

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.

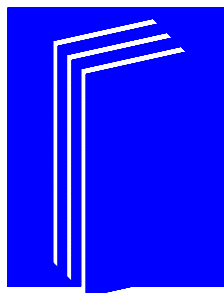
In addition, product sizing must be consistent with the measurement system selected for the project and the commercially recognized modules for that system. Construction in the imperial system utilizes a 4 inch module, whereas metric modules are based on 100 millimeters.

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.

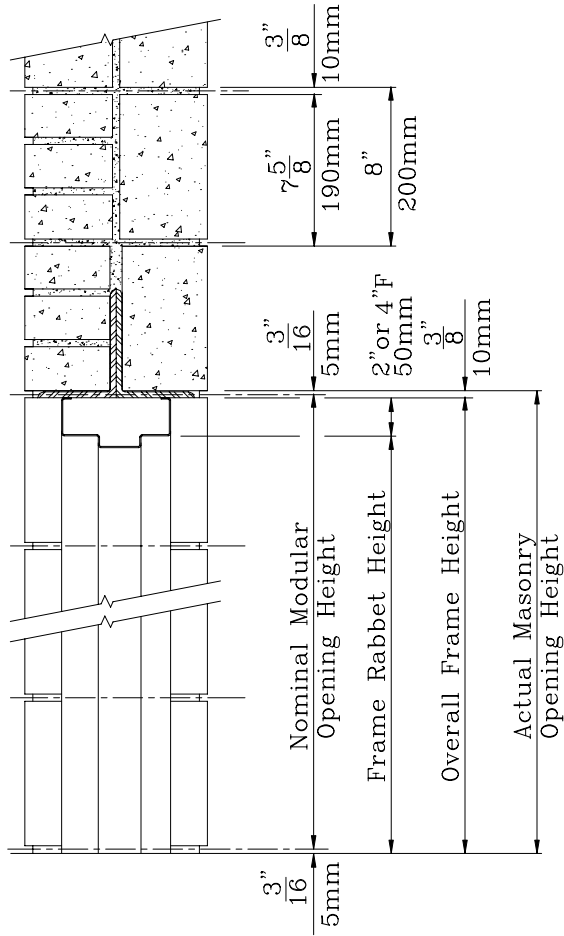
The CSDMA is a voluntary, non-profit organization representing full line manufacturers of commercial steel door and frame products. The objectives of the Association are to promote the use of steel doors and frames, to develop uniform standards and specifications and to provide technical expertise to 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.

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MANUFACTURERS
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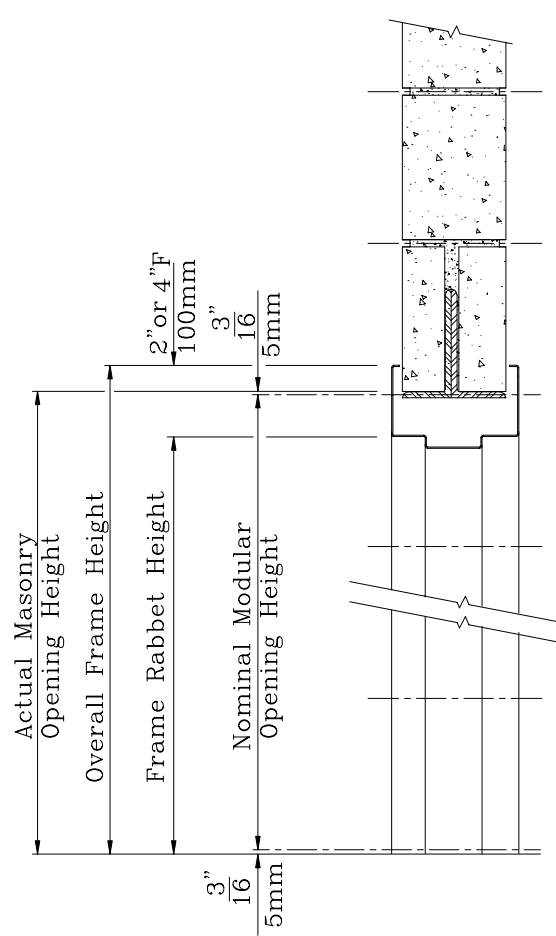


