUMET material delivers the performance best suited for most fire and smoke doors.

Zero's positive pressure seals are tested and listed according to U.S. listing agencies' classifications for Category G edge sealing systems and Category H smoke and draft control systems. (See box at right for category definitions.) Category G edge seals are required for use on Category B wood core doors. Category H smoke seals are required for all positive-pressure doors carrying "S" labels.

Our INTUMET™ material is used in OEM Category A doors to eliminate the need for add-on seals to achieve positive-pressure ratings. Smoke seals may still be required.

Products tested for fire and smoke are identified in our catalog by these symbols:

-  Fire-rated (See website for fire listings & performance details)
-  Smoke-rated

Our website provides up-to-date information for those parts, including specific listings and positive pressure classifications.

Use our PDF Drawing Finder on the website to view information for each part. In addition, the Intumescent Solutions section of the website provides a useful Selection Guide for help in identifying listed products needed for specific applications.

U.S. POSITIVE PRESSURE TESTING DEFINITION OF LISTING CATEGORIES

■ CATEGORY A

Doors - No additional edge-sealing system required

This category includes doors that do not require the use of any intumescent in either the frame or the door. It also includes doors evaluated with intumescent incorporated into the edge of the door by the manufacturer. Category A doors are eligible to bear the "S" label for Smoke & Draft Control assemblies if a listed Category H "Smoke & Draft Control Gasket" has been applied to the assembly.

■ CATEGORY B

Doors - Additional edge-sealing system required

This category includes doors that require add-on intumescent sealing systems either surface-applied or built into the frame in order to meet positive-pressure fire test requirements. Category B doors are eligible to bear the "S" label for Smoke & Draft Control assemblies if a listed Category H "Smoke & Draft Gasket" has been applied to the assembly.

■ CATEGORY G

Edge-Sealing Systems

This category includes systems that are surface-applied (such as kerf applied, adhesive backed or mechanically attached) to frames or doors. It includes meeting edge seals for use in pair and double-egress assemblies.

■ CATEGORY H

Smoke and Draft Control Gasketing

This category includes gasket systems that are surface-applied (such as kerf applied, adhesive backed or mechanically attached) to frames or doors. It includes gasketing for the meeting edge for use in pair and double-egress assemblies. These gasket systems have been evaluated in accordance with UBC 7-2, Parts I-II. NOTE: This category covers gasket systems that have been evaluated for use in positive-pressure-rated assemblies but do not "provide" an edge-sealing system to the opening (see Category G).

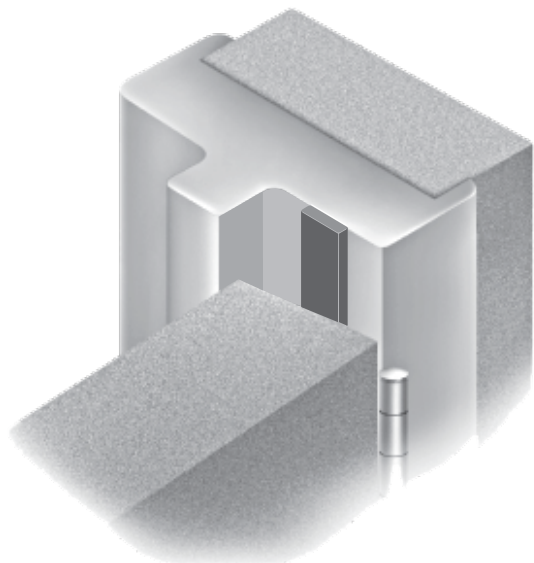
Testing and Compliance

■ U.S.

- UL 10B** Standard for Fire Tests of Door Assemblies
- UL 10C** Standard for Positive Pressure Fire Tests of Door Assemblies
- UBC 7-2 1997** Fire Test Standard for Swinging Fire Doors
- UBC 43-2 1991** Fire Test of Door Assemblies
- IBC 2000** International Building Code
- NFPA 105** Standard for the Installation of Smoke Door Assemblies
- NFPA 252** Standard Methods of Fire Tests of Door Assemblies
- ASTM E152** Methods of Fire Test of Door Assemblies

■ International

- International Standards Organization ISO 3008 1976** Fire-Resistance Tests - Door and Shutter Assemblies
- British Standard Institute BS 476-PART 22 1987** Methods for Determination of the Fire Resistance of Non-Load Bearing Elements of Construction
- British Standard Institute BS 476-PART 31 1983** Methods for Measuring Smoke Penetration Through Doorsets and Shutter Assemblies
- BS EN 1634** Fire-Resistance Tests for Door and Shutter Assemblies
- The Ministry of Construction Notice No.1125 Of 1990** Fireproof Performance Test (Japan)
- Japanese Industrial Standard JIS-A1131-3** Method of Fire Protecting Test of Fire Door for Buildings
- Building and Regulatory Test Australia / New Zealand AS 1530.4** Fire Resistance Test



Head & Jamb INTUMET™ Seals

Intumescent fire seals for use where smoke and draft control is not required. Mortised into wood doors or frames, or into edge strips of wood or composite door leaf. Wide range of choices tested to positive pressure standards, including UBC 7-2 1997 and BS 476-Part 22 1987. Contact Zero's engineering department for fire listings and classifications.

Available in black color. Supplied in 8 feet (2.4m) coil. Other colors and sizes available upon request. Can also be supplied without pressure-sensitive adhesive (PSA) tape. (Specify part number only.)

#3062500PSA Seal .062"(1.6) x .500"(12.7)
Provides 30 minutes fire resistance. Two parallel seals can provide 60 minutes fire resistance in hardwood constructions.

#3062750PSA Seal .062"(1.6) x .750"(19.1)

#30621000PSA Seal .062"(1.6) x 1.00"(25.4)

#30621750PSA Seal .062"(1.6) x 1.750"(44.5)

#3125500PSA Seal .125"(3.2) x .500"(12.7) :
Suitable for softwood constructions or where the gap between the door and the frame is greater than usual.

#3125750PSA Seal .125"(3.2) x .750"(19.1) :
Provides 60 minutes fire resistance. Can be notched to fit around hinges.

#31251000PSA Seal .125"(3.2) x 1.00"(25.4) :
Larger seal helps control door distortion. May also be used between the door frame and masonry.

#3250750PSA Seal .250"(6.4) x .750"(19.1)

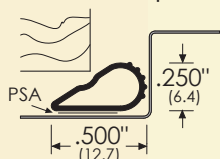
#32501000PSA Seal .250"(6.4) x 1.00"(25.4)

#3375750PSA Seal .375"(9.5) x .750"(19.1)

#33751000PSA Seal .375"(9.5) x 1.00"(25.4)

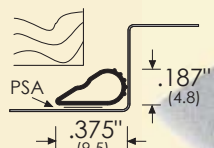
Category G and Category H Seals Listed under UBC 7-2-1997

Our extruded, surface-applied fire and smoke seals are engineered for improved performance and shelf life. These self-extinguishing, flame-retardant seals are formulated with a proprietary chemistry using silicone and graphite. Custom shapes can be extruded using this technology.



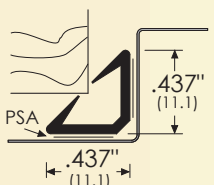
#188 FS
ZERO Compress-O-Matic®

45Min.



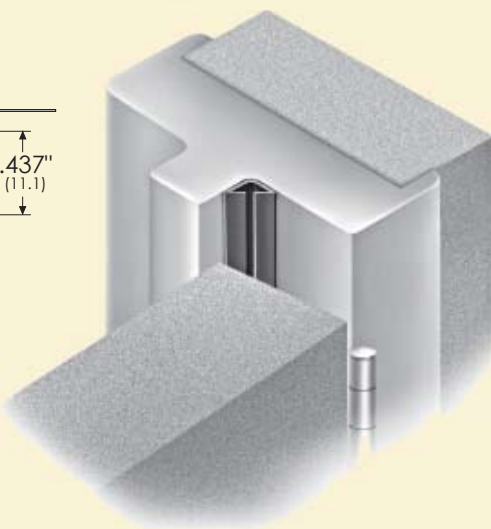
#488 FS
ZERO Mini-Matic®

45Min.



#8144 FS

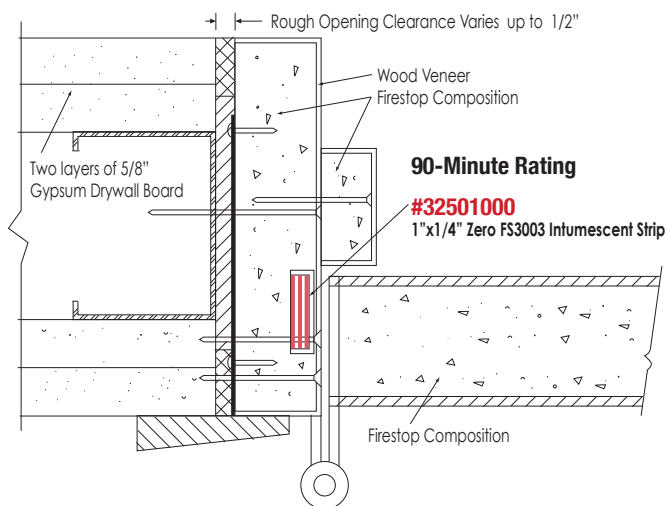
45Min.



Fire-Rated Smoke and Draft Control Systems

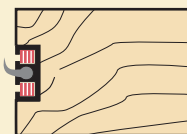
Our engineered systems can be used to incorporate concealed closers and concealed vertical rods into designs for both singles and pairs of wood doors. Note: Seals applied with pressure-sensitive adhesive cannot be used alone for these applications. Category G and H classified.

OEM Approved Application for Wood Door and INTUMET Intumescence

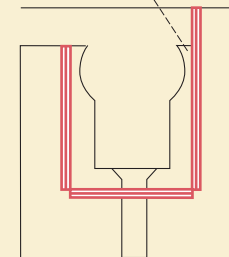


Hardware Installations for FS 850 System

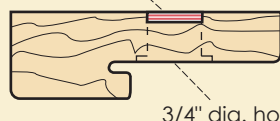
ZERO 59FS Astragal on one leaf (pairs only)



FS3003 INTUMET strips



FS3003 INTUMET™ strip in strike cutout of wood frame header (1/16" thick strip)



Concealed Track Arm

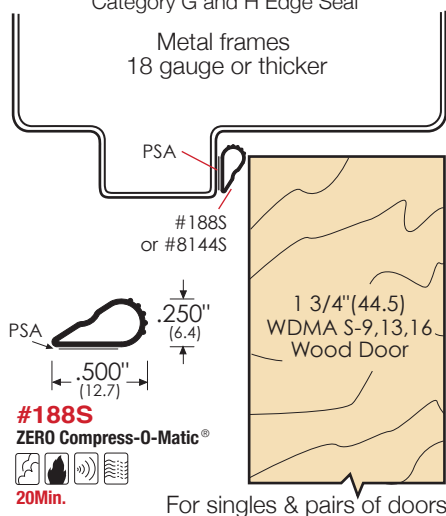
Intumescent

FS 850 SYSTEM

20-Minute Rating

Category G and H Edge Seal

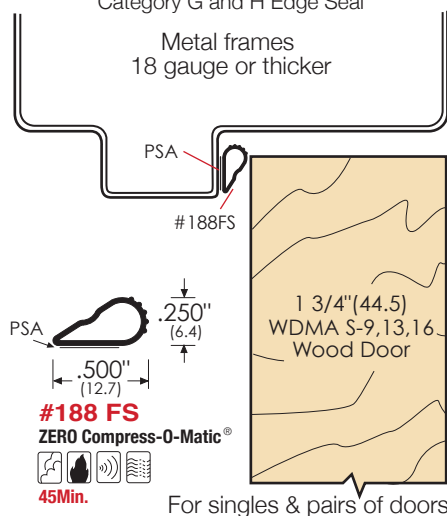
Metal frames
18 gauge or thicker



45-Minute Rating

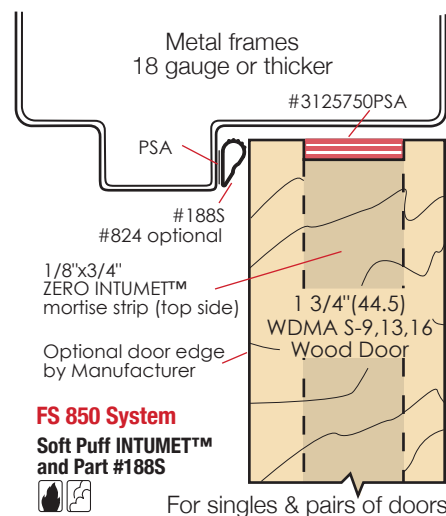
Category G and H Edge Seal

Metal frames
18 gauge or thicker

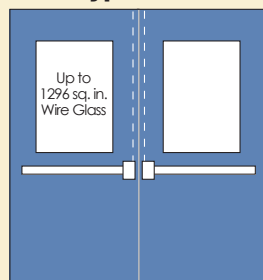


90-Minute Rating

Metal frames
18 gauge or thicker

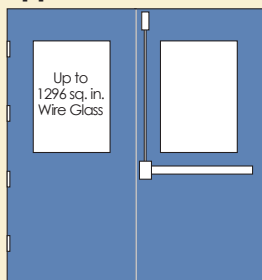


Typical Hardware Applications - FS 850 Systems



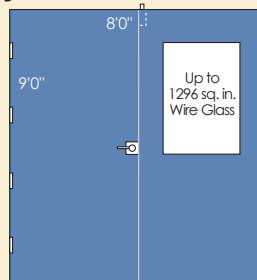
Pairs in the Same Direction

Concealed & surface exit devices, less bottom rod



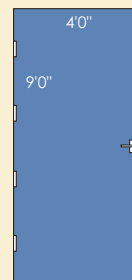
Double Egress

Concealed & surface exit devices, less bottom rod



Pairs in the Same Direction

Mortise, cylindrical lock
Auto FB, manual FB (without intumescent) or surface bolt (LBR) with no thermal bolt



Single

Mortise, cylindrical locks
Mortise, rim and vertical rod exit devices (LBR)

Typical for All Applications

Butts:
4.5" x 4.5" (.134 gauge)
steel ball bearing #ZBB 961

Closers:
Surface with through bolts
or 5" top blocking concealed slide track, spring hinges

Lite Kits:
Advantage Lites & Louvers
model #T4G with INTUMET™ Glazing System

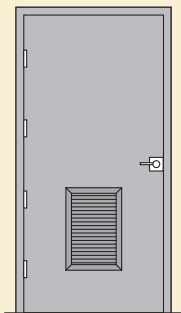
FB Intumescent Block 60 Minutes

ZERO's **FB Intumescent Block** can be used to achieve up to 60 minutes fire ratings for door louvers in metal doors of 1.750" (44mm) or greater thickness. The 0.55" (14mm) thick FB Intumescent Block is designed to layer inside a two-part metal louver set attached to both sides of the door. A reinforcing inverted channel is required at the bottom of the cut-out to support the FB Intumescent Block. There is no limit on door thickness; additional lateral support is needed for louvers in doors with greater thickness.

The FB Intumescent Block has been assessed up to four-hour fire rating by UK Warrington Fire Research Centre as part of the Fire Block Louver System (FBLs) for fire-rated steel doors with apertures up to 18" x 60" (0.46 x 1.5m). A copy of the Warrington test report C129754 is available on request. Assessed to BS 476: Part 22 1987.



Applications:

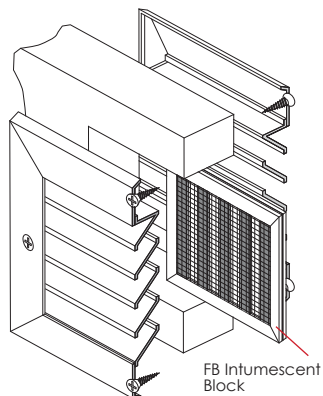


Specification

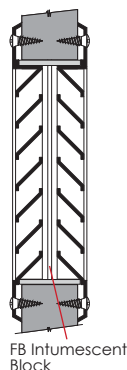
Door Thickness	Minimum 1.750" (44.5mm) metal doors.
Fire Rating (representative)	Four hours on steel doors, maximum aperture size 18" x 60" (457 x 1524mm)
Free Air Flow	40% free area

FB Intumescent Size (w x h x t)

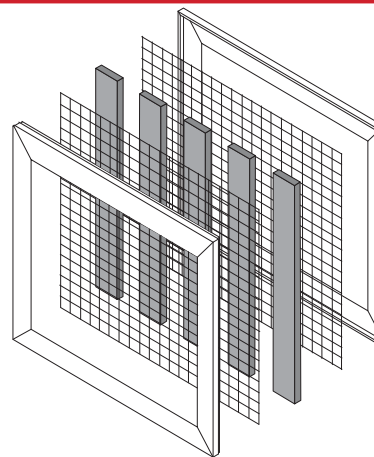
FB 1212	12" (301) x 12" (301) x .55" (14)
FB 1610	16" (402) x 10" (250) x .55" (14)
FB 1808	18" (453) x 8" (199) x .55" (14)
FB 1810	18" (453) x 10" (250) x .55" (14)
FB 1818	18" (453) x 18" (453) x .55" (14)
FB 1836	18" (453) x 36" (910) x .55" (14)
FB 1860	18" (453) x 60" (1520) x .55" (14)
FB 2020	20" (504) x 20" (504) x .55" (14)
FB 2424	24" (606) x 24" (606) x .55" (14)



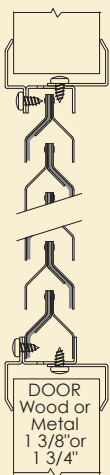
Fire Block Louver System



Louver



FB Intumescent Block



DOOR
Wood or
Metal
1 3/8" or
1 3/4"



#200AIL U.S. Patent # 20070251175. International Patent Pending

200AIL Advantage Intumescent Louver

Fire-rated 90 minutes UL 10C

Vision-proof louver inverted "Y" design with concealed INTUMET™ fire seal. Front frame attached to the lower core with concealed screws.

Size (w x h x t)*

12" (301) x 12" (301)
18" (457) x 12" (301)
18" (457) x 18" (457)
24" (607) x 12" (533)
24" (607) x 18" (457)
24" (607) x 24" (607)

* Standard size in stock.
Other sizes available.



#ZLP44 Intumescent Lock Packs

4-part Intumescent Lock Pack comprises FS4004 intumescent gaskets to fit both sides of lock cases on wood doors. FS4004 expands 80 times its own volume in the event of fire and protects this vulnerable area from burning.

Engineered graphite material 1/16" (1.6mm) thick with self-adhesive backing. Available in grey color.

