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# Notes

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## Technical Manual

June, 2011

**Graham**<sup>®</sup>  
wood doors

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Description

| Particleboard Core Door               |   |
|---------------------------------------|---|
| PC-5                                  | Particleboard core, stiles and rails <b>bonded</b> to core and core assembly abrasively planed prior to application of crossband and face veneer.                       |
| PC-7                                  | Particleboard core, stiles and rails <b>bonded</b> to core and core assembly abrasively planed prior to application of three ply skin.                                  |
| PC-HPDL-3                             | Particle board core, stiles and rails <b>bonded</b> to core and core assembly abrasively planed prior to application of high pressure decorative laminate.              |
| PC-HPDL-5                             | Particleboard core, stiles and rails <b>bonded</b> to core and core assembly abrasively planed prior to application high pressure decorative laminate.                  |
| FPC-5                                 | Particleboard core, stiles and rails <b>non-bonded</b> to core prior to application of crossband and face veneer.   |
| FPC-7                                 | Particleboard core, stiles and rails <b>non-bonded</b> to core prior to application of three ply skin.  |
| FPC-HPDL-5                            | Particleboard core, stiles and rails <b>non-bonded</b> to core prior to application of crossband and high pressure decorative laminate.                                 |
| Structural Composite Lumber Core Door |   |
| SCLC-5                                | Structural composite lumber core, stiles and rails <b>bonded</b> to core and core assembly abrasively planed prior to application of crossband and face veneer.         |
| SCLC-7                                | Structural composite lumber core, stiles and rails <b>bonded</b> to core and core assembly abrasively planed prior to application of three ply skin.                    |
| SCLC-HPDL-3                           | Structural composite lumber core, stiles and rails <b>bonded</b> to core and core assembly abrasively planed prior to application of high pressure decorative laminate. |
| SCLC-HPDL-5                           | Structural composite lumber core, stiles and rails <b>bonded</b> to core and core assembly abrasively planed prior to application high pressure decorative laminate.    |
| FSCLC-5                               | Structural composite lumber core, stiles and rails <b>non-bonded</b> to core prior to application of crossband and face veneer.   |
| FSCLC-7                               | Structural composite lumber core, stiles and rails <b>non-bonded</b> to core prior to application of three ply skin.  |
| FSCLC-HPDL-5                          | Structural composite lumber core, stiles and rails <b>non-bonded</b> to core prior to application of crossband and high pressure decorative laminate.                   |
| Stave Lumber Core Door                |   |
| SLC-5                                 | Stave lumber core, stiles and rails <b>bonded</b> to core and core assembly abrasively planed prior to application of crossband and face veneer.                        |
| SLC-7                                 | Stave lumber core, stiles and rails <b>bonded</b> to core and core assembly abrasively planed prior to application of three ply skin.                                   |
| SLC-HPDL-3                            | Stave lumber core, stiles and rails <b>bonded</b> to core and core assembly abrasively planed prior to application of high pressure decorative laminate.                |
| SLC-HPDL-5                            | Stave lumber core, stiles and rails <b>bonded</b> to core and core assembly abrasively planed prior to application high pressure decorative laminate.                   |
| FSLC-5                                | Stave lumber core, stiles and rails <b>non-bonded</b> to core prior to application of crossband and face veneer.  |
| FSLC-7                                | Stave lumber core, stiles and rails <b>non-bonded</b> to core prior to application of three ply skin.   |

# 2

## Machining Fire Doors

### Technical Manual

June, 2011

WDMA'S Door  
Specification

Descriptor

Description

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| Neutral Pressure Tested Fire Door                  |  |
|--|--|
| FD-20-5<br>FD-20-7<br>FD-20-HPDL-3<br>FD-20-HPDL-5 | Fire Rated Door, labeled for 20 minutes (available in all core assemblies other than hollow core)                        |
| FD-45-5<br>FD-45-7<br>FD-45-HPDL-3<br>FD-45-HPDL-5 | Fire Rated Door, labeled for 45 minutes  |
| FD-60-5<br>FD-60-7<br>FD-60-HPDL-3<br>FD-60-HPDL-5 | Fire Rated Door, labeled for 60 minutes  |
| FD-90-5<br>FD-90-7<br>FD-90-HPDL-3<br>FD-90-HPDL-5 | Fire Rated Door, labeled for 90 minutes  |
| Positive Pressure Tested Fire Door                 |  |
| FD-20-5<br>FD-20-7<br>FD-20-HPDL-3<br>FD-20-HPDL-5 | Fire Rated Door, labeled for 20 minutes Positive Pressure (PP) (available in all core assemblies other than hollow core) |
| FD-45-5<br>FD-45-7<br>FD-45-HPDL-3<br>FD-45-HPDL-5 | Fire Rated Door, labeled for 45 minutes Positive Pressure (PP)   |
| FD-60-5<br>FD-60-7<br>FD-60-HPDL-3<br>FD-60-HPDL-5 | Fire Rated Door, labeled for 60 minutes Positive Pressure (PP)   |
| FD-90-5<br>FD-90-7<br>FD-90-HPDL-3<br>FD-90-HPDL-5 | Fire Rated Door, labeled for 90 minutes Positive Pressure (PP)   |
| Hollow Core Door                                   |  |
| IHC-5, 7, HPDL                                     | Institutional Hollow Core  |
| SHC-5, 7, HPDL                                     | Standard Hollow Core   |
| Specialty Core Door                                |  |
| SR   | Sound Resistant  |
| LL   | Lead Lined   |
| BR   | Bullet Resistant   |
| ES   | Electrostatic Shield   |

NOTE: Doors manufactured to this standard will fulfill the requirements of regular door functions. Doors are available which exceed these basic construction requirements. For details about these doors consult individual door manufacturers For illustration

PERFORMANCE STANDARDS FOR ARCHITECTURAL WOOD FLUSH DOORS

|                          |       | <b>WDMA/AWS<br/>Extra Heavy<br/>Duty*</b> | <b>Graham<br/>Particle<br/>Core</b> | <b>Graham<br/>Mineral<br/>Core</b> | <b>Graham<br/>Engineered<br/>Core</b> | <b>Graham<br/>Stave<br/>Core</b> |
|--------------------------|-------|---|-------------------------------------|------------------------------------|---------------------------------------|----------------------------------|
| Stile Split Resistance   | TM-5  | -----                                     | 572 lbs.                            | 847 lbs.                           | 572 lbs.                              | 572 lbs.                         |
| Adhesive Bond Durability | TM-6  | Type II                                   | Type I                              | Type I                             | Type I                                | Type I                           |
| Cycle Slam               | TM-7  | 1,000,000                                 | 1,000,000                           | 1,000,000                          | 1,000,000                             | 1,000,000                        |
| Hinge Loading            | TM-8  | 550 lbs.                                  | 747 lbs.                            | 683 lbs.                           | 747 lbs.                              | 747 lbs.                         |
| Screw Holding Capacity   | TM-10 |   |                                     |                                    |                                       |                                  |
| Door Face/Core           |       | 550 lbs.                                  | 337 lbs.**                          | 60 lbs.**                          | 973 lbs.                              | 777 lbs.                         |
| Vertical Door Edge       |       | 550 lbs.                                  | 744 lbs.                            | 782 lbs.                           | 744 lbs.                              | 744 lbs.                         |
| Horizontal Door Edge     |       | 300 lbs.                                  | 720 lbs.                            | 438 lbs.                           | 720 lbs.                              | 720 lbs.                         |

\*WDMA I.S. 1A-04

\*\*If Screwholding power is less than 400 lbs. Blocking is recommended for surface application of hardware.

Use of LSL blocking on partial doors will increase door face/core screw holding to greater than 550 lbs.

Use of Fire Stop II blocking on mineral core doors will increase door face/core screw holding to greater than 550 lbs.

# 4 Architectural 5-Ply Specification

## Technical Manual

February, 2014

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### GSD-SR 35-40

Acoustical Core  
STC 35-40  
WDMA Extra Heavy Duty  
SR5

#### Construction

##### Horizontal Edges:

- Bonded to core
- 3" minimum after factory trim
- No additional blocking required for thru bolted closers

##### Vertical Edges:

- Matching vertical edges
- Bonded to core
- Structural composite lumber (SCL) laminated with a matching veneer edge band

##### Core:

- Proprietary lead free Sound Resistant material
- Contains no added Urea-formaldehyde

##### Fire Rating:

- 20 minute fire rating available
- Meets UL 10b and UL 10c requirements
- Available with factory installed lite (up to and including 100 in<sup>2</sup> visible area) with metal vision panel

##### Acoustical Rating:

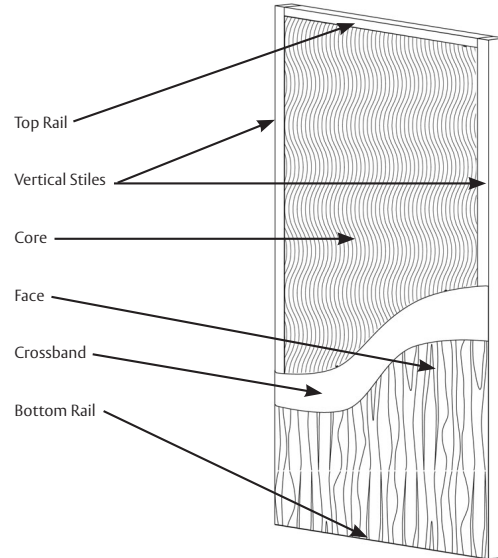
- Sound Transmission Class (STC) 35-40 operable
- Available with factory installed lite (up to and including 252 in<sup>2</sup> visible area) with metal vision panel or wood moulding
- Required gasketing (with threshold) is included in price of door and provided by Graham
- Door thickness 1 3/4"
- Top clearance 1/8"
- Hinge side clearance 1/8"
- Lock side clearance 1/8"
- Undercut clearance (from finished floor) 3/8"
- Single swing, or Pair with mullion
- Uses standard or heavyweight hinges (4.5" or 5")
- For use with cylindrical locks, mortise locks, mortise card locks, and thru-bolted closers
- Minimum size - 2'0" x 6'0"
- Maximum size - 4'0" x 8'0"
- Tested in accordance with ASTM E90 and E413, in fully grouted hollow metal frame
- Can be used with Frameworks aluminum Type II frame and achieve the STC 35 rating and 20 minute UL10c category B fire rating in single opening

##### Adhesive:

- Doors constructed using Type I adhesives which contain no added Urea-formaldehyde

##### Construction Grade:

- Performance: WDMA/AWS - Extra Heavy Duty Hinge Loading and Screw Holding (horizontal and vertical door edges)
- Aesthetic: WDMA - Premium Grade



##### Face Veneer:

- Available in a wide variety of vertical & horizontal grain wood species, Sketch Face, Medium Density Overlay (MDO), and Primed Hardboard
- WDMA/AWS "A" Grade, Book and Running Match, standard
- Slip, Balance, and Center Balance Match available upon request
- WDMA/AWS "AA" Grade available upon request

##### Crossband:

- 3/32" (2.3mm) nominal high density engineered wood composite
- Optional with no added Urea-formaldehyde

##### Finish:

- UV cured factory finish meets or exceeds WDMA TR-6 and Architectural Woodwork Standards (AWS) First Edition - System #9
- Available in 28 standard colors and custom color match

##### Certifications and Sustainability:

- Optional LEED 3.0 credits available
  - IEQ 4.4 - Low-emitting Materials
  - IEQ 9 - Enhanced Acoustical Performance (LEED for schools) STC 35 operable (flush door)
- California Air Resources Board (CARB)

Lifetime Warranty

## GSD-SR 41-45

Acoustical Core

STC 41-45

WDMA Extra Heavy Duty

SR5

### Construction

#### Horizontal Edges:

- Bonded to core
- 3" minimum after factory trim
- No additional blocking required for thru bolted closers

#### Vertical Edges:

- Matching vertical edges
- Bonded to core
- Structural composite lumber (SCL) laminated with a matching veneer edge band

#### Core:

- Heavy Duty Sound Resistent Core Material

#### Acoustical Rating:

- Sound Transmission Class (STC) 41-45 operable
- Available with factory installed lite (up to and including 100 in<sup>2</sup> visible area)
- Required gasketing (with threshold) is included in price of door and provided by Graham
- Door thickness 1 3/4"
- Top clearance 1/8"
- Hinge side clearance 1/16"
- Lock side clearance 1/8"
- Undercut clearance (from finished floor) 3/8"
- Single swing, or Pair with mullion
- Uses standard or heavyweight hinges (4.5" or 5")
- For use with cylindrical locks, mortise locks, mortise card locks, and thru-bolted closers
- Minimum size - 2'0" x 6'0"
- Maximum size - 4'0" x 8'0"
- Tested in accordance with ASTM E90 and E413, in fully grouted hollow metal frame