**L'ASSOCIATION
CANADIENNE
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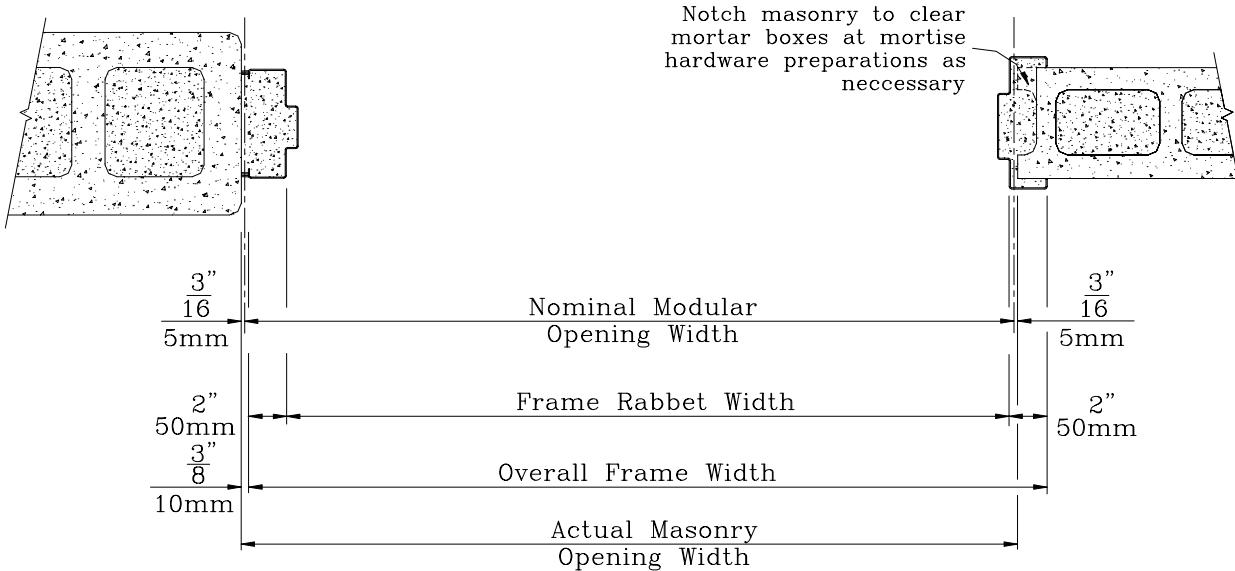
MODULAR IMPERIAL AND METRIC BLOCK OR BRICK



BUTT APPLICATION



WRAP APPLICATION



Notch masonry to clear mortar boxes at mortise hardware preparations as necessary

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

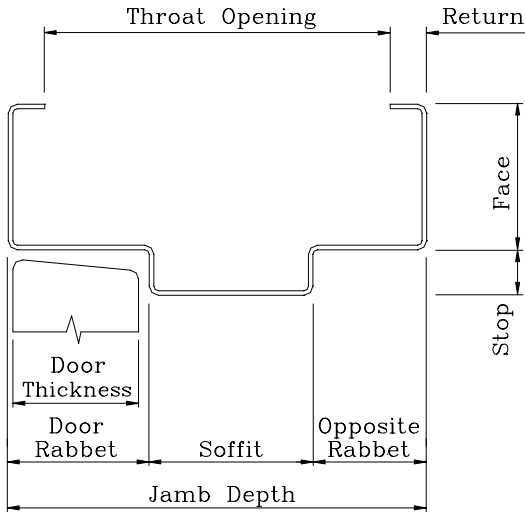
MODULAR FRAME RABBET HEIGHTS + HEAD FACE SIZES				
Number of Block/Brick Courses	Butt Application		Wrap Application	
	Imperial	Metric	Imperial	Metric
10/30	-	-	6'8" + 2" or 4"	-
10.5	6'8" + 4" 6'10" + 2"	2050 + 50	6'10" + 4" 7'0" + 2" or 4"	2050 + 100
11/33	7'0" + 4" 7'2" + 2"	2150 + 50	7'2" + 4"	2150 + 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	*	
	4'0"	1200		*
	Pairs	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		*	

