

RECOMMENDED DIMENSIONAL STANDARDS FOR COMMERCIAL STEEL DOORS AND FRAMES

PURPOSE

To provide architects, specifiers and users with standard modular dimensional guidelines for commercial steel door and frame product in both the Imperial and Metric (SI) measurement systems.

SCOPE

The selection of steel door and frame sizes, frame profiles and hardware locations for specific applications are dependent upon a variety of criteria including fire and life safety, barrier free access and/or building codes, security, aesthetic and budgetary considerations.

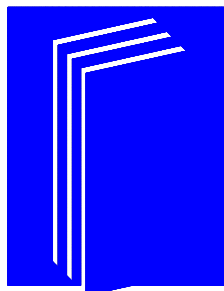
In addition, product sizing must be consistent with the measurement system selected for the project and the commercially recognized modules for that system. Construction in the imperial system utilizes a 4 inch module, whereas metric modules are based on 100 millimeters.

The metric values indicated in this publication are hard conversions of their corresponding imperial sizes, based upon the metric module. Imperial and metric values are not equal.

This guide is intended to address dimensional standards for steel doors and frames in commercial, industrial and institutional construction.

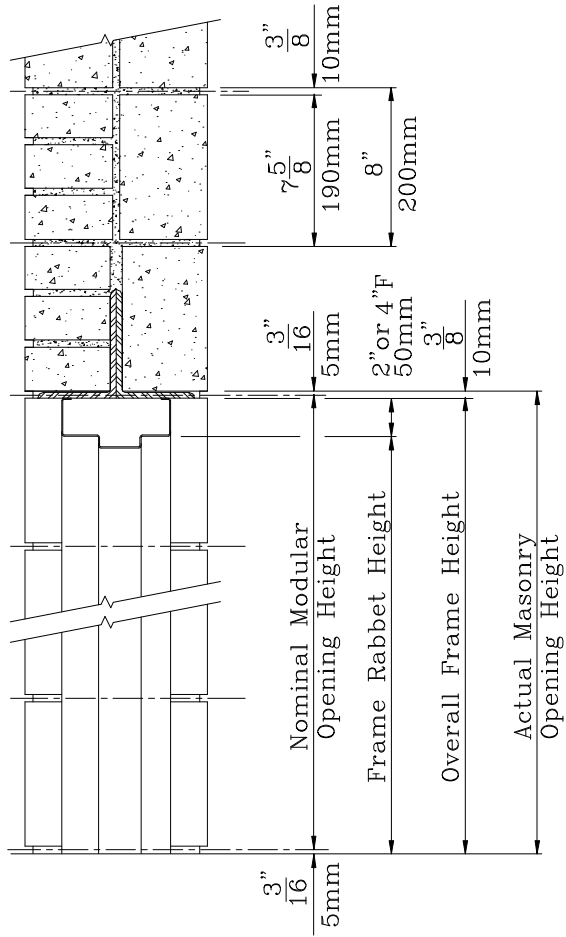
The CSDMA is a voluntary, non-profit organization representing full line manufacturers of commercial steel door and frame products. The objectives of the Association are to promote the use of steel doors and frames, to develop uniform standards and specifications and to provide technical expertise to the construction industry, Standards Writing Organizations and Code Authorities. Inquiries may be directed to the Association offices or any of the member companies listed on the back cover.

