FireDefender® Protection Components

Georgia-Pacific Gypsum

Technical Service Hotline 1.800.225.6119 or
www.gpgypsum.com

# Acoustical Firedoor Core System

## Manufacturer

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## Product Description

**Georgia-Pacific Gypsum's acoustical firedoor component systems** combine a patent pending 3-ply acoustical mineral core with FireDefender® FS-II plus Edge Banding Components. Door assemblies built using Georgia-Pacific acoustical mineral cores and fire rated flush door components carry a positive pressure/neutral pressure rating of up to 45-minutes and were tested in accordance with NFPA 252 (2008), UL 10C (2009), CAN4 S104 (1985), and are listed by Warnock Hersey (Intertek Testing Services). Sound Transmission Class (STC) ratings of 37 to 40 were achieved with these door assemblies. The sound testing was conducted at Architectural Testing and Riverbank Acoustical Laboratories (RAL) on operable door assemblies in accordance with ASTM E-90 (2009), ASTM E 413-04, ASTM E 1332-90, and ASTM E 2235-05.

## Parameters

| | |
|---|---|
| • Maximum Door Sizes | Fire Rated: 3/0 7/0 single swing; Sound Rated: 3/0 7/0 single swing |
| • Maximum Fire Rating | 45-minute positive pressure |
| • Temperature Rise | 250° F at 30 minutes |
| • Minimum Core Thickness | 1-1/2" |
| • Latchsets | Cylindrical with maximum 5" backset |
| • Bolts | Surface mounted |
| • Fire Exit Devices | Surface mounted vertical rods and rim type fire exit devices |
| • Door Closers | Surface mounted |
| • Door Bottoms | Fully mortised |
| • Vision Panels | Maximum 100 sq. in. |

## Physical Properties

Two core configurations are shown below:

**GP 39 STC, 45 min. fire**

| Property | | Sample Size |
|---|---|---|
| Core Weight, nominal (lbs./sq. ft.) | 6.7 | |
| 3/0 7/0 Door Weight, nominal (lbs./sq. ft.) | 8.3 | |
| Flexural Strength, (lbs.), (GP method, references ASTM C 473, Method B) | >80 | 6" x 16" |
| MOR (psi) | >125 | 6" x 16" |
| Compressive Strength, (psi) (GP method, references ASTM C 472) | >500 | 4" x 4" |
| Tensile IB, (psi) Outer Plies (ASTM D 103) | >26 | 2" x 2" |
| Screwholding, (lbs.) Door Face Unblocked (WDMA TM-10) | <400* | 1" x 3" |

* Blocking or thru-bolts are recommended for operable door hardware.

**GP 40 STC, 45 min. fire**

| Property | | Sample Size |
|---|---|---|
| Core Weight, nominal (lbs./sq. ft.) | 9.0 | |
| 3/0 7/0 Door Weight, nominal (lbs./sq. ft.) | 9.7 | |
| Flexural Strength, (lbs.), (GP method, references ASTM C 473, Method B) | >125 | 6" x 16" |
| MOR (psi) | >195 | 6" x 16" |
| Compressive Strength, (psi) (GP method, references ASTM C 472) | >500 | 4" x 4" |
| Tensile IB, (psi) Outer Plies (ASTM D 103) | >40 | 1" x 3" |
| Screwholding, (lbs.) Door Face Unblocked (WDMA TM-10) | >550 | 1" x 3" |

## Vision Panels

100-sq. inches maximum visible area. Anemostat LoPro IS Vision Kit with 19 mm (3/4") Pyrostop Glazing. Listed and labeled intumescent used around the perimeter of the vision kit.

## Hardware

Hinges per NFPA 80, Table 2-8.1-1, listed continuous hinges, spring hinges, and invisible hinges. Cylindrical latches. Listed and labeled mortised or surface mounted door bottoms. Surface mounted closers.

## Sound Performance

GP 39-45 and GP 40-45 sound deadening cores used in sound testing were constructed with 1-1/2" FireDefender FS-II top rail and 1" stiles. The bottom rail of the door was constructed of FS-I and housed a fully mortised door bottom. Standard hardware was used which consisted of a cylindrical lock and heavy duty full mortised hinges. Doors were tested with and without vision panels, LoPro IS metal vision frame with 19 mm Pyrostop Glazing. The perimeter of the door was equipped with perimeter sealing devices and housed a fully mortised door bottom.

Please see test reports on reverse.

**Changes in sound ratings could be expected if alterations or deviations occur from the door construction or hardware configuration described above.**

## Submittal Approvals

Job Name _____

Contractor _____

Date _____

Stamps/Signatures

## Acoustical Tests

| GP Acoustical Core | Operable STC | OITC | Seal System Used In Testing | Referenced Sound Transmission Loss Test |
|---|---|---|---|---|
| GP 39-45 | 39 | 35 | Seal Set #1 | Architectural Testing Report 99297.01-113-11 |
| | 37 | 34 | Seal Set #2 | Architectural Testing Report 99297.01-113-11 |
| | 38 | | Seal Set #3 | RAL-TL09-347 |
| GP 40-45 | 40 | 36 | Seal Set #1 | Architectural Testing Report 99297.01-113-11 |
| | 38 | | Seal Set #4 | RAL-TL09-345 |

| Seal Systems | Perimeter Seals | Door Bottom | Threshold |
|---|---|---|---|
| Seal Set #1 | Zero 475 + 119WB | Zero 369 | none |
| Seal Set #2 | Zero 475 | Zero 369 | none |
| Seal Set #3 | 2 rows of NGP 5050 | NGP 321V | NGP 950S |
| Seal Set #4 | 2 rows of NGP 5050 + 1071 SA | NGP 425N | NGP 950S |

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