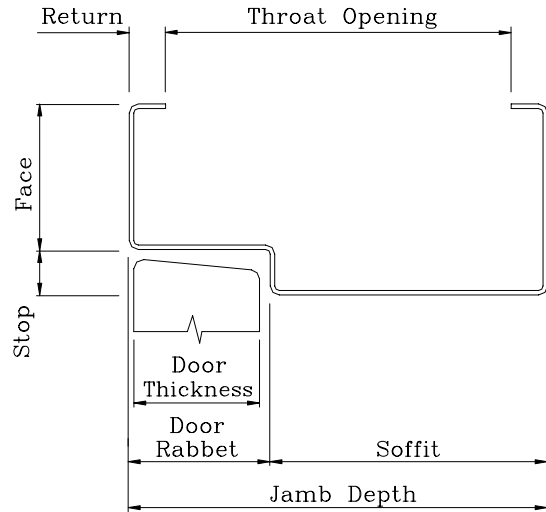
COMMON PROFILES				
Profiles	Imperial (1/2" Returns)		Metric (13mm Returns)	
	Jamb Depth	Throat Opening	Jamb Depth	Throat Opening
DW	4-1/2"	3-1/2"	114	89
M,CO,DW	4-3/4"	3-3/4"	121	95
DW	5-5/8"	4-5/8"	143	117
M,CO	5-3/4"	4-7/8"	146	124**
DW	5-7/8"	4-7/8"	149	124
DW	6-1/4"	5-1/4"	159	133
DW	6-5/8"	5-5/8"	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