**CANADIAN
STEEL DOOR
MANUFACTURERS
ASSOCIATION**

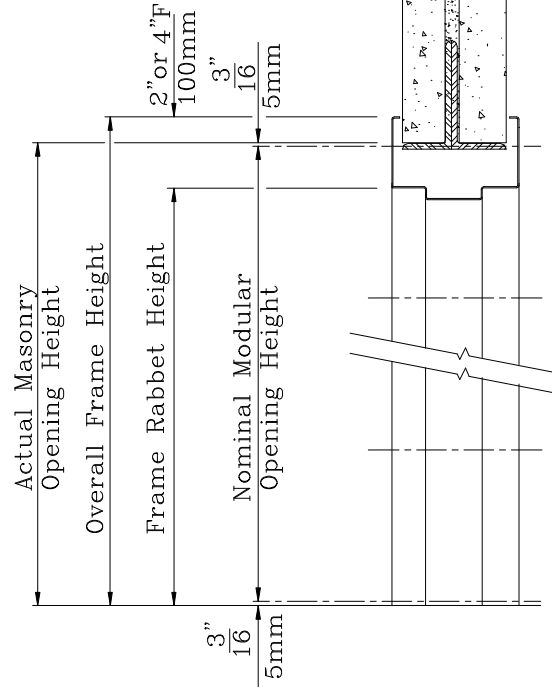


**L'ASSOCIATION
CANADIENNE
DES FABRICANTS
DE PORTES D'ACIER**

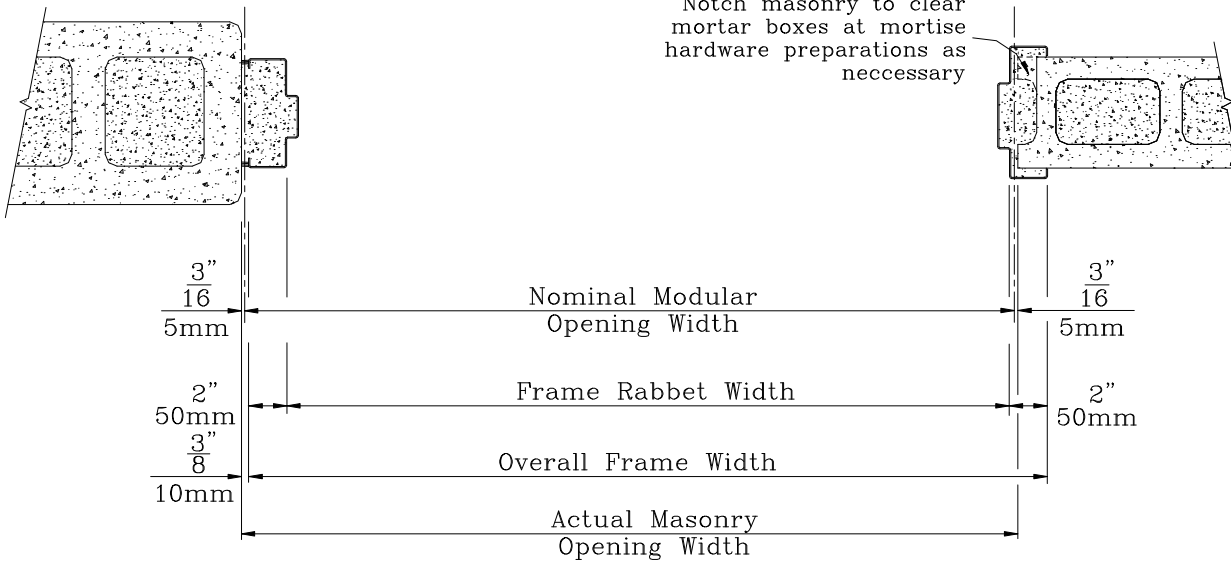
MODULAR IMPERIAL AND METRIC BLOCK OR BRICK



BUTT APPLICATION



WRAP APPLICATION



STANDARD RABBET WIDTHS, RABBET HEIGHTS, JAMB DEPTHS & THROAT OPENINGS

STEEL DOORS AND FRAMES 08100

MODULAR BLOCK OR BRICK OPENING HEIGHTS				
Number of Block/Brick Courses	Imperial Masonry Opening Height		Metric Masonry Opening Height	
	Nominal	Actual	Nominal	Actual
10/30	80"	80-3/8"	2000	2010
10.5/-	84"	84-3/8"	2100	2110
11/33	88"	88-3/8"	2200	2210
11.5/-	92"	92-3/8"	2300	2310
12/36	96"	96-3/8"	2400	2410
12.5/-	100"	100-3/8"	2500	2510
13/39	104"	104-3/8"	2600	2610
13.5/-	108"	108-3/8"	2700	2710
14/42	112"	112-3/8"	2800	2810
14.5/-	116"	116-3/8"	2900	2910
15/45	120"	120-3/8"	3000	3010

MODULAR BLOCK THICKNESS			
Imperial		Metric	
Nominal	Actual	Nominal	Actual
4"	3-5/8"	100	90
6"	5-5/8"	150	140
8"	7-5/8"	200	190
10"	9-5/8"	250	240
12"	11-5/8"	300	290