#### Adhesive:

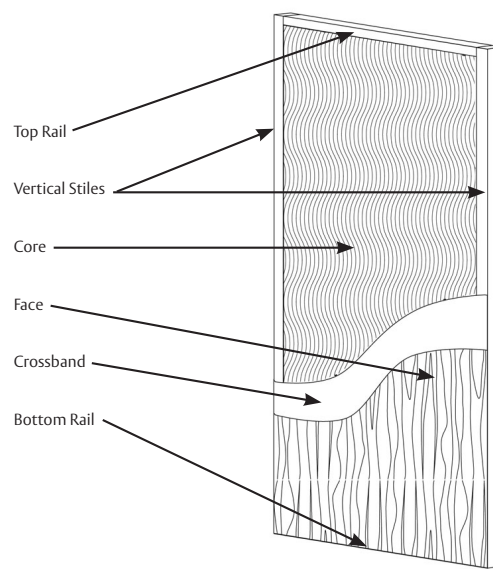
- Doors constructed using Type I adhesives which contain no added Urea-formaldehyde

#### Construction Grade:

- Performance: WDMA/AWS - Extra Heavy Duty Hinge Loading and Screw Holding (horizontal and vertical door edges)
- Aesthetic: WDMA - Premium Grade

#### Face Veneer:

- Available in a wide variety of vertical & horizontal grain wood species, Sketch Face, Medium Density Overlay (MDO), and Primed Hardboard
- WDMA/AWS "A" Grade, Book and Running Match, standard
- Slip, Balance, and Center Balance Match available upon request
- WDMA/AWS "AA" Grade available upon request



#### Crossband:

- 1/16" (1.6 mm) minimum high density engineered wood composite
- Optional with no added Urea-formaldehyde

#### Finish:

- UV cured factory finish meets or exceeds WDMA TR-6 and Architectural Woodwork Standards (AWS) First Edition - System #9
- Available in 28 standard colors and custom color match
- Available with MicroShield® Antimicrobial finish

#### Certifications and Sustainability:

- Optional LEED 3.0 credits available
  - IEQ 4.4 - Low-emitting Materials
  - IEQ 9 - Enhanced Acoustical Performance (LEED for schools) STC 35 operable (flush door)
- California Air Resources Board (CARB)

Lifetime Warranty

# 6 Architectural 5-Ply Specification

## Technical Manual

February, 2014

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### GSD-SR 31, 33, 39 and 44

Acoustical Core  
STC 33, 33, 39, and 44  
WDMA Extra Heavy Duty  
SR5

#### Construction

##### Horizontal Edges:

- Bonded to core
- 3" minimum after factory trim
- No additional blocking required for thru bolted closers

##### Vertical Edges:

- Matching vertical edges
- Bonded to core
- Structural composite lumber (SCL) laminated with a matching veneer edge band

##### Core:

- Proprietary Sound Resistant material
- Contains no added Urea-formaldehyde

##### Acoustical Rating:

- Sound Transmission Class (STC) 31, 33, 39, and 44 operable
- Required gasketing (with threshold) is included in price of door and provided by Graham
- Door thickness 1 3/4"
- Top clearance 1/8"
- Hinge side clearance 1/8"
- Lock side clearance 1/8"
- Undercut clearance (from finished floor) 3/8"
- Pair of doors - no mullion required
- Uses standard or heavyweight hinges (4.5" or 5")
- For use with cylindrical locks, mortise locks, mortise card locks, and thru-bolted closers
- Minimum size - 2'0" x 6'8"
- Maximum size - 4'0" x 7'0" (paired opening 6'0" x 7'0")
- Tested in accordance with ASTM E90 and E413, in fully grouted hollow metal frame

##### Adhesive:

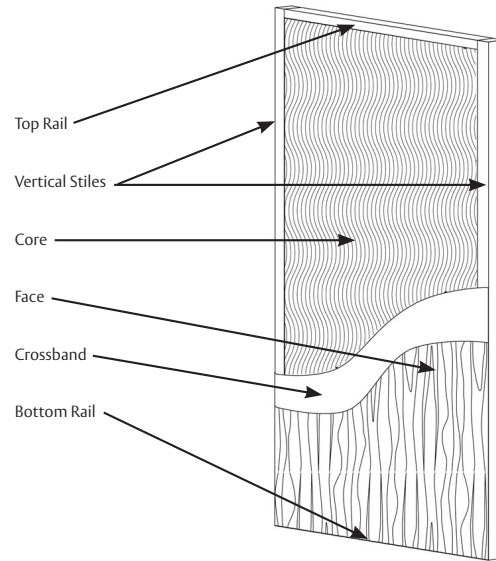
- Doors constructed using Type I adhesives which contain no added Urea-formaldehyde

##### Construction Grade:

- Performance: WDMA/AWS - Extra Heavy Duty Hinge Loading and Screw Holding (horizontal and vertical door edges)
- Aesthetic: WDMA - Premium Grade

##### Face Veneer:

- Available in a wide variety of vertical & horizontal grain wood species, Sketch Face, Medium Density Overlay (MDO), and Primed Hardboard
- WDMA/AWS "A" Grade, Book and Running Match, standard
- Slip, Balance, and Center Balance Match available upon request
- WDMA/AWS "AA" Grade available upon request



##### Crossband:

- 1/16" (1.6 mm) minimum high density engineered wood composite
- Optional with no added Urea-formaldehyde

##### Finish:

- UV cured factory finish meets or exceeds WDMA TR-6 and Architectural Woodwork Standards (AWS) First Edition - System #9
- Available in 28 standard colors and custom color match
- Available with MicroShield® Antimicrobial finish

##### Certifications and Sustainability:

- Optional LEED 3.0 credits available
  - IEQ 4.4 - Low-emitting Materials
  - IEQ 9 - Enhanced Acoustical Performance (LEED for schools) STC 35 operable (flush door)
- California Air Resources Board (CARB)

Lifetime Warranty

## GSD-SR 46-47

Acoustical Core  
STC 46-47  
WDMA Extra Heavy Duty  
SR5

### Construction

#### Horizontal Edges:

- Bonded to core
- 3" minimum after factory trim
- No additional blocking required for thru bolted closers
- Optional closer and lock block available

#### Vertical Edges:

- Matching vertical edges
- Bonded to core
- Structural composite lumber (SCL) laminated with a matching veneer edge band

#### Core:

- Proprietary Sound Resistant material
- Contains no added Urea-formaldehyde

#### Acoustical Rating:

- Sound Transmission Class (STC) 46-47 operable
- Required gasketing (with threshold) is included in price of door and provided by Graham
- Door thickness 1 3/4"
- Top clearance 1/8"
- Hinge side clearance 1/16"
- Lock side clearance 1/8"
- Undercut clearance (from finished floor) 3/8"
- Single swing, or Pair with mullion
- Uses standard or heavyweight hinges (4.5" or 5")
- For use with cylindrical locks, mortise locks, mortise card locks, and thru-bolted closers
- Minimum size - 2'0" x 6'0"
- Maximum size - 4'0" x 8'0"
- Tested in accordance with ASTM E90 and E413, in fully grouted hollow metal frame

#### Adhesive:

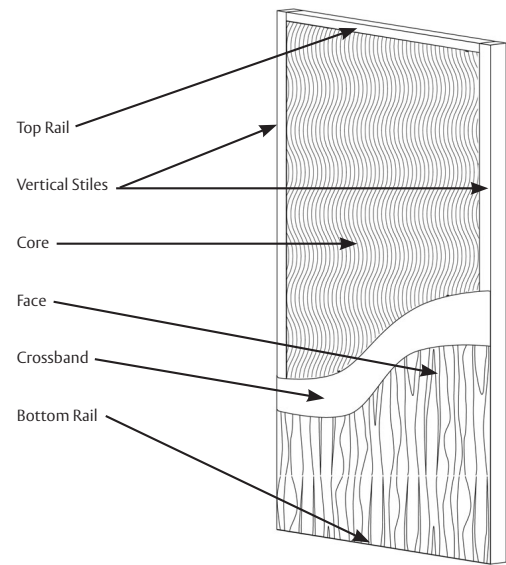
- Doors constructed using Type I adhesives which contain no added Urea-formaldehyde

#### Construction Grade:

- Performance: WDMA/AWS - Extra Heavy Duty Hinge Loading and Screw Holding (horizontal and vertical door edges)
- Aesthetic: WDMA - Premium Grade

#### Face Veneer:

- Available in a wide variety of vertical & horizontal grain wood species, Sketch Face, Medium Density Overlay (MDO), and Primed Hardboard
- WDMA/AWS "A" Grade, Book and Running Match, standard
- Slip, Balance, and Center Balance Match available upon request
- WDMA/AWS "AA" Grade available upon request



#### Crossband:

- 1/16" (1.6 mm) minimum high density engineered wood composite
- Optional with no added Urea-formaldehyde

#### Finish:

- UV cured factory finish meets or exceeds WDMA TR-6 and Architectural Woodwork Standards (AWS) First Edition - System #9
- Available in 28 standard colors and custom color match
- Available with MicroShield® Antimicrobial finish

#### Certifications and Sustainability:

- Optional LEED 3.0 credits available
  - IEQ 4.4 - Low-emitting Materials
  - IEQ 9 - Enhanced Acoustical Performance (LEED for schools) STC 35 operable (flush door)
- California Air Resources Board (CARB)

Lifetime Warranty

# 8 Architectural 5-Ply Specification

## Technical Manual

June, 2011

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### GPD-PC

5-Ply Particleboard Core  
WDMA/AWS Extra Heavy Duty  
PC-5

#### Construction

##### Horizontal Edges:

- Top and bottom rails - structural composite lumber
- Bonded to core
- 1" minimum after factory trim
- No additional blocking required for thru bolted closers
- Optional closer and lock blocks available

##### Vertical Edges:

- Matching vertical edges
- Bonded to core
- Structural composite lumber (SCL) laminated to a matching hardwood face (standard for Oak, Birch, and Maple)
- Structural composite lumber (SCL) laminated with a matching veneer edge band on veneers other than listed above as standard with optional hardwood stiles face available

##### Core:

- Conforms to ANSI A208.1
- Standard LD1 Particleboard Core - 28 lbs/ft<sup>3</sup>
- Optional LD2 available - 32 lbs/ft<sup>3</sup>
- Meets requirements of LEED MR4
- Optional to UL 10c (positive pressure) Category "A"

##### Fire Rating:

- 20 minute fire rating available
- Meets UL 10b (neutral pressure) and UL 10c (positive pressure) Category "B" requirements
- Option to UL 10c (positive pressure) Category "A"

##### Acoustical Rating:

- Sound Transmission Class (STC) 30 operable with required seals

##### Adhesive:

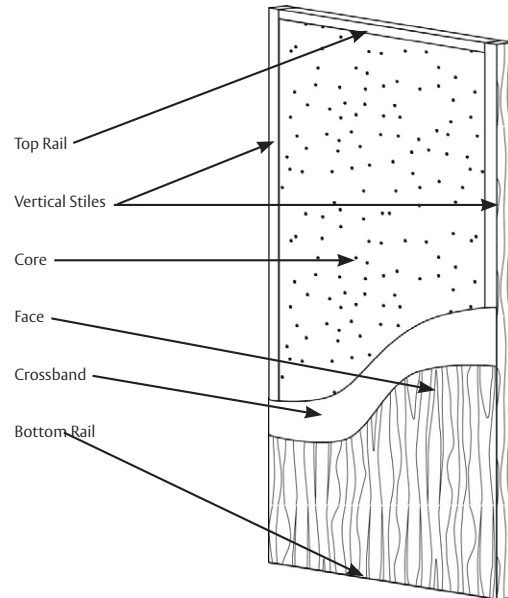
- Doors constructed using Type I adhesives which contain no added Urea-formaldehyde

##### Construction Grade:

- Performance: WDMA/AWS - Extra Heavy Duty\*
- Aesthetic: WDMA - Premium Grade

##### Face Veneer:

- Available in a wide variety of vertical & horizontal grain wood species, Sketch Face, Medium Density Overlay (MDO), and Primed Hardboard
- WDMA/AWS "A" Grade, Book and Running Match, standard
- Slip, Balance, and Center Balance Match available upon request
- WDMA/AWS "AA" Grade available upon request



##### Crossband:

- 1/16" (1.6 mm) minimum high density engineered wood composite
- Optional with no added Urea-formaldehyde

##### Finish:

- UV cured factory finish meets or exceeds WDMA TR-6 and Architectural Woodwork Standards (AWS) First Edition - System #9
- Available in 28 standard colors and custom color match
- Available with MicroShield® Antimicrobial finish

##### Certifications and Sustainability:

- Optional LEED 3.0 credits available
  - MR 4 - Recycled Content (standard)
  - MR 5 - Regional Materials
  - MR 7 - FSC Certified Wood
  - IEQ 4.4 - Low-emitting Materials
  - IEQ 9 - Enhanced Acoustical Performance (LEED for schools) STC 35 operable (flush door)
- California Air Resources Board (CARB)
- GreenGuard - Indoor Air Quality & Children in Schools
- Collaborative for High Performance Schools (CHPS)

Lifetime Warranty

\*Optional blocking required to meet Extra heavy Duty face screw holding standards.

