

CANADIAN FIRE LABELING GUIDE FOR COMMERCIAL STEEL DOOR AND FRAME PRODUCTS

PURPOSE

The purpose of this publication is to provide a comprehensive source of information on swinging fire-rated fire doors and frame products available from members of the Canadian Steel Door Manufacturer's Association (CSDMA).

SCOPE

This guide provides the maximum sizes, ratings and various constructions of fire-rated doors and frame product tested, listed or classified by accredited and nationally recognized testing authorities such as Underwriter's Laboratories (UL) or Intertek Testing Services (ITS/WHI), at the time of publication.

It is not the intent of this publication to advise the reader as to the required rating on closures in specific locations. Guidance for this must be taken from national, provincial or municipal building codes and/or the Authority Having Jurisdiction (AHJ).

DEFINITION OF FIRE CLOSURE

As defined in the National Building Code of Canada, a *closure* is "a device or assembly for closing an opening through a fire separation, such as a door, a shutter, wired glass or glass block and includes all components such as hardware, closing devices, frames and anchors".

Since the integrity of a fire closure depends on the effectiveness of all components of the assembly, it is incumbent upon the AHJ and reader to ensure that all components are appropriately "listed" or "classified" and that installation is in accordance with NFPA 80.

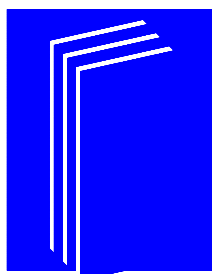
REQUIREMENTS

Minimum requirements for fire-rated frame products are either conformance with CAN4-S105 (Standard Specification for Fire Door Frames Meeting the Performance Required by CAN4-S104), or the individual manufacturer's proprietary designs are tested and listed in accordance with the provisions of CAN4-S104 (Standard Method of Fire Tests of Doors Assemblies) or CAN4-S106 (Standard Method of Fire Tests of Window and Glass Block Assemblies).

Minimum requirements for fire-rated doors are that individual manufacturer's proprietary designs must be successfully tested and listed or classified in accordance with the provisions in CAN4-S104 (Standard Method for Fire Tests of Door Assemblies).

All dimensions indicated are nominal. Requirements are stated in both hard metric and their corresponding imperial values. Each is considered the standard for its measurement system. Specifiers are advised not to mix measurement systems. All products, constructions and options included in this publication are not necessarily available from each member manufacturer. Architects and Specifiers are encouraged to contact member manufacturers to assist in product selection to meet their project requirements.

CANADIAN
STEEL DOOR
MANUFACTURERS
ASSOCIATION



L'ASSOCIATION
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DES FABRICANTS
DE PORTES