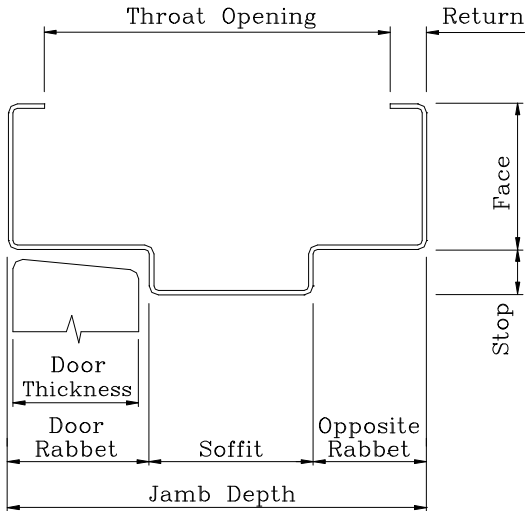
MODULAR FRAME RABBET HEIGHTS + HEAD FACE SIZES				
Number of Block/Brick Courses	Butt Application		Wrap Application	
	Imperial	Metric	Imperial	Metric
10/30	-	-	6'8" + 2" or 4"	-
10.5	6'8" + 4" 6'10" + 2"	2050 + 50	6'10" + 4" 7'0" + 2" or 4"	2050 + 100
11/33	7'0" + 4" 7'2" + 2"	2150 + 50	7'2" + 4"	2150 + 100
11.5	7'4" + 4"	2250 + 50	7'6" + 4"	2250 + 100
12/36	7'6" + 2"	2350 + 50	8'0" + 2" or 4"	2350 + 100
12.5	-	2450 + 50	-	2450 + 100
13/39	8'0" + 4"	2550 + 50	8'6" + 4"	2550 + 100
13.5	8'6" + 2"	2650 + 50	9'0" + 2" or 4"	2650 + 100
14/42	-	2750 + 50	-	2750 + 100
14.5	9'0" + 4"	2850 + 50	9'6" + 4"	2850 + 100
15/45	-	2950 + 50	10'0" + 2" or 4"	2950 + 100

MODULAR FRAME RABBET WIDTHS				
	Imperial	Metric(mm)	Butt	Wrap
Singles	2'0"	600		*
	2'2"	-		
	2'4"	700	*	
	2'6"	-		*
	2'8"	800		*
	2'10"	-		
	3'0"	900	*	
	3'4"	1000		*
	3'6"	-		
	3'8"	1100	*	
Pairs	4'0"	1200		*
	4'0"	1200		*
	-	1300	*	
	4'8"	1400		*
	5'0"	1500	*	
	5'4"	1600		*
	-	1700	*	
	6'0"	1800		*
	6'4"	1900	*	
	6'8"	2000		*
	7'0"	2100	*	
	7'4"	2200		*
	-	2300	*	
	8'0"	2400		*

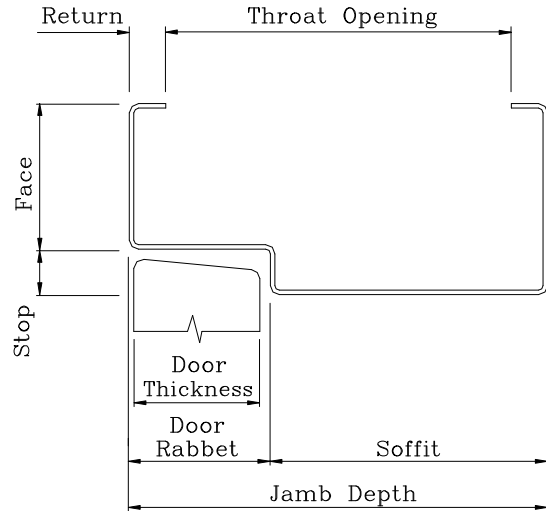
COMMON PROFILES				
Profiles	Imperial (1/2" Returns)		Metric (13mm Returns)	
	Jamb Depth	Throat Opening	Jamb Depth	Throat Opening
DW	4-1/2"	3-1/2"	114	89
M,CO,DW	4-3/4"	3-3/4"	121	95
DW	5-5/8"	4-5/8"	143	117
M,CO	5-3/4"	4-7/8"	146	124**
DW	5-7/8"	4-7/8"	149	124
DW	6-1/4"	5-1/4"	159	133
DW	6-5/8"	5-5/8"	168	143
M,CO	6-3/4"	5-3/4"	172	146
DW	7-1/8"	6-1/8"	181	156
M,CO,DW	7-3/4"	6-3/4"	197	172
DW	8-1/4"	7-1/4"	210	184
M,CO	8-3/4"	7-3/4"	222	197
DW	9-1/2"	8-1/2"	241	216

* : Indicates appropriate application
 ** : 5 3/4" (146mm) jamb depths utilize 7/16" (11mm) returns
 Profiles : M - Masonry
 CO - Cased-Open
 DW - Drywall

