



# Fire Defender<sup>®</sup>

Protection Components



**Full Range of  
High-performance  
Fire Door Components**

**Development**

**Testing**

**Certification**



**Georgia-Pacific**  
Gypsum

# Georgia-Pacific is the only major supplier of components for fire-rated doors that does not also manufacture its own fire doors.

Fire door assemblies containing Georgia-Pacific Gypsum FireDefender® FS Edge Components provide such fire resistance that use of intumescent seals around the perimeter of positive pressure fire doors has become a matter of choice, not a requirement, for the door specifier in single doors. The only intumescent needed anywhere in the opening of pairs is concealed in the meeting edges. This means that no intumescent is used on the door frame either!

Concealed intumescents have the following advantages over the adhesive backed, frame applied variety:

- Very cost competitive over the life of the opening
- The intumescent is protected from damage in normal use
- No ongoing maintenance is required to replace damaged intumescent
- Simplifies installation at the job site
- Will not interfere with placement of smoke and draft gaskets
- Intumescent is hidden from sight for an aesthetically pleasing look
- All popular latching options available
- You can be sure the correct intumescent is used and that it is properly installed.

We test and obtain certification of wood composite fire doors for the United States and Canadian markets. In addition, our mineral core is approved for use in steel doors as an insulator. Working principally with Intertek-ETL Semko so that doors built with our components can carry the Warnock Hersey label, our fire testing yields an extensive set of manufacturing and machining specifications. These specifications are written, approved for engineering validity, and distributed by the testing authorities. They are made available at our discretion to door manufacturers that build their fire door programs around our components.

With the adoption of UBC 7-2 (1997), Georgia-Pacific has emerged as the industry leader in developing a comprehensive set of design options that address the new demands of positive pressure requirements.

## FireDefender® Banded Cores

Mineral cores and FS stiles, rails and blocking may be bought separately, in pieces cut-to-size by us and ready for assembly at a door manufacturer's location. Or, a door manufacturer may buy banded cores from Georgia-Pacific with the core, FS stiles, rails, lock blocks and a wood outer stile already assembled by us. If intumescent seals are required, we will install them.

## FireDefender® FS

FireDefender FS is used for stiles and rails around the perimeter of doors, between the mineral core and the decorative wood or high-pressure laminate edges. It has excellent screw withdrawal characteristics and is also used as internal blocking material to allow hardware to be screwed to the door.



## Quality Assurance

Door assemblies containing FireDefender components have been successfully tested to meet all the following standards:

- UBC 7-2 (1997)
- NFPA 252 (1999)
- UL 10-C (1998)
- CAN4-S104
- CSFM 12-43-4
- ISO 3008
- BS 476 PART 22
- Japanese Industrial Standard
- ASTM E-2074

Our Cuba, Missouri manufacturing plant is ISO 9001:2000 certified.

## International Considerations

Georgia-Pacific components have been used successfully in more than a dozen countries around the world. Though we do not actively test for certification outside North America, our international customers have been successful with fire door tests up to 120 minutes in England, the Middle East, Japan, Europe and the Pacific Rim.

## FireDefender® Mineral Core

FireDefender Mineral Core material fills most of the space in the interior of a door. It is relatively light in density ranging between 28 and 35 pounds per cubic foot (454-567 kg/cubic meter) and is an excellent insulator. It will not, however, provide any screw holding capability. FireDefender mineral cores are made of a proprietary mix of various minerals, fiberglass and inert binders. They are available in a variety of thicknesses ranging from 1.485 inches to 1.6875 inches (38mm to 43mm) and in various sizes up to a maximum of 34-1/2 inches by 82 inches (876mm x 2083mm). The mineral core is easily sawn with ordinary woodworking equipment and can be pieced together to make doors as large as four feet wide and ten feet tall. Georgia-Pacific mineral core materials have been approved by underwriters Laboratory, Inc. and Intertek-ETL Semko for temperature rise applications in both steel and wood fire doors.



*90 Minute Double Egress Door assembly – Positive Pressure Approved!*



**Georgia-Pacific Gypsum’s 60/90 Minute FireDefender® FS Door Frame Assemblies**

Use the wood veneer or High Pressure Decorative Laminate of your choice for the ultimate in style and aesthetic appeal.

Georgia-Pacific Gypsum FS 60/90 minute fire rated door frame assemblies match the premium veneers, laminates and hardwoods that have always made your doors, trim and cabinetry such an important architectural statement. Georgia-Pacific Gypsum FS door frame assemblies have been fully tested by Intertek Testing Services and have earned Warnock Hersey 60 and 90 minute ratings for both positive and negative pressure openings.

Specify it! Perfect for commercial applications — hospitals, office buildings, hotels and other public spaces.