TABLE 1 - FIRE-RATED FRAMES

Fire Rating (Hrs)	Description	Typical Plan and/or Elevation	Assembly Method	Maximum Frame Rabbet Sizes (Width x Height)		General Notes: - See Note 1 for Profile Requirements
				Singles	Pairs	
3	Basic 3-Sided		Welded or KD	1250 x 3050 (4'0" x 10'0")	2450 x 3050 (8'0" x 10'0")	
	Stainless Steel		Welded or KD	1250 x 3050 (4'0" x 10'0")	2450 x 3050 (8'0" x 10'0")	
	Clad		Welded	1250 x 3050 (4'0" x 10'0")	2450 x 3050 (8'0" x 10'0")	- See Note 12
	Lead-Lined		Welded	1250 x 3050 (4'0" x 10'0")	2450 x 3050 (8'0" x 10'0")	- See Note 11
	Blast Retardant		Welded	1250 x 3050 (4'0" x 10'0")	2450 x 3050 (8'0" x 10'0")	- See Note 21
	3-Sided (Single Egress) with HM Mullion		Welded	2 x 1250 x 3050 (2 x 4'0" x 10'0")	Not Applicable	- Fixed mullion between doors
	Stainless 3-Sided (Single Egress) with HM Mullion	Welded or KD	2 x 1250 x 2450 (2 x 4'0" x 8'0")	Not Applicable	- Removable mullion between doors - Doors may not be hinged from mullion	
	Double Egress		Welded	Not Applicable	2450 x 3050 (8'0" x 10'0")	- See Note 10
	Frame with HM Panel Over Door (No Transom Mull)		Welded	1100 x 3000 (3'6" x 9'10")	Not Available	- Flush or rabbetted, fixed or removable hollow metal panels. - See Note 5
	1-1/2, 3/4 and 1/3	Basic 3-Sided		Welded	1550 x 3650 (5'0" x 12'0")	3050 x 3650 (10'0" x 12'0")
3-Piece Slip-On Drywall Adjustable or Expandable		KD		1250 x 3050 (4'0" x 10'0")	2450 x 3050 (8'0" x 10'0")	
		Slip-On		1250 x 2450 (4'0" x 8'0")	2450 x 2450 (8'0" x 8'0")	
Stainless Steel		Slip-On		1250 x 2450 (4'0" x 8'0")	2450 x 2450 (8'0" x 8'0")	
Clad			Welded or KD	1250 x 3050 (4'0" x 10'0")	2450 x 3050 (8'0" x 10'0")	
Lead-Lined			Welded	1250 x 3050 (4'0" x 10'0")	2450 x 3050 (8'0" x 10'0")	- See Note 12
Sound Retardant			Welded	1250 x 3050 (4'0" x 10'0")	2450 x 3050 (8'0" x 10'0")	- See Note 11
Blast Retardant			Welded	1250 x 3050 (4'0" x 10'0")	2450 x 3050 (8'0" x 10'0")	- STC 52 maximum - See Note 20
3-Sided (Single Egress) with HM Mullion			Welded	2 x 1550 x 3650 (2 x 5'0" x 12'0")	Not Applicable	- See Note 21
			Welded or KD	2 x 1250 x 2450 (2 x 4'0" x 8'0")	Not Applicable	- Fixed mullion between doors
			Welded	Not Applicable	2450 x 2450 (8'0" x 8'0")	- Removable mullion between doors - Doors may not be hinged from mullion
			Welded	Not Applicable	2450 x 2450 (8'0" x 8'0")	- Fixed or removable hollow metal mullion behind doors - Doors may not be hinged from mullion
Stainless 3-Sided (Single Egress) with HM Mullion		Welded	2 x 1250 x 3050 (2 x 4'0" x 10'0")	Not Applicable	- Fixed mullion between doors	

Continued ...

TABLE 1 - FIRE-RATED FRAMES (Continued)

Fire Rating (Hrs)	Description	Typical Plan and/or Elevation	Assembly Method	Maximum Frame Rabbet Sizes (Width x Height)		General Notes: - See Note 1 for Profile Requirements
				Singles	Pairs	
1-1/2, 3/4 and 1/3	Contra-Swing		Welded	2 x 1250 x 2450 (2 x 4'0" x 8'0")	Not Applicable	- Fixed or removable mull between doors - Doors may not be hinged from rem mull
	Double Egress		Welded	Not Applicable	2450 x 3050 (8'0" x 10'0")	- See Note 10
			KD	Not Applicable	2450 x 2450 (8'0" x 8'0")	- See Note 10
	Frame with HM Panel Over Door (No Transom Mull)		Welded or KD	1250 x 3350 (4'0" x 11'0")	2450 x 3350 (8'0" x 11'0")	- Flush or rabbeted, fixed or removable hollow metal panels. - See Note 5
	Stainless Frame with Panel Over Door (No Transom Mull)		Welded or KD	1250 x 3350 (4'0" x 11'0")	2450 x 3350 (8'0" x 11'0")	- Flush or rabbeted, fixed or removable stainless steel panels. - See Note 8
	Dutch Door Frame		Welded or KD	1250 x 2450 (4'0" x 8'0")	Not Available	
Multi-Opening		Welded	1250 x 2450 (4'0" x 8'0")	2450 x 2450 (8'0" x 8'0")	- See Note 2	

