Inspections Division
Date: 05/02/14

KAMCO SUPPLY - PORTLAND

KAMCO SUPPLY CORP. OF BOSTON, 344 RIVERSIDE STREET, PORTLAND, ME 04103 Tel: 207-874-9331 Fax: 207-874-9317

QUOTATION

Quotation No : **71417**
Date : 11 JAN 2013
Expiration Date : 12 MAR 2013
Account : MAINCA
Page No. : 1

Customer:
OTC-MAINE CASH
344 RIVERSIDE ST

PORTLAND, ME 04103

Ship to:
OTC-brian pratt
797-3322
cell
PORTLAND ME 04103

Phone: 207-874-9331 Fax:

Salesperson : LAL Freight : Terms : COD ONLY
Ship Via :

Qty	Description	Unit Price	Extension
1	3070 HMD PA18 4 A40P F A1 B90 161 LH (F1C,G1,I1,DLF) LEFT HAND?		
1	PREP - 90 MINUTE LABEL - FRAME		
1	Closer 8501 689 (ALUM)		
1	Passage Set W101S D 30-206 30-148 626		
1	SGL DW 16 4 578 3070 CRS KD LH (ASA)		
1	PREP - REINF FRAME FOR REG & PA CLOSER		
1	PREP - 90 MINUTE LABEL - DOORS		
3	Hinges ECBB1100 4 1/2 x 4 1/2 US26D		

3070 fire door

Inspections Division
Date: 05/02/14

JOB SITE STORAGE:

Store doors under cover, in a dry area and in an upright position. All ferrous metal products should be stored where they will not be exposed to, or come in contact with water. This is particularly true of products such as doors, which have large flat surfaces on which water may collect if they are stacked horizontally. Only use vented plastic or canvas. The use of no-vented materials, create a humidity chamber, which promotes blistering and corrosion.

Place no more than 5 doors in a group, with all material on planking or blocking at least 4 in. (100 mm) off the ground, 2 in. (50 mm) off a paved area or the floor slab. Provide a least 1/4 in. (6.4 mm) space (wood strip) between all units to permit air circulation.

CONSTRUCTION NOTES:

1. **Doors** are 1-3/4" (45mm) thick.
2. **Hardware Preparations:** to meet specifications, doors can be prepared for all commercial mortised hardware, and can be factory reinforced for surface applied hardware applications.
3. **Top and bottom edges** of all doors are closed with 14 gage [0.067" (1.7mm)] welded channels. Exterior applications require the addition of top caps to protect against weather infiltration.
4. **Optional edge seams** are prepared prior to the application of factory, baked-on primer paint.
5. **Standard hardware preparations,** mortised and reinforced for the following:
   - **Universal Hinge Preps:** 4-1/2" (114mm) patented preparation which allows for easy and quick field conversion from standard weight .134" (3.3mm) to heavy weight .180" (4.5mm) hinges.
   - **Locks:** a multitude of standard lock preps are available. The most commonly used with a 4-7/8" (124mm) strike are 161, 61L and 86.
6. **Glass Lights with Dezigner® Trim:** for doors with glazed cutouts, see the **Lights and Lovers Section 4** of this Manual.
7. **Louvers:** for doors with attached louvers, see the **Lights and Lovers Section 4** of this Manual.

SINGLE DOOR APPLICATION:

Standard Operating Clearances (Installed in frame)

- Top (at the Head) = 1/8" (3mm) to bottom of head or transom panel;
- Hinge Side = 3/32" (2mm) to rabbet or jamb;
- Lock Side = 3/32" (2mm) to rabbet or jamb;
- Bottom (at the Floor) = 3/4" (19mm) to bottom of frame.

GENERAL DOOR INFORMATION:

Steelcraft full flush doors are designed for virtually all construction requirements in commercial building applications. Their construction, durability and flexibility have been proven throughout the world in both operation and physical testing of all types.

FULL FLUSH DOOR CONSTRUCTION

- **Laminated (L and SL):**
  Honeycomb core doors are designed for installation in all types of building construction, for both interior and exterior applications. The continuously bonded cores and full height mechanically interlocked edge seams provide attractive, flat and very durable doors to the commercial construction industry. Many options are available in this product series including edge construction, GrainTech® wood grain embossment, core variations.

- **Steel Stiffened (B Series):**
  These internally steel stiffened core doors are designed for installation in all types of building construction, for both interior and exterior applications. The internal steel stiffeners are welded to the face sheets. The full height mechanically interlocked edge seams provide attractive and very durable doors to the commercial construction industry. Edge construction options are available.