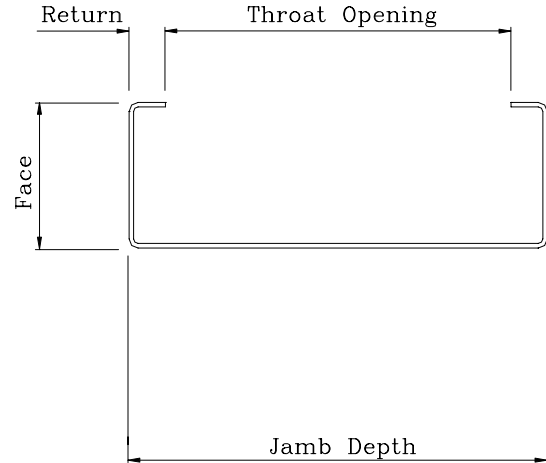


TYPICAL DOUBLE RABBET MASONRY PROFILE



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



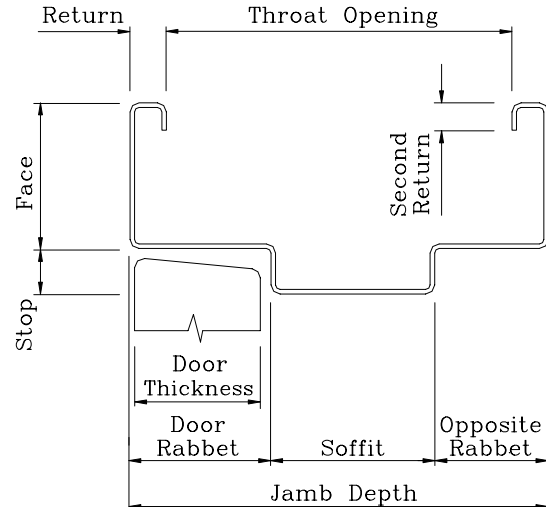
TYPICAL CASED-OPEN MASONRY PROFILE

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

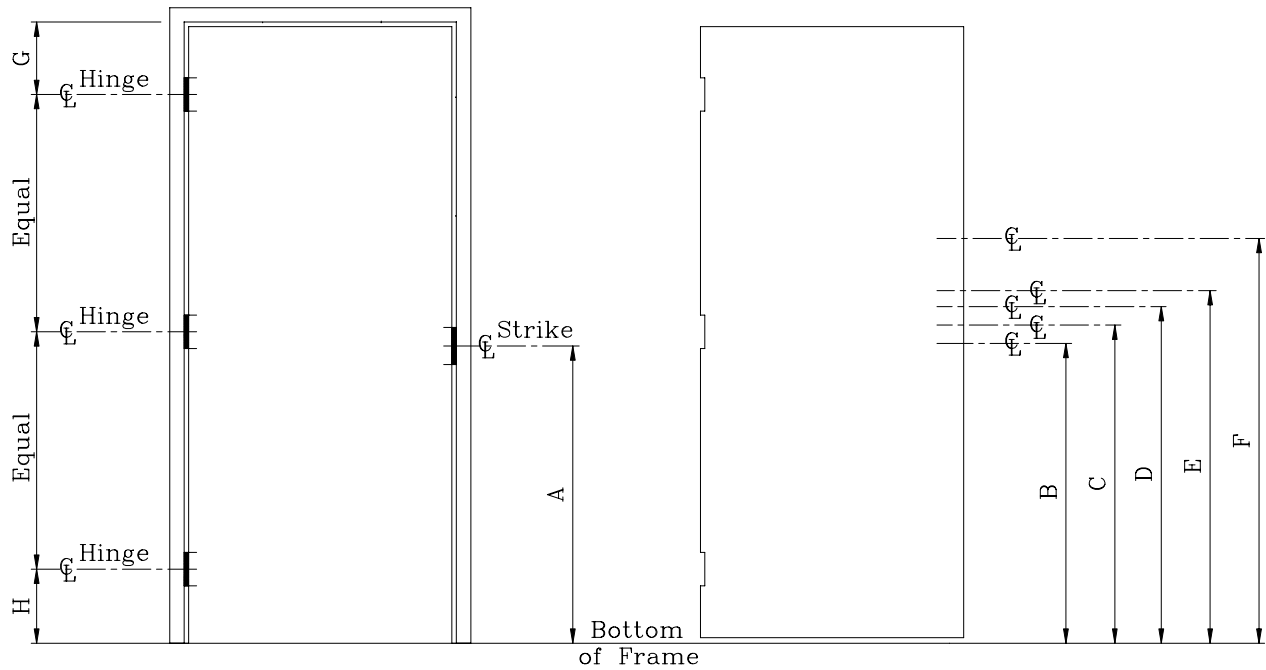


TYPICAL DRYWALL PROFILE

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

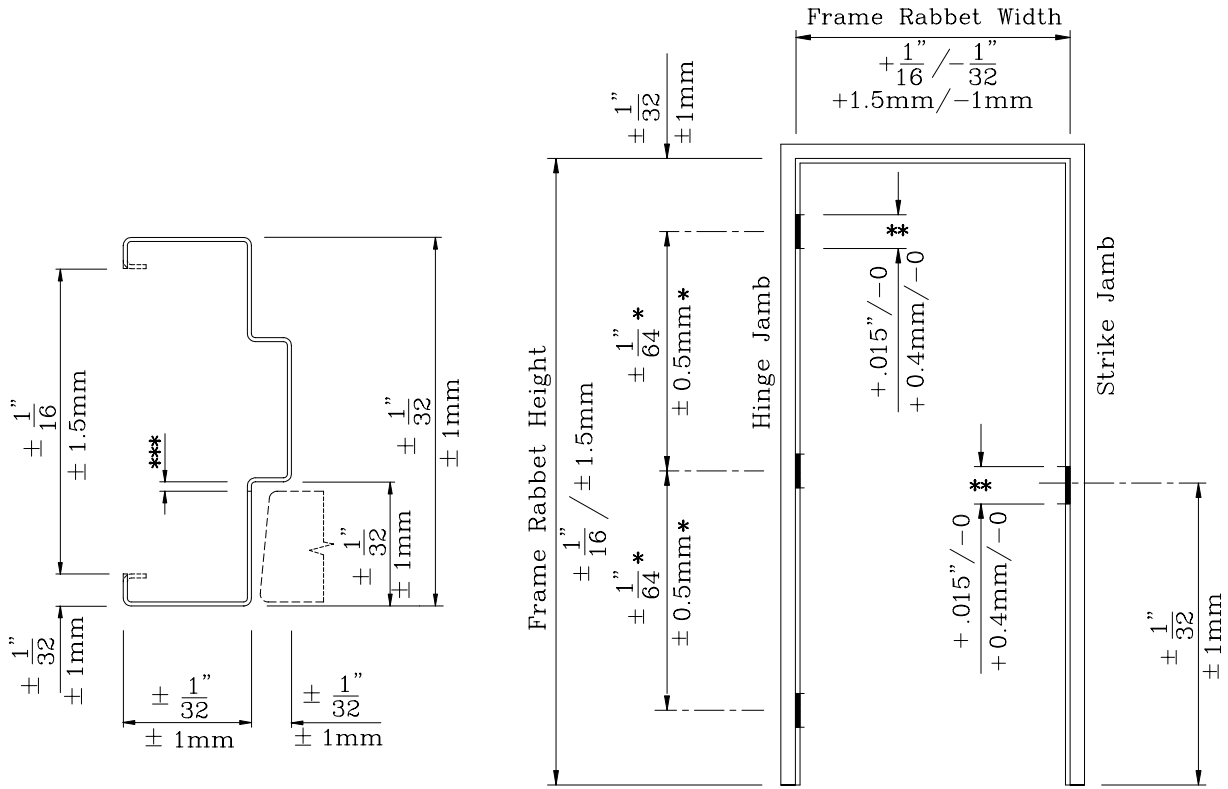