TABLE 2 - FIRE-RATED TRANSOM FRAMES

Fire Rating (Hrs)	Description	Typical Plan and/or Elevation	Assembly Method	Maximum Nominal Door Sizes (Width x Height)		General Notes: - See Note 1 for Profile Requirements - See Notes 4 and 19 for Transom Opening Materials - See Table 4 for Max. O/A Unit Heights
				Singles	Pairs	
3	Basic and Stainless		Welded	1250 x 3050 (4'0" x 10'0")	2450 x 3050 (8'0" x 10'0")	
	Clad		Welded	1250 x 2450 (4'0" x 8'0")	2450 x 2450 (8'0" x 8'0")	- See Note 12
	Basic & Stainless (Single Egress) with HM Mullion		Welded	2 x 1250 x 3050 (2 x 4'0" x 10'0")	Not Applicable	- Fixed mullion between doors - Doors may not be hinged from mullion
	Double Egress		Welded	Not Applicable	2450 x 3050 (8'0" x 10'0")	- See Note 10
1-1/2, 3/4 and 1/3	Basic		Welded	1550 x 3650 (5'0" x 12'0")	3050 x 3650 (10'0" x 12'0")	
	Stainless		Welded	1250 x 3050 (4'0" x 10'0")	2450 x 3050 (8'0" x 10'0")	
	Clad		Welded	1250 x 2450 (4'0" x 8'0")	2450 x 2450 (8'0" x 8'0")	- See Note 12
	Basic (Single Egress) with HM Mullion		Welded	2 x 1550 x 3650 (2 x 5'0" x 12'0")	Not Applicable	- Fixed mullion between doors - Doors may not be hinged from mullion
			Welded	2 x 1250 x 2450 (2 x 4'0" x 8'0")	Not Applicable	- Removable mullion between doors - Doors may not be hinged from mullion
	Stainless (Single Egress) with HM Mullion		Welded	2 x 1250 x 3050 (2 x 4'0" x 10'0")	Not Applicable	- Fixed mullion between doors - Doors may not be hinged from mullion
	Contra-Swing		Welded	2 x 1250 x 2450 (2 x 4'0" x 8'0")	Not Applicable	- See Note 6
	Double Egress		Welded	Not Available	2450 x 3050 (8'0" x 10'0")	- See Note 10
Dutch Door		Welded	1100 x 2200 (3'6" x 7'2")	Not Available		
Multi-Opening		Welded	1250 x 2450 (4'0" x 8'0")	2450 x 2450 (8'0" x 8'0")	- See Note 2	

TABLE 3 - FIRE-RATED SIDELIGHT AND WINDOW FRAMES

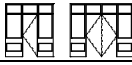

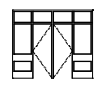
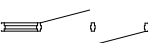
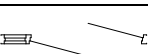
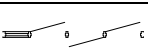





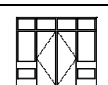
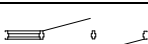
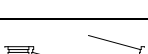
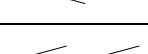
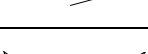





Fire Rating (Hrs)	Description	Typical Plan and/or Elevation	Assembly Method	Maximum Nominal Door Sizes (Width x Height)		General Notes: - See Note 1 for Profile Requirements - See Notes 4 and 19 for Panel/Glazing Materials - See Table 4 for Max. O/A Unit Sizes	
				Singles	Pairs		
1-1/2	Sidelight Frames	Basic Sidelight		Welded	1250 x 3050 (4'0" x 10'0")	2450 x 3050 (8'0" x 10'0")	
		Fire-Shutter Protected		Welded	1250 x 1250 (4'0" x 4'0")	Not Available	- See Note 14
		Sidelight (Single Egress) with HM Mull		Welded	2 x 1250 x 2450 (2 x 4'0" x 8'0")	Not Applicable	- Fixed or rem mullion between doors - Doors may not be hinged from removable mullion
		Contra-Swing		Welded	2 x 1250 x 2450 (2 x 4'0" x 8'0")	Not Applicable	- See Note 6
		Double Egress		Welded	Not Applicable	2450 x 3050 (8'0" x 10'0")	- See Note 10
		Multi-Opening		Welded	1250 x 2450 (4'0" x 8'0")	2450 x 2450 (8'0" x 8'0")	- See Note 9
	Windows	Basic Window		Welded	Not Applicable		
		Fire-Shutter Protected		Welded	Not Applicable		- See Note 14
3/4 and 1/3	Sidelight Frames	Basic Sidelight		Welded	1250 x 3050 (4'0" x 10'0")	2450 x 3050 (8'0" x 10'0")	
		Stainless Steel		Welded	1250 x 3050 (4' - x 10'0")	2450 x 3050 (8'0" x 10'0")	
		Fire-Shutter Protected		Welded	2450 x 2450 (4'0" x 4'0")	Not Available	- See Note 14
		Sidelight (Single Egress) with HM Mull		Welded	2 x 1250 x 2450 (2 x 4'0" x 8'0")	Not Applicable	- Fixed or rem mullion between doors - Doors may not be hinged from removable mullion
		Contra-Swing		Welded	2 x 1250 x 2450 (2 x 4'0" x 8'0")	Not Applicable	- See Note 6
		Double Egress		Welded	Not Applicable	2450 x 3050 (8'0" x 10'0")	- See Note 10
		Multi-Opening		Welded	1250 x 2450 (4'0" x 8'0")	2450 x 2450 (8'0" x 8'0")	- See Note 9
		Segmented		Welded	1250 x 3050 (4'0" x 10'0")	2450 x 3050 (8'0" x 10'0")	- See Note 9
	Windows	Basic Window		Welded	Not Applicable		
		Stainless Steel		Welded	Not Applicable		
		Steel 4-Sided Window		KD or Slip-On	Not Applicable		
		Stainless Steel 4-Sided Window			Not Applicable		
		Fire-Shutter Protected		Welded	Not Applicable		- See Note 14
Segmented			Welded	Not Applicable		- See Note 9	