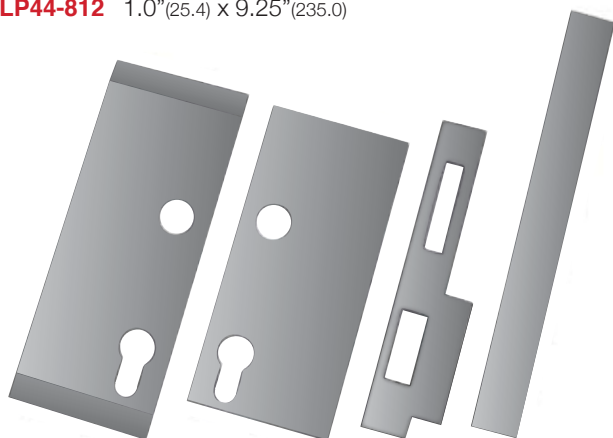
Standard size shown to meet DIN standard lock cases.

#ZLP44-650 3.0"(76.2) x 6.50"(165.1)

#ZLP44-675

#ZLP44-750 3.0"(76.2) x 7.50"(190.5)

#ZLP44-812 1.0"(25.4) x 9.25"(235.0)



#ZLP44-750

#ZLP44-650

#ZLP44-675

#ZLP44-812

#ZHP44 Intumescent Hinge Pads

ZHP44 Intumescent Hinge Pads are fitted behind the hinges on wood doors, which is the area most likely to suffer integrity failure in a fire. The FS4004 intumescent material in these pads expands rapidly when exposed to heat or high temperatures to prevent heat transfer from hinges to door and frame. FS4004 activates at around 442°F (228°C) and expands 80 times its own volume with an expansion pressure of 0.09N/mm².

Hinge pads are supplied in packs of 6 pre-cut pieces of graphite material 5/64" (2mm) thick, with self-adhesive backing on one side.

Available in five sizes to fit all regular size hinges.

#ZHP441 3.98"(101) x 1.18"(30) hinge pad, for 4"(102) x 3"(76) hinge.

#ZHP442 3.98"(101) x 1.46"(37) hinge pad, for 4"(102) x 3.5"(89) hinge.

#ZHP443 3.98"(101) x 1.65"(42) hinge pad, for 4"(102) x 3"(76) hinge.

#ZHP444 4.49"(114) x 1.65"(42) hinge pad, for 4.5"(114) x 4"(102) hinge.

#ZHP445 4.49"(114) x 1.85"(47) hinge pad, for 4.5"(114) x 4.5"(114) hinge.



#ZHP441

#ZHP442

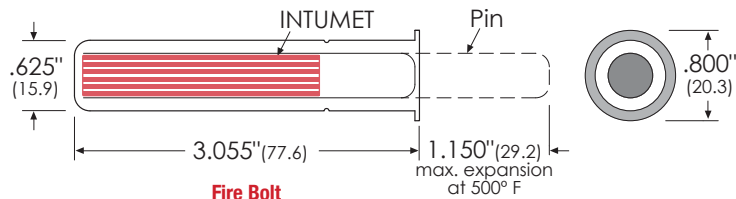
#ZHP443

#ZHP444

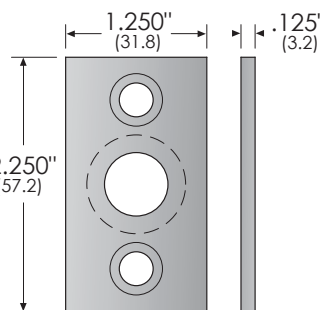
#ZHP445

#357FS INTUMET Fire Bolt

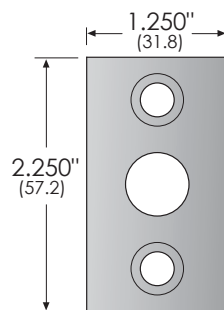
Mortised into doors, the Fire Bolt is activated when INTUMET expands in fire conditions. Pin is pushed into strike plate to secure doors.



Fire Bolt

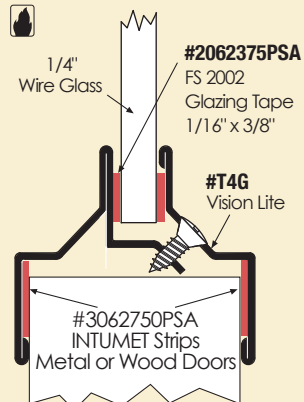


Fire Bolt Retainer

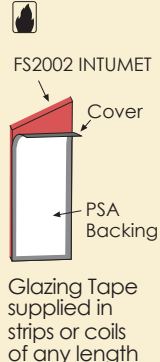


Fire Bolt Strike Plate

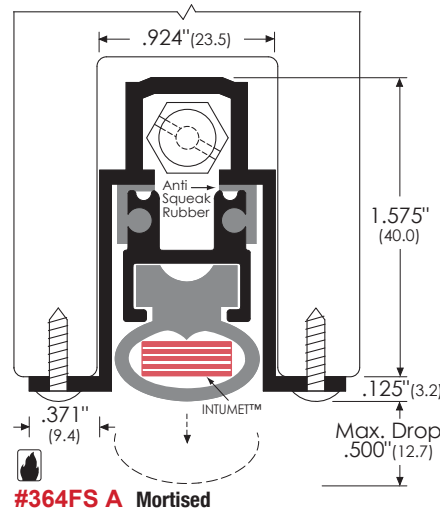
FS860 Doorlite System (20, 45 and 90-minutes)



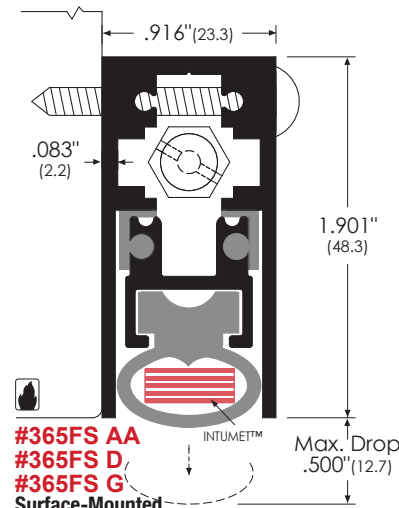
Glazing Tape (20-minutes)



Automatic Door Bottoms - Intumescent Sill Protection



#364FS A Mortised



#365FS AA
#365FS D
#365FS G
Surface-Mounted

INTUMET™ WS - Wrap Strip

Wrap strip is a highly intumescent firestop material. It expands when exposed to heat and forms a hard char to seal off the annular spaces and prevent the spread of flames and hot gases.

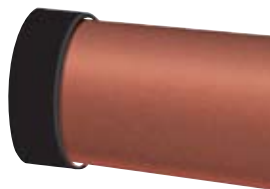
Application:

For plastic and insulated pipe. Tightly wrap the required number of strips around the penetrant to completely fill the annular space.

Size (roll) :

- #WS148 1"(25.4) x 1/4"(6.4) x 8'(2438.4)
- #WS248 2"(50.8) x 1/4"(6.4) x 8'(2438.4)
- #WS128 1"(25.4) x 1/2"(12.7) x 8'(2438.4)

Color: Black



INTUMET™ JS - Joint Strip

Joint Strip is a highly intumescent firestop material used in concrete and masonry control joints up to 1". It forms a strong char that prevents the passage of flame, smoke and hot gases between control joints.

Application:

For curtain wall panels and vertical concrete and masonry construction joint applications.

Size:

- #JS06210008 1/16"(1.6) x 1"(25.4) x 8'(2438.4)
- #JS06215008 1/16"(1.6) x 1 1/2"(38.1) x 8'(2438.4)

Color: Black



INTUMET™ PC - Pipe Collar

Pipe Collar is a prefabricated device for through-penetrations of non-metallic pipes. It contains a heavy-gauge metallic collar filled with pliable intumescent.

Application:

For through penetrations, with plastic pipe.

Size:

- #PCC05 1/2"(12.7) nominal O.D. pipe
- #PCC2 2"(50.8) nominal O.D. pipe
- #PCC3 3"(76.2) nominal O.D. pipe
- #PCC4 4"(101.6) nominal O.D. pipe
- #PCC6 6"(152.4) nominal O.D. pipe

Color: Silver



INTUMET™ DPW - Duct & Plenum Wrap

This foil-encapsulated, non-combustible, flexible wrap is used for grease ducts, air ducts and plenum air spaces.

Application:

For through-penetrations, with plastic pipe.

Size:

- #DPW218 1/8"(3.2) x 1 1/2"(38.1) x 2'(609.6)
- #DPW418 1/8"(3.2) x 1 1/2"(38.1) x 4'(1219.2)
- #DPW228 1/8"(3.2) x 2"(50.8) x 2'(609.6)
- #DPW428 1/8"(3.2) x 2"(50.8) x 4'(1219.2)

Supplied in 8 ft. rolls.

Color: Black

INTUMET™ FP - Firestop Pillows

INTUMET FP is a compressible firestop device used for installations where frequent changes may be required. Enclosed in a strong polyethylene bag.

Application:

For large openings with cables, cable trays, blank openings

Size:

- #FP294 2"(50.8) x 9"(228.6) x 4"(101.6)
- #FP296 2"(50.8) x 9"(228.6) x 6"(152.4)
- #FP396 3"(76.2) x 9"(228.6) x 6"(152.4)

10 per case

Color: Fire Red



INTUMET™ EB - Electrical Box Insert

Electrical Box Insert is a highly intumescent, protective pad.

Application:

For use in metallic electrical boxes. Installed in back of the box with PSA tape.

Size:

- #EB248 2"(50.8) x 4"(101.6) x 1/8"(3.2)
- #EB448 4"(101.6) x 4"(101.6) x 1/8"(3.2)
- #EB244 2"(50.8) x 4"(101.6) x 1/4"(6.4)
- #EB444 4"(101.6) x 4"(101.6) x 1/4"(6.4)

50 pads / carton

Color: Fire Red



INTUMET™ CS - Composite Sheet

Soft Puff 3003 intumescent material is laminated during manufacturing to a galvanized steel sheet. The product is reinforced with fire-resistant fiberglass wire mesh to control and direct expansion during fire.

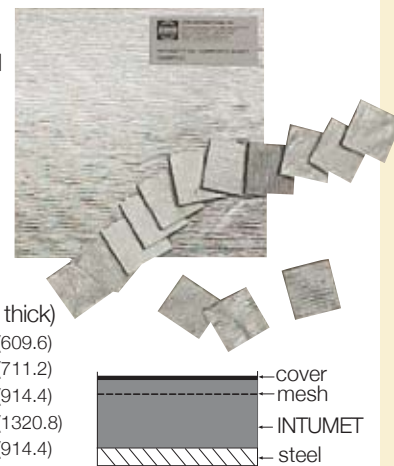
Application:

For penetrations in fire-rated walls and floors, openings in concrete blocks and slabs.

Size: (All material is .3125"(7.9) thick)

- Part# CS1224 12"(304.8) x 24"(609.6)
- Part# CS1628 16"(406.4) x 28"(711.2)
- Part# CS2436 24"(609.6) x 36"(914.4)
- Part# CS2852 28"(711.2) x 52"(1320.8)
- Part# CS3636 36"(914.4) x 36"(914.4)
- Part# CS3641 36"(914.4) x 41"(1041.4)

Color: Grey



INTUMET™ FS - Firestop Sheet

Highly intumescent firestop material in sheet form for fire blanket.

Application:

Fire blanket for floors and walls, architectural joint systems and others.

Size: #FS3003-0621296 12"(304.8) x 96"(2438.4) x .062"(1.6)

#FS3003-1251296 12"(304.8) x 96"(2438.4) x .125"(3.2)

Expands 20 times

#FS4004-0621296 12"(304.8) x 96"(2438.4) x .062"(1.6)

#FS4004-1251296 12"(304.8) x 96"(2438.4) x .125"(3.2)

Expands 80 times

Color: Red, Black, Grey, Brown, White

INTUMET™ Material Definitions and Physical Properties

	FS1001	FS2002	FS3003	FS4004
Activation Temperature	350°F (176°C)	350°F (176°C)	350°F (176°C)	550°F (288°C)
Expansion volume	2-3 X	6-8 X	16-18 X	80 X
Expansion pressure	27 PSI (.0187 N/mm ²)	27 PSI (.0187 N/mm ²)	27 PSI (.0187 N/mm ²)	131 PSI (.09 N/mm ²)
Multi or controlled directional	√	√	√	√
Stability after expansion	Excellent	Very Good	Very Good	Poor
Char	Very Hard	Hard	Soft & Fluffy	Fluffy
Flame-resistant	√	√	√	√
Moisture-resistant	√	√	√	√
Chemically inert / paintable	√	√	√	√
Non-carcinogenic	√	√	√	√
Long-life (no deterioration)	√	√	√	√
Odor-free	√	√	√	√
Color – standard	White	Brown	Black	Red

SPECIFICATIONS:

Stock Sizes: **Thickness** .062"(1.6), .125"(3.2), .250"(6.4)
Width .375"(9.5), .500"(12.7), .750"(19.1), 1.00"(25.4), 1.50"(38.1), 2.00"(50.8)

All INTUMET intumescent material is available in various thickness (millimeters or inches) and in any color as special order.
All material is available in red for European specification.

Intumescent



INTUMET Firestopping Solutions

ZERO is the ideal partner for companies seeking a reliable U.S. source of top-quality intumescent firestopping—or whose customers' specialized needs require custom solutions.

Our location and capabilities as a major U.S. intumescent manufacturer offer a unique package of benefits for OEM partners in the U.S.:

- immediate availability of standard materials and products
- fast turnaround on custom orders
- economical pricing
- predictable costs – no variables from currency exchange fluctuations

ZERO's intumescent technology allows virtually unlimited product design flexibility. We welcome inquiries for assistance in solving fire protection challenges in **firewalls**, as well as **electrical and plumbing through-penetrations**.

We can work with you to refine or overhaul product design to satisfy code requirements or testing agency parameters. We can also collaborate in testing for F ratings (flame penetration), T ratings (temperature rise) and L ratings (air leakage) under U.S. standards:

- ASTM International E814 *Standard Test Method for Fire Tests of Through-Penetration Fire Stops*
- Underwriters Laboratories UL 1479, *Standard for Fire Tests of Through-Penetration Firestops*

ZERO is actively seeking OEM partners for cooperative research, development and testing to explore applications of mutual interest. Contact us to discuss opportunities for innovative, cost-effective fireproofing solutions for any industry, including:

- Shipbuilding
- Bridge-building
- Train and subway construction

ZERO photoluminescent systems facilitate safe emergency exits during building evacuations when power systems have failed. Designed for compliance with Building Code Standard RS 6-1/1A of New York City Building Code Section 27-383(b) for photoluminescent exit path markings adopted in May 2005, for both new construction and renovations. Our systems also comply with IBC 2009 requirements for luminous exit path markings.

ZERO's solutions to these requirements include a variety of self-adhesive signage and marking systems designed for specific uses, as well as non-slip **TRACTION TREAD™ GLOW** stair nosings.

Photoluminescent material is charged by exposure to ambient light and emits luminescence after the activating light source is no longer available. Made with top-grade strontium pigments, the material in our systems is non-electric, non-toxic and non-radioactive. It is designed for easy maintenance, maximum durability and good slip resistance in all conditions.

Our photoluminescent strips and signs feature aluminum backing and foam tape for superior adhesion to the uneven surfaces, including brick, found in many buildings. This backing system consistently outperforms typical vinyl materials, which are best applied to smooth, clean surfaces. Our systems can also be mechanically fastened, if preferred.

TRACTION TREAD™ GLOW stair nosings are recommended for high-traffic installations that demand maximum non-slip safety. The photoluminescent markings are integrated in the outer three grooves as installed on the stair step.

Accepted For Use
City of New York
Department of Buildings
MEA 8-06-M

Photoluminescent

Door Signs

- Wall-mounted sign, for all intermediate and final exit doors

Existing illuminated exit sign as may be required by building code

EXIT

Door Hardware Marking

- Applied on face or top of exit bar, or on the door directly above the bar

Directional Signage

- Wall-mounted sign

Floor Demarcation Lines

- Photoluminescent strip applied to lower wall

Exit Door Frame Kit

- Photoluminescent strip applied to all final and intermediate door frames

Stair Edge Marking

- Photoluminescent strip applied to leading edge of step
- Slip-resistant in all conditions

Landing Edge Marking

- Photoluminescent strip applied on leading edge of landing
- Slip-resistant in all conditions

All systems designed to meet NYC Building Code Standard RS 6-1/1A, Stairway Exit Path Marking Requirements. Marking shall be installed in consistent and uniform manner in dimensions, distances and location, throughout the same exit.

All systems designed to meet NYC Building Code Standard RS 6-1/1A, Stairway Exit Path Marking Requirements.

DIRECTIONAL SIGNAGE

Photoluminescent directional signs shall be placed in the stairwell or exit at every entrance, visible upon opening the door into the stairwell or exit. Not required for existing buildings; however this exception shall not apply to below-grade stories.



#1220
Progress to the Right
8"(203.2) x 4.5"(114.3)



#1221
Progress Down and to the Right
8"(203.2) x 4.5"(114.3)



#1222
Progress Up and to the Right
8"(203.2) x 4.5"(114.3)



#1223
Progress to the Left
8"(203.2) x 4.5"(114.3)



#1224
Progress Down and to the Left
8"(203.2) x 4.5"(114.3)



#1225
Progress Up and to the Left
8"(203.2) x 4.5"(114.3)



#1226
Progress Forward
8"(203.2) x 4.5"(114.3)



#1227
Progress Down from Here
8"(203.2) x 4.5"(114.3)

DOOR SIGNS

- Intermediate Exit Door

Wall-Mounted



#1230
EXIT - Left Arrow
(with pictogram)
8"(203.2) x 9"(228.6)



#1231
EXIT - Right Arrow
(with pictogram)
8"(203.2) x 9"(228.6)

Door-Mounted



#1232
EXIT (with pictogram)
13"(330.2) x 4.5"(114.3)

- Final Exit Door

Wall Mounted



#1228
FINAL EXIT
(with pictogram)
8"(203.2) x 11"(279.4)

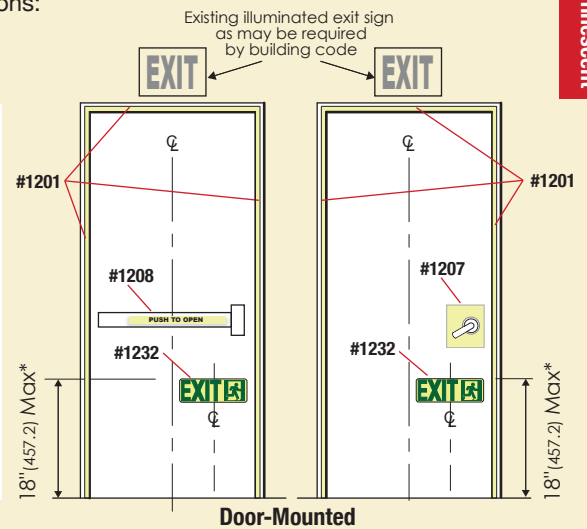
DOOR KITS

DOOR KITS available in two options:

#1237 DOOR KIT - For 3'X7' Door

Kit contains:

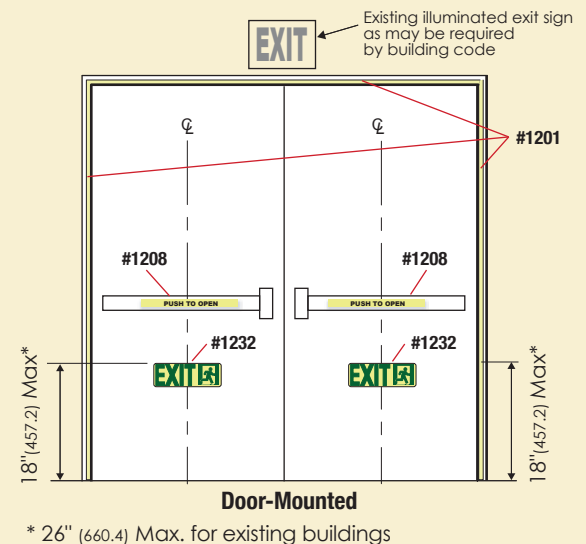
- **#1201** Photoluminescent Strip
1"(25.4) x 36"(914.4) (1 pc.)
1"(25.4) x 84"(2133.6) (2 pcs.)
- **#1207** Door Hardware Marking
Latch Type
7.8"(198.1)x6"(152.4) (1 pc.)
- **#1208** Door Hardware Marking
Bar Type 1"(25.4) x 30"(762) (1 pc.)
- **#1232** Exit Door sign
13"(330.2) x 4.5"(114.3) (1 pc.)