- **Embossed (CE Series):**
  The 6 and 8 panel embossed doors, with a polystyrene core, are designed for installation in all types of building construction for both interior and exterior applications. The crisp and deeply embossed panels create the appearance of hand carved doors. The continuously bonded cores and full height mechanically interlocked edge seams provide attractive, flat and very durable doors to the commercial construction industry.

- **Temperature Rise (T Series):** T Series doors are equipped with a mineral core and are designed for use in locations requiring a temperature rise rating. The use of this door series is usually dictated by the local building code. Steelcraft T Series doors carry a 250° F (121° C) temperature rise Listing. Edge construction options are available.

STILE AND RAIL:

The **A and AN Series** doors are specifically designed for entrances and applications requiring full glass designs. They are an attractive and very durable alternative to both aluminum entrance doors and full flush steel doors prepared for large installed lights.

SIZES AND PERFORMANCE

All doors are manufactured and supplied to meet the dimensional standards and performance levels as published in ANSI A250.8-2003 (SDI 100).

Special size products are available to meet the unique construction, performance and aesthetic requirements of the architectural community. Contact Steelcraft for those requirements.

USAGE AND APPLICATION

To help simplify the use, selection and specification of Steelcraft door products, the following guidelines for base material selection can be used:

Material Gage – the following base material thickness values were taken from the Underwriters Laboratories, Inc. publication for gage number and equivalent thickness and describe the sheet steel products available from Steelcraft:

- **20 Gage [0.032" (0.8mm)]** for Light Commercial applications with minimal use and abuse.
- **18 Gage [0.042" (1.0mm)]** for Heavy Commercial and Institutional applications with high use.
- **16 Gage [0.053" (1.3mm)]** for Extra Heavy Commercial and Institutional applications having the potential of very high use.
- **14 Gage [0.067" (1.7mm)** for Extra Heavy Commercial and Institutional applications with extremely high use.

Material Selection – in addition to the thickness of base material, the following base material types of metal are available from Steelcraft:

- **Cold Rolled Steel (CRS)** - conforming to ASTM A1008 and ASTM A568 recommended for interior opening with normal humidity exposure.
- **Hot-Dip Galvannealed Steel** - conforming to ASTM A924 and ASTM A653 recommended for exterior opening or interior openings with high humidity.

NOTE: For recommendations on material and door types, refer to the product specification charts located in the **Selection and Usage Section** of this manual.

INSTALLATION

Installation of all Steelcraft frames and doors shall conform to the published Steelcraft installation instructions, ANSI A250.11-2001 (formerly SDI 105) *Recommended Erection Instructions for Steel Frames and HMMA 840.*

All Fire Rated doors must be installed and maintained in accordance with the National Fire Protection Association Pamphlet 80, and/or the local *Authority Having Jurisdiction.*

Inspections Division
Date: 05/02/14

DOORS

APPROVED DOOR SERIES:

Regardless of the door series being used, all doors must be installed with labeled hardware, and into labeled frames and firewalls.
Door constructions covered in this section are listed below:

- A – Series – stile and rail with beveled edges
- B-Series – welded steel stiffened core with beveled edges
- CE-Series – laminated core with beveled edges and panel embossed face sheets
- H & HE-Series – specifically designed for hurricane code applications
- L-Series – laminated core with beveled edges and either honeycomb or polystyrene cores
- PW-Series - specifically designed for tornado code applications
- SL-Series - laminated core with square edges and either honeycomb or polystyrene cores
- T-Series – specially designed for maximum 250° F temperature rise applications

DOOR LIGHT DESIGNS:

Fire rated doors are available in the following door designs:

- F = Flush door with no glass cutout. 3 hour maximum listing.
- V = Vision light with a nominal 100 sq. in. located in the upper half of the door. 3 hour maximum listing with Fire Light glass.
- N3, N4, N5 = Narrow light variations, which are 100 sq. in. exposed glass area, and located at eye level, near the lock edge. 3 hour maximum listing with Fire Light glass.
- N = Narrow light varies with the door height, exceeds 100 sq. in. of exposed glass area, and is located near the lock edge. 3/4 hour or 20 min. maximum listing.
- G = Half glass light (size will vary with the door size) located in the upper half of the door. 3/4 hour or 20 min. maximum listing.
- FG = Full glass 20 minute w/o hose stream.
- FG2 / FG3 = Full glass with multiple lights (size will vary with the door size). 3/4 hour or 20 min. maximum listing.
- Door viewers = Must be fire rated construction. 1-1/2 hour maximum. 3/4" diameter hole maximum.