## GPD-EC

5-Ply Engineered Composite Lumber Core  
WDMA/AWS Extra Heavy Duty  
SCLC-5

### Construction

#### Horizontal Edges:

- Top and bottom rails - structural composite lumber
- Bonded to core
- 1" minimum after factory trim
- No additional blocking required for thru bolted closers

#### Vertical Edges:

- Matching vertical edges
- Bonded to core
- Structural composite lumber (SCL) laminated to a matching hardwood face (standard for Oak, Birch, and Maple)
- Structural composite lumber (SCL) laminated with a matching veneer edge band on veneers other than listed above as standard with optional hardwood stiles face available

#### Core:

- Structural Composite Lumber
- Meets requirements of LEED MR4
- Contains no added Urea-formaldehyde

#### Fire Rating:

- 20 minute fire rating available
- Meets UL 10b (neutral pressure) and UL 10c (positive pressure) Category "B" requirements
- Option to UL 10c (positive pressure) Category "A"

#### Acoustical Rating:

- Sound Transmission Class (STC) 31 operable with required seals

#### Adhesive:

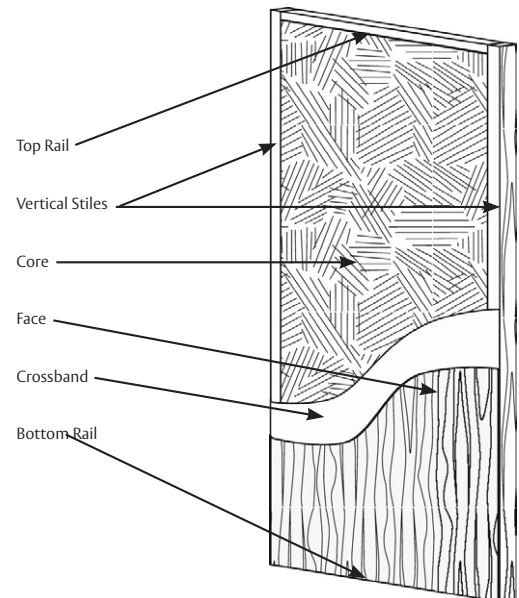
- Doors constructed using Type I adhesives which contain no added Urea-formaldehyde

#### Construction Grade:

- Performance: WDMA/AWS - Extra Heavy Duty
- Aesthetic: WDMA - Premium Grade

#### Face Veneer:

- Available in a wide variety of vertical & horizontal grain wood species, Sketch Face, Medium Density Overlay (MDO), and Primed Hardboard
- WDMA/AWS "A" Grade, Book and Running Match, standard
- Slip, Balance, and Center Balance Match available upon request
- WDMA/AWS "AA" Grade available upon request



#### Crossband:

- 1/16" (1.6 mm) minimum high density engineered wood composite
- Optional with no added Urea-formaldehyde

#### Finish:

- UV cured factory finish meets or exceeds WDMA TR-6 and Architectural Woodwork Standards (AWS) First Edition - System #9
- Available in 28 standard colors and custom color match
- Available with MicroShield® Antimicrobial finish

#### Certifications and Sustainability:

- Optional LEED 3.0 credits available
  - MR 4 - Recycled Content (standard)
  - MR 7 - FSC Certified Wood
  - IEQ 4.4 - Low-emitting Materials
  - IEQ 9 - Enhanced Acoustical Performance (LEED for schools) STC 35 operable (flush door)
- California Air Resources Board (CARB)
- GreenGuard - Indoor Air Quality & Children in Schools
- Collaborative for High Performance Schools (CHPS)

Lifetime Warranty

# 10 Architectural 5-Ply Specification

## Technical Manual

August, 2013

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### GPD-SL

5-Ply Stave Lumber Core  
WDMA/AWS Extra Heavy Duty  
SCLC-5

#### Construction

##### Horizontal Edges:

- Top and bottom rails - structural composite lumber
- Bonded to core
- 1" minimum after factory trim
- No additional blocking required for thru bolted closers

##### Vertical Edges:

- Matching vertical edges
- Bonded to core
- Structural composite lumber (SCL) laminated to a matching hardwood face (standard for Oak, Birch, and Maple)
- Structural composite lumber (SCL) laminated with a matching veneer edge band on veneers other than listed above as standard with optional hardwood stiles face available

##### Core:

- Stave Lumber
- Meets requirements of LEED MR4
- Contains no added Urea-formaldehyde

##### Fire Rating:

- 20 minute fire rating available
- Meets UL 10b (neutral pressure) and UL 10c (positive pressure) Category "B" requirements
- Option to UL 10c (positive pressure) Category "A"

##### Acoustical Rating:

- Sound Transmission Class (STC) 31 operable with required seals

##### Adhesive:

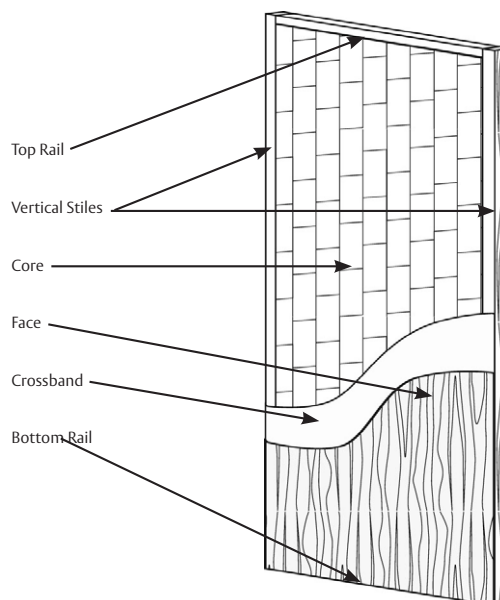
- Doors constructed using Type I adhesives which contain no added Urea-formaldehyde

##### Construction Grade:

- Performance: WDMA/AWS - Extra Heavy Duty
- Aesthetic: WDMA - Premium Grade

##### Face Veneer:

- Available in a wide variety of vertical & horizontal grain wood species, Sketch Face, Medium Density Overlay (MDO), and Primed Hardboard
- WDMA/AWS "A" Grade, Book and Running Match, standard
- Slip, Balance, and Center Balance Match available upon request
- WDMA/AWS "AA" Grade available upon request



##### Crossband:

- 1/16" (1.6 mm) minimum high density engineered wood composite
- Optional with no added Urea-formaldehyde

##### Finish:

- UV cured factory finish meets or exceeds WDMA TR-6 and Architectural Woodwork Standards (AWS) First Edition - System #9
- Available in 28 standard colors and custom color match
- Available with MicroShield® Antimicrobial finish

##### Certifications and Sustainability:

- Optional LEED 3.0 credits available
  - MR 4 - Recycled Content (standard)
  - MR 7 - FSC Certified Wood
  - IEQ 4.4 - Low-emitting Materials
- California Air Resources Board (CARB)
- GreenGuard - Indoor Air Quality & Children in Schools
- Collaborative for High Performance Schools (CHPS)

Lifetime Warranty

## GPD-AF

5-Ply Agrifiber Core  
WDMA/AWS Extra Heavy Duty  
AF-5

### Construction

#### Horizontal Edges:

- Top and bottom rails - structural composite lumber
- Bonded to core
- 1" minimum after factory trim
- No additional blocking required for thru bolted closers

#### Vertical Edges:

- Matching vertical edges
- Bonded to core
- Structural composite lumber (SCL) laminated to a matching hardwood face (standard for Oak, Birch, and Maple)
- Structural composite lumber (SCL) laminated with a matching veneer edge band on veneers other than listed above as standard with optional hardwood stiles face available

#### Core:

- Agrifiber
- Conforms to ANSI A208.1
- Contains no added Urea-formaldehyde

#### Fire Rating:

- 20 minute fire rating available
- Meets UL 10b (neutral pressure) and UL 10c (positive pressure) Category "B" requirements
- Option to UL 10c (positive pressure) Category "A"

#### Acoustical Rating:

- Sound Transmission Class (STC) 29 operable with required seals

#### Adhesive:

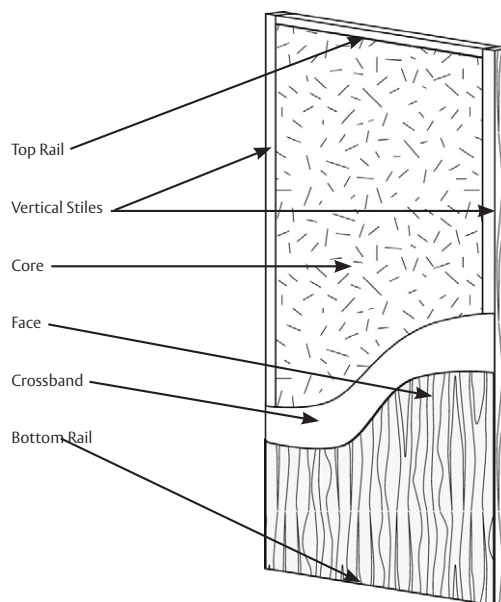
- Doors constructed using Type I adhesives which contain no added Urea-formaldehyde

#### Construction Grade:

- Performance: WDMA/AWS - Extra Heavy Duty\*
- Aesthetic: WDMA - Premium Grade

#### Face Veneer:

- Available in a wide variety of vertical & horizontal grain wood species, Sketch Face, Medium Density Overlay (MDO), and Primed Hardboard
- WDMA/AWS "A" Grade, Book and Running Match, standard
- Slip, Balance, and Center Balance Match available upon request
- WDMA/AWS "AA" Grade available upon request



#### Crossband:

- 1/16" (1.6 mm) minimum high density engineered wood composite
- Optional with no added Urea-formaldehyde

#### Finish:

- UV cured factory finish meets or exceeds WDMA TR-6 and Architectural Woodwork Standards (AWS) First Edition - System #9
- Available in 28 standard colors and custom color match
- Available with MicroShield® Antimicrobial finish

#### Certifications and Sustainability:

- Optional LEED 3.0 credits available
  - MR 4 - Recycled Content (standard)
  - MR 6 - Rapidly renewable Materials
  - MR 7 - FSC Certified Wood
  - IEQ 4.4 - Low-emitting Materials
- California Air Resources Board (CARB)
- GreenGuard - Indoor Air Quality & Children in Schools
- Collaborative for High Performance Schools (CHPS)

Lifetime Warranty

\*Optional blocking required to meet Extra heavy Duty face screw holding standards.

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## Architectural 5-Ply Specification

### Technical Manual

June, 2011

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#### GPD-FD 45

5-Ply Fire Core  
WDMA/AWS Extra Heavy Duty  
FD-5

#### Construction

##### Horizontal Edges:

- Top and bottom rails - wood or composite material, specific configuration to Graham Label Service Listing
- Bonded to core
- No additional blocking required for thru bolted closers
- Optional closer & lock block available

##### Vertical Edges:

- Matching vertical edges - wood or composite material, specific configuration to Graham Label Service Listing
- Bonded to core

##### Core:

- Fire Resistant Composite Core per Graham Label Service Listing
- Contains no added Urea-formaldehyde

##### Fire Rating:

- 45 minute fire rating
- 250 degree temperature rise
- Meets UL 10b (neutral pressure) and UL 10c (positive pressure) Category "B" requirements
- Option to UL 10c (positive pressure) Category "A"

##### Adhesive:

- Doors constructed using Type I adhesives which contain no added Urea-formaldehyde

##### Construction Grade:

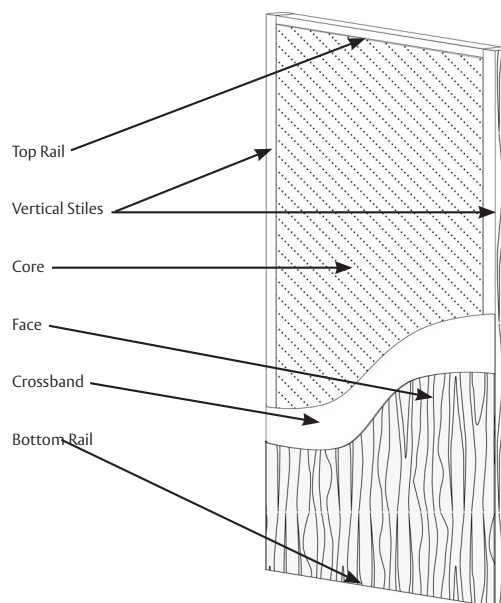
- Performance: WDMA/AWS - Extra Heavy Duty\*
- Aesthetic: WDMA - Premium Grade

##### Face Veneer:

- Available in a wide variety of vertical & horizontal grain wood species, Sketch Face, Medium Density Overlay (MDO), and Primed Hardboard
- WDMA/AWS "A" Grade, Book and Running Match, standard
- Slip, Balance, and Center Balance Match available upon request
- WDMA/AWS "AA" Grade available upon request

##### Crossband:

- 1/16" (1.6 mm) minimum high density engineered wood composite
- Optional with no added Urea-formaldehyde



##### Finish:

- UV cured factory finish meets or exceeds WDMA TR-6 and Architectural Woodwork Standards (AWS) First Edition - System #9
- Available in 28 standard colors and custom color match
- Available with MicroShield® Antimicrobial finish

##### Certifications and Sustainability:

- Optional LEED 3.0 credits available\*\*
  - MR 7 - FSC Certified Wood
  - IEQ 4.4 - Low-emitting Materials
- California Air Resources Board (CARB)
- GreenGuard - Indoor Air Quality & Children in Schools
- Collaborative for High Performance Schools (CHPS)

Lifetime Warranty

\*Optional blocking required to meet Extra heavy Duty face screw holding standards.