*60/90 Minute Door Frame assemblies – Positive Pressure Approved!*

**Positive Pressure Approvals Overview**

**Category A Intumescent Free\* Approvals**

*20 Minute Rating:*

- Standard particleboard core FS-II stiles and FS-I top rail
- Singles to 4090
- Standard and double egress 2, 3 and 4 point pairs to 8090
- CVR’s and LBR’s allowed
- Smoke seals are required.

*\* Intumescent is required on one leaf of a pair over 8080.*

*45 Minute Rating:*

- Georgia-Pacific Gypsum mineral core with FS-II stiles and FS-I rails
- Singles to 4080 and pairs to 8080 standard swing only
- “S” label approved with smoke seal
- Pairs – 4 point surface only.

*\* Intumescent in meeting edges of pairs only.*

**Category B Intumescent Free\* Approvals**

*Up To 60 Minute Rating:*

- Georgia-Pacific Gypsum mineral core with FS-II stiles and FS-I rails
- Singles to 4090 and pairs to 8090
- Standard swing only
- Pairs 4 point surface only
- Pemko S88 smoke seals required
- “S” label approved.

*\* Intumescent in meeting edges of pairs only.*

*90 Minute Rating:*

- Georgia-Pacific Gypsum mineral core with FS-II stiles and FS-I rails
- Singles to 4080 and pairs to 8080
- Standard swing only
- Pairs 4 point surface only
- Pemko S88 smoke seals required
- “S” label approved.

*\*Intumescent in meeting edges of pairs only.*

**Concealed Intumescent (Category A) or Frame Applied Intumescent (Category B) Approvals**

*45/60/90 Minute Rating:*

- Singles to 4090
- Standard pairs 2, 3 and 4 point to 8090
- Double egress 2, 3 and 4 point latched pairs to 8080
- “S” label approved with smoke seal.

Size and Rating	Neutral Positive	Positive Pressure
Singles up thru 4/0 x 10/0 (90 minute rating)	yes	no
Singles up thru 4/0 x 8/0 (90 minute rating)	yes	yes
Singles up thru 4/0 x 9/0 (60 minute rating)	yes	yes
Pairs up thru 8/0 x 9/0 (90 minute rating)	yes	no
Pairs up thru 8/0 or 9/0 (60 minute rating)	yes	yes

# FireDefender Quick Reference Chart for Fire Door Assemblies

FIRE RATING Intertek Testing Services or Underwriters Laboratories, Inc.	90-Minute	60-Minute	45-Minute	20-Minute P.B. & S.C
<b>SINGLE SIZES:</b>	4010	4010	4010	4010
<b>TRANSOM: (Maximum Size)</b> No Transom Bar or Astragal Required (May Be Used if Desired)	4034	4034	4034	4034
<b>PAIRS:</b> Three Point Latching Height	8090	8090	8090	8010
<b>PAIRS:</b> Surface Vertical Rods - M/Edges	8090	8090	8090	8010
<b>PAIRS:</b> Concealed Vertical Rods	GP	GP	GP	GP
With 5" Metal Edges	8090	8090	8090	N/A
With No Metal Edges	8080	8080	8080	8090
<b>PAIRS:</b> Double Egress	8080	8090	8090	8010
<b>PAIRS:</b> No Metal Edges and No Intumescent Seals	6070	6070	6070	6070
<b>DUTCH DOORS:</b>	N/A	4080	4080	4080/8080
<b>MOLDED HARDBOARD SKINS:</b>	N/A	3080/3670	7070	N/A
<b>FACES:</b> Plywood 3/4" PCF or Denser	GP	GP	GP	GP
<b>FACES:</b> Hardboard Meet ANSI A 135.4	GP	GP	GP	GP
<b>FACES:</b> Decorative Laminates	GP	GP	GP	GP
<b>STILES:</b> All Wood ( Hinge Stile Only)	N/A	N/A	N/A	1.375" x 1.5"
<b>STILES:</b> Firestop I (No Wood)	1" x 1.5"	0.75" x 1.5"	OPT.	OPT.
<b>STILES:</b> Firestop II (With Wood)	1.53" x 1/5"	1.41" x 1.5" (OPT.)	1.41" x 1.5" (OPT.)	OPT.
<b>EXTRA WIDE STILES:</b>	GP/FD	GP/FD	GP/FD	GP/FD
<b>RAILS:</b> All Wood	N/A	N/A	N/A	2.625" x 1.5" (Top & Bot.)
<b>RAILS:</b> Top FS - I (No Wood) Standard	2.0" x 1.5"	2.0" x 1.5"	2.0" x 1.5"	OPT.
<b>RAILS:</b> Top FS - II (With Wood) OPT.	1.53" x 1.5"	1.41" x 1.5"	OPT.	OPT.
<b>RAILS:</b> Bottom FS - I (Standard)	2.0"	2.0"	OPT.	OPT.
<b>RAILS:</b> Extra Wide FS-No Maximum	GP	GP	GP	GP
<b>LATCHES:</b> Labeled Mortise Type	GP	GP	GP	GP
<b>LOCKS:</b> Labeled Mortise & Integral	GP	GP	GP	GP
<b>SURFACE MOUNTED VERTICAL RODS:</b>	GP	GP	GP	GP
<b>CONCEALED VERTICAL RODS:</b>	GP	GP	GP	GP
<b>TOP ROD ONLY W/O THERMAL PINS</b>	N/A	N/A	N/A	N/A
<b>TOP ROD ONLY WITH THERMAL PINS</b>	GP	GP	GP	GP
<b>FLUSH BOLTS:</b> Automatic & Manual With Extensions	GP	GP	GP	GP
<b>DEAD BOLTS:</b>	GP	GP	GP	GP
<b>VISION LIGHT SIZE:</b> PER NFPA 80	1393 Sq. In.	3204 Sq. In.	3204 Sq. In.	3204 Sq. In.
<b>VIEWS:</b> Labeled for Door Rating	Max. 1" Dia.	Max. 1" Dia.	Max. 1" Dia.	Max. 1" Dia.
<b>AUTOMATIC DOOR BOTTOM:</b> Max Width 4'-0"	1.0" x 1.75"	1.0" x 1.75"	1.0" x 1.75"	1.0" x 1.75"
<b>LOUVERS:</b>	24" x 24"	24" x 24"	24" x 24"	N/A
<b>PROTECTION PLATES:</b>	48" x 48"	48" x 48"	48" x 48"	16" x 48"
<b>WIRE CHASE:</b>	0.375" x 0.375"	0.375" x 0.375"	0.375" x 0.375"	N/A
<b>PLANT-ON MOULDING:</b>	2.5" x 0.75" (Wood)	2.5" x 0.75" (Wood)	2.5" x 0.75" (Wood)	1.75" x 0.75" (Wood)
<b>CONCEALED CLOSER:</b>	N/A	N/A	N/A	GP
<b>HINGES:</b> Paumelle	GP	GP	GP	GP
<b>HINGES:</b> Pivot	GP	GP	GP	GP
<b>HINGES:</b> Mortised 4.5" x 4.5" & 4" x 4"	GP	GP	GP	GP
<b>HINGES:</b> Labeled Spring Type	GP	GP	GP	GP
<b>HINGES:</b> Double Knuckle Type	GP	GP	GP	GP
<b>HINGES:</b> Invisible SOSS 418 Type	GP	GP	GP	GP