TEMPERATURE RISE RATINGS:

In accordance with the products listed for IBC 2006, all fire doors must state a temperature rise rating.
The Steelcraft doors are rated for temperature rise as follows:

- 250°F or 450°F temperature rise = T & TH Series
- Over 650°F temperature rise = L, B, CE, H, HE, SL, A and AN-Series

LISTING INFORMATION COVERED:

All listings covered in this section are for reference and assistance in developing overall parameters of approvals. Several variables such as glass lights, hardware, wall construction and application will affect the fire ratings. Individual manufacturer's listings will take precedence.

INSTALLATION:

Installation of all Steelcraft doors shall conform to the published Steelcraft installation instructions, ANSI/SDI A250.11 Recommended Installation Instructions for Steel Frames and HMMA 840. All fire rated frames must be installed in accordance with NFPA Pamphlet 80, and/or the local AHJ.

Details are subject to change without prior notice.

Inspections Division
Date: 05/02/14

DOORS

Typical Elevations

FIRE RATED STEEL DOORS:

Doors covered in this section have been tested in accordance with UBC 7-2 1997, UL10C and NFPA252-1999, and listed by either Underwriters Laboratories (UL) or Warnock Hersey (IT/WHI). The ratings and sizes available are shown on the following pages.

Listed Steelcraft doors are for all commercial building applications. Variations in hardware and glass lights must be considered in the selection of the correct door construction.

LIGHTS:

Fire rated doors can be prepared for glass lights. The required hourly rating will dictate the approved glass lights available. All glass used in fire rated doors must be listed glass. Basic guidelines on glass are as follows:

- **3 hour** - flush door, no glass.

  —Exception – one (1) light with 100 square inches (.06 square meters) maximum of glass is permitted on 3 hour L, B, & T series doors if Fire Light or other 3 hour listed glazing material is used. Maximum width of 12" (305 mm) or height of 33" (838mm).

- **1-1/2 hour** - 100 sq. in. per door leaf max.

  1296 square inches (.84 square meters) maximum of glass is permitted on 1 1/2 hour L & B series doors if Fire Light or other appropriately listed glazing material is used. Maximum width of 36" (914 mm) or height of 54" (1372mm). UL listed doors may have multiple lights, provided each light does not exceed 1296 square inches of exposed glass area.

- **3/4 hour** - 1296 sq. in. per light with neither dimension exceeding 54", unless listed otherwise.

  — Exception - 3/4 hour doors may have multiple lights provided the limits of 1296 square inches per light and 54 inches are not exceeded.

- **20 minute** - 1296 sq. in. per light with neither dimension exceeding 54", unless listed otherwise.

LOUVERS:

Fire rated doors can be prepared for one listed fire rated louver located in the bottom half of the door. Doors with louvers can only be located in equipment and mechanical areas of the building. Basic guidelines on louvers are as follows:

- 3/4 hour and 1 1/2 hour listings.
- 24" X24" maximum louver size
- Glass lights can not be used in conjunction with louvers

DOOR VIEWERS:

- 1 1/2 hour maximum fire listings.
- 3/4" maximum hole size.
- 2 viewer preps maximum per door, minimum 12" apart.

Inspections Division
Date: 05/02/14

LATCH THROW:

1. Single doors:
   - 1/2" latch bolt throw for all door series, gages and fire ratings.
2. Pairs of doors
   - A-Series = 5/8"
   - B-Series
     a. B18, B16 = 5/8"
     b. B14 = 5/8" for single doors 1-1/2hour (90 minute) and 3/4" over 1-1/2 hour and all pairs
   - L-Series:
     a. L20, L18, L16 = 5/8" up to 3 hours
     b. L14 = 5/8" maximum 1-1/2 hour (90 minute). 3/4" over 1-1/2 hour and all pairs
   - T-Series = 3/4"

PAIRS OF DOORS:

1. The inactive leaf of doors must be provided with self-latching top and bottom bolts or automatic flush bolts or labeled two point latches. Manual flush bolts either mortised or surface may be used on doors to rooms not normally occupied by humans.
2. Double egress doors can only be provided with concealed or surface vertical rod FEH.
3. Open back strikes can be used on pairs of doors (L18/16/14, CE18/16, B18/16/14). Maximum height of 8"0" and a maximum 1-1/2 hour (90 minute) ratings. Astragals can not be used in this application.
4. Two doors in the same frame separated by a hollow metal mullion are considered to be two single doors applications.