#1248 DOOR KIT - For 4'X8' Door

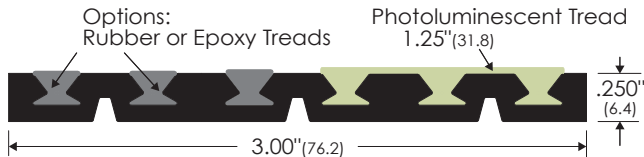
Kit contains:

- **#1201** Photoluminescent Strip
1"(25.4) x 48"(1219.2) (1 pc.)
1"(25.4) x 96"(2438.4) (2 pcs.)
- **#1208** Door Hardware Marking
Bar type
1"(25.4) x 42"(1066.8) (2 pcs.)
- **#1232** Exit Door sign
13"(330.2) x 4.5"(114.3) (2 pcs.)



TRACTION TREAD™ glow

Non-slip stair nosings that satisfy New York City Standard RS 6-1/1a and other building code standards for **photoluminescent exit path markings**. Profiled grooves with rubber or epoxy inserts provide durable, attractive surfaces that do not collect dirt or water. 1.25 inch wide photoluminescent tread is integrated in the outer three grooves along stair edges. Available in standard aluminum finish, Traction Tread nosings are designed for easy cutting and drilling onsite.

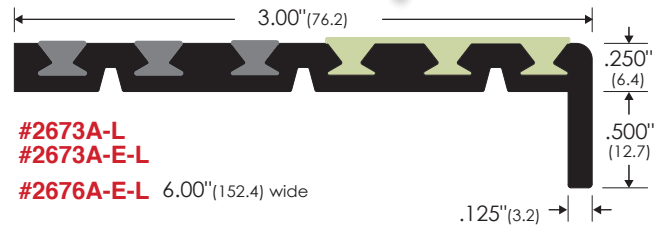


#3673A-L
#3673A-E-L

#3674A-L 4.00" (101.6) wide
#3674A-E-L

#3675A-L 5.00" (127.0) wide
#3675A-E-L

#3676A-L 6.00" (152.4) wide
#3676A-E-L



#2673A-L
#2673A-E-L

#2676A-E-L 6.00" (152.4) wide

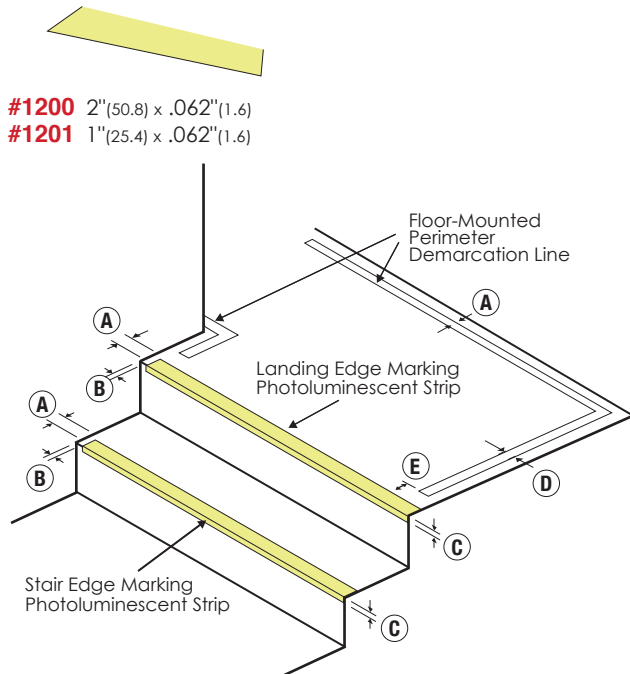
Note:

A-L = Aluminum finish. Rubber / Photoluminescent Treads insert
A-E-L = Aluminum finish. Epoxy / Photoluminescent Treads insert

STAIR & LANDING EDGE MARKING

For existing and new buildings.

Identifies the limits of steps and leading edge of landings.



#1200 2" (50.8) x .062" (1.6)

#1201 1" (25.4) x .062" (1.6)

(A) 1" (25.4) Min
2" (50.8) Max

(B) 0" Min

(C) 0" Min
0.5" (12.7) Max

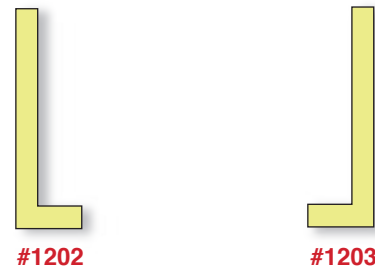
(D) 4" (101.6) Max

(E) 0" Min
2" (50.8) Max

SIDE EDGE MARKING

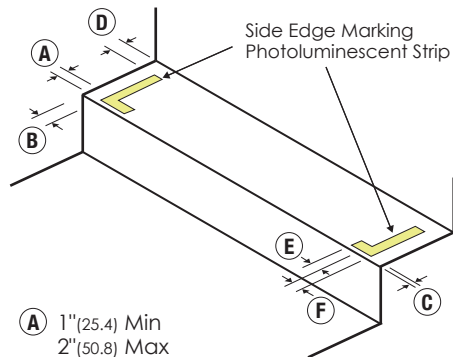
Alternative for existing buildings.

Designed to meet the minimum requirement for existing buildings to illuminate the ends of the stair tread surface, providing visual cues for each stair step during a blackout. Available in 8.5" (215.9) x 3.6" (91.4) x 1.5" (38.1)



#1202

#1203



(A) 1" (25.4) Min
2" (50.8) Max

(B) 0" Min**
2" (50.8) Max**

(C) 0" Min**
1" (25.4) Max**

(D) 2.25" (57.2) Max*

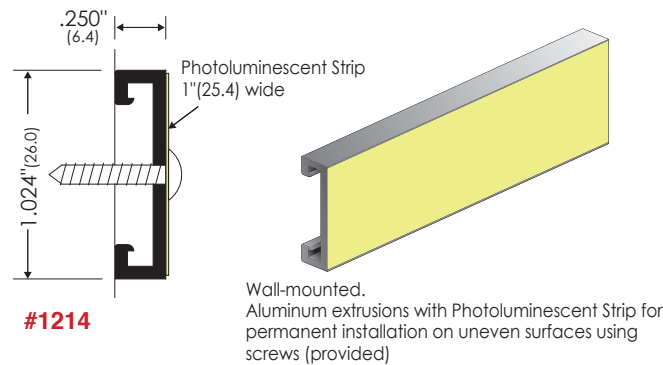
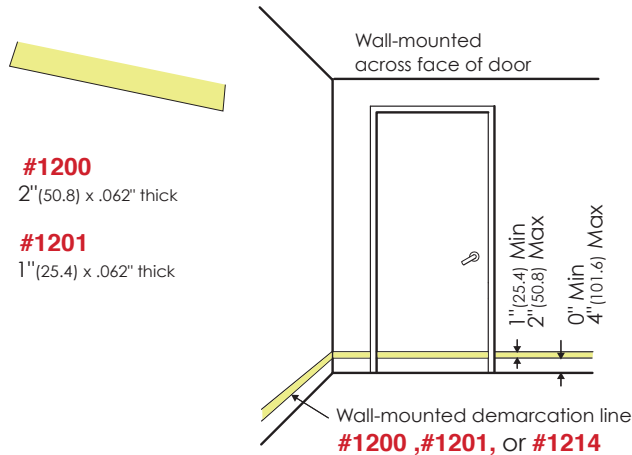
(E) 2" (50.8) Min
Return

(F) 1" (25.4) Min
2" (50.8) Max

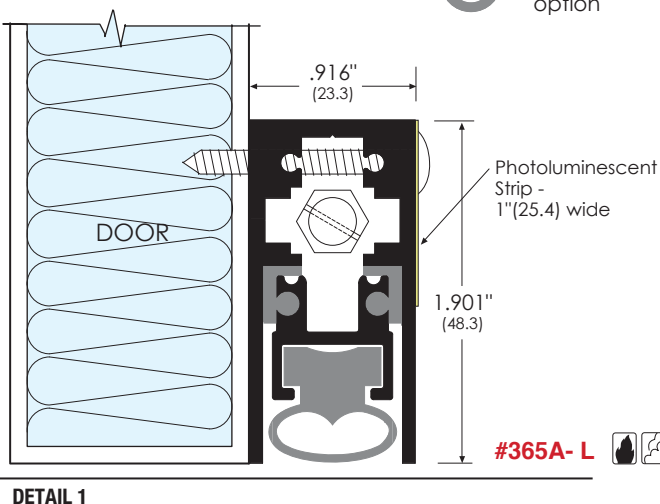
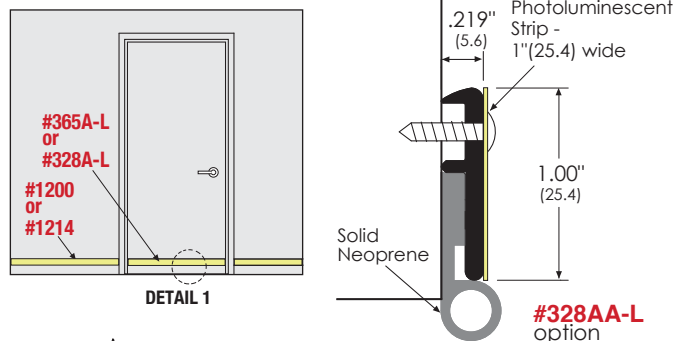
* Minor variations in consistency and uniformity through same exit permitted
** Consistency and uniformity required

FLOOR DEMARCATION LINES

Suitable for both wall and floor-mounted applications.



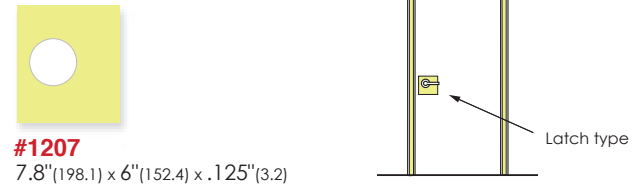
Photoluminescent Sill Protection



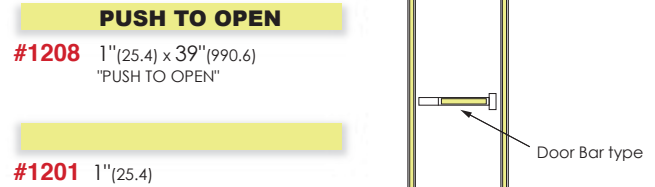
DOOR HARDWARE MARKING

Illuminates door opening mechanisms for better visibility, required for all intermediate and final exit doors. Located behind, immediately adjacent to, or on the door handle and/or escutcheon.

Latch Type

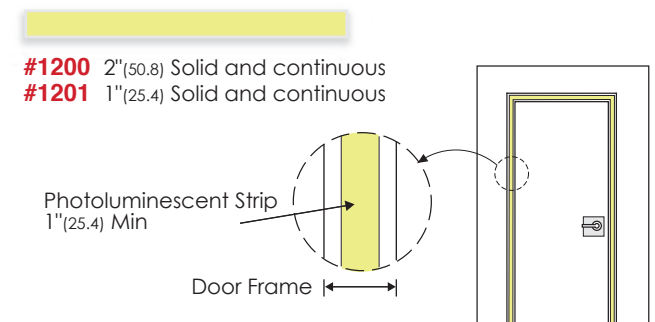


Door Bar Types



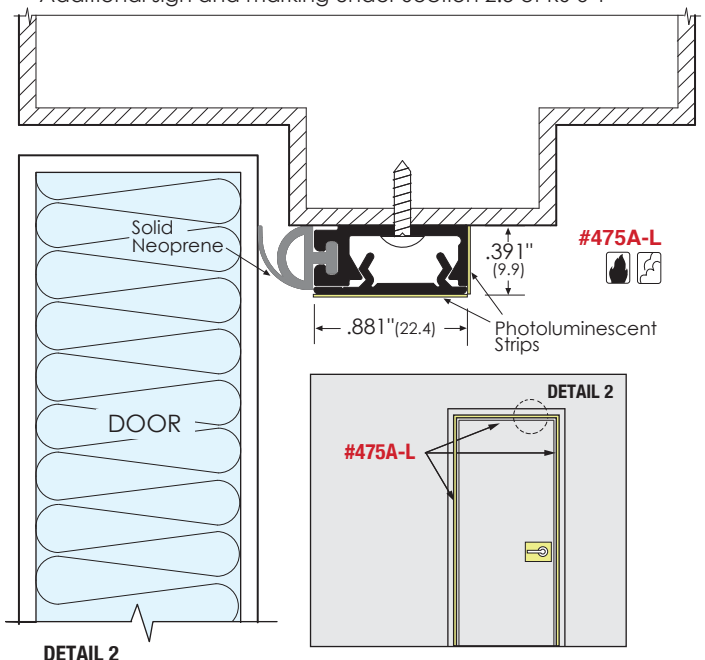
EXIT DOOR FRAME KIT

Required for intermediate and final exit doorways.



Photoluminescent Head & Jamb Seal

Additional sign and marking under Section 2.5 of RS 6-1



Specialty Head and Jamb Protection Anti-Ligature Gasketing (ZAG option)



Note: A = Aluminum
AA = Clear Anodized
B = Bronze
D = Dark Bronze Anod.
FS = Intumescent
G = Gold Anodized
S-Bk = Silicone, Black
S-Br = Silicone, Brown
S-Cl = Silicone, Clear
S-Gy = Silicone, Gray
S-Wh = Silicone, White
ZAG = Anti-Ligature

Zero now offers an **anti-ligature** option to prevent gasketing from being used for other than intended purposes, including harming self or others. The rubber in our **patented** anti-ligature gasketing is scored before insertion into aluminum extrusions, allowing normal function for its specified purpose but designed to break into pieces if removed from the extrusion for any reason.

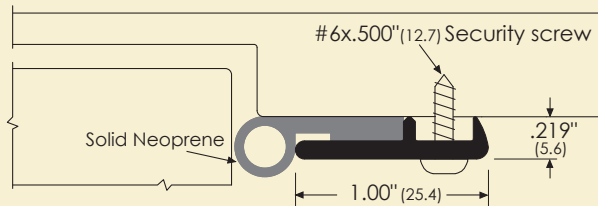
Applications for anti-ligature gasketing include correctional facilities and mental health facilities.

Gasketing ordered with this patented feature is installed as usual, with no special handling required. In addition to the applications shown below, the anti-ligature option can be supplied on request with most other Zero gasketing. To order, add **ZAG** to the part number.

Applications

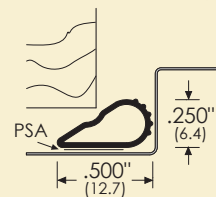
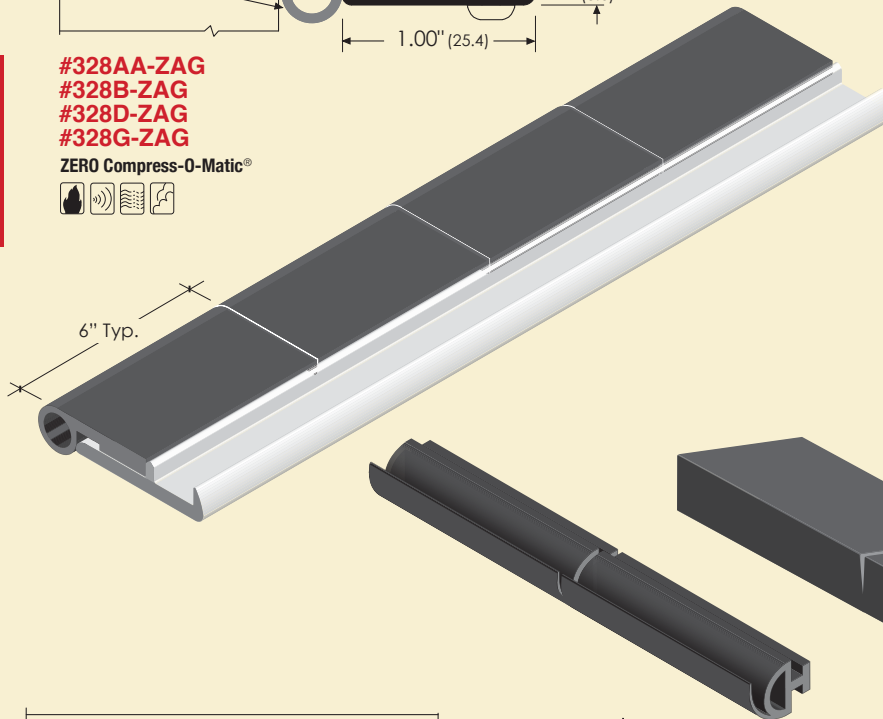
Correctional facilities, hospitals, psychiatric and mental health facilities.