\*\*See graham LEED Documentation

## GPD-FD 60

5-Ply Fire Core  
WDMA/AWS Extra Heavy Duty  
FD-5

### Construction

#### Horizontal Edges:

- Top and bottom rails - wood or composite material, specific configuration to Graham Label Service Listing
- Bonded to core
- No additional blocking required for thru bolted closers
- Optional closer & lock block available

#### Vertical Edges:

- Matching vertical edges - wood or composite material, specific configuration to Graham Label Service Listing
- Bonded to core

#### Core:

- Fire Resistant Composite Core per Graham Label Service Listing
- Contains no added Urea-formaldehyde

#### Fire Rating:

- 60 minute fire rating
- 250 degree temperature rise
- Meets UL 10b (neutral pressure) and UL 10c (positive pressure) Category "B" requirements
- Option to UL 10c (positive pressure) Category "A"

#### Adhesive:

- Doors constructed using Type I adhesives which contain no added Urea-formaldehyde

#### Construction Grade:

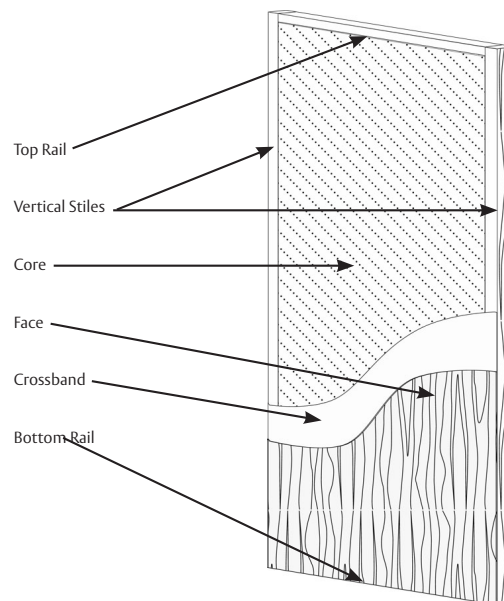
- Performance: WDMA/AWS - Extra Heavy Duty\*
- Aesthetic: WDMA - Premium Grade

#### Face Veneer:

- Available in a wide variety of vertical & horizontal grain wood species, Sketch Face, Medium Density Overlay (MDO), and Primed Hardboard
- WDMA/AWS "A" Grade, Book and Running Match, standard
- Slip, Balance, and Center Balance Match available upon request
- WDMA/AWS "AA" Grade available upon request

#### Crossband:

- 1/16" (1.6 mm) minimum high density engineered wood composite
- Optional with no added Urea-formaldehyde



#### Finish:

- UV cured factory finish meets or exceeds WDMA TR-6 and Architectural Woodwork Standards (AWS) First Edition - System #9
- Available in 28 standard colors and custom color match
- Available with MicroShield® Antimicrobial finish

#### Certifications and Sustainability:

- Optional LEED 3.0 credits available\*\*
  - MR 7 - FSC Certified Wood
  - IEQ 4.4 - Low-emitting Materials
- California Air Resources Board (CARB)
- GreenGuard - Indoor Air Quality & Children in Schools
- Collaborative for High Performance Schools (CHPS)

Lifetime Warranty

\*Optional blocking required to meet Extra heavy Duty face screw holding standards.

\*\*See graham LEED Documentation

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## Technical Manual

June, 2011

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### GPD-FD 90

5-Ply Fire Core  
WDMA/AWS Extra Heavy Duty  
FD-5

#### Construction

##### Horizontal Edges:

- Top and bottom rails - wood or composite material, specific configuration to Graham Label Service Listing
- Bonded to core
- No additional blocking required for thru bolted closers
- Optional closer & lock block available

##### Vertical Edges:

- Matching vertical edges - wood or composite material, specific configuration to Graham Label Service Listing
- Bonded to core

##### Core:

- Fire Resistant Composite Core per Graham Label Service Listing
- Contains no added Urea-formaldehyde

##### Fire Rating:

- 90 minute fire rating
- 250 degree temperature rise
- Meets UL 10b (neutral pressure) and UL 10c (positive pressure) Category "B" requirements
- Option to UL 10c (positive pressure) Category "A"

##### Adhesive:

- Doors constructed using Type I adhesives which contain no added Urea-formaldehyde

##### Construction Grade:

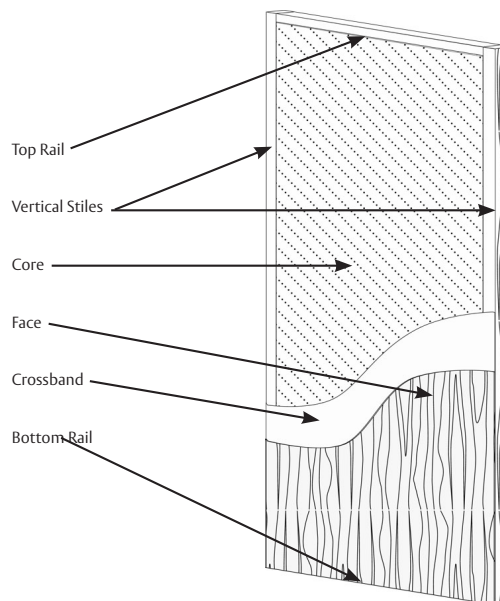
- Performance: WDMA/AWS - Extra Heavy Duty\*
- Aesthetic: WDMA - Premium Grade

##### Face Veneer:

- Available in a wide variety of vertical & horizontal grain wood species, Sketch Face, Medium Density Overlay (MDO), and Primed Hardboard
- WDMA/AWS "A" Grade, Book and Running Match, standard
- Slip, Balance, and Center Balance Match available upon request
- WDMA/AWS "AA" Grade available upon request

##### Crossband:

- 1/16" (1.6 mm) minimum high density engineered wood composite
- Optional with no added Urea-formaldehyde



##### Finish:

- UV cured factory finish meets or exceeds WDMA TR-6 and Architectural Woodwork Standards (AWS) First Edition - System #9
- Available in 28 standard colors and custom color match
- Available with MicroShield<sup>®</sup> Antimicrobial finish

##### Certifications and Sustainability:

- Optional LEED 3.0 credits available\*\*
  - MR 7 - FSC Certified Wood
  - IEQ 4.4 - Low-emitting Materials
- California Air Resources Board (CARB)
- GreenGuard - Indoor Air Quality & Children in Schools
- Collaborative for High Performance Schools (CHPS)

Lifetime Warranty

\*Optional blocking required to meet Extra heavy Duty face screw holding standards.

\*\*See graham LEED Documentation

## GPD-HC

5-Ply Hollow Core  
HC-5

### Construction

#### Horizontal Edges:

- Top and bottom rails - structural composite lumber
- 1" minimum after factory trim
- No additional blocking required for thru bolted closers

#### Vertical Edges:

- Matching vertical edges
- Bonded to core
- Structural composite lumber (SCL) laminated to a matching hardwood face (standard for Oak, Birch, and Maple)
- Structural composite lumber (SCL) laminated with a matching veneer edge band on veneers other than listed above as standard with optional hardwood stiles face available

#### Core:

- Conforms to ASTM C578, Type 1
- Solid Polystyrene Core

#### Fire Rating:

- Not available

#### Adhesive:

- Doors constructed using Type I adhesives which contain no added Urea-formaldehyde

#### Face Veneer:

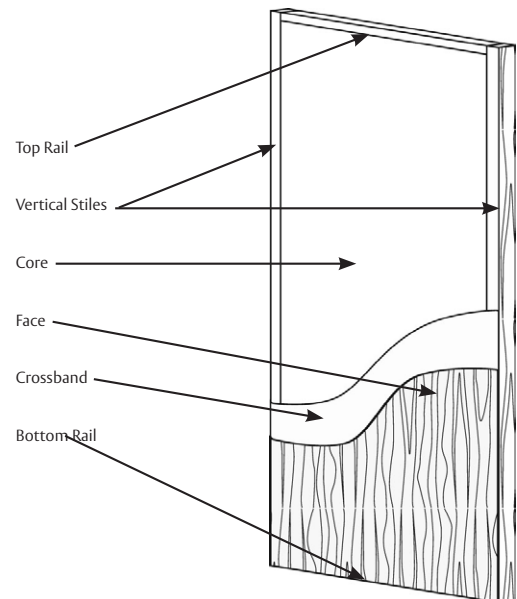
- Available in a wide variety of vertical & horizontal grain wood species, Sketch Face, Medium Density Overlay (MDO), and Primed Hardboard
- WDMA/AWS "A" Grade, Book and Running Match, standard
- Slip, Balance, and Center Balance Match available upon request
- WDMA/AWS "AA" Grade available upon request

#### Crossband:

- 1/16" (1.6 mm) minimum high density engineered wood composite
- Optional with no added Urea-formaldehyde

#### Finish:

- UV cured factory finish meets or exceeds WDMA TR-6 and Architectural Woodwork Standards (AWS) First Edition - System #9
- Available in 28 standard colors and custom color match
- Available with MicroShield® Antimicrobial finish



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#### GCD-PC

5-Ply Particleboard Core  
WDMA/AWS Extra Heavy Duty  
PC-5

#### Construction

##### Horizontal Edges:

- Top and bottom rails - structural composite lumber
- Bonded to core
- 1" minimum after factory trim
- No additional blocking required for thru bolted closers
- Optional closer and lock blocks available

##### Vertical Edges:

- Mill option hard wood vertical edges
- Bonded to core
- Structural composite lumber (SCL) laminated to a mill option hardwood face

##### Core:

- Conforms to ANSI A208.1
  - Standard LD1 Particleboard Core - 28 lbs/ft<sup>3</sup>
  - Optional LD2 available - 32 lbs/ft<sup>3</sup>
- Meets requirements of LEED MR4
- Optional to UL 10c (positive pressure) Category "A"

##### Fire Rating:

- 20 minute fire rating available
- Meets UL 10b (neutral pressure) and UL 10c (positive pressure) Category "B" requirements
- Option to UL 10c (positive pressure) Category "A"

##### Adhesive:

- Doors constructed using Type I adhesives which contain no added Urea-formaldehyde

##### Construction Grade:

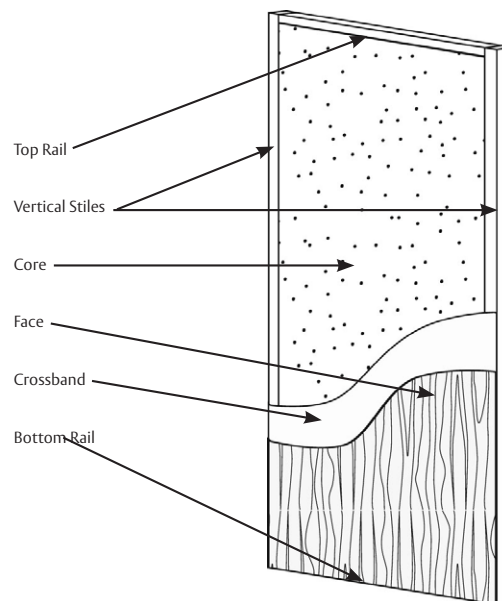
- Performance: WDMA/AWS - Extra Heavy Duty\*
- Aesthetic: WDMA - Custom Grade

##### Face Veneer:

- Available in a wide variety of wood species, Medium Density Overlay (MDO), and Primed Hardboard
- WDMA/AWS "A" Grade, Book and Running Match, standard
- Slip, Balance, and Center Balance Match available upon request

##### Crossband:

- 1/16" (1.6 mm) minimum high density engineered wood composite
- Optional with no added Urea-formaldehyde



##### Finish:

- UV cured factory finish meets or exceeds WDMA TR-6 and Architectural Woodwork Standards (AWS) First Edition - System #9
- Available in 28 standard colors and custom color match
- Available with MicroShield<sup>®</sup> Antimicrobial finish

##### Certifications and Sustainability:

- Optional LEED 3.0 credits available
  - MR 4 - Recycled Content (standard)
  - MR 5 - Regional Materials
  - IEQ 4.4 - Low-emitting Materials
- California Air Resources Board (CARB)
- GreenGuard - Indoor Air Quality & Children in Schools
- Collaborative for High Performance Schools (CHPS)

Lifetime Warranty

\*Optional blocking required to meet Extra heavy Duty face screw holding standards.