FRAME PROFILE TERMINOLOGY AND STANDARD SIZING

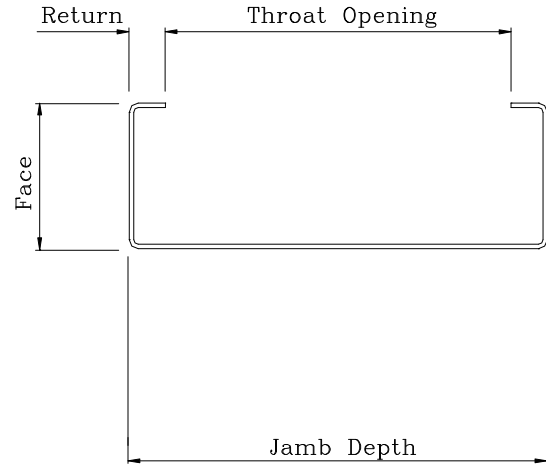


TYPICAL DOUBLE RABBET
MASONRY PROFILE



TYPICAL SINGLE RABBET
MASONRY PROFILE

Door Thickness		Door Rabbet	
Imperial	Metric	Imperial	Metric
1-3/8"	35mm	1-1/2"	38
		1-9/16"	40
1-3/4"	45mm	1-7/8"	48
		1-15/16"	49