US Patent # 7788852
Foreign Patents pending



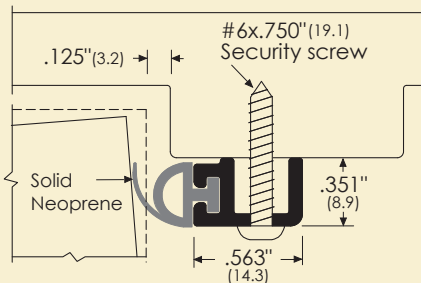
#328AA-ZAG
#328B-ZAG
#328D-ZAG
#328G-ZAG

ZERO Compress-O-Matic®



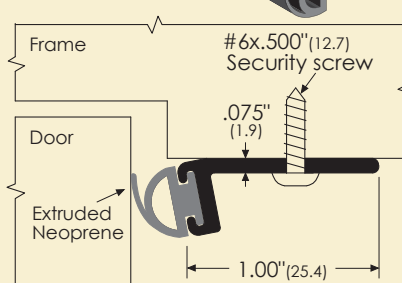
#188S-Bk-ZAG
#188S-Br-ZAG
#188S-Cl-ZAG
#188S-Gy-ZAG
#188S-Wh-ZAG
#188FS-ZAG

ZERO Compress-O-Matic®



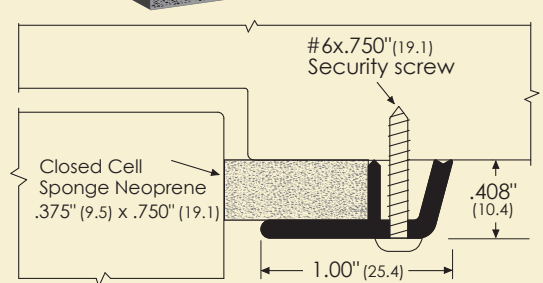
#485A-ZAG
#485D-ZAG
#485G-ZAG

ZERO Compress-O-Matic®



#99A-ZAG
#99D-ZAG

ZERO Compress-O-Matic®



#318AA-ZAG
#318D-ZAG
#318G-ZAG



Flood Barrier Shield for Doors or Windows Helps Safeguard Building Contents

This removable barrier answers pleas from builders for help in protecting doors and building contents from water ingress in flood-prone areas. When water from heavy rains accumulates, the **Flood Barrier Shield** effectively blocks up to a foot or more of flood waters from permeating door or window openings.

Available in 10, 20, 24, 30 and 36 inch high barriers (other sizes available upon request), the lightweight aluminum shield requires no tools or muscle strength for insertion into premounted vertical channels attached to either the door frame or adjacent walls. Additional shield sections can be stacked if greater height is needed.

The unit complies with guidelines of the Federal Emergency Management Agency (FEMA) and Federal Insurance Administration (FIA) for use on doors in flood-prone areas.

The key to the shield's impermeability is the use of closed cell sponge (CCS) neoprene rubber engineered by Zero to ensure a water-tight seal. The rubber lines the aluminum channel brackets and the bottom of the shield. The neoprene also compensates for gaps at the threshold.

Flood Barrier Shield for Doors

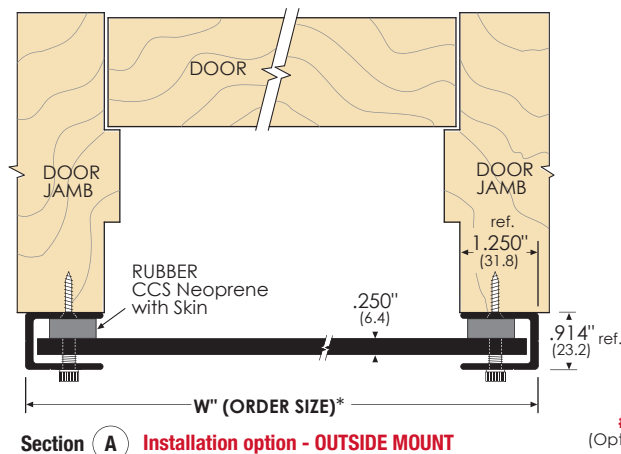
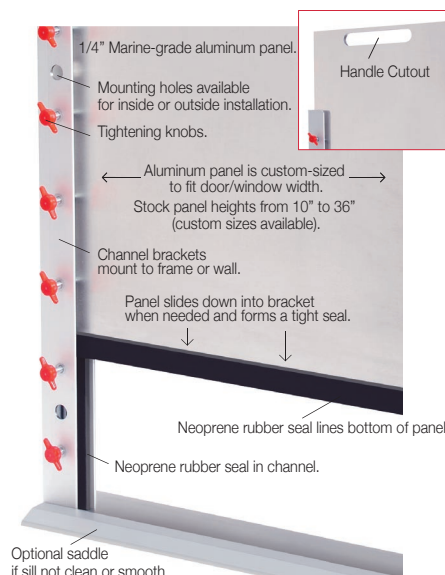
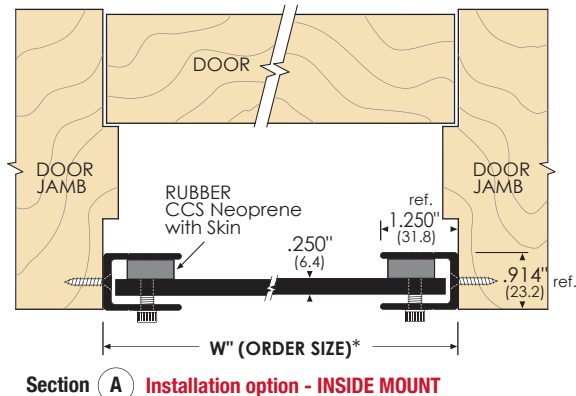
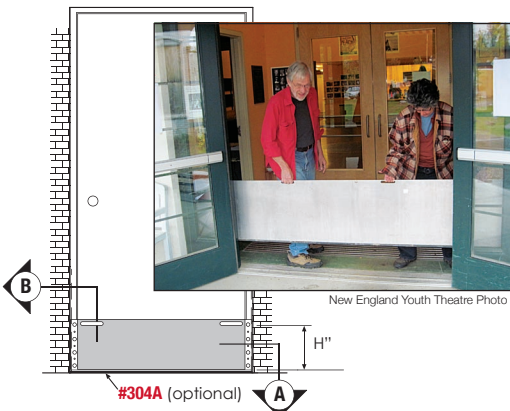
Part# 2070A - 10	10" High
2070A - 20	20" High
2070A - 24	24" High
2070A - 30	30" High
2070A - 36	36" High

Each Flood Barrier Shield is custom fabricated
Specify exact width needed and installation option required.

Flood Barrier Shield for Windows

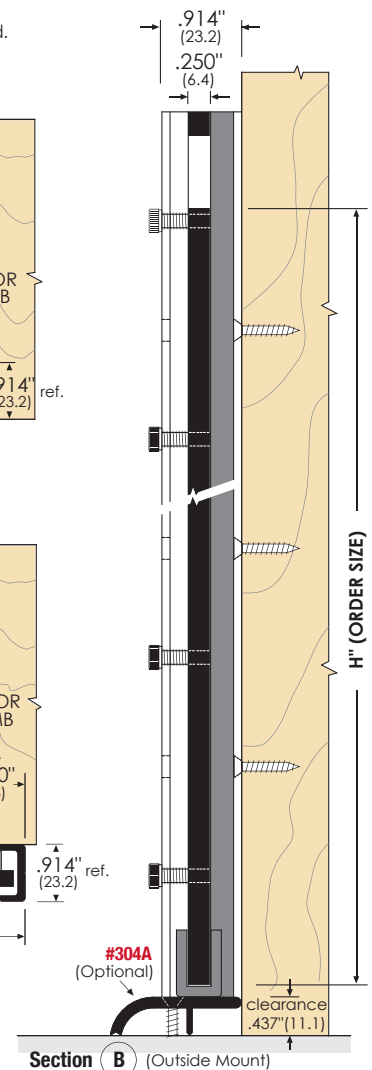
Part# 2080A - 10	10" High
2080A - 20	20" High
2080A - 30	30" High

According to insurance underwriters, flood insurance premium costs may be reduced on submittal of proper product and installation documentation regarding use of Flood Barrier Shield. Zero will provide product certification for this purpose.



*Aluminum panel insert is supplied 7/16" shorter than order size

Full illustrations not to scale



A reliable and adjustable SHIELDING SYSTEM for continuous-use doors

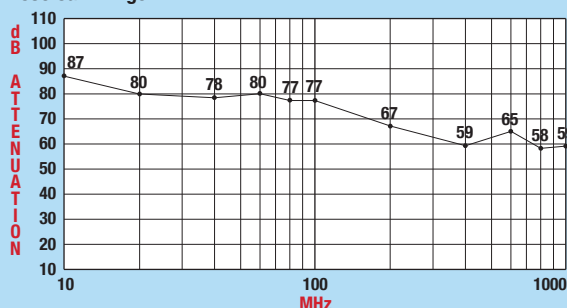
The **#1011 EMI/RFI Door Sealing System** consists of multiple head, jamb and saddle seals that block electromagnetic and radio frequency interference at door openings. The system has practical applications for laboratories, hospitals, brokerage houses, embassies, and rooms in companies using sensitive electronic equipment.

All aluminum parts have a chromate conversion coating finish (MIL-C5541 CLASS III) to ensure maximum electrical conductivity across the gasket-flange interface. This coating also keeps the metal from forming an insulating oxide film that might act to break the circuit. Solid carbon-filled silicone rubber gaskets complete the electrical circuit while forming a tight seal against the door and saddle. The system is adjustable to compensate for any door or frame misalignment. Installation consultation is available from ZERO.

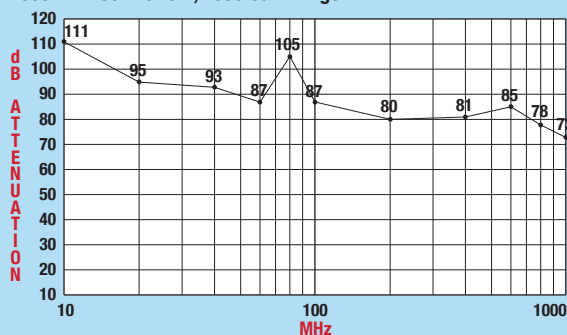
Tested in accordance with requirements of MIL-STD-285 (ATTENUATION MEASUREMENT FOR ENCLOSURES, ELECTROMAGNETIC SHIELDING) and NSA SPECIFICATIONS 73-2A performed for electric field attenuation over the frequency range 10 MHz to 1 GHz.

Certificate of compliance is available upon request.

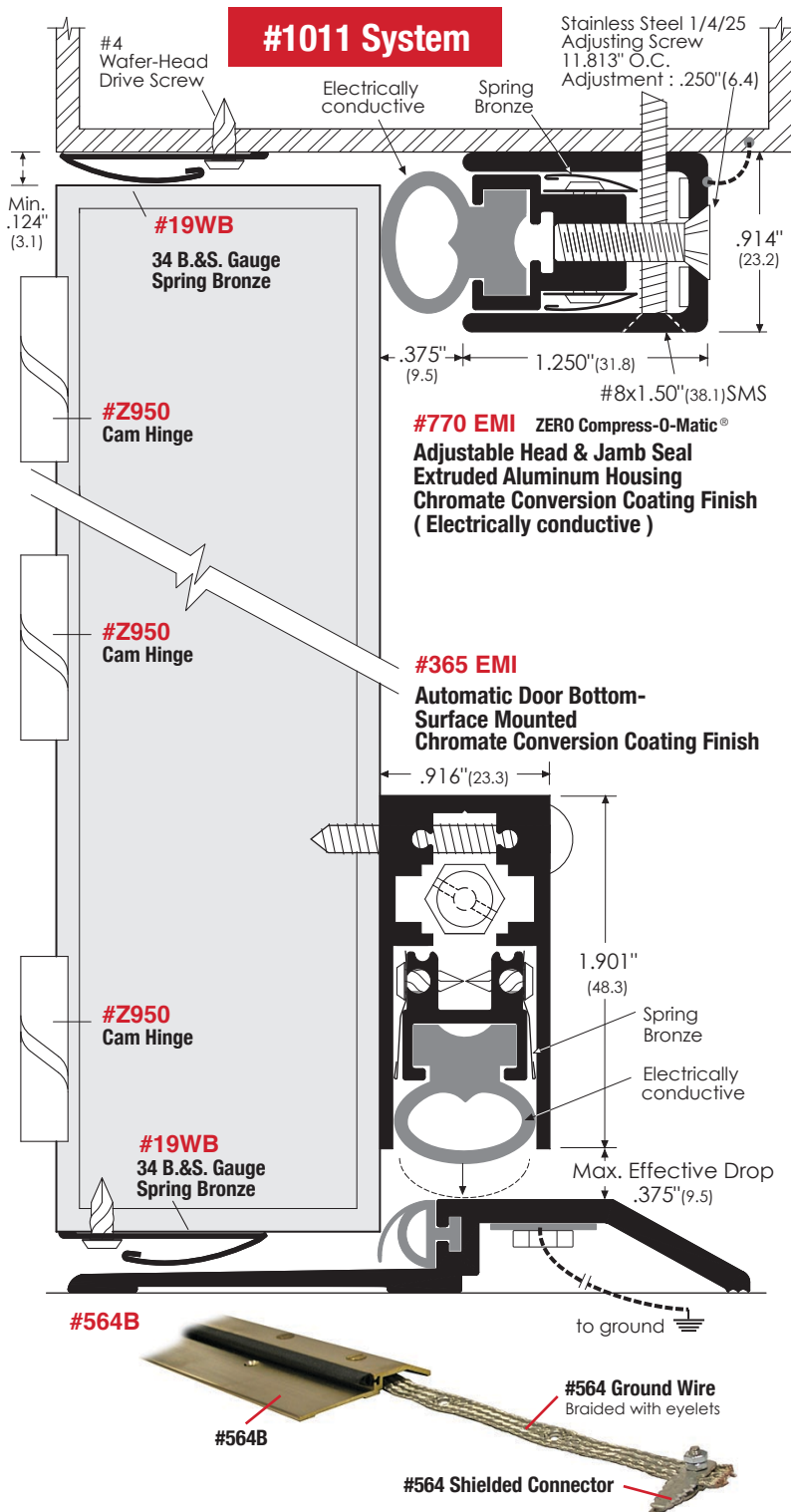
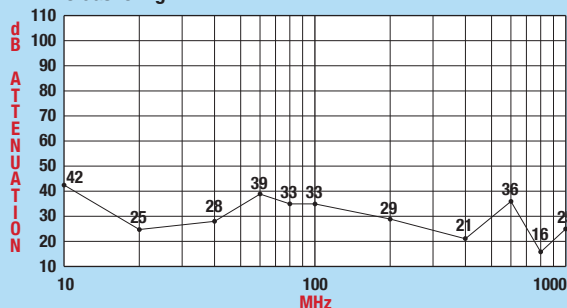
With #564B Threshold, #770EMI Head/Jamb, #365EMI Door Bottom, #950 Cam Hinge



With #564B Threshold, #770EMI Head/Jamb, #19W Head/Jamb/Sill, #365EMI Door Bottom, #950 Cam Hinge



With No Gasketing



EMI Gasketing: Silicone Rubber, Solid Carbon-Filled

Property	Test Method	Silicone Rubber
Volume-Resistivity, (ohm-cm)	ASTM D991	5.0
Durometer, Shore A	ASTM D2240	60
Tensile, Strength, (psi, min.)	ASTM D412	800
Elongation, (%)	ASTM D412	300
Tear Strength, (ppi)	ASTM D624	70
Compression Set, 70h @212, (%)	ASTMD395D	22
Shielding Effectiveness, 20 MHz-10GHz, E-field, (dB, min.)	MIL-G-83528	40

Radioactive Dust Protection System



Note: AA = Clear Anodized FS = Intumescent
STST = Stainless Steel X = Lead Lined
TFS = Treated Fumed Silica Rubber

Although radiation is part of our natural environment, exposure to excessive levels has major health impacts and can cause death. Radioactive dust, a byproduct of radioactivity, can be particularly harmful to humans. This dust is a carcinogen which when ingested can remain in the body for days, putting the colon and other organs at extreme long-term risk. The health risks of any level of radiation exposure are well documented by national and international scientific and nuclear regulatory bodies, including those shown at right.

Residents nearby nuclear-fueled power plants, common place in our industrial society, are particularly vulnerable to potentially catastrophic radioactive leaks. Nuclear medicine manufacturers, as well as nuclear-powered ships and submarines, are other potential sources of such leaks.

Zero manufactures a highly specialized gasketing system that can be invaluable in protecting lives in close proximity to radiation contamination from any source. Our **#1012 Radioactive Dust Protection System** features an integrated sealing system that completely blocks penetration by radioactive dust. The System can be integrated into door solutions which also block penetration by gamma and neutron rays for complete radiation protection. Specialized installation is required.

Nuclear Industry Oversight

- International Commission on Radiological Protection (ICRP)
- International Commission on Radiation Units and Measurements (ICRU)
- United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR)
- US National Council on Radiation Protection and Measurements (NCRP)
- US National Academy of Sciences (NAS through the BEIR studies)
- European Committee on Radiation Risk (ECRR)



#1012 System

- Radioactive Dust
Protected by Zero #1012 RDP

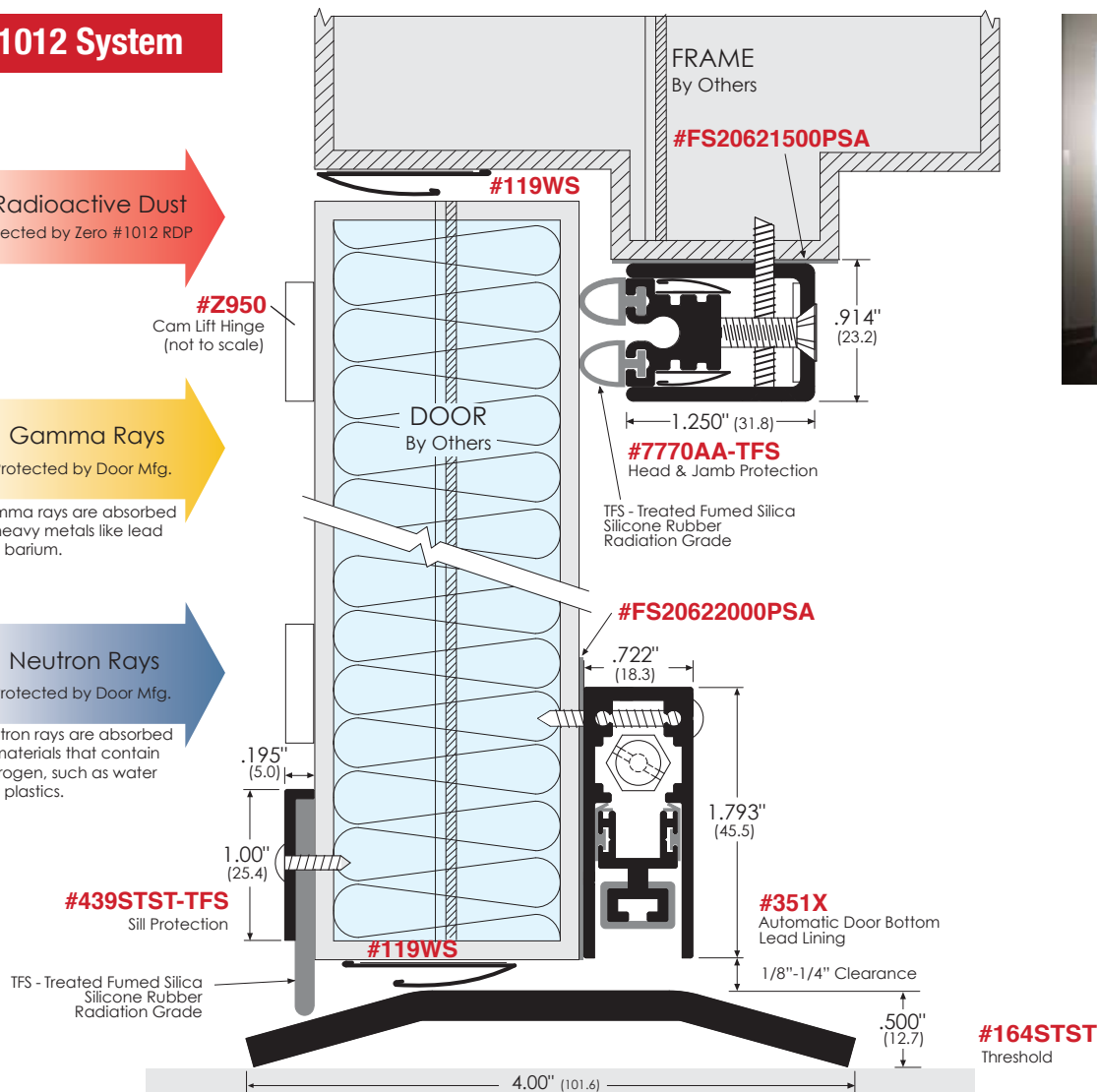
#Z950
Cam Lift Hinge
(not to scale)

- Gamma Rays
Protected by Door Mfg.