TABLE 4 - MAXIMUM OVER-ALL UNIT SIZES: FIRE RATED TRANSOM, SIDELIGHT AND WINDOW FRAMES
 (Width x Height & Area [if applicable]) See Note 3

Description	Material	Wall	Application	Fire Protection Rating		
				3 Hour	1-1/2 Hour	3/4 and 1/3 Hour
Transom Frames (See Note 7)	Steel	All	Singles	1350 x 3050 (4'2" x 10'0")	1650 x 3650 (5'4" x 12'0")	1650 x 3650 (5'4" x 12'0")
			Pairs	2550 x 3050 (8'4" x 10'0")	3150 x 3650 (10'4" x 12'0")	3150 x 3650 (10'4" x 12'0")
		Multi-Opening	Drywall	Not Available	3900 x 3050 (12'10" x 10'0")	3900 x 3450 (12'10" x 11'4")
			Non-Drywall	Not Available	3900 x 3650 (12'10" x 12'0")	4100 x 3650 (13'6" x 12'0")
	Stainless Steel	All	Singles	1350 x 3050 (4'4" x 10'0")	1350 x 3050 (4'4" x 10'0")	1350 x 3050 (4'4" x 10'0")
			Pairs	2550 x 3050 (8'4" x 10'0")	2550 x 3050 (8'4" x 10'0")	2550 x 3050 (8'4" x 10'0")
Sidelight Frames	Steel	Drywall	All	Not Available	3050 x 3050 & 8.92 m ² (10' x 10' & 96 ft ²)	3900 x 3450 (12'10" x 11'4")
		Non-Drywall	All	Not Available	3650 x 3650 & 11.15 m ² (12' x 12' & 120 ft ²)	4100 x 3650 (13'6" x 12'0")
	Steel Fire-Shutter Protected	All	All	Not Available	1350 x 1350 (4'4" x 4'4")	1350 x 1350 (4'4" x 4'4")
	Stainless Steel	All	All	Not Available	Not Available	2550 x 3050 (8'4" x 10'0")
Window Frames	Steel	Drywall	Not Applicable	Not Available	3050 x 3050 & 10.66 m ² (10' x 10' & 96 ft ²)	3900 x 3450 (12'10" x 11'4")
		Non-Drywall	Not Applicable	Not Available	3650 x 3650 & 11.15 m ² (12' x 12' & 120 ft ²)	4100 x 3650 (13'6" x 12'0")
	Steel 4-Sided KD or Slip-On	All	Not Applicable	Not Available	Not Available	1050 x 1500 & 1.05 m ² (3'4" x 4'10" & 11.3 ft ²)
	Steel Fire-Shutter Protected	All	All	Not Available	1350 x 1350 (4'4" x 4'4")	1350 x 1350 (4'4" x 4'4")
	Stainless Steel	All	Not Applicable	Not Available	Not Available	2550 x 3050 (8'4" x 10'0")
	Stainless 4-Sided KD or Slip-On	All	Not Applicable	Not Available	Not Available	1050 x 1500 & 1.05 m ² (3'4" x 4'10" & 11.3 ft ²)