GP – Indicates construction details provided by Intertek - ETL Semko/Warnock Hersey.

N/A – Not Applicable    OPT. – Optional    P. B. – Particle Board    S.C. – Staved Core

GP/FD – Optional widths available from GP

NOTE: Some hardware requires special blocking. Check manufacturing specifications.



## SALES INFORMATION AND ORDER PLACEMENT

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Order Placement  
Corinne Chambers    573-885-0343, cachambe@gapac.com

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**LIMITATION OF REMEDIES AND DAMAGES** Unless otherwise stated in our written warranty for these products, our sole liability for any product claim shall be limited to reimbursement of the cost of repair or replacement of the affected product, up to a maximum amount of two times the original purchase price for the affected product. We shall not be responsible under any circumstances for lost profits, damage to a structure or its contents, or indirect, incidental, special or consequential damages. Claims shall be deemed waived

if they are not submitted to us in writing within ten (10) days after discovery of a product defect/circumstance giving rise to a claim.

**CAUTION: For product fire, safety and use information, go to [gp.com/safetyinfo](http://gp.com/safetyinfo).**

**HANDLING AND USE CAUTION:** This product contains fiberglass. Fibers and dust may be released from this product during normal handling and may result in skin, eye and respiratory irritation. Avoid breathing dust and contact with the skin and eyes. Follow these standard work practices: Wear a loosefitting, long-sleeved shirt and long pants, protective gloves and eye protection (goggles or safety glasses with side shields). Wear a dust mask when sanding. Additional protection such as NIOSH-approved dust mask may be needed in poorly ventilated areas or when very dusty. For Material Safety Data Sheet or additional information, call 1-800-225-6119 or visit [www.gpgypsum.com](http://www.gpgypsum.com).

**FIRE SAFETY CAUTION:** Passing a fire test in a controlled laboratory setting and/or certifying or labeling a product as having a one-hour, two-hour, or any other fire resistance or protection rating and, therefore, as acceptable for use in certain fire rated assemblies/systems, does not mean that either a particular assembly/system incorporating the product, or any given piece of the product itself, will necessarily provide one-hour fire resistance, two hour fire resistance, or any other specified fire resistance or protection in an actual fire. In the event of an actual fire, you should immediately take any and all actions necessary for your safety and the safety of others without regard for any fire rating of any product or assembly/system.