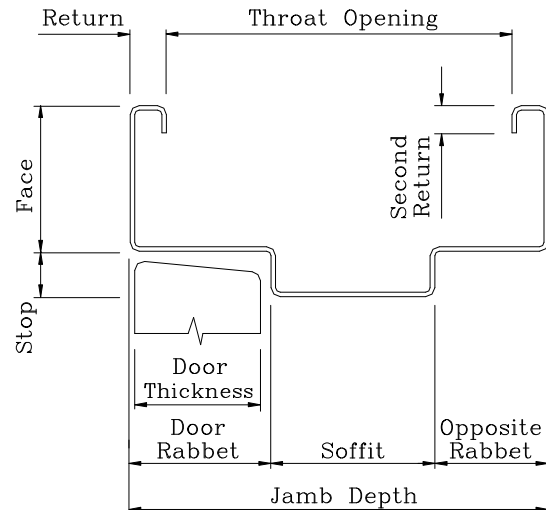
TYPICAL CASED-OPEN
MASONRY PROFILE

Stop Height	
Imperial	Metric
5/8"	16
3/4"	19

Face	
Imperial	Metric
2"	50
4"	100

Return	
Imperial	Metric
7/16"	11
1/2"	13

Second Return	
Imperial	Metric
3/8"	10

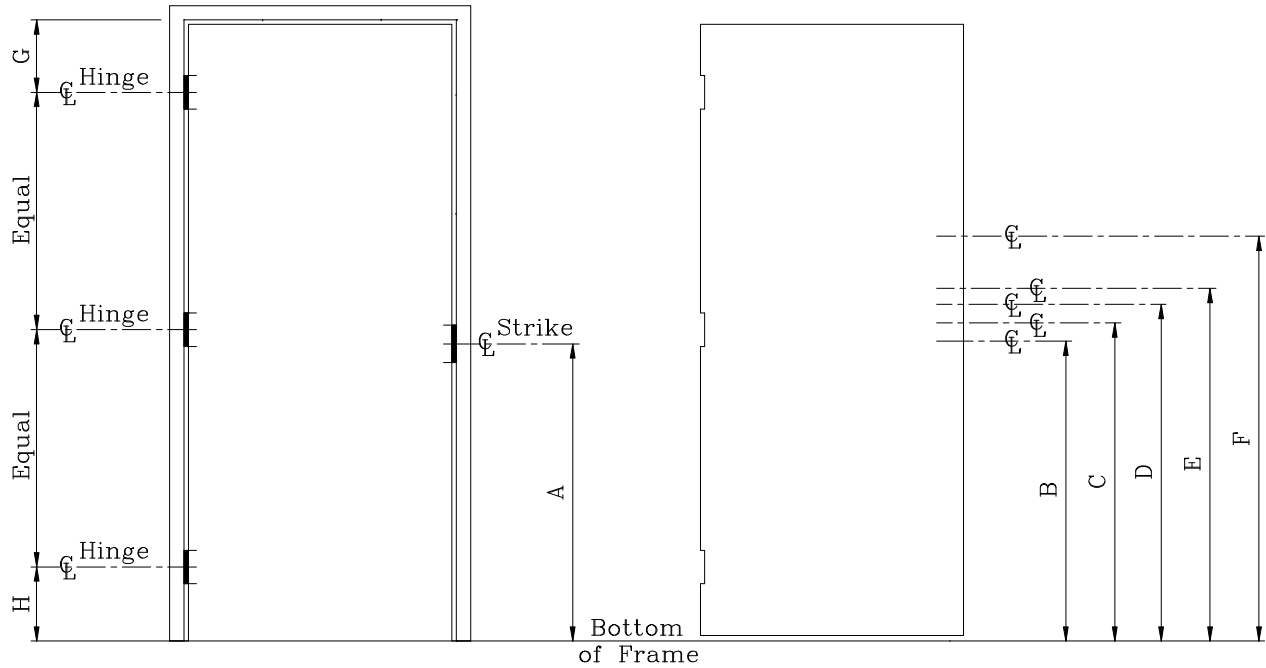


TYPICAL DRYWALL PROFILE

Nominal Material Thickness		
Gauge	Imperial	Metric
20	.036"	0.9
18	.048"	1.2
16	.060"	1.5
14	.075"	1.9
12	.105"	2.7

Note : Dimensions shown may be subject to minor variation by individual manufacturers