Note : Dimensions shown may be subject to minor variation by individual manufacturers

STANDARD HARDWARE LOCATIONS

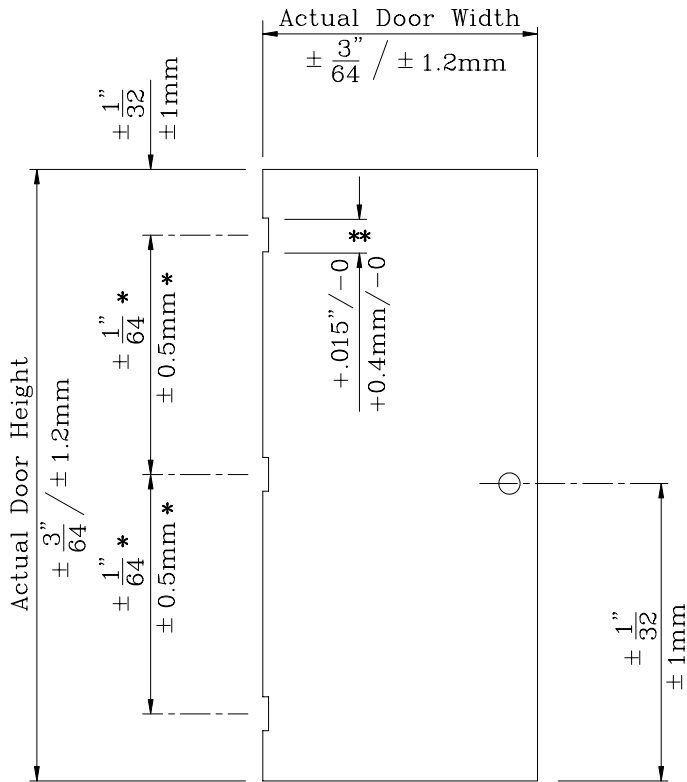


	Hardware Device	Imperial	Metric
A	Centerline of Strike for Knob Locks, Handle Sets, Exit Bolt Locks & Roller Latches	Up to 40 $\frac{5}{16}$ "	Up to 1035
B	Centerline of Pull Grip and Push-Pull Bar	42"	1065
C	Centerline of Hospital Arm Pull Latch	45"	1145
D	Centerline of Hospital Arm Pull (Vertical Type)	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