Gamma rays are absorbed by heavy metals like lead and barium.

- Neutron Rays
Protected by Door Mfg.

Neutron rays are absorbed by materials that contain hydrogen, such as water and plastics.



Stainless steel material is used because it is effective for cleaning and decontamination.

Illustrations not to scale

Radiation Control



ZERO's ADA Access Systems help solve the challenge of meeting the American Disability Act Requirements for access into public buildings. The components work together to minimize required door-opening and closing force and threshold height, and fully satisfy the ANSI, ADA standards.

AMERICAN NATIONAL STANDARD INSTITUTE (ANSI), AMERICAN WITH DISABILITIES ACT (ADA), ICC/ANSI A117.1-1998

Requirements are as follows:

- 1** Fire doors shall have the minimum opening force allowable by the appropriate administrative authority. Other doors:
 - (a) Interior hinged doors : 5 lbf (22.2N)
 - (b) Sliding or folding doors : 5 lbf (22.2N)
 These forces do not apply to the force required to retract latch bolts or disengage other devices that may hold the door in a closed position.

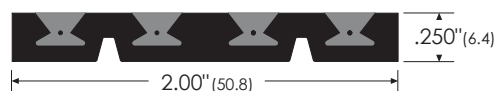
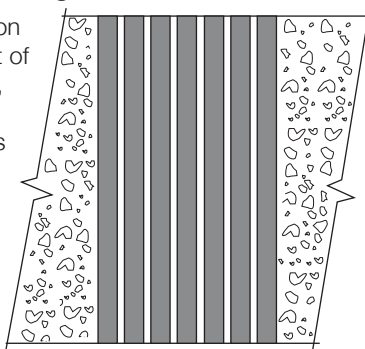
- 2** Thresholds at doorways shall be 1/2" (13 mm) high maximum for other types of doors. Changes in level of 1/4" (6mm) high maximum shall be permitted to be vertical. Changes in level between 1/4" (6mm) high minimum and 1/2" (13mm) high maximum shall be beveled with a slope not steeper than 1:2.

DETECTABLE WARNINGS (ANSI A 117.1 1-1986, ADA)

To help comply with detectable warnings requirements under ANSI A117.1-1986. ZERO can supply raised and textured, hard rubber strips that can be applied to walking surfaces. #3672A OR #3672A-E strips can be secured onto appropriate surfaces or embedded into concrete surfaces to the required width.

Detectable Warnings on Walking Surfaces

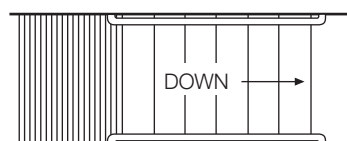
Detectable warning textures on walking surfaces shall consist of exposed aggregate concrete, cushioned surfaces made of rubber or plastic, raised strips or grooves. Textures shall contrast with that of surrounding surfaces.



#3672A (Interior) Available in widths up to 6"
#3672A-E (Exterior)

Detectable Warnings at Stairs

All stairs, except those in dwelling units, in enclosed stair towers, or set to the side of the path of travel, shall have a detectable warning at the top of stair runs.



"LIGHT SPRING" "LS" Automatic Door Bottoms For ADA Approved Doors

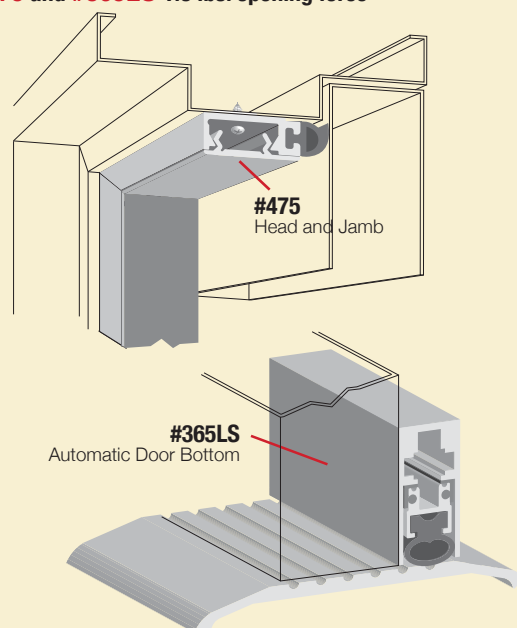
350LS, 351LS, 364LS, 365LS, 366LS

"LS" models require lower operating force. "LS" models are suitable for both sliding doors and swinging doors. Outside dimensions are unchanged from standard products.

TEST DOOR: 36" X 84" X 1 3/4"	opening force (lbs.)	closing force (lbs.)
TEST RESULTS:		
TEST 1 #475 Head and Jamb	1.75	7.90
TEST 2 #475 Head and Jamb #365LS Automatic Door Bottom	1.90	9.05
TEST 3 #475 Head & Jamb #365LS Auto. Door Bottom & Door Closer	9	9.35
TEST 4 Closing force with no seals	-	6.75

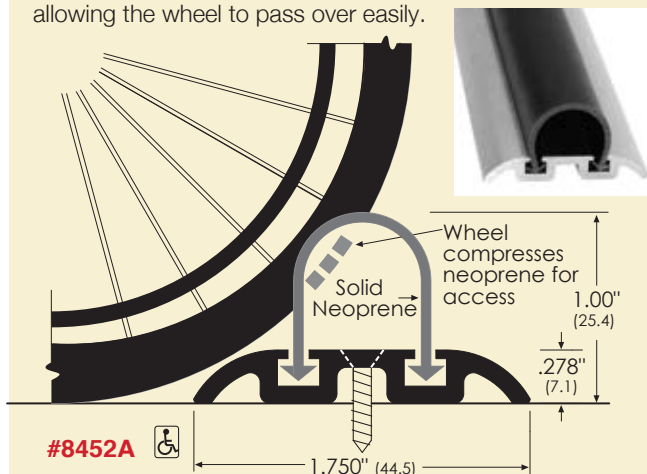
System #ADA 1000

#475 and #365LS 1.9 lbs. opening force



Wheelchair Accessible Shower Threshold

Designed for use when a shower must be accessible to a wheelchair. The neoprene gasket will keep water in while allowing the wheel to pass over easily.



DOORLITE SYSTEMS: Let the Light In SLIMPORT CIRCULAR METAL VISION FRAMES

Slimport is a circular vision frame for installation in doors, walls and partitions. Manufactured in the U.K. by Zero Seal Systems, it features a unique, flush-fitting design with countersunk holes and mounting screws around the bevel on one side only for a clean appearance.

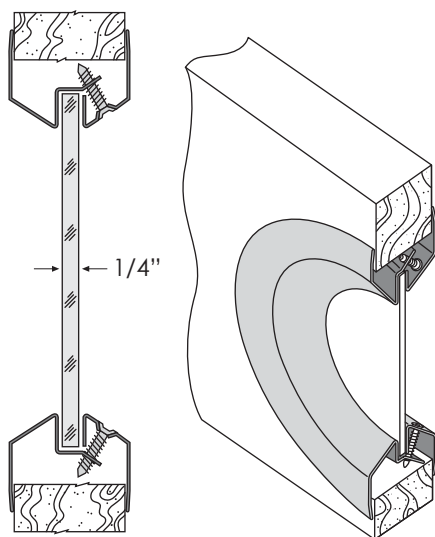
For use with 1 3/4" (44mm) door and 1/4" (6.4mm) glass. Glass is not included. Frames are available in four finishes and to fit four different door cut-outs.

Number	Cut-Out Diameter	Glass Diameter	Frame Diameter
SP250	9.84"(250mm)	8.78"(223mm)	11.22"(285mm)
SP350	13.77"(350mm)	12.72"(323mm)	15.15"(385mm)
SP450	17.71"(450mm)	16.65"(423mm)	19.09"(485mm)
SP550	21.65"(550mm)	20.59"(523mm)	23.03"(585mm)

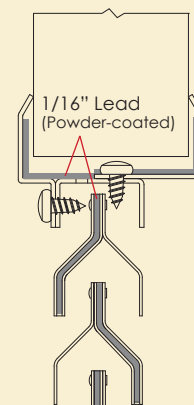
Material & Finish

(add suffix to number code)

- **GV: 18GA** cold rolled steel, zinc-plated finish (for color coating)
- **CP: 18GA** cold rolled steel, chrome pearlite silver-plated (to match Satin Anodized Aluminum)
- **SS: Grade 304** stainless steel, satin finish
- **PC: 18 GA** cold rolled steel, polished chrome-plated



Lead-Lined X-Ray Protection



LEAD-LINED LOUVER

#200X

#200XG Galvanized

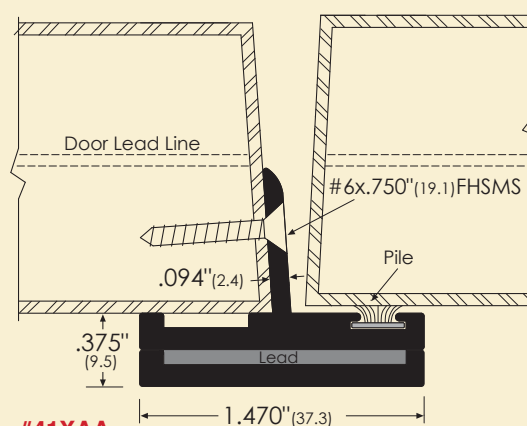
For use with 1 3/8" (44mm) & 1 3/4" (44.5mm) doors

Construction:

Cold Rolled Steel
Frame 20 gauge, Blades 20 gauge
0.62" thick lead, unexposed

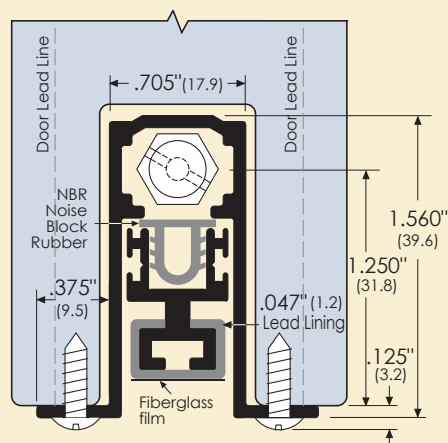
Finish:

Grey Powder-Coated Primer.
Other colors available upon request.



#41XAA

LEAD-LINED MEETING STILE



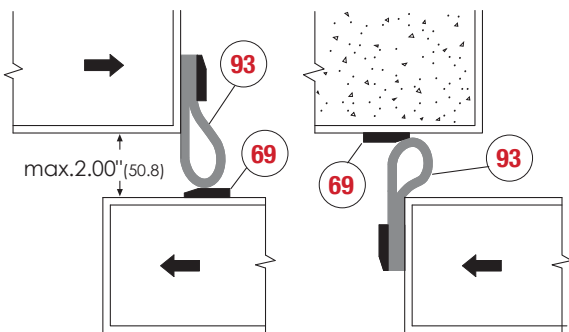
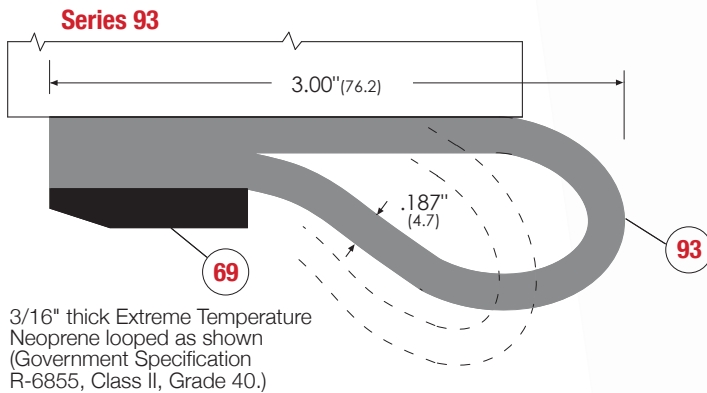
#350XA

LEAD-LINED AUTOMATIC DOOR BOTTOM

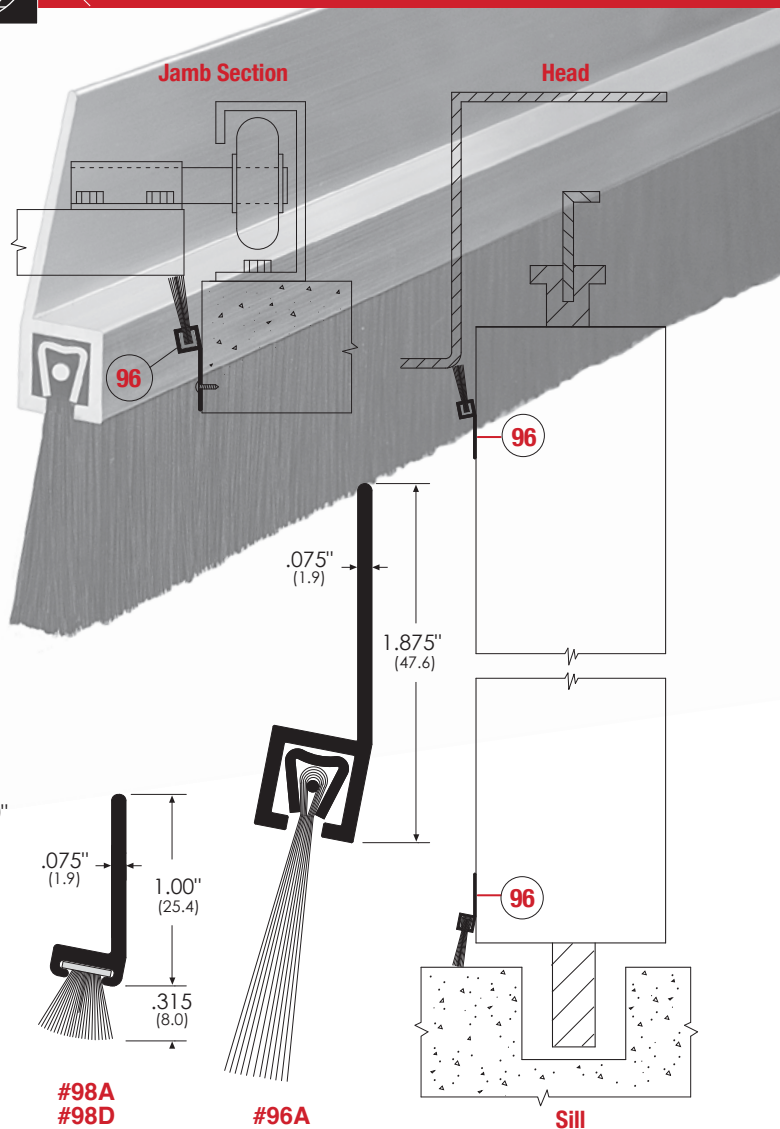
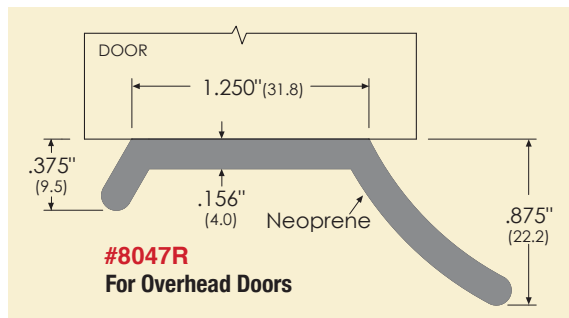
Heavy-Duty Overhead Doors and Sliding Hangar Doors



Note: A = Aluminum R = Rubber
D = Dark Bronze Anodized

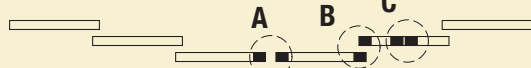


Intermediate Stiles



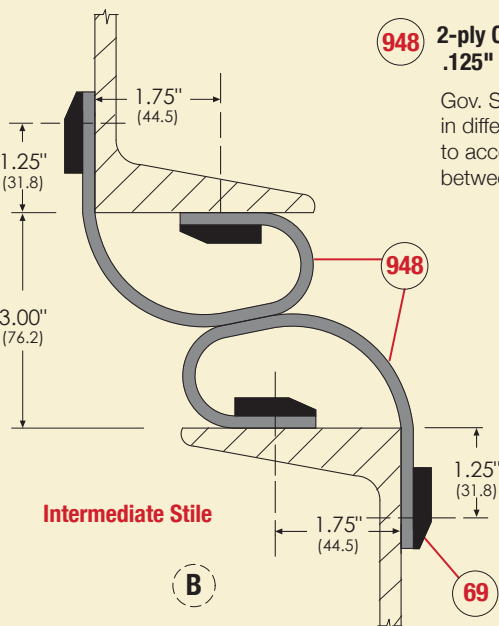
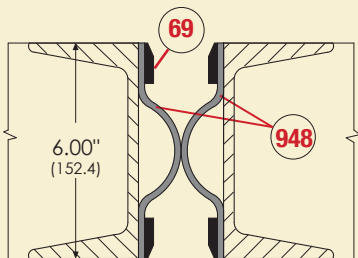
SLIDING HANGAR DOORS