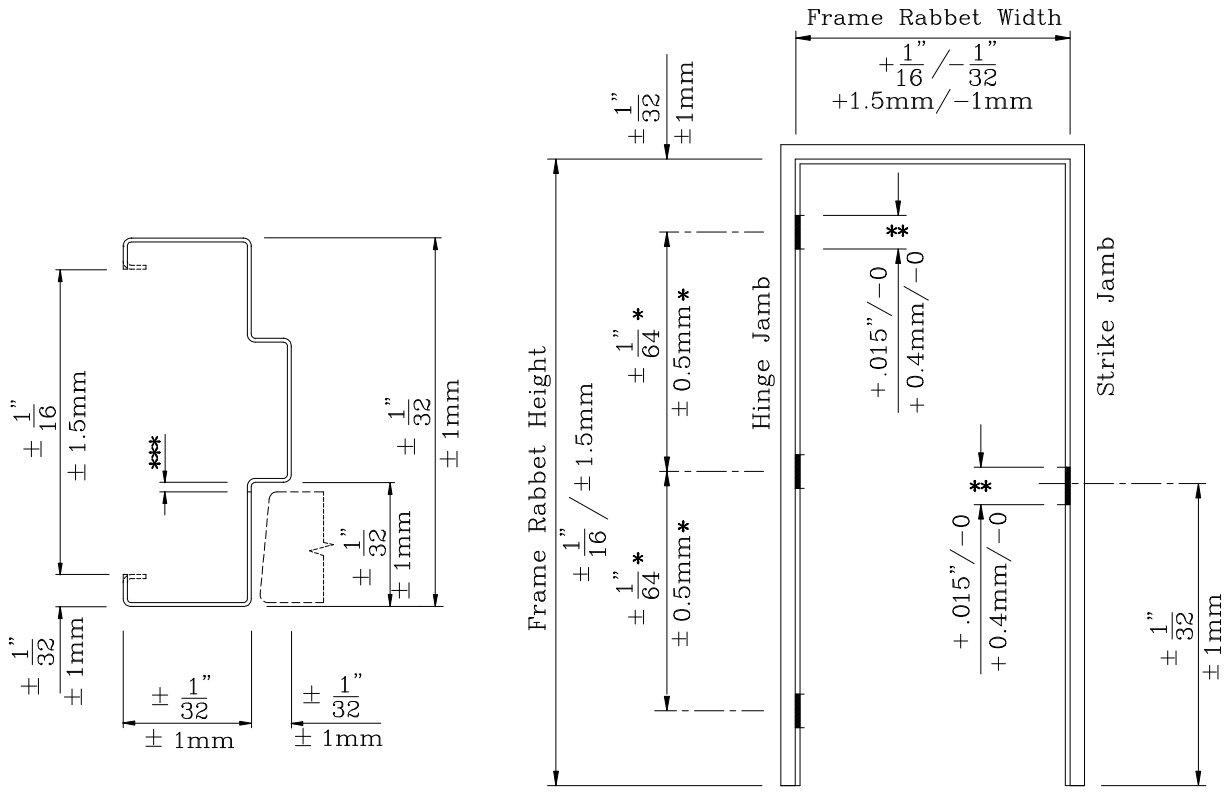
STANDARD HARDWARE LOCATIONS



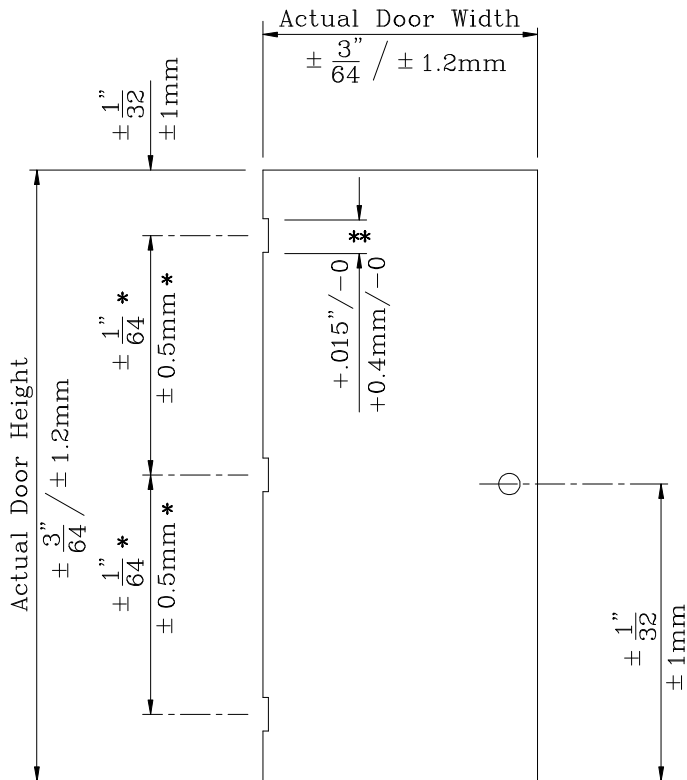
	Hardware Device	Imperial	Metric
A	Centerline of Strike for Knob Locks, Handle Sets, Exit Bolt Locks & Roller Latches	Up to 40 $\frac{5}{16}$ "	Up to 1035
B	Centerline of Pull Grip and Push-Pull Bar	42"	1065
C	Centerline of Hospital Arm Pull Latch	45"	1145
D	Centerline of Hospital Arm Pull (Vertical Type)	47"	1195
E	Centerline of Hospital Push Plate	48"	1220
F	Centerline of Deadlock	48"	1220
G	Centerline of Top Hinge (max)	9 $\frac{3}{4}$ "	250
H	Centerline of Bottom Hinge (max)	13"	330

Note : Dimensions shown may be subject to minor variations by individual manufacturers