## GCD-EC

5-Ply Engineered Composite Lumber Core  
WDMA/AWS Extra Heavy Duty  
SCLC-5

### Construction

#### Horizontal Edges:

- Top and bottom rails - structural composite lumber
- Bonded to core
- 1" minimum after factory trim
- No additional blocking required for thru bolted closers

#### Vertical Edges:

- Mill option hard wood vertical edges
- Bonded to core
- Structural composite lumber (SCL) laminated to a mill option hardwood face

#### Core:

- Structural Composite Lumber
- Meets requirements of LEED MR4
- Contains no added Urea-formaldehyde

#### Fire Rating:

- 20 minute fire rating available
- Meets UL 10b (neutral pressure) and UL 10c (positive pressure) Category "B" requirements
- Option to UL 10c (positive pressure) Category "A"

#### Adhesive:

- Doors constructed using Type I adhesives which contain no added Urea-formaldehyde

#### Construction Grade:

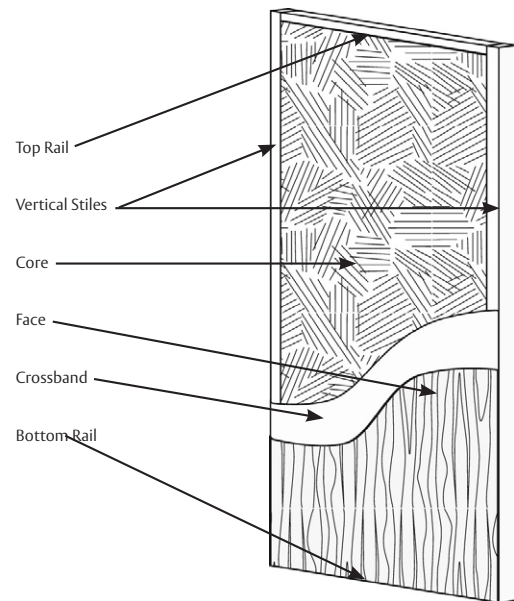
- Performance: WDMA/AWS - Extra Heavy Duty
- Aesthetic: WDMA - Custom Grade

#### Face Veneer:

- Available in a wide variety of wood species, Medium Density Overlay (MDO), and Primed Hardboard
- WDMA/AWS "A" Grade, Book and Running Match, standard
- Slip, Balance, and Center Balance Match available upon request
- WDMA/AWS "AA" Grade available upon request

#### Crossband:

- 1/16" (1.6 mm) minimum high density engineered wood composite
- Optional with no added Urea-formaldehyde



#### Finish:

- UV cured factory finish meets or exceeds WDMA TR-6 and Architectural Woodwork Standards (AWS) First Edition - System #9
- Available in 28 standard colors and custom color match
- Available with MicroShield® Antimicrobial finish

#### Certifications and Sustainability:

- Optional LEED 3.0 credits available
  - MR 4 - Recycled Content (standard)
  - IEQ 4.4 - Low-emitting Materials
- California Air Resources Board (CARB)
- GreenGuard - Indoor Air Quality & Children in Schools
- Collaborative for High Performance Schools (CHPS)

Lifetime Warranty

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## Technical Manual

June, 2011

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### GCD-AF

5-Ply Agrifiber Core  
WDMA/AWS Extra Heavy Duty  
AF-5

#### Construction

##### Horizontal Edges:

- Top and bottom rails - structural composite lumber
- Bonded to core
- 1" minimum after factory trim
- No additional blocking required for thru bolted closers

##### Vertical Edges:

- Mill option hard wood vertical edges
- Bonded to core
- Structural composite lumber (SCL) laminated to a mill option hardwood face

##### Core:

- Agrifiber
- Conforms to ANSI A208.1
- Contains no added Urea-formaldehyde

##### Fire Rating:

- 20 minute fire rating available
- Meets UL 10b (neutral pressure) and UL 10c (positive pressure) Category "B" requirements
- Option to UL 10c (positive pressure) Category "A"

##### Adhesive:

- Doors constructed using Type I adhesives which contain no added Urea-formaldehyde

##### Construction Grade:

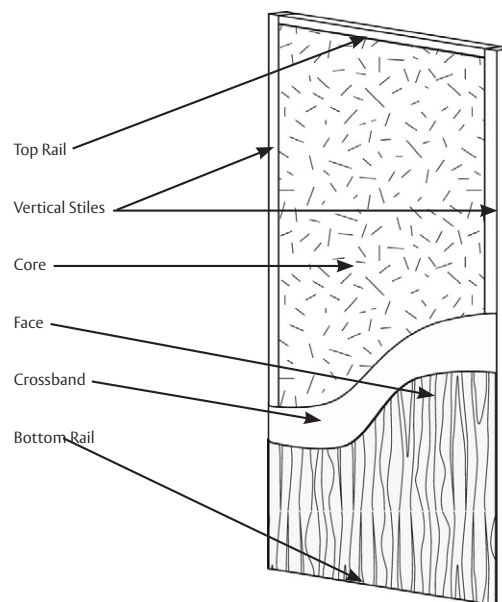
- Performance: WDMA/AWS - Extra Heavy Duty\*
- Aesthetic: WDMA - Custom Grade

##### Face Veneer:

- Available in a wide variety of wood species, Medium Density Overlay (MDO), and Primed Hardboard
- WDMA/AWS "A" Grade, Book and Running Match, standard
- Slip, Balance, and Center Balance Match available upon request

##### Crossband:

- 1/16" (1.6 mm) minimum high density engineered wood composite
- Optional with no added Urea-formaldehyde



##### Finish:

- UV cured factory finish meets or exceeds WDMA TR-6 and Architectural Woodwork Standards (AWS) First Edition - System #9
- Available in 28 standard colors and custom color match
- Available with MicroShield<sup>®</sup> Antimicrobial finish

##### Certifications and Sustainability:

- Optional LEED 3.0 credits available
  - MR 4 - Recycled Content (standard)
  - MR 6 - Rapidly Renewable Materials
  - IEQ 4.4 - Low-emitting Materials
- California Air Resources Board (CARB)
- GreenGuard - Indoor Air Quality & Children in Schools
- Collaborative for High Performance Schools (CHPS)

Lifetime Warranty

\*Optional blocking required to meet Extra heavy Duty face screw holding standards.

## GCD-FD 45

5-Ply Fire Core  
WDMA/AWS Extra Heavy Duty  
FD-5

### Construction

#### Horizontal Edges:

- Top and bottom rails - wood or composite material, specific configuration to Graham Label Service Listing
- Bonded to core
- No additional blocking required for thru bolted closers
- Optional closer & lock block available

#### Vertical Edges:

- Mill option hard wood vertical edges
- Bonded to core
- Structural composite lumber (SCL) laminated to a mill option hardwood face

#### Core:

- Fire Resistant Composite Core per Graham Label Service Listing
- Contains no added Urea-formaldehyde

#### Fire Rating:

- 45 minute fire rating
- 250 degree temperature rise
- Meets UL 10b (neutral pressure) and UL 10c (positive pressure) Category "B" requirements
- Option to UL 10c (positive pressure) Category "A"

#### Adhesive:

- Doors constructed using Type I adhesives which contain no added Urea-formaldehyde

#### Construction Grade:

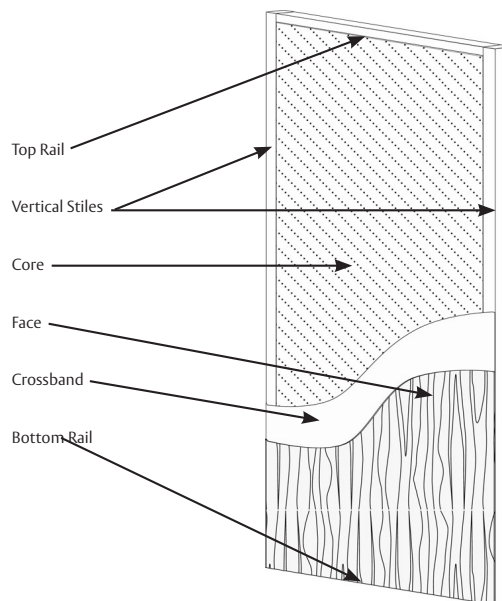
- Performance: WDMA/AWS - Extra Heavy Duty\*
- Aesthetic: WDMA - Custom Grade

#### Face Veneer:

- Available in a wide variety of wood species, Medium Density Overlay (MDO), and Primed Hardboard
- WDMA/AWS "A" Grade, Book and Running Match, standard
- Slip, Balance, and Center Balance Match available upon request

#### Crossband:

- 1/16" (1.6 mm) minimum high density engineered wood composite
- Optional with no added Urea-formaldehyde



#### Finish:

- UV cured factory finish meets or exceeds WDMA TR-6 and Architectural Woodwork Standards (AWS) First Edition - System #9
- Available in 28 standard colors and custom color match
- Available with MicroShield® Antimicrobial finish

#### Certifications and Sustainability:

- Optional LEED 3.0 credits available\*\*
- IEQ 4.4 - Low-emitting Materials
- California Air Resources Board (CARB)
- GreenGuard - Indoor Air Quality & Children in Schools
- Collaborative for High Performance Schools (CHPS)

Lifetime Warranty

\*Optional blocking required to meet Extra heavy Duty face screw holding standards.

\*\*See graham LEED Documentation

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## Technical Manual

June, 2011

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### GCD-FD 60

5-Ply Fire Core  
WDMA/AWS Extra Heavy Duty  
FD-5

#### Construction

##### Horizontal Edges:

- Top and bottom rails - wood or composite material, specific configuration to Graham Label Service Listing
- Bonded to core
- No additional blocking required for thru bolted closers
- Optional closer & lock block available

##### Vertical Edges:

- Mill option hard wood vertical edges
- Bonded to core
- Structural composite lumber (SCL) laminated to a mill option hardwood face

##### Core:

- Fire Resistant Composite Core per Graham Label Service Listing
- Contains no added Urea-formaldehyde

##### Fire Rating:

- 60 minute fire rating
- 250 degree temperature rise
- Meets UL 10b (neutral pressure) and UL 10c (positive pressure) Category "B" requirements
- Option to UL 10c (positive pressure) Category "A"

##### Adhesive:

- Doors constructed using Type I adhesives which contain no added Urea-formaldehyde

##### Construction Grade:

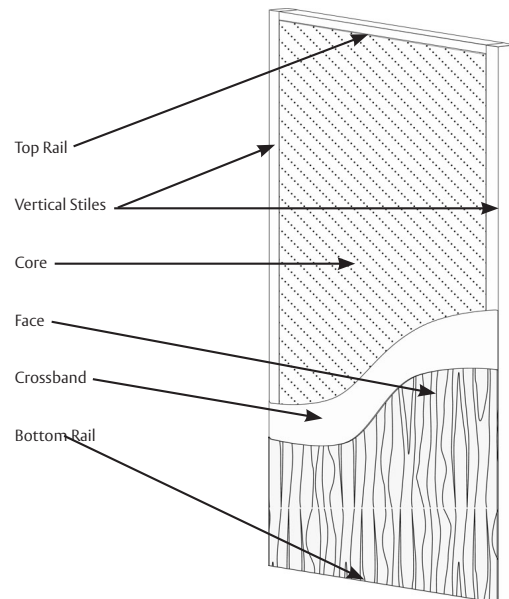
- Performance: WDMA/AWS - Extra Heavy Duty\*
- Aesthetic: WDMA - Custom Grade

##### Face Veneer:

- Available in a wide variety of wood species, Medium Density Overlay (MDO), and Primed Hardboard
- WDMA/AWS "A" Grade, Book and Running Match, standard
- Slip, Balance, and Center Balance Match available upon request

##### Crossband:

- 1/16" (1.6 mm) minimum high density engineered wood composite
- Optional with no added Urea-formaldehyde



##### Finish:

- UV cured factory finish meets or exceeds WDMA TR-6 and Architectural Woodwork Standards (AWS) First Edition - System #9
- Available in 28 standard colors and custom color match
- Available with MicroShield® Antimicrobial finish

##### Certifications and Sustainability:

- Optional LEED 3.0 credits available\*\*
  - IEQ 4.4 - Low-emitting Materials
- California Air Resources Board (CARB)
- GreenGuard - Indoor Air Quality & Children in Schools
- Collaborative for High Performance Schools (CHPS)

Lifetime Warranty

\*Optional blocking required to meet Extra heavy Duty face screw holding standards.