Series 94



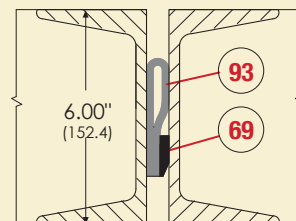
Hangar Doors Schematic Arrangement

Illustrations not to scale

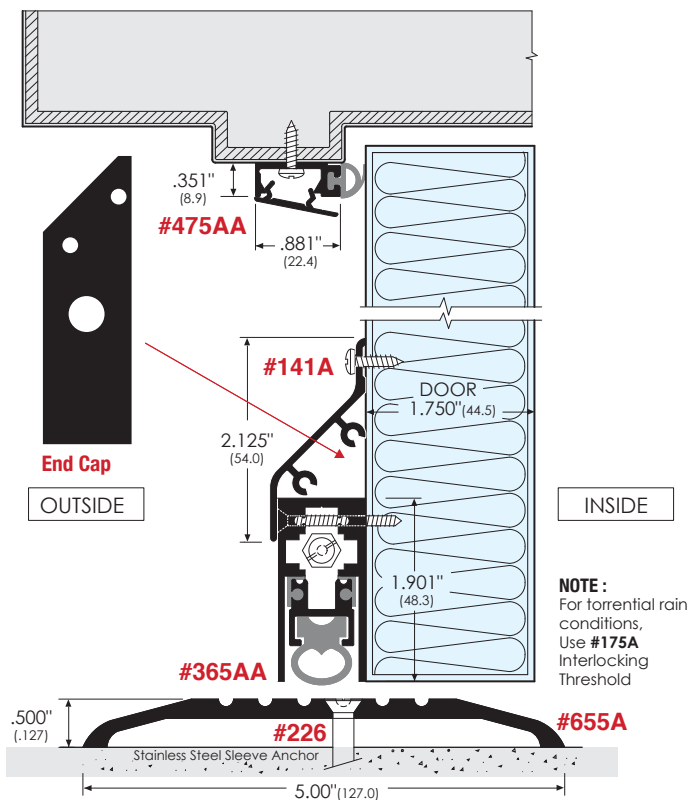


948 2-ply Cloth-Lined Rubber .125" x 8.00"

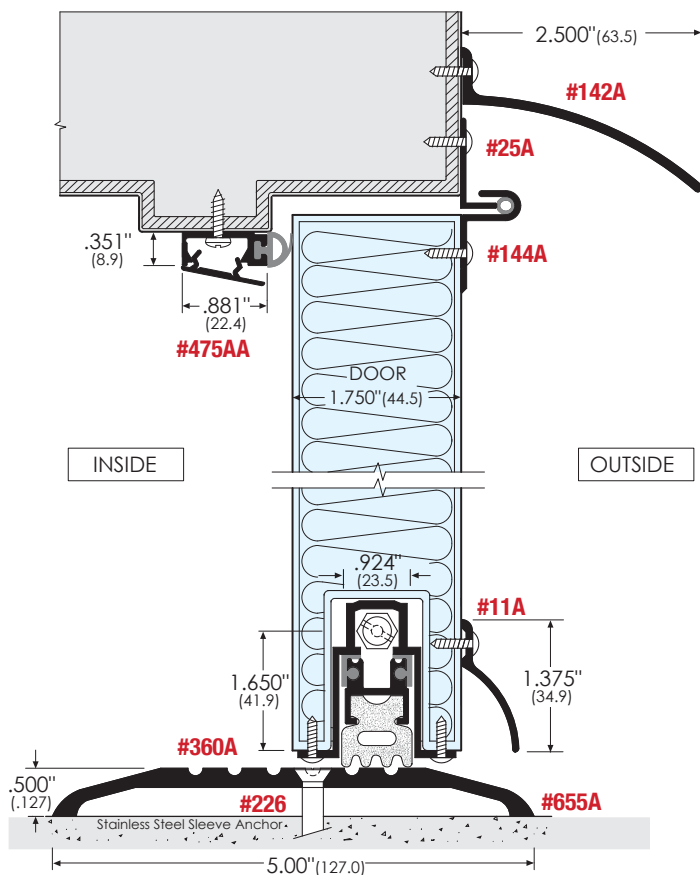
Gov. Spec. HHP 151E Class II. Available in different widths, thicknesses and plies to accommodate varying spaces between doors.



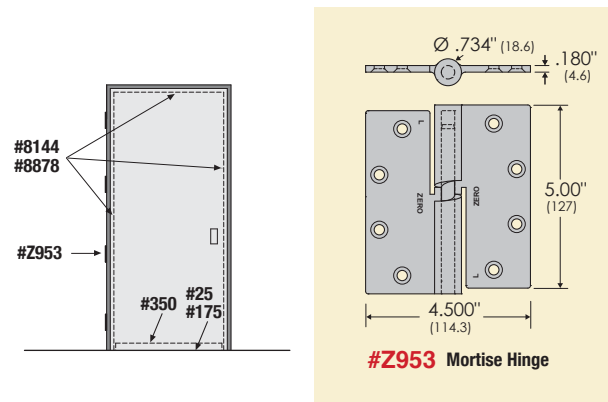
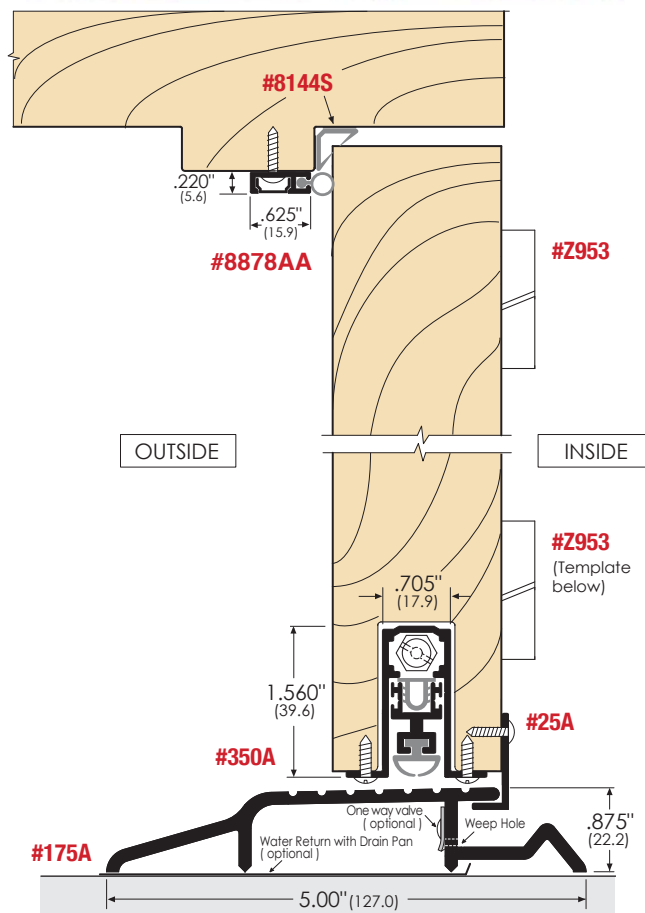
Typical Gasketing for Exterior Inswing Door

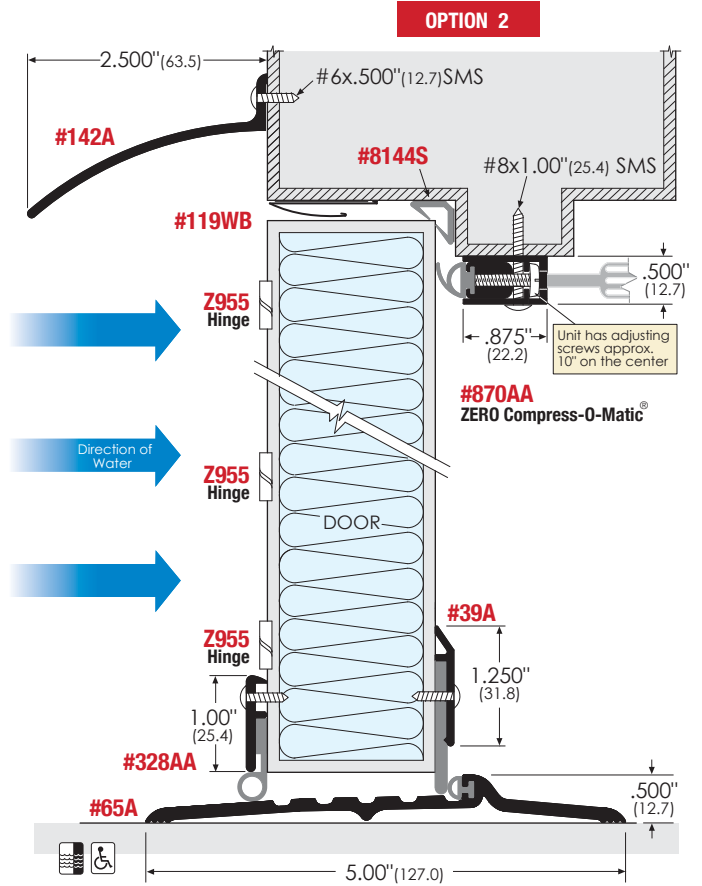
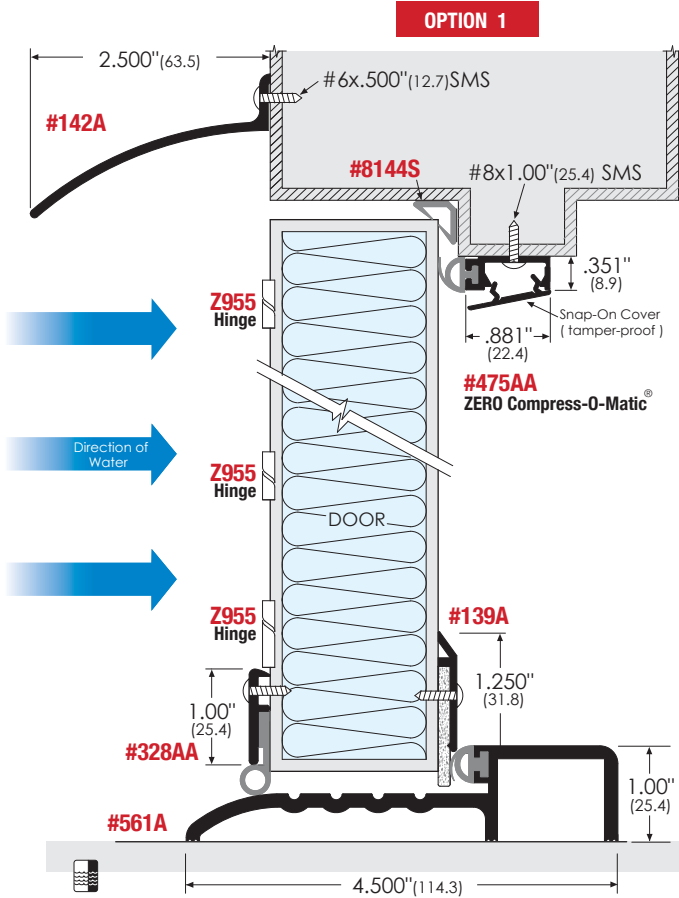


Typical Gasketing for Exterior Outswing Door

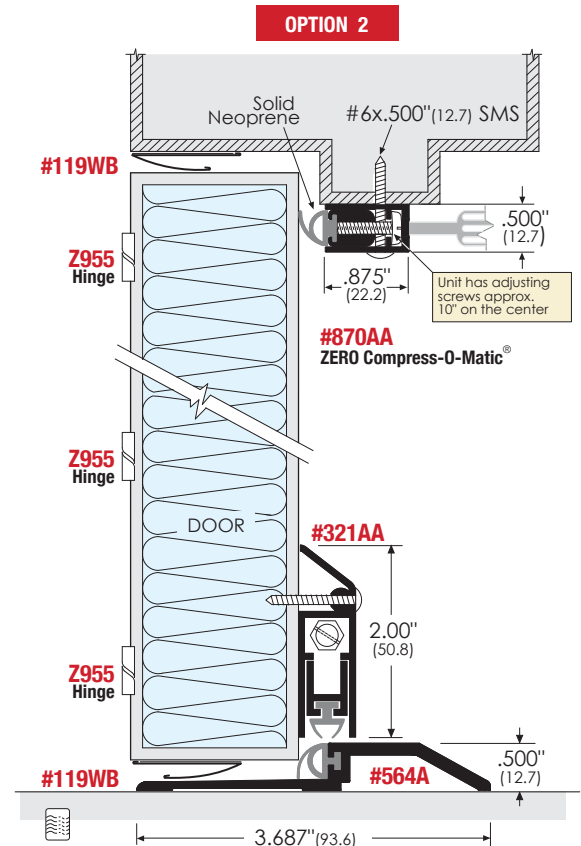
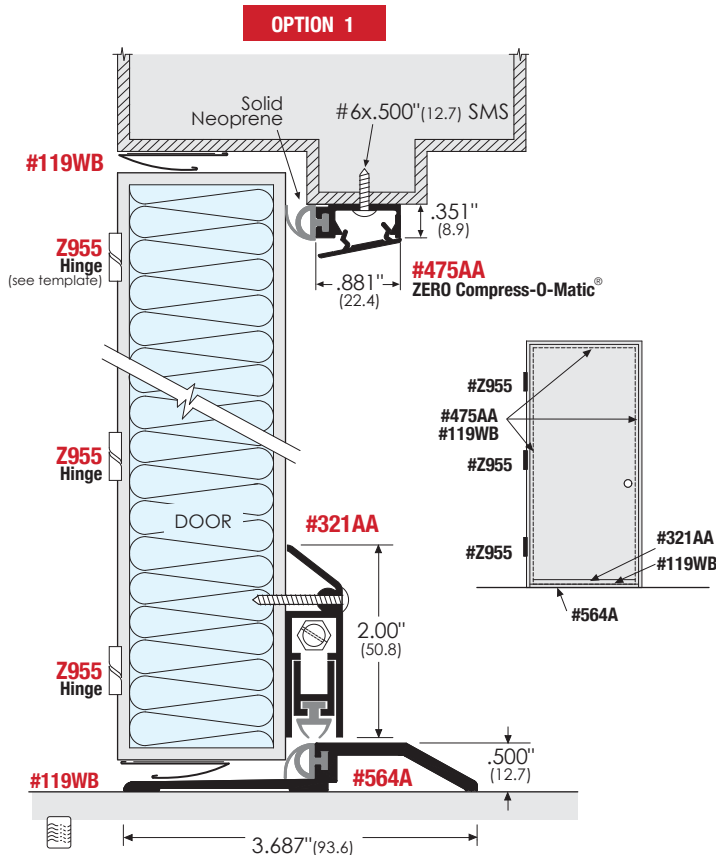


Typical Gasketing for Residential





"Safe Haven" Room Gasketing and Areas of Rescue Assistance ADAAG 4.3.11 AIR INFILTRATION - 100 MPH (165KM/H) Wind Velocity - Air Leakage 0.50 CFM (2.8CMH)



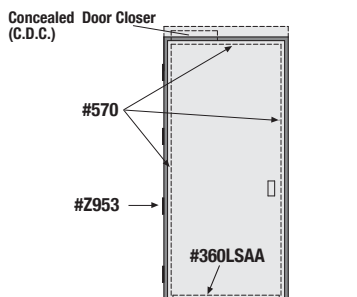
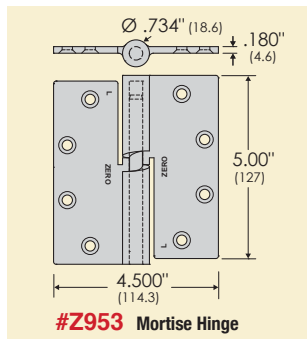
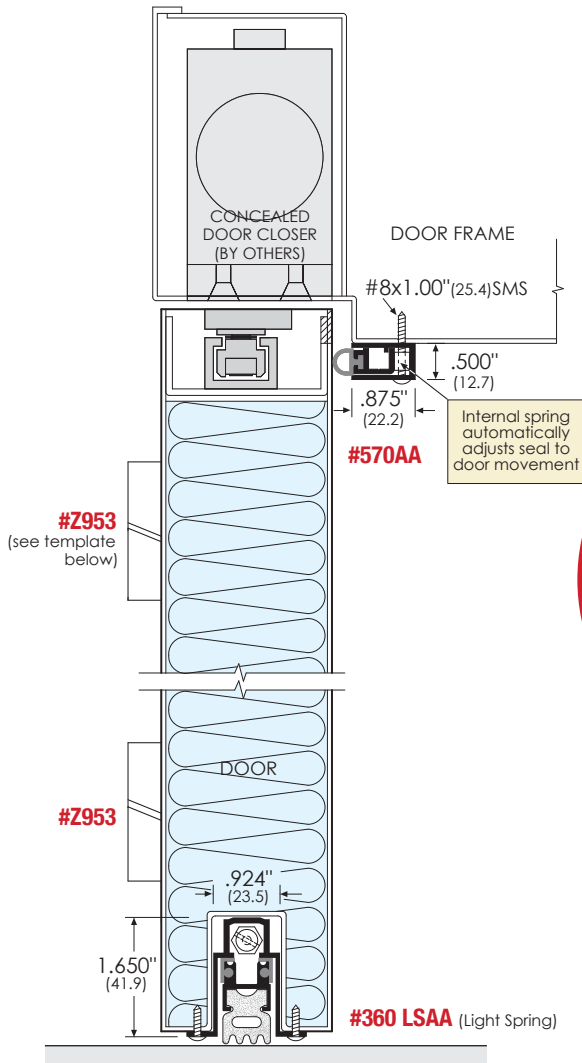
Non-Latching Door and Latching Pocket Doors