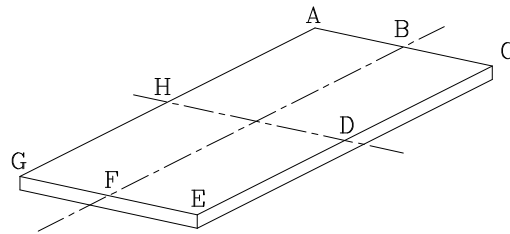
MANUFACTURING TOLERANCES



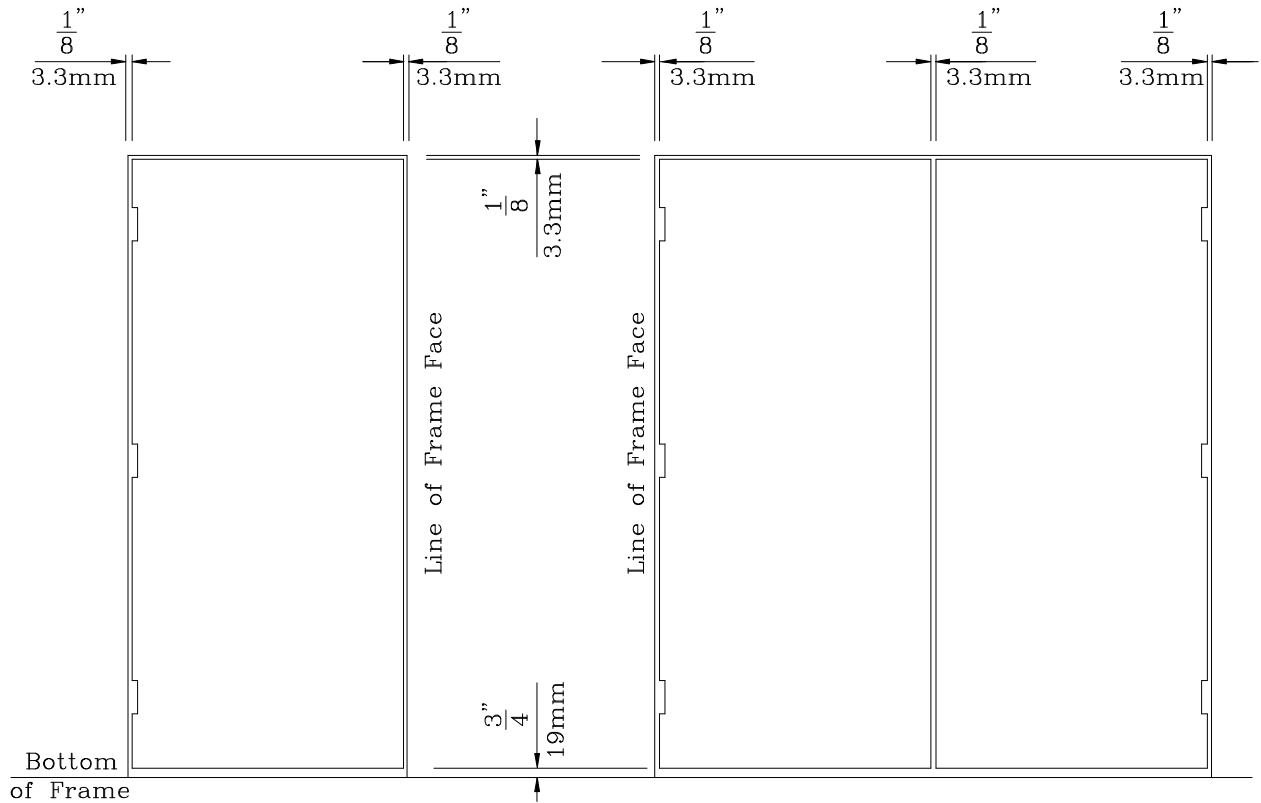
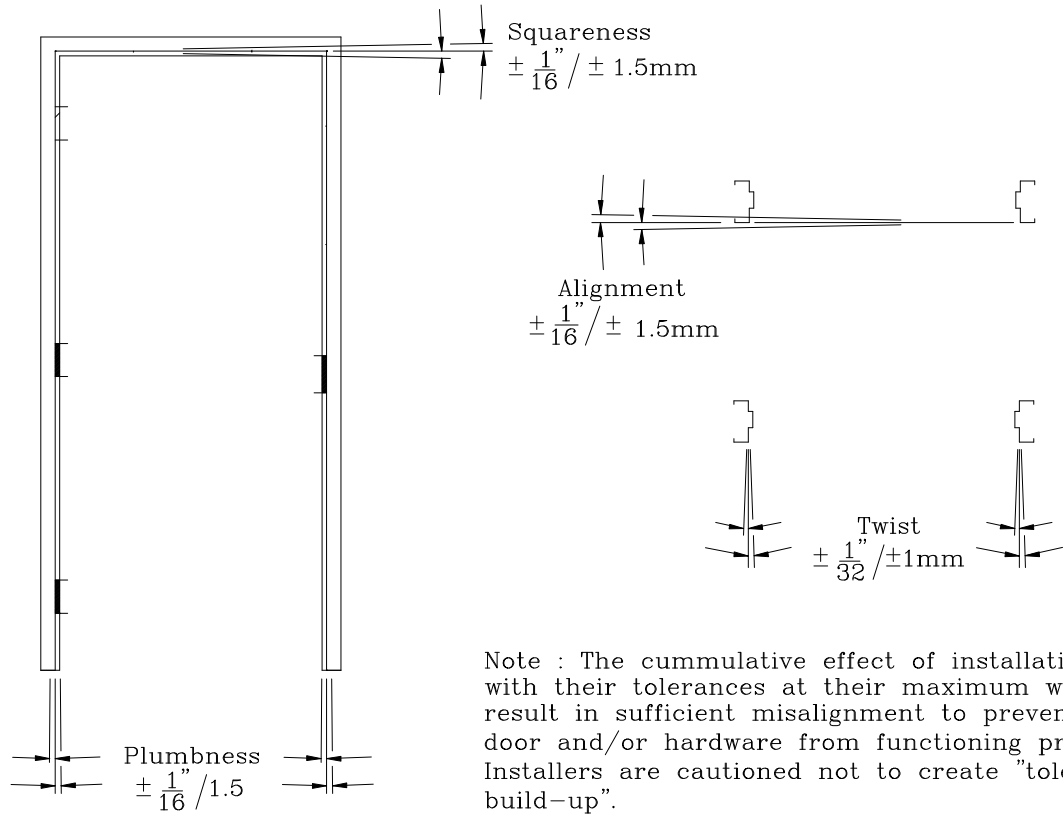
- *: Tolerances are to be non-accumulative
- ** : As per ANSI A115
- ***: Hinge Backset : $+\frac{1}{32}$ / $-\frac{1}{64}$ / $+1$ / -0.5mm