\*\*See graham LEED Documentation

## GCD-FD 90

5-Ply Fire Core  
WDMA/AWS Extra Heavy Duty  
FD-5

### Construction

#### Horizontal Edges:

- Top and bottom rails - wood or composite material, specific configuration to Graham Label Service Listing
- Bonded to core
- No additional blocking required for thru bolted closers
- Optional closer & lock block available

#### Vertical Edges:

- Mill option hard wood vertical edges
- Bonded to core
- Structural composite lumber (SCL) laminated to a mill option hardwood face

#### Core:

- Fire Resistant Composite Core per Graham Label Service Listing
- Contains no added Urea-formaldehyde

#### Fire Rating:

- 90 minute fire rating
- 250 degree temperature rise
- Meets UL 10b (neutral pressure) and UL 10c (positive pressure) Category "B" requirements
- Option to UL 10c (positive pressure) Category "A"

#### Adhesive:

- Doors constructed using Type I adhesives which contain no added Urea-formaldehyde

#### Construction Grade:

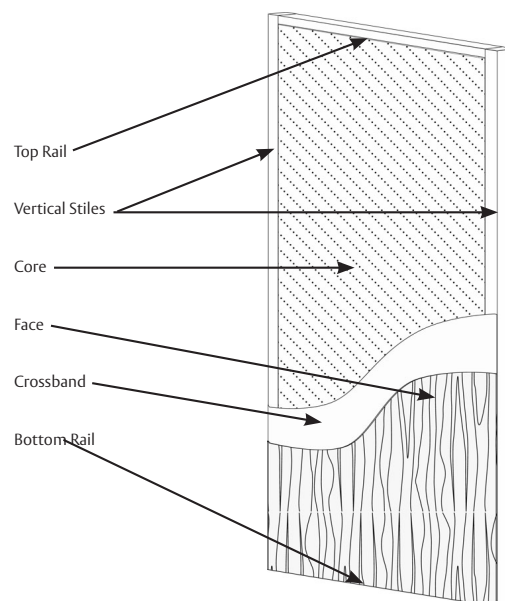
- Performance: WDMA/AWS - Extra Heavy Duty\*
- Aesthetic: WDMA - Custom Grade

#### Face Veneer:

- Available in a wide variety of wood species, Medium Density Overlay (MDO), and Primed Hardboard
- WDMA/AWS "A" Grade, Book and Running Match, standard
- Slip, Balance, and Center Balance Match available upon request

#### Crossband:

- 1/16" (1.6 mm) minimum high density engineered wood composite
- Optional with no added Urea-formaldehyde



#### Finish:

- UV cured factory finish meets or exceeds WDMA TR-6 and Architectural Woodwork Standards (AWS) First Edition - System #9
- Available in 28 standard colors and custom color match
- Available with MicroShield® Antimicrobial finish

#### Certifications and Sustainability:

- Optional LEED 3.0 credits available\*\*
- IEQ 4.4 - Low-emitting Materials
- California Air Resources Board (CARB)
- GreenGuard - Indoor Air Quality & Children in Schools
- Collaborative for High Performance Schools (CHPS)

Lifetime Warranty

\*Optional blocking required to meet Extra heavy Duty face screw holding standards.

\*\*See graham LEED Documentation

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## Architectural 5-Ply Specification

### Technical Manual

April, 2013

**Graham**<sup>®</sup>  
wood doors

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in door opening solutions

#### GSD-SR35

Acoustical Core

STC 35

WDMA Extra Heavy Duty

SR5

HPDL (High Pressure Decorative Laminate)

#### Construction

##### Horizontal Edges:

- Bonded to core
- 3" minimum after factory trim
- No additional blocking required for thru bolted closers
- Optional decorative laminate top and bottom edges

##### Vertical Edges:

- Bonded to core
- Structural composite lumber (SCL) laminated with a matching decorative laminate edge band
- Optional painted or stained vertical edges

##### Core:

- Proprietary Sound Resistant material
- Contains no added Urea-formaldehyde

##### Acoustical Rating:

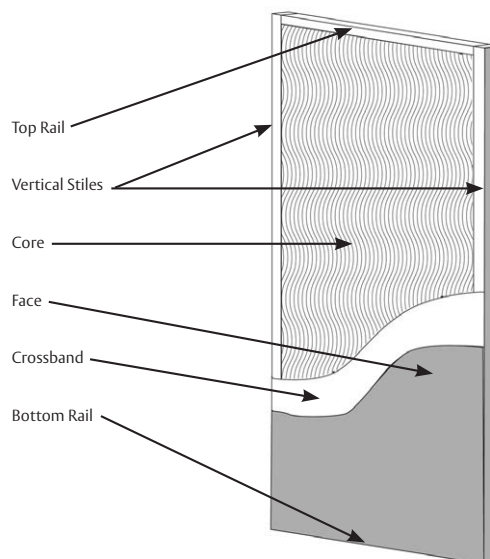
- Sound Transmission Class (STC) 35 operable
- Available with factory installed lite (up to and including 252 in<sup>2</sup> visible area)
- Required gasketing (with threshold) is included in price of door and provided by Graham
- Door thickness 1 3/4"
- Top clearance 1/8"
- Hinge side clearance 1/16"
- Lock side clearance 1/8"
- Undercut clearance (from finished floor) 3/8"
- Single swing, or Pair with mullion
- Uses standard or heavyweight hinges (4.5" or 5")
- For use with cylindrical locks, mortise locks, mortise card locks, and thru-bolted closers
- Minimum size - 2'0" x 6'0"
- Maximum size - 4'0" x 8'0"
- Tested in accordance with ASTM E90 and E413, in fully grouted hollow metal frame

##### Adhesive:

- Doors constructed using Type I adhesives which contain no added Urea-formaldehyde

##### Construction Grade:

- Performance: WDMA/AWS - Extra Heavy Duty Hinge Loading and Screw Holding (horizontal and vertical door edges)
- Aesthetic: WDMA - Premium Grade



##### Face Veneer:

- 2 Ply construction
- .050 Thick decorative laminate
- Wide variety of patterns, solid colors, and woodgrains
- Available decorative faces from Formica, Wilsonart, Pionite, Nevamar

##### Crossband:

- 1/16" (1.6 mm) minimum high density engineered wood composite
- Optional with no added Urea-formaldehyde

##### Certifications and Sustainability:

- Optional LEED 3.0 credits available
  - IEQ 4.4 - Low-emitting Materials
  - IEQ 9 - Enhanced Acoustical Performance (LEED for schools) STC 35 operable (flush door)
- California Air Resources Board (CARB)

Lifetime Warranty

## GSD-SR41

Acoustical Core

STC 41

WDMA Extra Heavy Duty

SR5

HPDL (High Pressure Decorative Laminate)

### Construction

#### Horizontal Edges:

- Bonded to core
- 3" minimum after factory trim
- No additional blocking required for thru bolted closers
- Optional decorative laminate top and bottom edges

#### Vertical Edges:

- Bonded to core
- Structural composite lumber (SCL) laminated with a matching decorative laminate edge band
- Optional painted or stained vertical edges

#### Core:

- Heavy Duty Sound Resistent Core Material

#### Acoustical Rating:

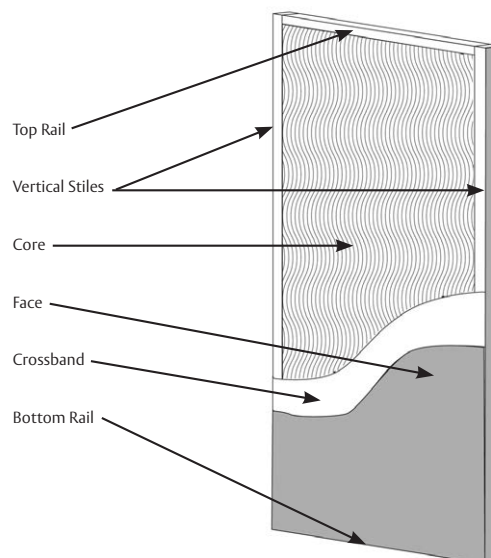
- Sound Transmission Class (STC) 41 operable
- Available with factory installed lite (up to and including 252 in<sup>2</sup> visible area)
- Required gasketing (with threshold) is included in price of door and provided by Graham
- Door thickness 1 3/4"
- Top clearance 1/8"
- Hinge side clearance 1/16"
- Lock side clearance 1/8"
- Undercut clearance (from finished floor) 3/8"
- Single swing, or Pair with mullion
- Uses standard or heavyweight hinges (4.5" or 5")
- For use with cylindrical locks, mortise locks, mortise card locks, and thru-bolted closers
- Minimum size - 2'0" x 6'0"
- Maximum size - 4'0" x 8'0"
- Tested in accordance with ASTM E90 and E413, in fully grouted hollow metal frame

#### Adhesive:

- Doors constructed using Type I adhesives which contain no added Urea-formaldehyde

#### Construction Grade:

- Performance: WDMA/AWS - Extra Heavy Duty Hinge Loading and Screw Holding (horizontal and vertical door edges)
- Aesthetic: WDMA - Premium Grade



#### Face Veneer:

- 2 Ply construction
- .050 Thick decorative laminate
- Wide variety of patterns, solid colors, and woodgrains
- Available decorative faces from Formica, Wilsonart, Pionite, Nevamar

#### Crossband:

- 1/16" (1.6 mm) minimum high density engineered wood composite
- Optional with no added Urea-formaldehyde

#### Certifications and Sustainability:

- Optional LEED 3.0 credits available
  - IEQ 4.4 - Low-emitting Materials
  - IEQ 9 - Enhanced Acoustical Performance (LEED for schools) STC 35 operable (flush door)
- California Air Resources Board (CARB)

Lifetime Warranty

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## Technical Manual

April, 2013

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### GSD-SR42

Acoustical Core

STC 42

WDMA Extra Heavy Duty

SR5

HPDL (High Pressure Decorative Laminate)

### Construction

#### Horizontal Edges:

- Bonded to core
- 3" minimum after factory trim
- No additional blocking required for thru bolted closers
- Optional closer and lock blocks available
- Optional decorative laminate top and bottom edges

#### Vertical Edges:

- Bonded to core
- Structural composite lumber (SCL) laminated with a matching decorative laminate edge band
- Optional painted or stained vertical edges

#### Core:

- Heavy Duty Sound Resistant Core Material

#### Acoustical Rating:

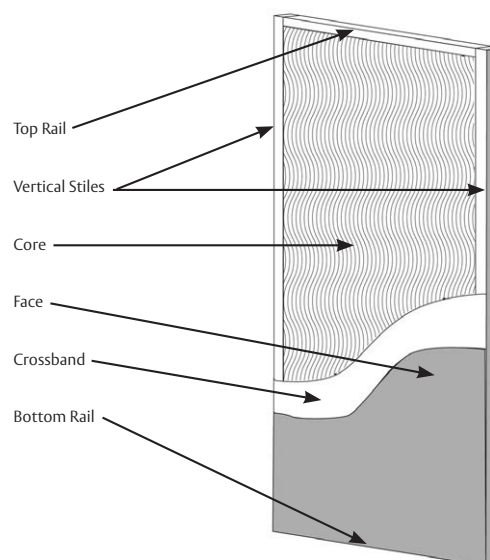
- Sound Transmission Class (STC) 42 operable
- Required gasketing (with threshold) is included in price of door and provided by Graham
- Door thickness 1 3/4"
- Top clearance 1/8"
- Hinge side clearance 1/16"
- Lock side clearance 1/8"
- Undercut clearance (from finished floor) 3/8"
- Single swing, or Pair with mullion
- Uses standard or heavyweight hinges (4.5" or 5")
- For use with cylindrical locks, mortise locks, mortise card locks, and thru-bolted closers
- Minimum size - 2'0" x 6'0"
- Maximum size - 4'0" x 8'0"
- Tested in accordance with ASTM E90 and E413, in fully grouted hollow metal frame

#### Adhesive:

- Doors constructed using Type I adhesives which contain no added Urea-formaldehyde

#### Construction Grade:

- Performance: WDMA/AWS - Extra Heavy Duty Hinge Loading and Screw Holding (horizontal and vertical door edges)
- Aesthetic: WDMA - Premium Grade



#### Face Veneer:

- 2 Ply construction
- .050 Thick decorative laminate
- Wide variety of patterns, solid colors, and woodgrains
- Available decorative faces from Formica, Wilsonart, Pionite, Nevamar

#### Crossband:

- 1/16" (1.6 mm) minimum high density engineered wood composite
- Optional with no added Urea-formaldehyde

#### Certifications and Sustainability:

- Optional LEED 3.0 credits available
  - IEQ 4.4 - Low-emitting Materials
  - IEQ 9 - Enhanced Acoustical Performance (LEED for schools) STC 35 operable (flush door)
- California Air Resources Board (CARB)

Lifetime Warranty

## GSD-SR46

Acoustical Core

STC 46

WDMA Extra Heavy Duty

SR5

HPDL (High Pressure Decorative Laminate)

### Construction

#### Horizontal Edges:

- Bonded to core
- 3" minimum after factory trim
- No additional blocking required for thru bolted closers
- Optional closer and lock block available
- Optional decorative laminate top and bottom edges

#### Vertical Edges:

- Bonded to core
- Structural composite lumber (SCL) laminated with a matching decorative laminate edge band
- Optional painted or stained vertical edges