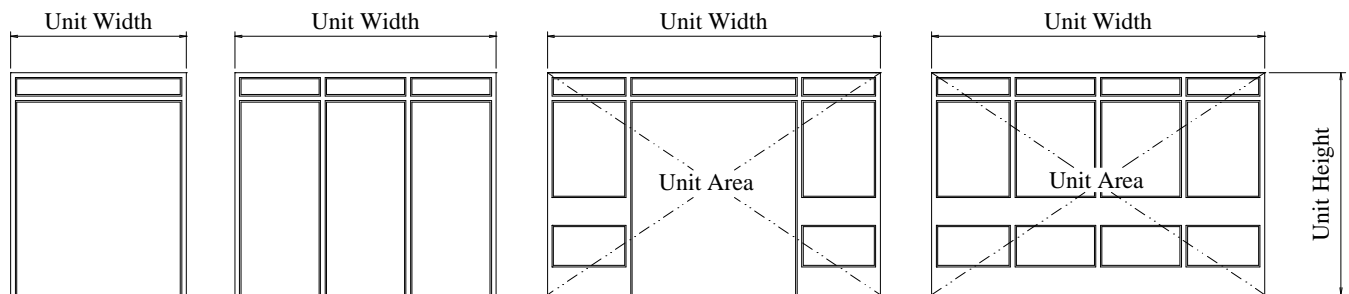


TABLE 5 - FIRE-RATED DOORS

Typical Elevations	Fire Rating (Hrs)	Description	Construction	Max. Nominal Door Sizes (Width x Height)		General Notes: - All conditions not noted below must comply with NFPA 80 and the individual manufacturer's label service procedures. - All doors are 45 mm (1-3/4") thick unless otherwise indicated - See Note 15 regarding astragals - See Notes 17 and 19 for glazing materials	
				Singles	Pairs		
	3	Standard	Welded Stiffener or Laminated Core	1250 x 3050 (4'0" x 10'0")	2450 x 3050 (8'0" x 10'0")		
		Double Egress	Welded Stiffener or Laminated Core	Not Applicable	2450 x 3050 (8'0" x 10'0")	- See Note 10	
		Temperature Rise Rated	Laminated Core	1250 x 2450 (4'0" x 8'0")	2450 x 2450 (8'0" x 8'0")	- 250° C at 60 minute TRR maximum	
		35 mm (1-3/8") Thick Door	Laminated Core	900 x 2150 (3'0" x 7'0")	1850 x 2150 (6'0" x 7'0")		
		48-57 mm Thick (1-7/8" - 2-1/4")	Welded Stiffener	1250 x 3050 (4'0" x 10'0")	2450 x 3050 (8'0" x 10'0")		
		Stainless Steel	Laminated Core	1250 x 2450 (4'0" x 8'0")	2450 x 2450 (8'0" x 8'0")		
			Welded Stiffener	1250 x 3050 (4'0" x 10'0")	2450 x 3050 (8'0" x 10'0")		
		Clad	Welded Stiffener	1250 x 3050 (4'0" x 10'0")	2450 x 3050 (8'0" x 10'0")	- See Note 12	
		Lead-Lined (for Radiation Shielding)	Proprietary	1250 x 3050 (4'0" x 10'0")	2450 x 3050 (8'0" x 10'0")	- See Note 11	
		Blast Retardant	Proprietary	1250 x 3050 (4'0" x 10'0")	2450 x 3050 (8'0" x 10'0")	- See Note 21	
Door with Panel Above	Laminated Core	1100 x 2150 (3'6" x 7'0")	Not Available	- Flush or rabbetted door top			
	1-1/2	Standard	Welded Stiffener	1550 x 3650 (5'0" x 12'0")	3050 x 3650 (10'0" x 12'0")	- Mortise lock x aux fire latch	
			Laminated Core	1250 x 3050 (4'0" x 10'0")	2450 x 3050 (8'0" x 10'0")		
		Double Egress	Welded Stiffener or Laminated Core	Not Applicable	2450 x 3050 (8'0" x 10'0")	- See Note 10	
		Temperature Rise Rated	Laminated Core	1250 x 2450 (4'0" x 8'0")	2450 x 2450 (8'0" x 8'0")	- 250° C at 60 minute TRR maximum	
		Louvered	Welded Stiffener or Laminated Core	1250 x 3050 (4'0" x 10'0")	2450 x 3050 (8'0" x 10'0")	- See Note 13	
		35 mm (1-3/8") Thick Door	Laminated Core	900 x 2150 (3'0" x 7'0")	1850 x 2150 (6'0" x 7'0")		
		48 - 57 mm (1-7/8" - 2-1/4") Thick Door	Welded Stiffener	1250 x 3050 (4'0" x 10'0")	2450 x 3050 (8'0" x 10'0")		
			Laminated Core	1250 x 2750 (4'0" x 9'0")	Not Available		
		Stainless Steel	Welded Stiffener or Laminated Core	1250 x 3050 (4'0" x 10'0")	2450 x 3050 (8'0" x 10'0")		
			Welded Stiffener or Laminated Core	1250 x 3050 (4'0" x 10'0")	2450 x 3050 (8'0" x 10'0")	- See Note 12	
		Lead-Lined (for Radiation Shielding)	Proprietary	1250 x 3050 (4'0" x 10'0")	2450 x 3050 (8'0" x 10'0")	- See Note 11	
		Sound Retardant	Proprietary	1250 x 3050 (4'0" x 10'0")	2450 x 3050 (8'0" x 10'0")	- STC 52 maximum - See Note 20	
		Blast Retardant	Proprietary	1250 x 3050 (4'0" x 10'0")	2450 x 3050 (8'0" x 10'0")	- See Note 21	
		Door with Panel Above	Laminated Core		1250 x 3050 (4'0" x 10'0")	2450 x 2450 (8'0" x 8'0")	- Flush or rabbetted door top
				Stainless Door with Panel Above		1250 x 2450 (4'0" x 8'0")	2450 x 2450 (8'0" x 8'0")
		Dutch Door	Welded Stiffener	1100 x 2220 (3'6" x 7'2")	Not Available	- See Note 18	
Laminated Core	1250 x 2450 (4'0" x 8'0")		Not Available	- See Note 18			