PROTECTIVE PLATES & PLANT-ONS:

1. Protection plates or kick plates can be a maximum 48" X 48" in size and attached to both faces of a door (3 hour maximum fire rating).
2. Plant ons can be used if covered by a manufacturer's listing service.

SMOKE & DRAFT:

1. All components used in a Smoke and Draft Control assembly must pass a 20 minute without hose stream test.
2. Only gaskets listed for smoke and draft control may be used on smoke and draft control assemblies.
3. Gaskets must be listed for the appropriate door type (hollow metal, wood, etc.).
4. Wood doors which do not have an integral intumescent seal in the door edge, may require an intumescent edge seal and draft control gasket attached to the frame. Review the wood door manufacturer's listing and requirements.

TEMPERATURE RISE DOORS:

1. Steelcraft T-Series doors prepared for single point latches, rim or mortise FEH are labeled for 250 temperature rise and may be used in either 250 or 450 temperature rise location.
2. Doors prepared for vertical rod (CVR or SVR) or InPact devices carry a 450 temperature rise label and can only be installed in 450 temperature rise location.

VISION LIGHT REQUIREMENTS:

1. Glass cannot be installed in exterior locations subject to severe fire exposure.
2. Any listed fire door vision kit can be used in a Steelcraft door. Vision kits should be listed for the appropriate door construction (hollow metal, wood, etc.) used.
3. Steelcraft vision kits are not approved for use in any other door manufacturers' doors

STEELCRA

Inspections Division
Date: 05/02/14

PROFILE VARIATIONS DW, K & MU-SERIES FRAMES

Standard Double Rabbet Frame

KD Corner Detail

Product: **DW, K & MU-Series**

Gage: 16 Ga. (1.3mm), 14 Ga. (1.7mm)

Jamb Depth: DW & K = 4 1/2" (114mm) thru 14-3/4" (375mm) in 1/8" increments
MU = 4-3/4" (114mm) thru 20" (508mm) in 1/8" increments

Face: Standard 2" (50mm)

Miter: 45° die miter with soffit tab and interlocking corner clip.

NOTES:

1. 18 Gage frame are available to a maximum jamb depth of 8-3/4"
2. DW and K-Series are installed KD
3. MU-Series can be installed KD or welded.
3. **Equal rabbet** frames are supplied when specified or in communicating frame applications (refer to TD#2.3.15)
4. **Cased open** frames are used for double acting door or applied stop applications (refer to TD#2.3.22.
5. **Narrow double rabbet** frames are used for jamb depths below 4-1/2".

Inspections Division
Date: 05/02/14

PROFILE VARIATIONS DW, K & MU-SERIES FRAMES

Standard Double Equal Rabbet Frame

Cased Open Frame

Product:	**DW, K & MU-Series Equal Rabbet Frames**
Gage:	16 Ga. (1.3mm), 14 Ga. (1.7mm)
Jamb Depth:	4-7/8" (124mm) min. thru 14-3/4" (375mm) in 1/8" (3.2mm) increments
Face:	Standard 2" (50mm)
Miter:	45° die miter with soffit tab and interlocking corner clip.

Product:	**DW, K & MU-Series Cased Open Frames**
Gage:	18 Ga. (1.0mm), 16 GA. (1.3mm), 14 Ga. (1.7mm)
Jamb Depth:	3-1/4" (133mm) min. thru 14-3/4" (375mm) in 1/8" (3.2mm) increments
Face:	Standard 2" (50mm)
Miter:	45° die miter with soffit tab and interlocking corner clip.

Single Rabbet Frame

Product:	**DW, K & MU-Series Single Rabbet Frames**
Gage:	18 Ga. (1.0mm), 16 GA (1.3mm), 14 Ga. (1.7mm)
Jamb Depth:	3-1/4" (133mm) min. thru 4 3/8" (111mm) in 1/8" (3.2mm) increments
Face:	Standard 2" (50mm)
Miter:	45° die miter with soffit tab and interlocking corner clip.

NOTES:

1. 18 Gage frame are available to a maximum jamb depth of 8-3/4"
2. DW and K-Series are installed KD
3. MU-Series can be installed KD or welded.
4. **Equal rabbet** frames are supplied when specified or in communicating frame applications (refer to TD#2.3.15)
5. **Cased open** frames are used double acting door or applied stop applications (refer to TD#2.3.22.
6. **Single rabbet** frames are used for jamb depths below 4 -1/2".