#### Core:

- Proprietary Sound Resistant material
- Contains no added Urea-formaldehyde

#### Acoustical Rating:

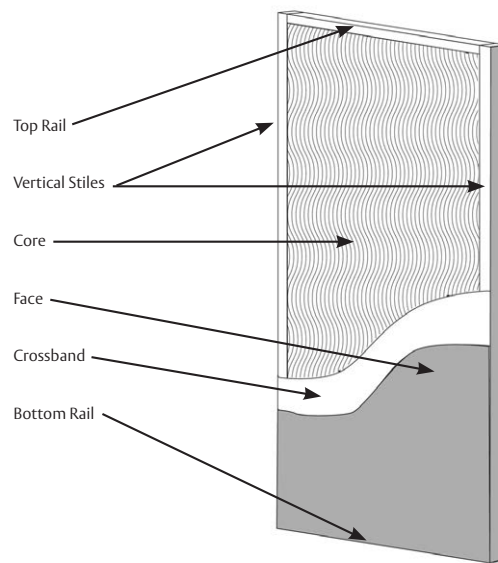
- Sound Transmission Class (STC) 46 operable
- Required gasketing (with threshold) is included in price of door and provided by Graham
- Door thickness 1 3/4"
- Top clearance 1/8"
- Hinge side clearance 1/16"
- Lock side clearance 1/8"
- Undercut clearance (from finished floor) 3/8"
- Single swing, or Pair with mullion
- Uses standard or heavyweight hinges (4.5" or 5")
- For use with cylindrical locks, mortise locks, mortise card locks, and thru-bolted closers
- Minimum size - 2'0" x 6'0"
- Maximum size - 4'0" x 8'0"
- Tested in accordance with ASTM E90 and E413, in fully grouted hollow metal frame

#### Adhesive:

- Doors constructed using Type I adhesives which contain no added Urea-formaldehyde

#### Construction Grade:

- Performance: WDMA/AWS - Extra Heavy Duty Hinge Loading and Screw Holding (horizontal and vertical door edges)
- Aesthetic: WDMA - Premium Grade



#### Face Veneer:

- 2 Ply construction
- .050 Thick decorative laminate
- Wide variety of patterns, solid colors, and woodgrains
- Available decorative faces from Formica, Wilsonart, Pionite, Nevamar

#### Crossband:

- 1/16" (1.6 mm) minimum high density engineered wood composite
- Optional with no added Urea-formaldehyde

#### Certifications and Sustainability:

- Optional LEED 3.0 credits available
  - IEQ 4.4 - Low-emitting Materials
  - IEQ 9 - Enhanced Acoustical Performance (LEED for schools) STC 35 operable (flush door)
- California Air Resources Board (CARB)

Lifetime Warranty

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## Technical Manual

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### GPD-PC

5-Ply Particleboard Core  
WDMA/AWS Extra Heavy Duty  
PC-5  
HPDL (High Pressure Decorative Laminate)

### Construction

#### Horizontal Edges:

- Top and bottom rails - structural composite lumber
- Bonded to core
- 1" minimum after factory trim
- No additional blocking required for thru bolted closers
- Optional closer and lock blocks available
- Optional decorative laminate top and bottom edges

#### Vertical Edges:

- Bonded to core
- Structural composite lumber (SCL) laminated with a matching decorative laminate edge band
- Optional painted or stained vertical edges

#### Core:

- Conforms to ANSI A208.1
  - Standard LD1 Particleboard Core - 28 lbs/ft<sup>3</sup>
  - Optional LD2 available - 32 lbs/ft<sup>3</sup>
- Meets requirements of LEED MR4
- Optional to UL 10c (positive pressure) Category "A"

#### Fire Rating:

- 20 minute fire rating available
- Meets UL 10b (neutral pressure) and UL 10c (positive pressure) Category "B" requirements
- Option to UL 10c (positive pressure) Category "A"

#### Acoustical Rating:

- Sound Transmission Class (STC) 30 operable with required seals

#### Adhesive:

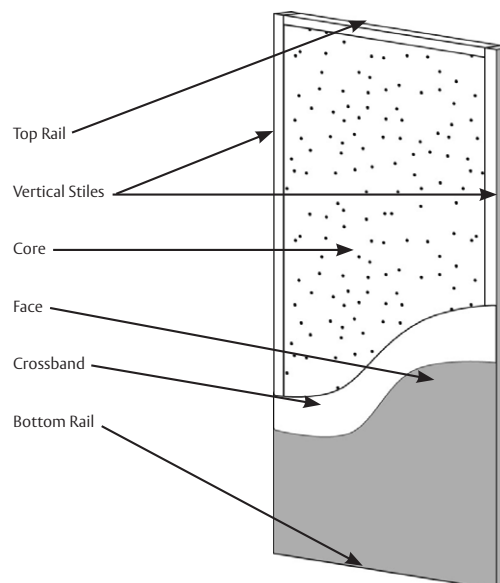
- Doors constructed using Type I adhesives which contain no added Urea-formaldehyde

#### Construction Grade:

- Performance: WDMA/AWS - Extra Heavy Duty\*
- Aesthetic: WDMA - Premium Grade

#### Face Veneer:

- 2 Ply construction
- .050 Thick decorative laminate
- Wide variety of patterns, solid colors, and woodgrains
- Available decorative faces from Formica, Wilsonart, Pionite, Nevamar



#### Crossband:

- 1/16" (1.6 mm) minimum high density engineered wood composite
- Optional with no added Urea-formaldehyde

#### Certifications and Sustainability:

- Optional LEED 3.0 credits available
  - MR 4 - Recycled Content (standard)
  - MR 5 - Regional Materials
  - MR 7 - FSC Certified Wood
  - IEQ 4.4 - Low-emitting Materials
  - IEQ 9 - Enhanced Acoustical Performance (LEED for schools) STC 35 operable (flush door)
- California Air Resources Board (CARB)
- GreenGuard - Indoor Air Quality & Children in Schools
- Collaborative for High Performance Schools (CHPS)

Lifetime Warranty

## GPD-EC

5-Ply Engineered Composite Lumber Core  
WDMA/AWS Extra Heavy Duty  
SCLC-5  
HPDL (High Pressure Decorative Laminate)

### Construction

#### Horizontal Edges:

- Top and bottom rails - structural composite lumber
- Bonded to core
- 1" minimum after factory trim
- No additional blocking required for thru bolted closers
- Optional decorative laminate top and bottom edges

#### Vertical Edges:

- Bonded to core
- Structural composite lumber (SCL) laminated with a matching decorative laminate edge band
- Optional painted or stained vertical edges

#### Core:

- Structural Composite Lumber
- Meets requirements of LEED MR4
- Contains no added Urea-formaldehyde

#### Fire Rating:

- 20 minute fire rating available
- Meets UL 10b (neutral pressure) and UL 10c (positive pressure) Category "B" requirements
- Option to UL 10c (positive pressure) Category "A"

#### Acoustical Rating:

- Sound Transmission Class (STC) 31 operable with required seals

#### Adhesive:

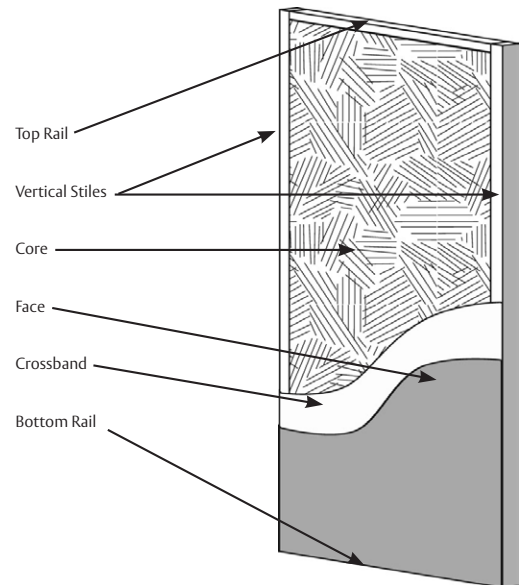
- Doors constructed using Type I adhesives which contain no added Urea-formaldehyde

#### Construction Grade:

- Performance: WDMA/AWS - Extra Heavy Duty
- Aesthetic: WDMA - Premium Grade

#### Face Veneer:

- 2 Ply construction
- .050 Thick decorative laminate
- Wide variety of patterns, solid colors, and woodgrains
- Available decorative faces from Formica, Wilsonart, Pionite, Nevamar



#### Crossband:

- 1/16" (1.6 mm) minimum high density engineered wood composite
- Optional with no added Urea-formaldehyde

#### Certifications and Sustainability:

- Optional LEED 3.0 credits available
  - MR 4 - Recycled Content (standard)
  - MR 7 - FSC Certified Wood
  - IEQ 4.4 - Low-emitting Materials
  - IEQ 9 - Enhanced Acoustical Performance (LEED for schools) STC 35 operable (flush door)
- California Air Resources Board (CARB)
- GreenGuard - Indoor Air Quality & Children in Schools
- Collaborative for High Performance Schools (CHPS)

Lifetime Warranty

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## Architectural 5-Ply Specification

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#### GPD-AF

5-Ply Agrifiber Core

WDMA/AWS Extra Heavy Duty

AF-5

HPDL (High Pressure Decorative Laminate)

#### Construction

##### Horizontal Edges:

- Top and bottom rails - structural composite lumber
- Bonded to core
- 1" minimum after factory trim
- No additional blocking required for thru bolted closers
- Optional decorative laminate top and bottom edges

##### Vertical Edges:

- Bonded to core
- Structural composite lumber (SCL) laminated with a matching decorative laminate edge band
- Optional painted or stained vertical edges

##### Core:

- Agrifiber
- Conforms to ANSI A208.1
- Contains no added Urea-formaldehyde

##### Fire Rating:

- 20 minute fire rating available
- Meets UL 10b (neutral pressure) and UL 10c (positive pressure) Category "B" requirements
- Option to UL 10c (positive pressure) Category "A"

##### Acoustical Rating:

- Sound Transmission Class (STC) 29 operable with required seals

##### Adhesive:

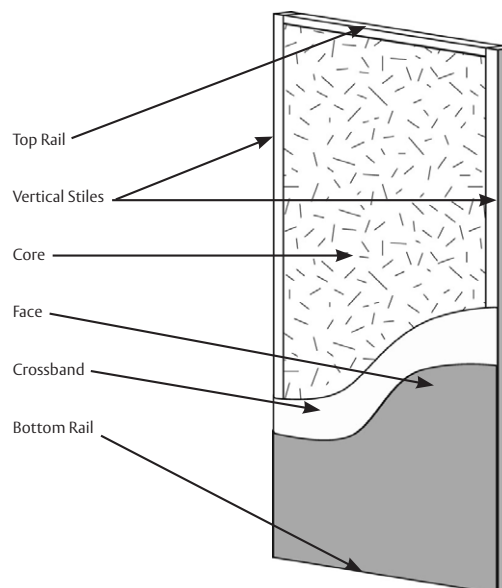
- Doors constructed using Type I adhesives which contain no added Urea-formaldehyde

##### Construction Grade:

- Performance: WDMA/AWS - Extra Heavy Duty\*
- Aesthetic: WDMA - Premium Grade

##### Face Veneer:

- 2 Ply construction
- .050 Thick decorative laminate
- Wide variety of patterns, solid colors, and woodgrains
- Available decorative faces from Formica, Wilsonart, Pionite, Nevamar



##### Crossband:

- 1/16" (1.6 mm) minimum high density engineered wood composite
- Optional with no added Urea-formaldehyde

##### Certifications and Sustainability:

- Optional LEED 3.0 credits available
  - MR 4 - Recycled Content (standard)
  - MR 6 - Rapidly renewable Materials
  - MR 7 - FSC Certified Wood
  - IEQ 4.4 - Low-emitting Materials
- California Air Resources Board (CARB)
- GreenGuard - Indoor Air Quality & Children in Schools
- Collaborative for High Performance Schools (CHPS)

Lifetime Warranty

## GPD-FD 45

5-Ply Fire Core  
WDMA/AWS Extra Heavy Duty  
FD-5  
HPDL (High Pressure Decorative Laminate)

### Construction

#### Horizontal Edges:

- Top and bottom rails - wood or composite material, specific configuration to Graham Label Service Listing
- Bonded to core
- No additional blocking required for thru bolted closers
- Optional closer & lock block available
- Optional decorative laminate top and bottom edges

#### Vertical Edges:

- Bonded to core
- Structural composite lumber (SCL) laminated with a matching decorative laminate edge band
- Optional painted or stained vertical edges

#### Core:

- Fire Resistant Composite Core per Graham Label Service Listing
- Contains no added Urea-formaldehyde

#### Fire Rating:

- 45 minute fire rating
- 250 degree temperature rise
- Meets UL 10b (neutral pressure) and UL 10c (positive pressure) Category "B" requirements
- Option to UL 10c (positive pressure) Category "A"

#### Adhesive:

- Doors constructed using Type I adhesives which contain no added Urea-formaldehyde