(Continued ...)

TABLE 5 - FIRE-RATED DOORS (Continued)

Typical Elevations	Fire Rating (Hrs)	Description	Construction	Max. Nominal Door Sizes (Width x Height)		General Notes: - All conditions not noted below must comply with NPFA 80 and the individual manufacturer's label service procedures. - All doors are 45 mm (1-3/4") thick unless otherwise indicated - See Note 15 regarding astragals - See Notes 17 and 19 for glazing materials
				Singles	Pairs	
	3/4 and 1/3	Standard	Welded Stiffener	1550 x 3650 (5'0" x 12'0")	3050 x 3650 (10'0" x 12'0")	- Mortise lock x aux fire latch
			Laminated Core	1250 x 3050 (4'0" x 10'0")	2450 x 3050 (8'0" x 10'0")	
Double Egress		Welded Stiffener or Laminated Core	Not Applicable	2450 x 3050 (8'0" x 10'0")	- See Note 10	
Temperature Rise Rated		Laminated Core	1250 x 2450 (4'0" x 8'0")	2450 x 2450 (8'0" x 8'0")	- 250° C at 30 minute TRR maximum	
Louvered		Welded Stiffener or Laminated Core	1250 x 3050 (4'0" x 10'0")	2450 x 3050 (8'0" x 10'0")	- See Note 13	
35 mm (1-3/8") Thick Door		Laminated Core	900 x 2150 (3'0" x 7'0")	1850 x 2150 (6'0" x 7'0")		
48 – 57 mm (1-7/8" - 2-1/4") Thick Door		Welded Stiffener	1250 x 3050 (4'0" x 10'0")	2450 x 3050 (8'0" x 10'0")		
		Laminated Core	1250 x 2750 (4'0" x 9'0")	Not Available		
Stainless Steel		Welded Stiffener or Laminated Core	1250 x 3050 (4'0" x 10'0")	2450 x 3050 (8'0" x 10'0")		
Clad		Welded Stiffener or Laminated Core	1250 x 3050 (4'0" x 10'0")	2450 x 3050 (8'0" x 10'0")	- See Note 12	
Lead-Lined (for Radiation Shielding)		Proprietary	1250 x 3050 (4'0" x 10'0")	2450 x 3050 (8'0" x 10'0")	- See Note 11	
Sound Retardant		Proprietary	1250 x 3050 (4'0" x 10'0")	2450 x 3050 (8'0" x 10'0")	- STC 52 maximum - See Note 20	
Blast Retardant		Proprietary	1250 x 3050 (4'0" x 10'0")	2450 x 3050 (8'0" x 10'0")	- See Note 21	
Door with Panel Above		Laminated Core	1250 x 3050 (4'0" x 10'0")	2450 x 2450 (8'0" x 8'0")	- Flush or rabbetted door top	
			Stainless Door with Panel Above	1250 x 2450 (4'0" x 8'0")	2450 x 2450 (8'0" x 8'0")	
Dutch Door		Welded Stiffener	1100 x 2220 (3'6" x 7'2")	Not Available	- See Note 18	
		Laminated Core	1250 x 2450 (4'0" x 8'0")	Not Available	- See Note 18	

NOTES

- Note 1: Jamb Depth - Open sections; 63.5 to 368.3 mm (2-1/2" to 14-1/2")
- Closed sections; 114.3 to 266.7 mm (4-1/2" to 10-1/2")
- Note; For jamb depths less than 101.2 mm (4"), only single rabbet profiles are permitted

- Face Widths - Jamb depth less than 101.2 mm (4"); 50 to 101.2 mm (2" to 4")
- Jamb depth 101.2 mm (4") and greater, immediately surrounding a door opening;
- In sidelight frames greater than 3/4 hour rating; 31.8 to 102 mm (1-1/4" to 4")
- In all other frame product; 31.8 to 305 mm (1-1/4" to 12")
- Jamb depth 101.2 mm (4") and greater, not immediately surrounding a door opening;
- In sidelight and window frames greater than 3/4 hour rating; 25 to 102 mm (1" to 4")
- In all other frame product; 25 to 305 mm (1" to 12")

All frame product, except slip-on drywall frames, are available with single or double rabbet profiles

Slip-on drywall frames are available with double rabbet profiles only

All other profile requirements must be in accordance with CAN4-S105

All frame product to be installed in accordance with NFPA 80

- Note 2: Multi-opening frames and multi-opening transom frames may include combinations of singles, pairs, double egress and contra-swing configurations.