Inspections Division
Date: 05/02/14

Cutaway View

COMPLIANCE STANDARDS

Series 8301 and 8501 door closers are designed to comply with requirements of the Americans with Disabilities Act (A.D.A.) and ANSI/BHMA standard A117.1. All series 8300/8500/8301/8501 are ANSI/BHMA A156.4, Grade 1 certified. All *Norton* series 8300/8500/8301/8501 closers with non-hold open arms are listed by Underwriters Laboratories for labeled fire doors. This includes compliance to UL10C and UBC-72 (1997) for 3-hour assemblies. The product is manufactured in an ISO 9001 facility. These closers are listed by the New York City Materials and Equipment Acceptance Division.

CAUTION: Door Closers for Low Opening Force Applications:
Door closers installed in openings required to meet the requirements of The Americans with Disabilities Act or ANSI Standard A117.1, when adjusted to meet those requirements, may not provide adequate closing power to dependably close and latch the door.

Inspections Division
Date: 05/02/14

8301 - slim cover

8501 - full cover

Regular Arm

This is the only pull-side application where a double lever arm is used. It is the most power-efficient application for a door closer. Sufficient frame, door and/or ceiling clearance must be considered.

Since the arm assembly projects directly out from the frame, this application may present an aesthetics issue or be prone to vandalism.

Top Jamb

For efficiency reasons this application provides the best alternative to the regular arm application. There must be sufficient frame face and/or ceiling clearance for this application. It requires a top rail on the door of just 2-1/4" (57mm). This application provides the best door control for doors in exterior walls that swing out of a building.

The entire door closer and arm assembly project from the frame, similar to the regular arm application, where matters of appearance and malicious abuse can be of concern. Consideration must be given to depth of frame reveal.

Parallel Arm

This application provides the most appealing design appearance for a surface-mounted door closer having a double lever arm. This also makes it beneficial in vandalism-prone areas. It is on the push side of the door and the arm assembly extends almost parallel to the door. In the closed position, there is very little or no hardware projecting beyond the frame face in most situations.

Due to the geometry of the arm it is approximately 25% less power efficient than a regular arm application. The entire closer and arm assembly are mounted below the frame stop. Top rail clearance dimensions will vary based on the type of cover used. (See pg.15)

Inspections Division
Date: 05/02/14

LEVERS

Levers are solid pressure-cast zinc, finished to match mating parts. Roses are wrought brass or bronze installed over steel through-bolted rose inserts. A spring-loaded retainer secures levers. Secure side retainer cannot be depressed without a key that operates the lock.

Small Format Interchangeable Core (SFIC)
Dane shown

Thumbturn (interior)
Quantum shown

Plain
Dane shown

Conventional Cylinder
Quantum shown

Dane

Quantum

Abrasive Lever Options

All levers are available with an abrasive strip along the length of the lever to identify entrances to areas hazardous to the disabled. To order add 6 (for example, 6DA for Dane lever or 6QU for Quantum lever) to the order number.

Passage Latchset
Latch bolt by levers at all times.

Inspections Division
Date: 05/02/14

HAGER

ECBB1100

Product Information

Application:
- ANSI A8112
- Five knuckle
- Non-rising removable pin with button tip and plug
- With door closer use ball bearing hinge
- For use on medium weight doors or doors requiring medium frequency service

Note:
- Complies with NFPA80 requirements for use on fire rated door assemblies

Five Knuckle
Ball Bearing
Standard Weight

Product Specifications

Material: - Steel with Steel pin

Fasteners: - All machine and all wood

Finishes: - USP, US3, US4, US10B, US15, US26, US26D

Product Size Options

Hinge Size (inches)	Hinge Size (mm)	Gauge of Metal	Hole Count	Screw Size (Machine)	Screw Size (Wood)
4-1/2 x 4	114 x 102	0.134	8	1/2" x 12 -24	1 1/4" x 12
4-1/2 x 4 -1/2	114 x 114	0.134	8	1/2" x 12 -24	1-1/4" x 12

Inspections Division
Date: 05/02/14

KAMCO SUPPLY - PORTLAND

KAMCO SUPPLY CORP. OF BOSTON, 344 RIVERSIDE STREET, PORTLAND, ME 04103 Tel: 207-874-9331 Fax: 207-874-9317

QUOTATION

Quotation No : 65050
Date : 27 JUL 2012
Expiration Date : 25 SEP 2012
Account : MAINCA
Page No. : 1

Customer:
OTC-MAINE CASH
344 RIVERSIDE ST

PORTLAND, ME 04103

Ship to:
OTC-brian pratt
797-3322
cell
PORTLAND ME 04103

Phone: 207-874-9331 Fax:

Salesperson : LAL Freight : Terms : COD ONLY
Ship Via :

Qty	Description	Unit Price	Extension
1	WD 3070 PC 20M CLEAR WHT BIRCH F 161T RH		
40	Lip Maple Glazing Bead - 1 Foot		
1	PREP - CUTOUT & INSTALL BEADED LITE IN WOOD DOOR		
1	1/4" Tempered Clear Safety Glass-23X59		
1	Passage Set W101S D 30-206 30-148 626		
1	SGL DW 16 4 578 3070 CRS KD LH (ASA)		
0	SGL DW 16 4 578 3070 CRS KD RH (ASA)		
3	Hinges ECBB1100 4 1/2 x 4 1/2 US26D		

z

Univar® Factory Finishes

Inspections Division
Date: 05/02/14

Algoma® Made hardwood doors are available in a variety of wood faces and standard or custom color factory finishes. Algoma's Univar® clear finish protects and enhances the natural beauty of hardwood doors. Plus stain finishes are available to vary the natural wood color. Algoma's finish colors are catalyzed systems applied by skilled craftsmen on specialized equipment in controlled plant conditions.

These finishes are of a type and quality difficult to achieve with field finishing methods. Univar finishes are comparable to the AWI Finishing System TR-6 Premium Grade. The material provides depth and clarity and is available in a gloss range of 10 to 80 as measured by a Gardener Glossmeter with a 60 degree head. Univar is not an exterior finish.

Algoma's Univar® finishes are environmentally friendly. The system uses materials that are so high in solids content that volatile organic compounds (VOCs) emissions from solvents are eliminated. The materials are cured to a protective, beautiful finish using ultraviolet (UV) light instead of solvent emission. This state-of-the-art application and material use is consistent with Algoma's dedication to protecting the environment, employees and end-users.

Performance rating of Algoma's Univar® finish and AWI systems
Algoma's catalyzed liquid finish matches or exceeds the performance rating of all AWI transparent finish systems.

FINISH TYPE	AWI RATING*
Algoma Univar finish	98%
AWI System TR-6 Catalyzed Polyurethane	98%
AWI System TR-7 Clear Polyester	94%
AWI System TR-5 Catalyzed Vinyl	85%
AWI System TR-2 Catalyzed Lacquer	73%
AWI System TR-4 Conversion Varnish	65%
AWI System TR-1 Standard Lacquer	49%
AWI System TR-3 Water Reducible Acrylic Lacquer	45%
AWI System TR-0 Synthetic Penetrating Oil	27%

*** System with all excellent ratings = 100%**

Protection
Factory finished doors are individually protected for shipment. Cardboard cartons are available at extra cost.

Samples
Samples are available as described in the General Section of this binder.

The Univar® System

1. **Stain.** A stain (when used) provides the final finish color.
2. **Clear Sealer.** A sealer is applied over the stain.
3. **First Clear Topcoat.** A coat of clear catalyzed material is applied.
4. **Final Clear Topcoat.** This is a second coat of clear material.

Specify Univar®...If cost, appearance and performance are important.

ALGOMA HARDWOODS, INC.
1001 Perry Street • Algoma, Wisconsin 54201
920.487.5221 • 1.800.678.8910 • FAX 920.487.3636
www.algomahardwoods.com • sales@algomahardwoods.com

PC-5 Novodor® FD ⅓ Hour

(Neutral or Positive Pressure)

Inspections Division
Date: 05/02/14

Solid Core Prime
White Birch
Clear Grain

Algoma's Novodor is an architectural door made with a particleboard core.

Solid lumber outer stiles, along with Structural Composite Lumber (SCLC) rails and inner stiles, are securely bonded to the core under side pressure. To ensure strength, rigidity and freedom from telegraphing of core parts, this bonded core is then sanded before **hot pressing** a crossband and face on each side of the core assembly. This makes the highest quality assembly for fine hardwood veneers and composite overlays for solid color finishes.
Algoma uses only the better of two grades of particleboard conforming to ANSI Standard A208.1-1993, Type 1, Grade LD-2 with face screw holding power of 124 pounds, modulus of rupture of 725 psi, modulus of elasticity of 148,700 psi and density of 30–32 pounds per cubic foot.

Algoma uses only face veneers at least 1/50"(0.5mm) thick at 12% moisture content.

Positive Pressure Note: Algoma recommends using Category B 1/3 hour single swing doors. Please refer to Positive Pressure in Product Features Detail Section below. The selection of Category B 1/3 hour doors will offer cost savings and no aesthetic compromise.