Note: A = Aluminum AA = Clear Anodized

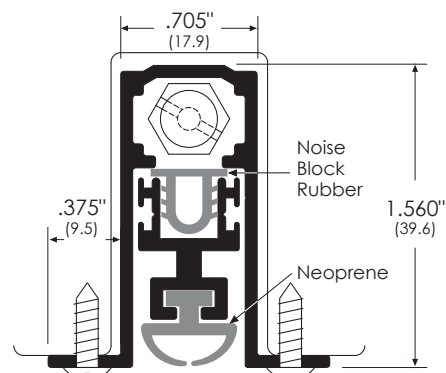
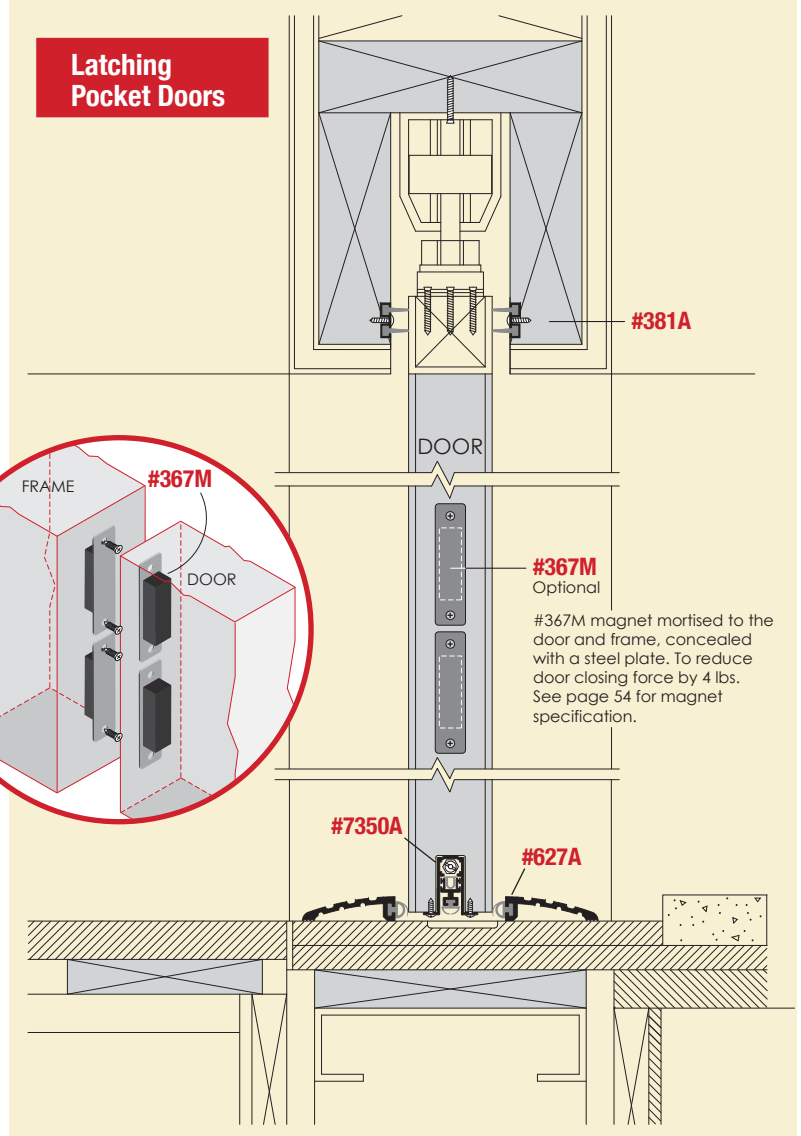
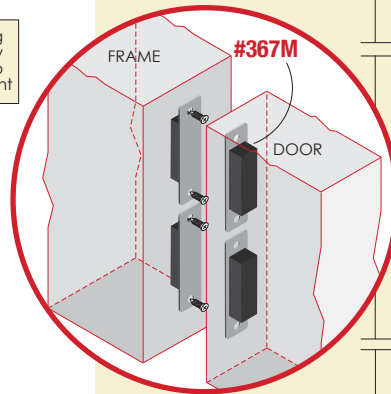
Applications

Gasketing for Non-Latching Doors



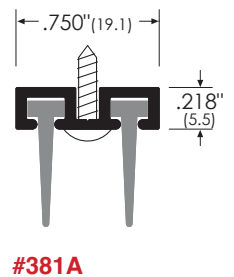
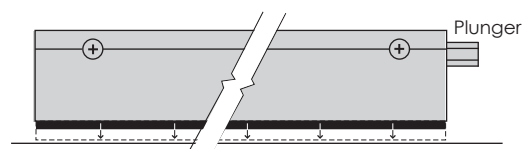
Full illustrations not to scale

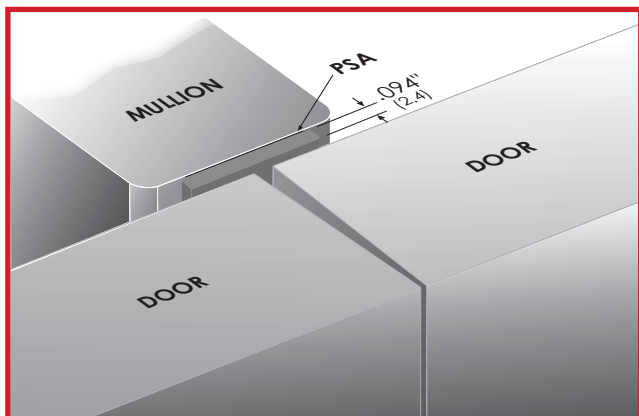
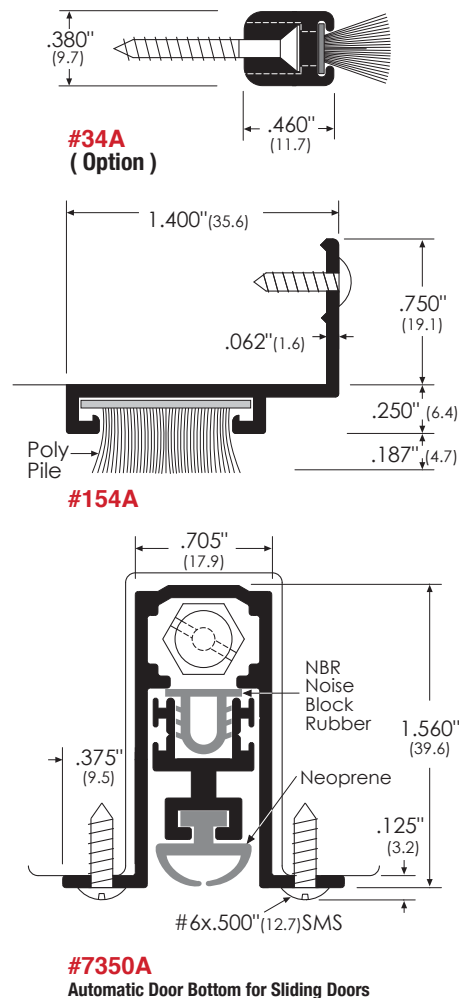
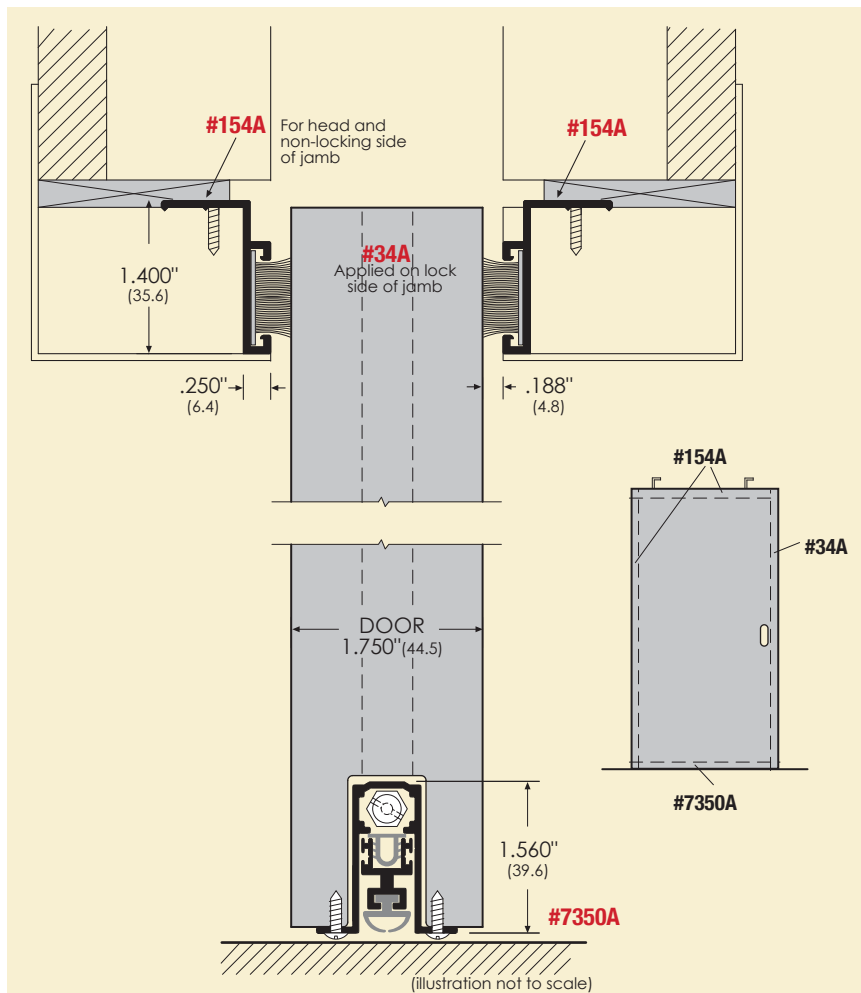
Latching Pocket Doors



#7350A Automatic Door Bottom for Sliding Doors

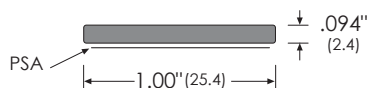
This automatic door bottom functions differently from other ZERO door bottoms. When the plunger is compressed, the mechanism causes the insert seal to activate and drop evenly along the door bottom.



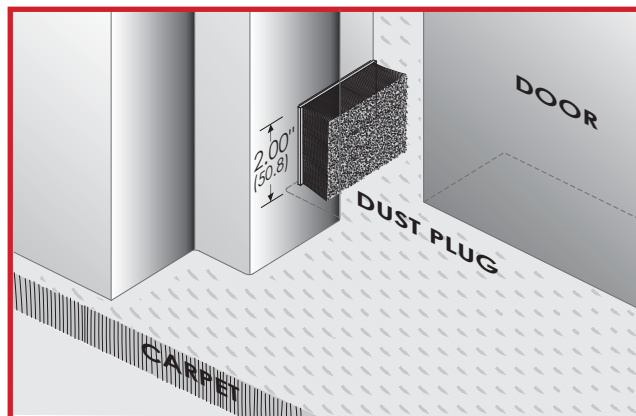


SEAL FOR MULLION APPLICATION

The new #8780 is a closed cell sponge neoprene strip 1" (25.4) wide x 3/32" (2.4) thick with self-adhesive tape for mounting directly to the face of the mullion at point of contact with closed doors.

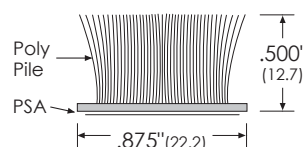


#8780N



SELF-ADHESIVE DUST PLUG

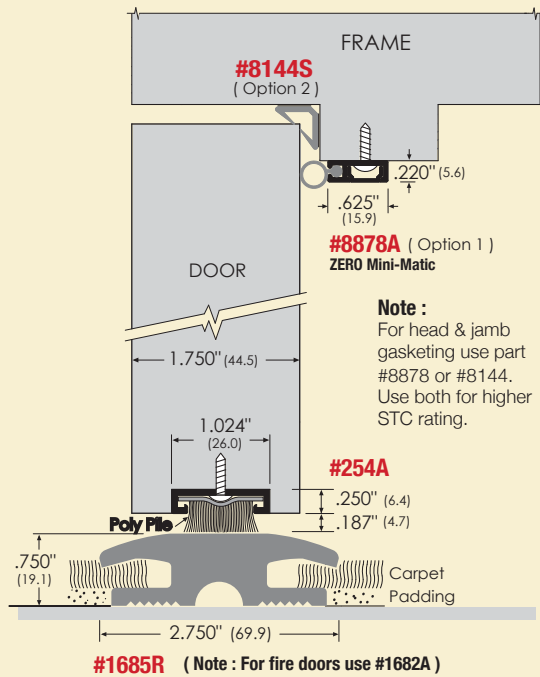
Polypropylene pile with pressure-sensitive adhesive backing. Eliminates any gaps created during installation. .875" wide x 2.00" high.



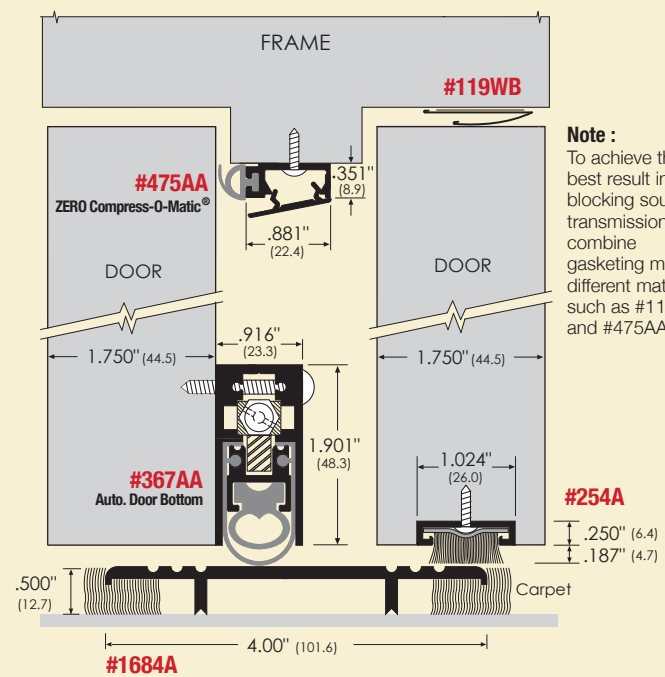
#2541



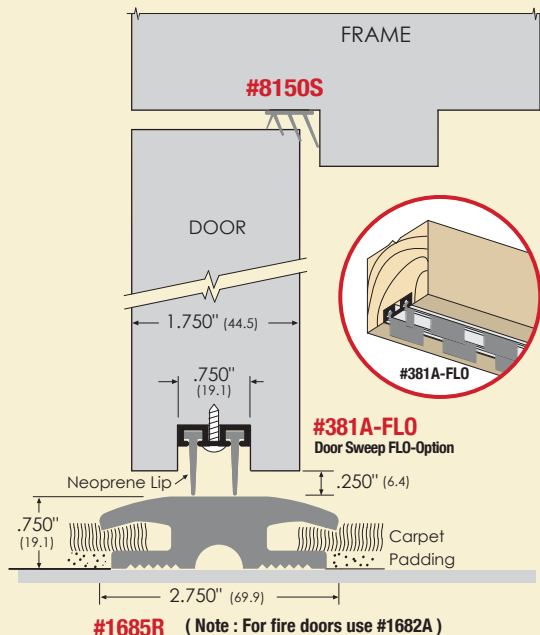
Interior Entry Doors - Option 1



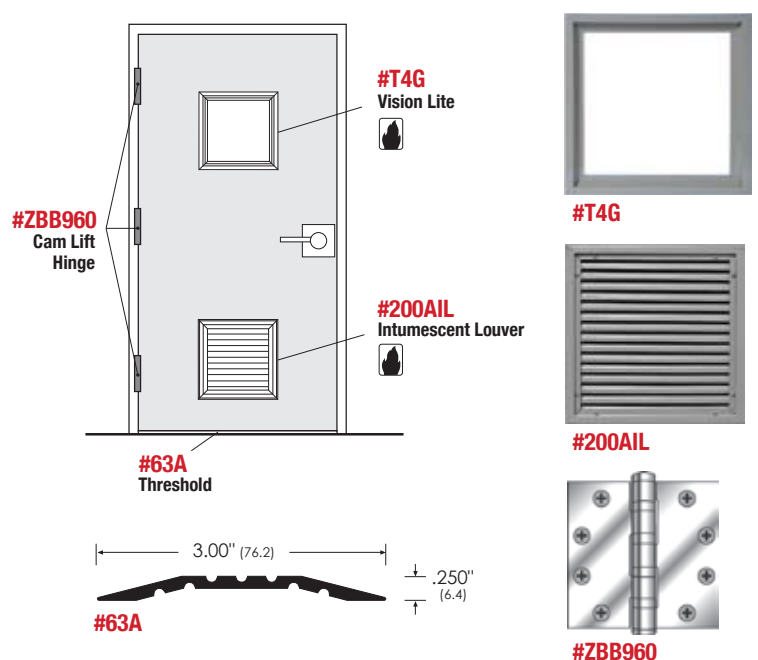
Communicating Doors



Interior Entry Doors - Option 2



Equipment Room Doors





Legend / Product Symbols:



Fire



International Positive-Pressure Standard



Smoke and Draft Control Gasketing



Air Seal



Sound Seal



Light Seal



Handicap Accessibility



Slip Resistant



Door Opening Force



Water Infiltration



LISTED Underwriters Laboratories



Intertek Warnock Hersey

Regulatory Standards

Fire



UL10B Standard for Fire Tests of Door Assemblies

UL10C Standard for Positive Pressure Fire Test of Doors

UBC 43-2 Fire Test of Door Assemblies

UBC 7-2-97 PART I Fire Test Standard for Swinging Fire Doors



ASTM E152 Method of Fire Test of Door Assemblies

ASTM E2074 Standard Test Method for Fire Tests of Door Assemblies, including Positive Pressure Testing of Side Hinged and Pivoted Swinging Door Assemblies

IBC 2009 International Building Code

NFPA 80 Standard for Fire Doors and Fire Windows

NFPA 101 Life Safety Code

NFPA 105 Recommended Practice for the Installation of Smoke and Draft Control Door Assemblies

NFPA 252 Standard Method of Fire Tests of Door Assemblies

SDI 118 Basic Fire Door Requirements

BS476 Part 22 1987 Methods for Determination of the Fire Resistance of Non Load-Bearing Elements of Construction (British)

JIS-A1311-3 Method of Fire Protecting Test of Fire Doors for Buildings (Japan)

The Ministry of Construction Notice No.1125 of 1990 Fireproof Performance Test (Japan)

Building and Regulatory Test AS 1530.4 Fire Resistance Test (Australia / New Zealand)

Smoke



UL1784 Standard for Air Leakage Tests of Door Assemblies

IBC 2009 International Building Code

UBC 7-2-97 PART II Method of Smoke and Draft Control Tests of Door Assemblies

BS476 Part 31 Section 31.1 1983 Methods for Measuring Smoke Penetration Through Doorsets and Shutter Assemblies (British)

Air Leakage



ASTM E 283 Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen

ANSI/UL 1784-1997 Air Leakage Tests of Door Assemblies

ANSI/ASHRAE/IESNA Standard 90 Energy Conservation in New Building Design *Section 4*

IBC 2009 International Building Code

ADA Access



ADAAG-1998

ICC/ANSI A117.1-1998 Standard for Accessible and Usable Buildings and Facilities

IBC 2009 International Building Code

Acoustic



ASTM E90 Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements

ASTM E336 Standard Test for Measurement of Airborne Sound Insulation in Buildings

ASTM E413 Standard Classification for Rating Sound Insulation

ASTM E1332 Standard Classification for Determination of Outdoor-Indoor Transmission Class

ASTM E1408 Standard Method for Laboratory Measurement of Sound Transmission Loss of Door Panels and Door Systems

SDI 128 Guidelines for Acoustical Performance of Standard Steel Doors & Frames

IBC 2009 International Building Code

All acoustical tests of Zero products are conducted by laboratories accredited by the National Institute of Standards and Technology (NIST) under the National Voluntary Laboratory Accreditation Program (NVLAP)