#### Construction Grade:

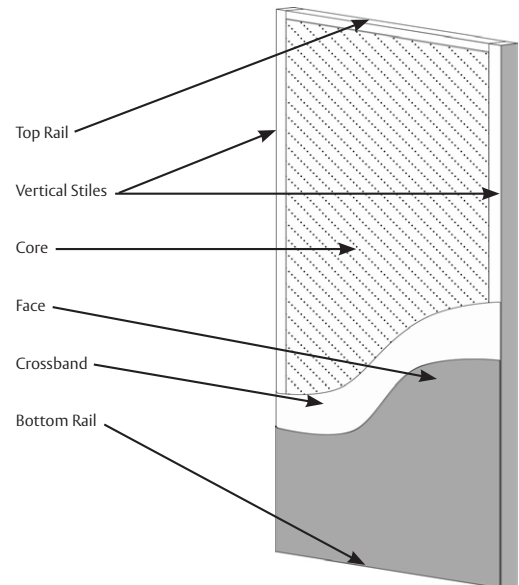
- Performance: WDMA/AWS - Extra Heavy Duty\*
- Aesthetic: WDMA - Premium Grade

#### Face Veneer:

- 2 Ply construction
- .050 Thick decorative laminate
- Wide variety of patterns, solid colors, and woodgrains
- Available decorative faces from Formica, Wilsonart, Pionite, Nevamar

#### Crossband:

- 1/16" (1.6 mm) minimum high density engineered wood composite
- Optional with no added Urea-formaldehyde



### Certifications and Sustainability:

- Optional LEED 3.0 credits available\*\*
  - MR 7 - FSC Certified Wood
  - IEQ 4.4 - Low-emitting Materials
- California Air Resources Board (CARB)
- GreenGuard - Indoor Air Quality & Children in Schools
- Collaborative for High Performance Schools (CHPS)

Lifetime Warranty

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### GPD-FD 60

5-Ply Fire Core

WDMA/AWS Extra Heavy Duty

FD-5

HPDL (High Pressure Decorative Laminate)

#### Construction

##### Horizontal Edges:

- Top and bottom rails - wood or composite material, specific configuration to Graham Label Service Listing
- Bonded to core
- No additional blocking required for thru bolted closers
- Optional closer & lock block available
- Optional decorative laminate top and bottom edges

##### Vertical Edges:

- Bonded to core
- Structural composite lumber (SCL) laminated with a matching decorative laminate edge band
- Optional painted or stained vertical edges

##### Core:

- Fire Resistant Composite Core per Graham Label Service Listing
- Contains no added Urea-formaldehyde

##### Fire Rating:

- 60 minute fire rating
- 250 degree temperature rise
- Meets UL 10b (neutral pressure) and UL 10c (positive pressure) Category "B" requirements
- Option to UL 10c (positive pressure) Category "A"

##### Adhesive:

- Doors constructed using Type I adhesives which contain no added Urea-formaldehyde

##### Construction Grade:

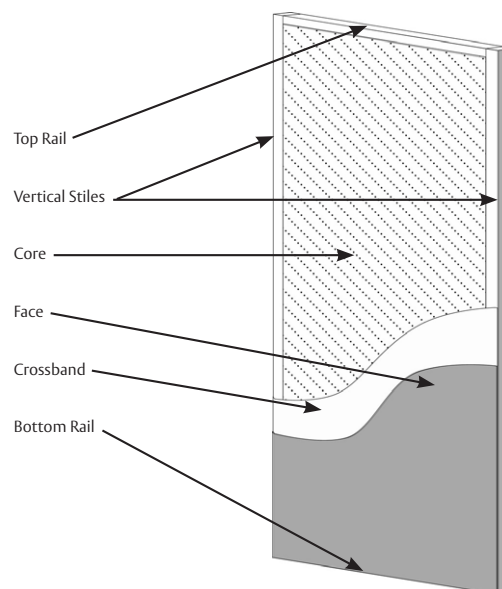
- Performance: WDMA/AWS - Extra Heavy Duty\*
- Aesthetic: WDMA - Premium Grade

##### Face Veneer:

- 2 Ply construction
- .050 Thick decorative laminate
- Wide variety of patterns, solid colors, and woodgrains
- Available decorative faces from Formica, Wilsonart, Pionite, Nevamar

##### Crossband:

- 1/16" (1.6 mm) minimum high density engineered wood composite
- Optional with no added Urea-formaldehyde



#### Certifications and Sustainability:

- Optional LEED 3.0 credits available\*\*
- MR 7 - FSC Certified Wood
- IEQ 4.4 - Low-emitting Materials
- California Air Resources Board (CARB)
- GreenGuard - Indoor Air Quality & Children in Schools
- Collaborative for High Performance Schools (CHPS)

Lifetime Warranty

## GPD-FD 90

5-Ply Fire Core

WDMA/AWS Extra Heavy Duty

FD-5

HPDL (High Pressure Decorative Laminate)

### Construction

#### Horizontal Edges:

- Top and bottom rails - wood or composite material, specific configuration to Graham Label Service Listing
- Bonded to core
- No additional blocking required for thru bolted closers
- Optional closer & lock block available
- Optional decorative laminate top and bottom edges

#### Vertical Edges:

- Bonded to core
- Structural composite lumber (SCL) laminated with a matching decorative laminate edge band
- Optional painted or stained vertical edges

#### Core:

- Fire Resistant Composite Core per Graham Label Service Listing
- Contains no added Urea-formaldehyde

#### Fire Rating:

- 90 minute fire rating
- 250 degree temperature rise
- Meets UL 10b (neutral pressure) and UL 10c (positive pressure) Category "B" requirements
- Option to UL 10c (positive pressure) Category "A"

#### Adhesive:

- Doors constructed using Type I adhesives which contain no added Urea-formaldehyde

#### Construction Grade:

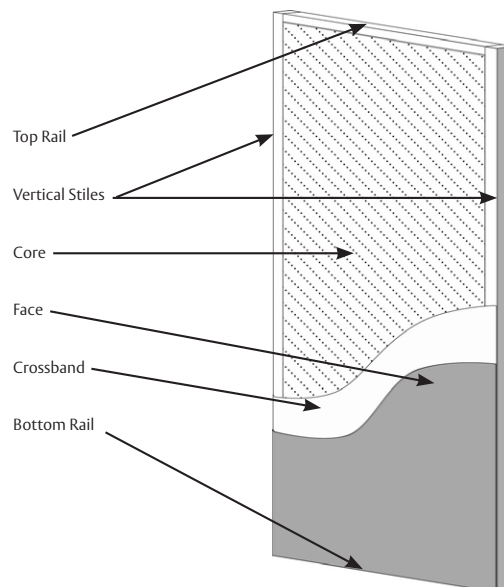
- Performance: WDMA/AWS - Extra Heavy Duty\*
- Aesthetic: WDMA - Premium Grade

#### Face Veneer:

- 2 Ply construction
- .050 Thick decorative laminate
- Wide variety of patterns, solid colors, and woodgrains
- Available decorative faces from Formica, Wilsonart, Pionite, Nevamar

#### Crossband:

- 1/16" (1.6 mm) minimum high density engineered wood composite
- Optional with no added Urea-formaldehyde



### Certifications and Sustainability:

- Optional LEED 3.0 credits available\*\*
  - MR 7 - FSC Certified Wood
  - IEQ 4.4 - Low-emitting Materials
- California Air Resources Board (CARB)
- GreenGuard - Indoor Air Quality & Children in Schools
- Collaborative for High Performance Schools (CHPS)

Lifetime Warranty

### WDMA I.S. 1-A

#### C-2: Crossbanding Requirements

Crossbanding (the layer of material under the faces of doors constructed of 5 or more plies) may be sound hardwood veneer, or engineered wood products (composites). Crossbanding may be edge glued or one piece. When the crossbanding has directional grain, it is to be placed at right angles to the grain of the face material.

#### C-3: Core Requirements

##### Basic Core Types:

The most common core types are particleboard, structural composite lumber, staved lumber, fire resistant composite core and hollow.

##### Special Core Types:

Special cores for Sound Resistant Doors, Lead Lined, Bullet Resistant Doors, Electrostatic Shield Doors and others are available.

##### Particleboard Core:

Cellulose based materials that comply with standard ANSI A208.1 Particleboard, grade LD-1 or grade LD-2.

##### Structural Composite Lumber Core:

Engineered composite wood products meeting the minimum requirements of WDMA Methodology for Recognition of Structural Composite Lumber in Millwork Applications.

##### Staved Lumber Core:

May be any combination of blocks or strips, not more than 2-1/2" (64 mm) wide, of one species of wood at 6% to 9% moisture content. Joints to be tight and staggered in adjacent rows.

##### Fire Resistant Composite Core:

Fire resistant composite core for fire doors per manufacturer's label service listing.

##### Hollow Core:

Slab polystyrene per ASTM C578, type 1. Expanded honeycomb made of corrugated fiberboard. Ladder core and grid core also permitted.

#### C-4: Edge Requirements

##### Vertical Edges (Stiles):

Hardwood or hardwood/structural composite lumber, one piece, laminated, or veneered. Specific configuration per manufacturer's standard with minimum performance requirements per section P-1, Performance Levels for Architectural Wood Flush Doors.

##### Horizontal Edges (Rails):

Solid wood, or structural composite lumber meeting the minimum requirements of WDMA.

#### C-5: Vertical and Horizontal Edge/Core Interface

There are two types of interface between the core and the edges in solid core doors:

##### Bonded:

Vertical and horizontal edges of solid core doors must be securely bonded to the core with adhesives and then abrasively planed before veneering to insure minimal telegraphing of core parts through facing material.

##### Non-Bonded:

Edges are not bonded to the core material. The maximum gap between core and vertical and/or horizontal edges to be 1/32" (0.8 mm). Core and edging component thickness tolerance is +/-0.005" (0.1 mm) to assure minimal telegraphing of core parts through facing material.

#### C-6: Adhesives

Glue lines for face veneer assembly, between the various plies of the face, and between the facing and core assembly, are to be Type I or Type II. Glue lines between edging and core in bonded core assemblies are to be Type II minimum. Type I adhesives are exterior glues and are recommended for exterior use doors. Type II adhesives are interior use glues. Both adhesive types must meet the requirements specified in WDMA TM-6 Adhesive Bond Durability Test Method.

**Standard Fire Door Labels**

**Fire Doors with Transoms**

**20 Minute Singles & Pairs with  
Metal Edges**



**20 Minute Singles**



**45 Minute Singles & Pairs**



**45 Minute Singles**



**60 Minute Singles & Pairs**



**60 Minute Singles**



**90 Minute Singles & Pairs**



**90 Minute Singles**



### Supplemental Fire Door Labels

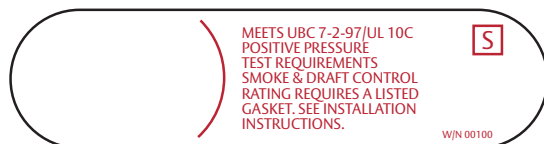
#### Surface Mounted Hardware



#### Fire Exit Hardware Label



#### Positive Pressure



#### Neutral Pressure Fire Door Installation Instructions

**WARNING** – This door has been labeled for compliance with NFPA 252 and UL 10b Neutral Pressure requirements. The validity of this label requires application of qualified components and hardware at installation. Failure to use approved listed hardware or drill pilot holes will void the fire label and the warranty.

#### Category A Positive pressure Fire Door Installation Instructions

**WARNING** – This door has been labeled for compliance with UBC Standard 7-2 1997 and UL 10c Positive Pressure requirements. The validity of this label requires application of qualified components and hardware at installation. Failure to use approved listed hardware or drill pilot holes will void the fire label and the warranty.

**SPECIAL HARDWARE** – CVR latch and EPT preps 40" above finished floor require the application of Tecnofire 2000 or Pemko HSS2000 intumescent lining the prep. Top flushbolts require 1" wide Tecnofire or two strips of Pemko HSS2000 applied across the top of the flushbolt.

**SMOKE/DRAFT CONTROL** – Listed Category H Smoke and Draft Control Gasket complying with UBC 7-2 1997 Part I and Part II shall be installed in the opening. If using the Pemko S88 seal as listed above, no other Smoke/Draft seal is required.

#### Category B Positive pressure Fire Door Installation Instructions

**WARNING** – This door has been labeled for compliance with UBC Standard 7-2 1997 and UL 10c Positive Pressure requirements. The validity of this label requires application of qualified components and hardware at installation. Failure to use approved listed hardware or drill pilot holes will void the fire label and warranty.

**EDGE SEALS** – 20 Minute doors require a Pemko S88 seal to comply with Positive Pressure listing. Higher rated doors do not require any additional edge seal system.

#### SPECIAL NOTES FOR ALL FIRE DOORS

**DO NOT REMOVE METAL FIRE RATING LABEL FROM THIS DOOR!**

**DO NOT** trim for width and height.

**CLEARANCES** – Proper clearance of 1/8" at door top and hinge/latch edges must be maintained.

**MORTISE HINGES** – USE ONLY #12 X 1-1/4" Threaded-to-the-head steel wood screws for application. Pre-drill 5/32" pilot holes for all screws.

**SURFACE MOUNTED BUILDERS HARDWARE** – Attach with steel throughbolts only, unless interior blocking is provided.

**LOCKS & LATCHES** – Attach with threaded-to-the-head steel wood screws. Pre-drill proper pilot holes for screws

**FRAMES** – This door shall be installed in a listed and labeled frame of equal or greater fire rating made of 16 or 18 gauge steel, wood, or other material.