Product Features

Thickness	1¾" (44mm) available FD ⅓ hour labeled. 1⅜" (35mm) available FD ⅓ hour labeled, neutral pressure only.
Maximum size	Available prefit up to 4'0" x 10'0" (1219 x 3048mm); **Category B**: 4'0" x 9'0" (1219 x 2743mm). In FD ⅓ hour, 4'0" x 10'0" is maximum for singles and 8'0" x 10'0" (2438 x 3048mm) pairs. Also available in double egress pairs up to 8'0" x 9'0".
Stiles (Edge bands)	1⅜" (35mm) prior to factory trimming, glued to core. CE–compatible edges standard. ME–same species available .
Special edge treatments	To reduce edge damage, polymer edges with FD ⅓ hour label available.
Top & bottom rails	1⅜" (35mm) prior to factory trimming, glued to core; Structural Composite Lumber (SCL).
Core	Conforms to ANSI A208.1-1993, GRADE LD-2 covering mat-formed particleboard with face screw holding power of 124 pounds, modulus of rupture of 725 psi, modulus of elasticity of 148,700 psi and density of 30–32 pounds per cubic foot.
Reinforcement	Reinforced top and/or bottom rails are available to eliminate the need for through-bolting when installing closers or holders. Note: Screws must penetrate doors a minimum of 1½". Please see **Hardware 5** and **13** for PC-5 reinforcement options.
Crossbands	1/16" (1.6mm) minimum wood-based composite.
Faces	All foreign and domestic species, medium density overlay (MDO) and most low sheen .050 thickness High Pressure Decorative Laminates. Faces are a minimum of 1/50" (0.5mm) at 12% moisture content. All faces to be per WDMA I.S.1-A face grades unless otherwise specified.
Adhesive	Doors constructed using water-resistant adhesives (Type 2).
Veneer matching	Available in pairs, sets or matching transoms.
Details	Standard lites and louvers available not to exceed 40% of door area and 54" (1372mm) in length. Maximum glass opening on FD ⅓ hour doors is 1,296 sq. in. (0.836m²) with wood beads and clips or metal vision panels. Applied mouldings, quirks, and divided lites also available. Larger lites available with special glazing. (Contact Algoma for positive pressure approvals.) See Details 11 and 12.
Machining	Available with hinge and lock machining as well as rabbets, holders, drop seals, pivots, etc.
Finishing	Available in finishes with performance characteristics equivalent to AWI System TR-6, standard or custom colors. Also available primed four sides, painted, or sealed top and bottom. Opaque finish (OP-6) on medium density overlay only.
Warranty	For interior, full warranty for life of original installation. For exterior, see warranty.
Standards met or exceeded	WDMA I.S.1-A Series, ARCHITECTURAL WOOD FLUSH DOORS. Architectural Woodwork Quality Standards Section 1300, Architectural Flush Doors and Section 1500, Factory Finish.
Special services	Provides STC rating of 28 when supplied with gasketing. Provides detention security rating of Grade #40 with ASTM Impact Test F 476.
Positive Pressure	**Category A**: Singles and pairs have intumescent built into the door, and no additional fire seals are required. If smoke and draft control doors are also required, then a category H seal must be applied to the frame. **Category B**: Singles and pairs require a category G edge seal applied to the frame. Pairs also require a category G edge seal applied to one of the meeting edges.

ALGOMA HARDWOODS, INC.
1001 Perry Street • Algoma, Wisconsin 54201
920.487.5221 • 1.800.678.8910 • FAX 920.487.3636

