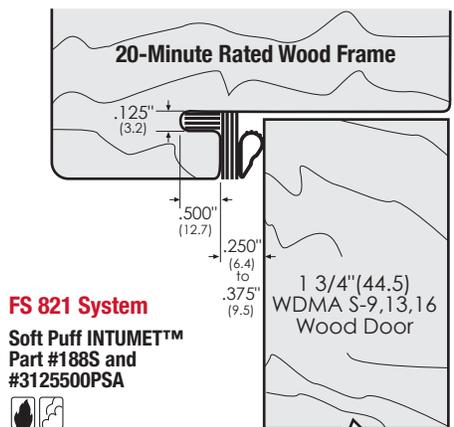


## Fire-Rated Smoke and Draft Control Systems

Our engineered systems can be used to incorporate concealed closers and concealed vertical rods into designs for both singles and pairs of 20-minute doors. Note: Seals applied with pressure-sensitive adhesive cannot be used alone for these applications.

### FS 821 SYSTEM

Designed for use with hemlock and other woods with minimum density of 26.2 pcf, such as walnut, oak, birch and maple.



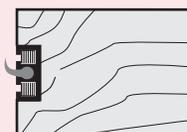
**FS 821 System**  
Soft Puff INTUMET™  
Part #188S and  
#3125500PSA



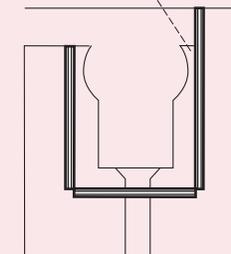
For singles & pairs of doors

### Hardware Installations 820, 821, 850, 851

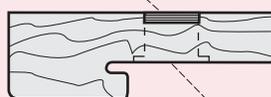
ZERO 59FS Astragal  
on one leaf (pairs only)



FS3003  
INTUMET strips



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



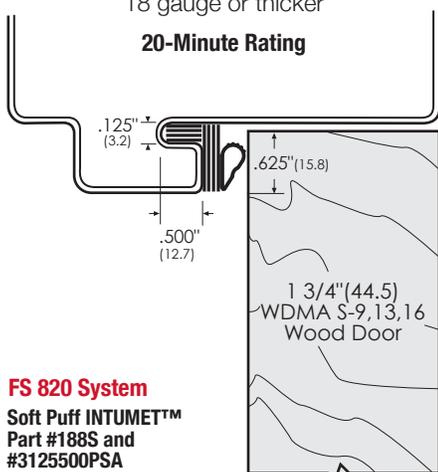
3/4" dia. hole

Concealed  
Track Arm

### FS 820 SYSTEM

Designed for use with metal frames of  
18 gauge or thicker

**20-Minute Rating**



**FS 820 System**  
Soft Puff INTUMET™  
Part #188S and  
#3125500PSA

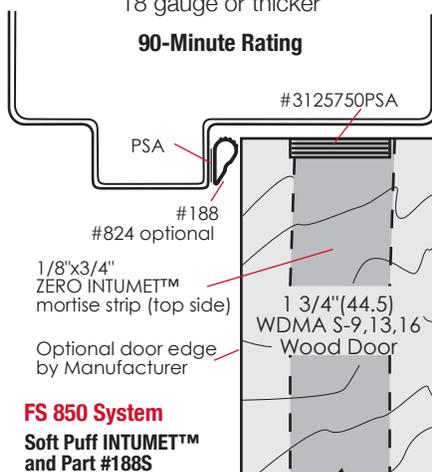


For singles & pairs of doors

### FS 850 SYSTEM

Designed for use with metal frames of  
18 gauge or thicker

**90-Minute Rating**



**FS 850 System**  
Soft Puff INTUMET™  
and Part #188S

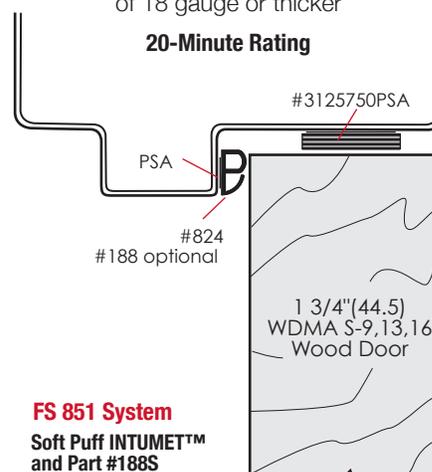


For singles & pairs of doors

### FS 851 SYSTEM

Designed for use with metal frames of  
18 gauge or thicker

**20-Minute Rating**

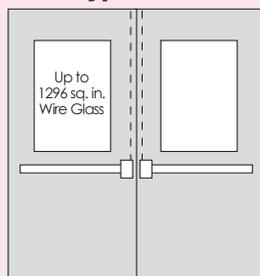


**FS 851 System**  
Soft Puff INTUMET™  
and Part #188S



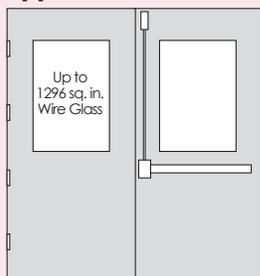
For singles & pairs of doors

### Typical Hardware Applications- FS 820, 821 Kerf or FS 850 Dado Systems



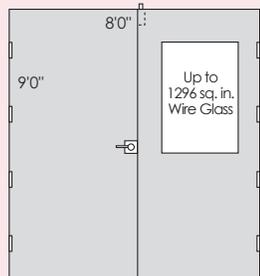
#### Pairs in the Same Direction

Concealed & surface exit  
devices, less bottom rod



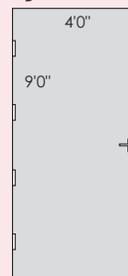
#### Double Egress

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:**  
NFPA 80, plus 4x4 (.134)  
steel ball bearing

**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