Door Thickness: $\pm \frac{3}{64}$ / $\pm 1.2\text{mm}$
 Squareness: $AE = CG \pm \frac{1}{16}$ / $\pm 1.5\text{mm}$
 Flatness at B to F : $+\frac{3}{16}$ / -0 / $+4.8\text{mm}$ / -0
 or D to H : $+\frac{3}{16}$ / -0 / $+4.8\text{mm}$ / -0
 Rack at A, C, E or G: $\pm \frac{3}{32}$ / $\pm 2.4\text{mm}$



FRAME INSTALLATION TOLERANCE AND DOOR CLEARANCE



Clearance Tolerances : $\pm \frac{1}{16} / \pm 1.5\text{mm}$

CSDMA Membership

All Steel Doors 2000 Limited

130 Milner Avenue
Scarborough, Ontario M1S 3R3
Tel: (416) 297-8500
Toll Free: (877) 353-0937
Fax: (416) 297-0374
E-Mail: sales@asddoors.com

Daybar Industries Limited

50 West Drive
Brampton, Ontario L6T 2J4
Tel: (905) 625-8000
Fax: (905) 624-4204
E-Mail: sales@daybar.com
Website: www.daybar.com

Metal Door Limited

P.O. Box 638
Gormley, Ontario L0H 1G0
Tel: (905) 888-5151
Fax: (905) 888-0647
E-Mail: info@metaldoorltd.com
Website: www.metaldoorltd.com

Ambico Limited

1120 Cummings Avenue
Ottawa, Ontario K1J 7R8
Tel: (613) 746-4663
Toll Free: (888) 423-2224
Fax: (800) 465-8561
E-Mail: specialized@ambico.com
Website: www.ambico.com

Fleming-Baron Door Products

101 Ashbridge Circle
Woodbridge, Ontario L4L 3R5
Tel: (416) 749-2111
Toll Free: (877) 777-9354
Fax: (905) 851-8346
Website: www.flemingbaron.com

M. J. Daley Manufacturing Co. Ltd.

425 Comstock Road
Scarborough, Ontario M1L 2H4
Tel: (416) 752-2030
Toll Free: (888) 423-2539
Fax: (416) 752-6002
Toll Free Fax: (888) 899-9883
E-Mail: mjdaley@interlog.com

Gensteel Doors

4950 Hickmore Street
St. Laurent, Quebec H4T 1K6
Tel: (514) 733-3562
Toll Free: (866) 436-7833
Fax: (514) 733-1932
E-Mail: sales@gensteeldoors.com
Website: www.gensteeldoors.com

Trillium Steel Doors Limited

98 Stafford Drive
Brampton, Ontario L6W 1L4
Tel: (905) 452-1333
Fax: (905) 452-9475
E-Mail: info@trilliumdoors.com
Website: www.trilliumdoors.com

Apex Industries, Inc.

100 Millennium Blvd.
Moncton, New Brunswick E1C 8M6
Tel: (506) 857-1600
Fax: (506) 857-1604
E-Mail: rlkelly@apexindustries.com
Website: www.apexindustries.com

Greensteel Industries Ltd.

975 Logan Avenue
Winnipeg, Manitoba R3E 1P3
Tel: (204) 774-4533
Fax: (204) 786-5899
Website: www.greensteeldoor.com

Vision Hollow Metal Limited

400 Zenway Blvd.
Unit # 1,
Woodbridge, Ontario L4H 0S7
Tel: (905) 851-1211
Fax: (905) 851-1261
E-Mail: info@visionhollowmetal.com
Website: www.visionhollowmetal.com

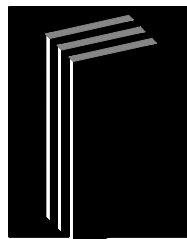
Artek Door (1985) Limited

1294 South Service Road West
Oakville, Ontario L6L 5T7
Tel: (905) 842-6695
Toll Free: (888) 315-3667
Toll Free Fax: (888) 882-7835
E-Mail: sales@artekdoor.com
Website: www.artekdoor.com

Les Métaux Tremblay Inc.

3010, boul Losch
St-Hubert, Quebec, J3Y 3V8
Tel: (450) 676-9141
Fax: (450) 462-0082
E-Mail: reception@mtremblay.com
Website: www.mtremblay.com

CANADIAN
STEEL DOOR
MANUFACTURERS
ASSOCIATION



L'ASSOCIATION
CANADIENNE
DES FABRICANTS
DE PORTES D'ACIER

One Yonge Street • Suite 1801 • Toronto • Ontario • M5E 1W7
Tel: (416) 363-7845 • Fax: (416) 369-0515 • E-Mail: marshl@netcom.ca • Website: www.csdma.org