Between the doors hollow metal removable strike mullions are available

Maximum multi-opening frame over-all unit widths;

- 1-1/2 hr; 3900 mm (12'10") in all partitions
- 3/4 hr ; 3900 mm (12'10") in drywall partition
; 4100 mm (13'6") in non-drywall partitions

- Note 3: Must comply with all 3 criteria.

A unit is considered "in drywall" when either jamb, head or sill contact a drywall or steel or wood stud partition.

All transom, sidelight and window frames are welded construction, unless indicated otherwise.

Over-all sizes based on 50 mm (2") face jambs.

Field splices to facilitate shipping and site conditions are permitted.

- Note 4: In-Fill Materials (Panels or Glazing):

- 3 hour transom frames;
 - 1 sheet of 20 ga steel laminated to each face of 9.5 mm (3/8") thick inorganic cement board, not exceeding 2450 (8'0") width, 1370 (4'6") height and 2.23 m² (3456 in²) area, factory installed in opening with removable glazing stops or;
 - 45 mm (1-3/4") thick panel constructed as a door, not exceeding 1250 (4'0") width or 3050 (10'0") height, factory tack welded in transom opening.
- 1-1/2 hour transom, sidelight and window assemblies;
 - Same as 3 hour transom frames or;
 - 1-1/2 hour Listed Glazing Material. Refer to Glazing Manufacturer's listings for maximum individual light widths, heights and areas permitted. Glazing materials are supplied and installed by others. Also see Note 19.
- 3/4 and 1/3 hour transom, sidelight and window assemblies;
 - Same as 1-1/2 and 3 hour units or;
 - 1 sheet of 20 gauge steel laminated to each face of 12.7 mm (1/2") thick non-rated gypsum wall board, not exceeding 1370 (4'6") width or height and 0.84 m² (1296 in²) area, factory installed in opening with removable glazing stops or;
 - 3/4 hour Listed Glazing Material. Refer to Glazing Manufacturer's listings for maximum individual light widths, heights and areas permitted. Glazing materials are supplied and installed by others. Also see Note 19.

- Note 5: Frame Rabbet Sizes indicated are the maximum combined door and panel height

Maximum nominal door height ; 3 hour - 2150 mm (7'0")

; 1-1/2 and 3/4 hour - 3050 mm (10'0") singles, 2450 mm (8'0") pairs

Maximum nominal panel height ; 900 mm (3'0")

- Note 6: Fixed or removable mullion between doors

- Note 7: Transom frame over-all unit widths for singles and pairs are based on 50 mm (2") face jambs

- Note 8: Maximum nominal door height; 2450 mm (8'0")

Maximum panel height; 900 mm (3'0")

- Note 9: Sidelight frames may include combinations of singles, pairs, double egress and contra-swing configurations

Between the doors hollow metal removable strike mullions are available in sidelight frames

Segmented sidelight and window frames, not exceeding 3/4 hour rating, in all partition types, may incorporate vertical 2, 3 and 4-way hollow metal corner posts.

See Table 4 for maximum over-all unit sizes of sidelight and window frames.

Individual segments of sidelight and window assemblies may not exceed the over-all unit widths detailed in Table 4.

The number of segments in a sidelight or window assembly is not restricted except by building code.

Codes may limit the maximum area of a sidelight or window assembly within a separation.

Segmented sidelights and windows are available in welded construction only.