Slip Resistant



ASTM F-609 Standard for Safety for Slip Resistance of Floor Surface

MIL-D 23003 A Deck Covering Compound, Non-Slip, Rollable

UL 410 Standard for Safety for Slip Resistance of Floor Surface

Water Infiltration



ASTM E-547 Water Penetration Resistance of Exterior Doors by Cyclic Static Air Pressure Differential

ASTM E 331 Water Penetration of Exterior Windows, Curtain Walls and Doors by Uniform Static Air Pressure Difference

Door Opening Force

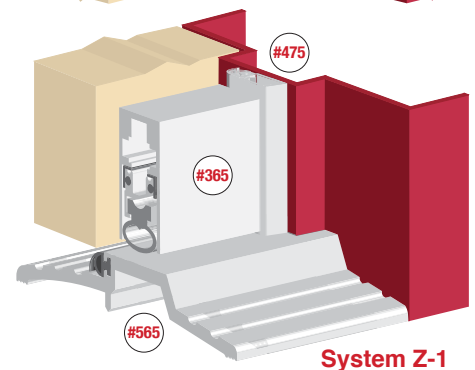
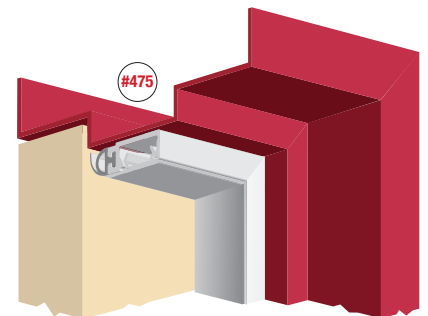
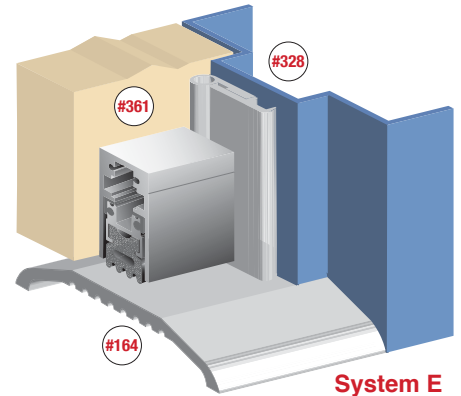
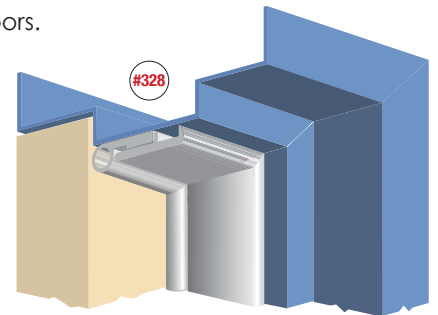


ANSI A117.1-1986 Door Opening Force Test Standard

AIR INFILTRATION for smoke doors, outside doors, air lock doors, air tight doors.

Air flow pressure applied to a door as listed per testing standards:

.10 inches of water	=	24.90Pa	=	15 Miles/Hr
.30 inches of water	=	76.00Pa	=	25 Miles/Hr
.60 inches of water	=	150Pa	=	35 Miles/Hr
1.23 inches of water	=	306Pa	=	50 Miles/Hr
2.76 inches of water	=	688Pa	=	75 Miles/Hr
4.92 inches of water	=	1223Pa	=	100 Miles/Hr



System Z-1

Pressure Rate	Standard	Leakage Rate
.10 inches of water	NFPA 105, UL 1784 IBC 715.4.3.1 STD	3.0 CFM= 16.95 CMH/LM

Pressure Rate	Product Tested		Leakage Rate
	System#	Part#	
.30 inches of water	K	No gasketing	11.36 CFM= 64.18 CMH/LM
.30 inches of water	Z-1	475+565+365	.02 CFM= .11 CMH/LM
.30 inches of water	D	328+164+154	.07 CFM= .39 CMH/LM
.30 inches of water	A	328+565+361	.03 CFM= .17 CMH/LM
.30 inches of water	B	770+565+361	.04 CFM= .22 CMH/LM
.30 inches of water	Z-2	370+565+365	.07 CFM= .39 CMH/LM
.30 inches of water	Z-5	475+655+365	.05 CFM= .28 CMH/LM
.30 inches of water	E	328+164+361	.17 CFM= .96 CMH/LM
.30 inches of water	F	318+564+351	.25 CFM= 1.41 CMH/LM
.30 inches of water	SM-11	8144+8770+355	.27 CFM= 1.52 CMH/LM
.30 inches of water	G	312+565+351	.35 CFM= 1.97 CMH/LM
.60 inches of water	SM-12	475+565+365	.04 CFM= .22 CMH/LM
.60 inches of water	SM-14	328+565+361	.06 CFM= .33 CMH/LM
.60 inches of water	SM-15	475+655+365	.07 CFM= .39 CMH/LM
.60 inches of water	SM-16	770+565+361	.07 CFM= .39 CMH/LM
.60 inches of water	SM-17	370+565+365	.08 CFM= .45 CMH/LM
.60 inches of water	SM-18	328+164+361	.25 CFM= 1.41 CMH/LM
1.23 inches of water	SM-19	328+565+361	.09 CFM= .51 CMH/LM
1.23 inches of water	SM-20	770+565+361	.11 CFM= .62 CMH/LM
1.23 inches of water	Z-2	370+565+365	.16 CFM= .90 CMH/LM
1.23 inches of water	SM-21	328+164+361	.38 CFM= 2.15 CMH/LM
1.23 inches of water	SM-22	8144+8770+355	.64 CFM= 3.62 CMH/LM
2.76 inches of water	SM-23	8144+8770+355	1.39 CFM= 7.85 CMH/LM
4.92 inches of water	SM-24	475+564+119WB	.50 CFM= 2.82 CMH/LM

CMH / LMC = Cubic Meter per Hour / Linear Meter of Crack

Smoke and draft control.

Fire door assemblies shall also meet the NFPA 105 requirements for a smoke and draft control door assembly tested in accordance with UL 1784. The air leakage rate of the door assembly shall not exceed 3.0 cubic feet per minute per square foot [0.01524 m³/(sq m²)] of door opening at 0.10 inch (24.9 Pa) of water for both the ambient temperature and elevated temperature tests. Installation of smoke doors shall be in accordance with NFPA 105.

Conclusions and Observations

- 1 To comply with NFPA 105 and/or any of the standards that refer to air/smoke infiltration rates, door seals must be specified and installed. In general a door will not pass the smoke test without gasketing.
- 2 The higher the air pressure differential, the better the quality of the gasketing is needed.
- 3 Adjustable gasketing facilitates installation and allows adjustment when needed for consistent performance over time.
- 4 Hospitals are designed with the idea of keeping patients in their rooms in case of fire. In a room that measures 10 X 10 X 9 feet with a 3 X 7 foot door, the room will be 100% filled with smoke from smoke-filled corridors in 15 minutes if the door only complies with the UL 1784/ NFPA 105 maximum leakage standard 3.0 CFM. If the leakage rate is reduced to .02 CFM using smoke control systems, it will take 37 hours for smoke to fill that same room.
- 5 Although fast, efficient evacuation is the goal in school fires, prudent design should provide adequate smoke protection exceeding 15 minutes for students who might remain trapped in fully engaged fire zones.

ZERO has designed and tested its systems against air, light, smoke, fire and sound to demonstrate the effectiveness of these products and materials. By specifying a complete "Control System," you are assured that the components installed for head, jamb and sill will perform properly together. All tests were performed in accordance with nationally accepted standards by independent laboratories.



Sound - Single Doors

SYSTEM NO.	DOOR RATING	TYPE OF DOOR	HEAD & JAMB	DOOR BOTTOM	THRESHOLD	STC
STC1	55	METAL	3708 + 119WB	367	564B	53
STC2	55	METAL	770 + 119WB	367	564B	52
STC3	55	METAL	770 + 119WB	367	564B	51
STC4	55	METAL	170 + 119WB	367	564B	51
STC5	55	METAL	485 + 119WB	361	565B	49
1T	52	METAL	770	367	564A	47
9R	46	METAL	375	367	164	45
2T	52	METAL	870	361	565	44
2U	52	METAL	485	361	565	44
1R	51	METAL	770	361	565	44
2J	51	METAL	770	362 / 352	None	44
4R	51	METAL	370	361	565	43
5S	52	METAL	328	361	565	42
5T	52	METAL	312	351	565	42
11R	46	METAL	375	361 + 119WB	164	42
GP397	42	WOOD	475 + 119WB	369	None	41
7R	51	METAL	328	351	663	40
GP394	40	METAL	8145S + 119WB	369	None	40
10R	46	METAL	375	361	164	39
KD421	39	METAL	118FS	369	None	38
7J	51	METAL	475	362	None	37
12R	38	WOOD	188S	None	564A	37
SU299	38	WOOD	188S	None	564A	37
13R	38	WOOD	188S	254 + 839	544A	36
14R	38	WOOD	475	364 / 365	544A	36
15R	36	WOOD	188S + 119WB	None	564A	35
TR298	35	WOOD	188S	253	1685R	35
LG302	36	WOOD	188S	369	None	35
	52	None	None	None	None	21

Applications

All types of openings with a sound-reduction requirement, including:

- high-performance sound blocking, such as recording and broadcast studios, theaters and concert halls, commercial and industrial factories.
- privacy and security needs, such as doctors' offices, corporate offices, school counseling offices, embassies and military.

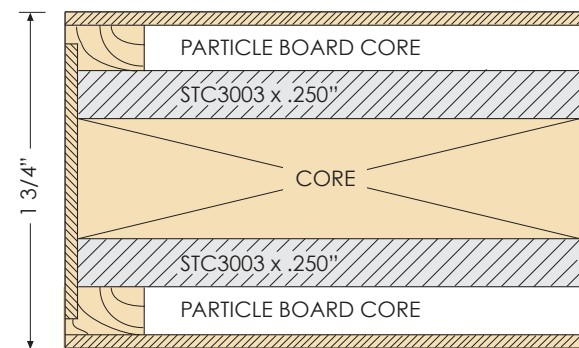


Sound - Double Doors

SYSTEM NO.	HEAD & JAMB	DOOR BOTTOM	MEETING STILES	STC
RM1	770	367/364	383/139/118B	47
JD6S	770	362	40	41
JD7S	475	362	40/40	41
JD8S	475	362	156/56	36
AT4	188/119WB	564	383	36+ *
AT5	485/119WB	564	383	35+ *
AT7	485/119WB	839/544	383	35+ *

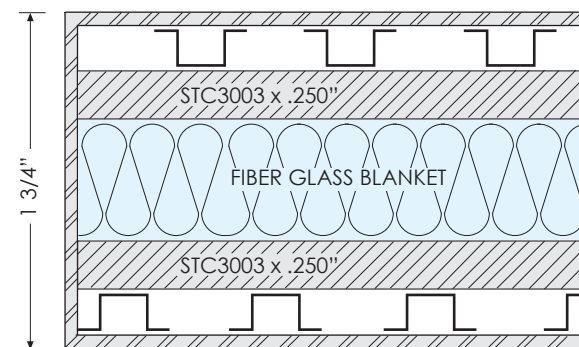
* TESTED WITH 37 STC DOOR (119WB FOR HINGE SIDE ONLY)

Acoustical Ratings Achieved with STC 3003 Sound Sheet



WOOD DOOR

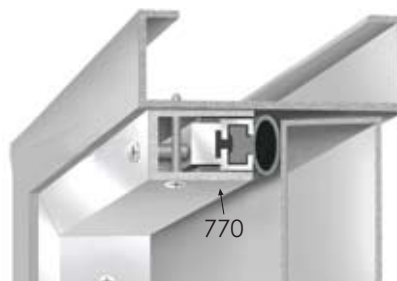
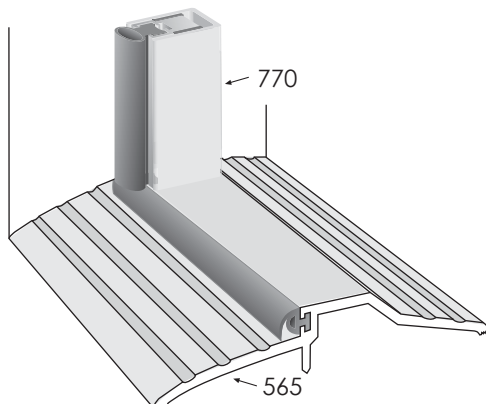
**37
STC**



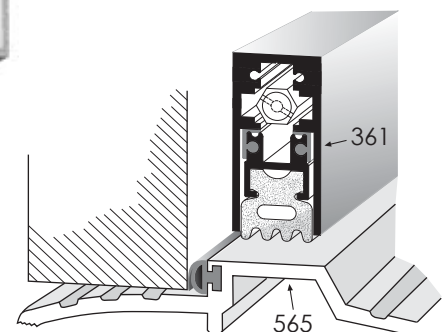
METAL DOOR

**48
STC**

Higher ratings can be achieved with different construction method.



System 1R





ALUMINUM

All aluminum shapes are extruded. The alloy is 6063, and the hardness is T5 or T6. Finishes are available in mill, anodized 204R1 clear, anodized 204R1 bronze, and anodized 2-step dark bronze. Meets AMMA 603 Specification. Not all finishes are available in all shapes. See part numbers.

BRONZE

Bronze extrusions are actually brass alloy 380, technically known as architectural bronze, containing 57.5% copper, 41% zinc, 1.3% lead, and 0.2% aluminum. Furnished in mill finish, a light golden color, which oxidizes in time to a rich darkened bronze. Rolled bronze for cushion and spring material is technically known as commercial bronze. The alloy is 85-90% copper and 10-15% zinc.

ZINC

Rolled zinc is alloy 191, and is highly resistant to weather and atmospheric corrosion. When exposed to the atmosphere, a zinc carbonate film is formed which provides long-term protection. Zinc is also ideal for EMI/RFI shielding.

NEOPRENE

DuPont's polychloroprene is a multi-purpose synthetic rubber with a balanced combination of properties. The properties of the finished neoprene product will depend on the exact type and amount of neoprene and other ingredients used during the compounding. The neoprene supplied by ZERO available in two types: closed-cell sponge and solid, both in an extruded form. All neoprene is black in color and, by virtue of its chlorine content, is flame-resistant and self-extinguishing. Specifications are as follows:

- CLOSED CELL-Sheet and Extruded
 - ASTM D-01056-78
 - Mil R 6130B Type II Grade A, B, or C
 - Mil R 6130B = Sponge
 - Type II = Closed Cell
 - Grade A = -30° to +150°F Oil-Resistant & Self-Extinguishing
 - Grade B = -30° to +150°F Non Oil-Resistant
 - Grade C = -67° to +170°F Low Temperature
- SOLID
 - Mil R 6855 Class II Grade 55 Soft, Oil-Resistant, -67°
 - Where neoprene is glued to housing, it is to facilitate installation.
 - Fasteners, not glue, hold neoprene permanently in place.

SILICONE

Silicone-rubber has many variations and can be compounded to meet any number of applications with tensile strength up to 1500 PSI. Tensile strength of the raw material can be improved in special compounds as high as 1700 PSI consistently. Other properties include: low compression set, good resiliency, moderate solvent resistance, excellent heat resistance, good release characteristics, and good performance at extreme low temperatures. Generally not recommended for exposure to concentrated solvents and acids, oils, or dilute sodium hydroxide.

POLYPROPYLENE BRUSH

Insert polymer which will not deteriorate under harsh climatic conditions. Consists of a "brush" of polypropylene fiber held by a carrier of the same material. Together they are welded into a homogeneous bond which will not corrode, unlike the metal carrier of traditional brush.

The polypropylene fin running down the center of the fibers is unique. It is every bit as flexible as the fibers themselves but, more important, makes the material twice as effective as a "traditional brush" in air infiltration tests.

FASTENERS

Sheet metal screws are supplied for all extruded head and jamb material, color-matched to item, in the following finishes: zinc-plated steel, brass-plated steel, black oxide-plated steel, stainless steel. Screw heads supplied: Phillips, slotted, flat, truss and pan.

Phillips flathead wood screws and 1" plastic anchors are supplied for all saddles at no charge. #10, 1.24" -1.75" depending on height of saddle. Lead shields, machine screws and anchors supplied upon request at additional cost.

General Properties of Neoprene and Silicone

PROPERTIES		NEOPRENE	SILICONE
Tensile Strength (PSI)	Pure Gum	up to 3000	up to 1500
	Black Loaded	up to 3000	up to 1500
Hardness Range	(Shore A)	40-95	30-95
Specific Gravity	(Base Material)	1.23	1.20
Adhesion to Metal		Good to Excellent	Good
Tear Resistance		Excellent	Poor
Abrasion Resistance		Excellent	Fair to Poor
Compression Set		Good	Good
Rebound	Cold	Very Good	Very Good
	Hot	Very Good	Very Good
Dielectric Strength		Good	Good
Electrical Insulation		Fair	Fair to Good
Permeability to Gases		Low	High
Acid Resistance		Good	Good
RESISTANCE TO	Swell in Lubrication Oil	Good	Good
	Oil & Gasoline	Good	Fair to Poor
	Animal & Vegetable Oils	Good	Fair to Good
	Water Absorption	Good	Very Good
	Oxidation	Excellent	Excellent
	Ozone	Excellent	Excellent
	Sunlight Aging	Very Good	Excellent
	Heat Aging	Excellent	Excellent
	Flame	Good	Excellent
	Heat	Excellent	Excellent
	Cold	Good	Excellent

Abbreviations :

A	= Aluminum, Mill finish
AA	= 204 R1 Clear Anodized finish
AP	= Aluminum, Polished finish
B	= Architectural Bronze, Mill finish
BIO	= Antibacterial Rubber, White color
BP	= Architectural Bronze, Polished finish
CE	= Concealed Electric
D	= Aluminum Dark Bronze Anodized (Dark Brown) finish
E	= Epoxy Abrasive
EBF	= Extruded Bulb Finger
EPT	= Electric Power Transfer
G	= 204 R1 Gold Anodized finish
ORB	= Oil Rubbed Bronze finish
PB	= Polished Unlacquered Bronze (bright) finish
PC	= Powder Coating finish Specify color
SC	= School Option
SP	= Steel Prime
STST	= Stainless Steel
Z	= Zinc
V3	= Aluminum Oxide Filler, Full Body
ZAG	= Anti Ligature Gasketing

Trademarks : TM ®

- Zero International
- ZERO
- ZERO Compress-O-Matic
- ZERO Mini-Matic
- Traction Tread
- INTUMET
- Free Flow
- Soft Puff
- SOUNDTRAP
- SLIMPORT
- BIOWALL
- ZAG



PARTS INDEX

Full catalog, PDF and CAD drawings
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