PC-5 Novodor® FD ⅓ Hour

Inspections Division
Date: 05/02/14

COLUMN	1	2	3
LABEL / FEATURE	ITS/WHI	UL	UL & ITS/WHI AHI FD ⅓ Hour Door/Transom
MAXIMUM OPENING SIZE	**Singles:** 4'0" x 10'0" (1219 x 3048mm). **Pairs:** 8'0" x 10'0" (2438 x 3048mm). Double egress 8'0" x 9'0" (2438 x 2743mm). Pairs over 8' need metal edge guards. (Positive pressure not available.)	**Singles:** 4'0" x 10'0" (1219 x 3048mm); Category B: 4'0" x 9'0" (1219 x 2743mm). **Pairs:** 8'0" x 9'0" (2438 x 2743mm), neutral and positive pressure, including double egress. **With listed concealed rods:**	**Total Opening:** 4'0" x 11'0" (1219 x 3353mm). **ITS/WHI Opening:** 4'0" x 10'0" (1219 x 3048mm). **Door:** 4'0" x 8'0" (1219 x 2438mm). **Transom:** 4'0" x 4'0" (1219 x 1219mm).
FACES	Wood veneer or medium density overlay.	All foreign and domestic species, medium density overlay (MDO) and most low sheen .050 thickness High Pressure Decorative Laminates. Faces are a minimum of 1/50" (0.5mm) at 12% moisture content. All faces to be per WDMA I.S.1-A face grades unless otherwise specified	
STILES (VERTICAL EDGES) AND RAILS	All doors have either same species or compatible outers. Up to 13½" (343mm) bottom rails allowed. Plastic laminate edges after faces.		Door/transom rabbeted ½" x ¾" (13 x 22mm).
MAXIMUM WOOD VENEERED BEADED LITE	1296 sq. inches (0.836m²). Maximums: 30" (762mm) width, 54" (1372mm) length. Larger lites available with special glass and approval of AHJ (authority having jurisdiction). Contact Algoma for positive pressure approvals.		
MAXIMUM METAL VISION PANEL (Visible glass)	1296 sq. inches (0.836m²). Maximums: 30" (762mm) width, 54" (1372mm) length. Larger lites available with special glass and approval of AHJ (authority having jurisdiction). Contact Algoma for positive pressure approvals. 1¾" 20 minute doors limited to 100 sq. in. (0.065m²) metal vision panels only.		
MAXIMUM LOUVER SIZE (Not allowed with vision panel, exit devices, or smoke control doors)	Not allowed.	24" x 24" (610 x 610mm). Minimum 5" (127mm) from edge and 10" (203mm) from bottom. Neutral pressure only.	Not allowed.
HINGES **Note: Per NFPA 80 some specialty hinges allowed. Contact Algoma for information.**	Ball bearing steel mortised, half or full surfaced 4½" x 4½" x .134" (114.3 x 114.3 x 3.4mm) to 10'0" (3048mm).	Ball bearing steel mortised, half or full surfaced 4½" x 4½" x .134" (114.3 x 114.3 x 3.4mm) to 10'0" (3048mm). UL listed spring hinges 4½" x 4½" x .134".	Ball bearing steel mortised, half or full surfaced 4½" x 4½" x .134" (114.3 x 114.3 x 3.4mm) to 10'0" (3048mm). UL listed spring hinges 4½" x 4½" x .134".
LOCKSETS	All listed cylindrical, mortised, unit, card, and hospital push/pull to 5" (127mm) backset.		
PIVOTS	Top, intermediate & bottom must be listed offset. Rixon's #180, 280, 380, 480, FM19, 219, T117, T117 ¼, Unichecks 65 thru 68, or equal. Others as approved, including pocket pivots.		Half or full mortised; top pivots not allowed unless frame is equipped with a fixed transom bar.
CLOSERS	Listed surface type or LCN using #420 Fireshield or Norton with Fire Block Liner #790, or Yale with Fire Block Liner #450.	UL listed surface type.	UL listed surface type.
FIRE EXIT HARDWARE (Allowed with vision panel if non-interfering)	**Singles:** Mortised, rim or surface vertical rods. **Pairs:** Rim (with mullion) or surface vertical rods. Double egress allowed.	**Singles:** Mortised, rim, or surface vertical rods. **Pairs:** Mortised lock and strike, rim, surface or concealed vertical rods. Double egress allowed.	**Singles:** Mortised, rim or surface vertical rods. **Pairs:** Not available.
OTHER PAIR HARDWARE	Listed surface or mortised door bolts. Manual, self-latching or automatic as codes allow.	Listed for use with wood doors. Surface or mortised door bolts. Manual, self-latching or automatic as codes allow.	Not allowed

Maximum trim: ¾" with standard rail.

Door Bottoms: Max size 1"x1 5/16" listed surface or concealed.

Viewers: ITS/WHI up to 1" (25mm); UL up to 1" (25mm).

Edges: Polymer edges allowed where edge damage is likely.

Astragals and edge guards: Must be supplied and cut for hardware under label service.

Wood Frames: FD ⅓ Hour doors can be installed with ⅓ hour wood frames.

Electric Raceway: Available with label on all doors.

ALGOMA HARDWOODS, INC.
1001 Perry Street • Algoma, Wisconsin 54201
920.487.5221 • 1.800.678.8910 • FAX 920.487.3636
www.algomahardwoods.com • sales@algomahardwoods.com