NOTES (Continued)

- Note 10: Double egress frame product must be supplied with the same manufacturer's listed double egress type doors.
- Note 11: Lead-linings for radiation shielding are specified by thickness or weight.
 For fire-rated doors and frames the following are available;
 - 0.8 mm / 9.8 kg/m² (1/32" / 2 psf)
 - 1.2 mm / 14.6 kg/m² (3/64" / 3 psf)
 - 1.6 mm / 19.5 kg/m² (1/16" / 4 psf)
- Note 12: Cladding must be factory installed, non-combustible metallic such as stainless steel, brass, bronze or aluminum
 Maximum cladding thickness: 1.6 mm (0.063") up to 2450 mm (8') ht. (1.2 mm (0.040") over 2450 mm (8') ht).
 UL or ITS listed non-metallic claddings are permitted on fire-rated doors, frames and transom frames to the lesser of the size and rating of the door/frame product used or the limits of the cladding manufacturer's individual listings. Such materials must be installed in accordance with the cladding manufacturer's listings and installation instructions.
- Note 13: Louvers must be UL or ITS labeled, 610 x 610 mm (2' x 2') maximum size, installed in accordance with the louver manufacturer's listings, templates and installation instructions.
 Louvers may be field installed in factory prepared fire-rated doors.
 Only 1 louver per fire door assembly is permitted.
 Louvers are not permitted in the following;
 - Doors exceeding 1-1/2 hour rating
 - Doors with lights
 - Doors prepared for fire exit devices
 - Sound retardant, dutch, lead-lined, temperature rise rated, clad doors, or doors in a "means of egress"
- Note 14: Sidelight and window frames with integral, manual, fusible link fire-shutter protected openings
 Standard tempered glazing or unglazed opening, not exceeding 1250 mm (4'0") exposed width or height and 1.49 m² (16 ft²) area is permitted.
- Note 15: As per NFPA 80-1999 (Standard for Fire Doors and Fire Windows), astragals are mandatory on all pairs and double egress doors exceeding 1-1/2 hour fire-rating.
 Pairs and double egress doors, 1-1/2 hour and less fire-rating, may be provided without astragals if so noted in the individual manufacturer's listings.
 Astragals are required for the following;
 - Temperature rise rated doors exceeding 2200 mm (7'2") nominal leaf height
 - Top leaf of all dutch doors
 - Bottom of all flush (non-rabbeted) panels above a door in frames without horizontal transom mullions
- Note 16: Doors listed at a specific fire-rating are eligible for all lower fire protection ratings. (ie: 3 hour doors are eligible for 1-1/2, 3/4 and 1/3 hour ratings).
- Note 17: Glazing Materials must be Listed for use in steel doors and includes 6 mm (1/4") Georgian wired glass (GWG), 6 mm (1/4") GWG with specialized glazing compounds, and proprietary glazing materials. Refer to the Glazing Manufacturer's listings for maximum individual light width, height, area and rating limitations. Glazing materials are supplied and installed by others. In lieu of, or in addition to glazing materials, steel fire doors may also be provided with 9.5 mm (3/8") or 12.7 mm (1/2") cement board in-fill panels, similar to those permitted in transom, sidelight and window frames.
- Note 18: Lower leaf prepared for single point latching, upper leaf for single point latching or automatic flush bolts.
 Astragal required on upper leaf. Available with or without shelf.
- Note 19: For glazing materials which exceed the traditional sizes and/or ratings, or may be limited by Code requirements, written approval from the local AHJ should be obtained prior to their use. Glazing materials used in fire door and frame products may also require compliance with Code mandated impact resistance. Contact the local AHJ to obtain written approval for specific glazing materials in these applications prior to their use.
- Note 20: Sound retardant doors are 45 mm (1-3/4") thick except those prepared for concealed vertical rod exit devices which require 55 mm (2-1/8") door thickness and are limited to STC 50.
- Note 21: Blast retardant door and frame assemblies can vary significantly from project to project. It is best to consult with CSDMA members on each project in order to ascertain a particular opening's compliance for fire resistance standards.

ITEMS OR CONDITIONS NOT ELIGIBLE FOR FIRE-RATING

- | | |
|--|---|
| 1) Sloped, round or radiused top doors | 8) Door hinged from removable mullions |
| 2) Radiused or bull-nosed lock or hinge edges | 9) Thermally broken frame product |
| 3) Rabbeted hinges edges | 10) Transom, sidelight or window assemblies requiring a temperature rise rating |
| 4) Field spliced doors | 11) Doors or frame product installed in floors or ceilings |
| 5) Double acting doors or frame product | 12) Removable horizontal transom mullions |
| 6) Preparations for mail slots or mono-rail cutouts | 13) Horizontal 2, 3 or 4-way mullions or rails |
| 7) Preparation or reinforcing for non-listed/classified hardware | |

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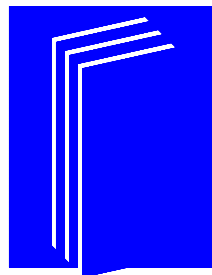
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