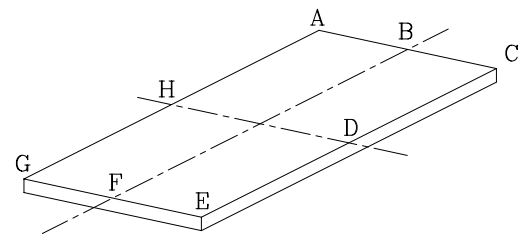
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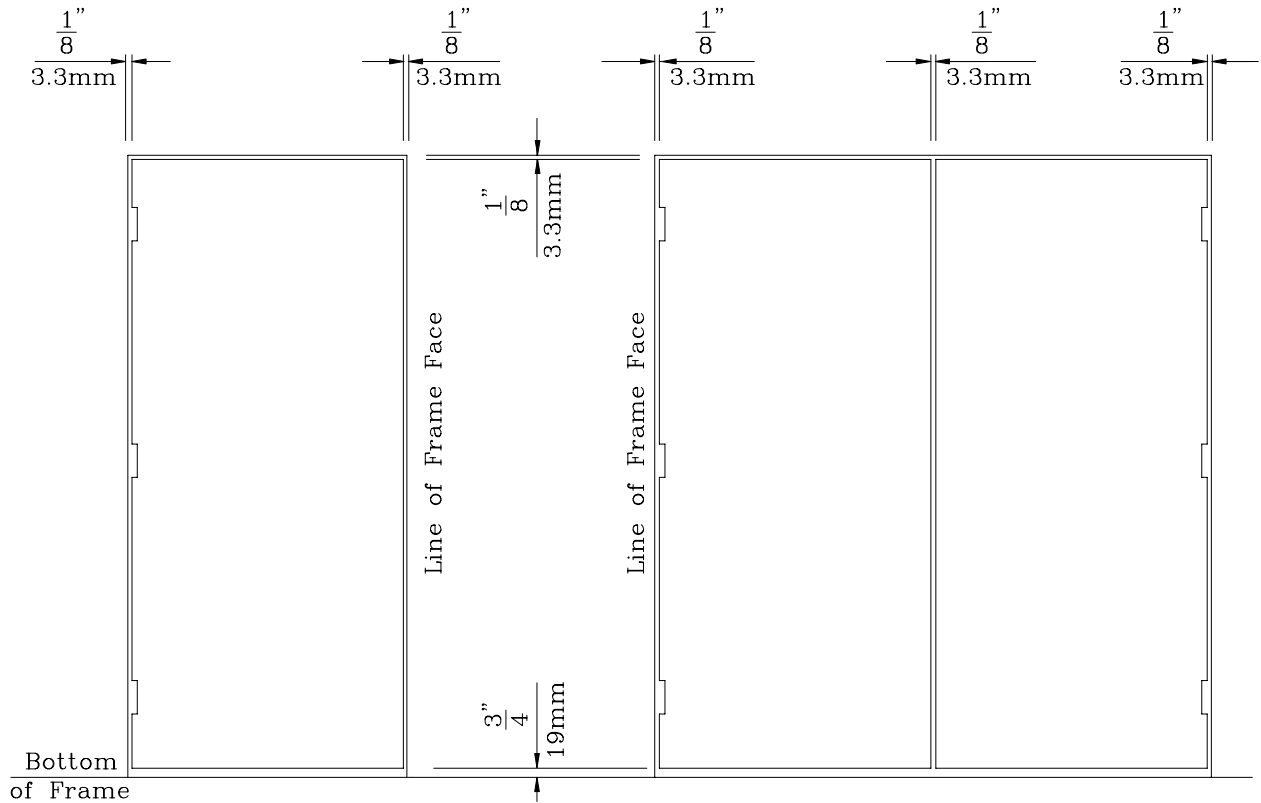
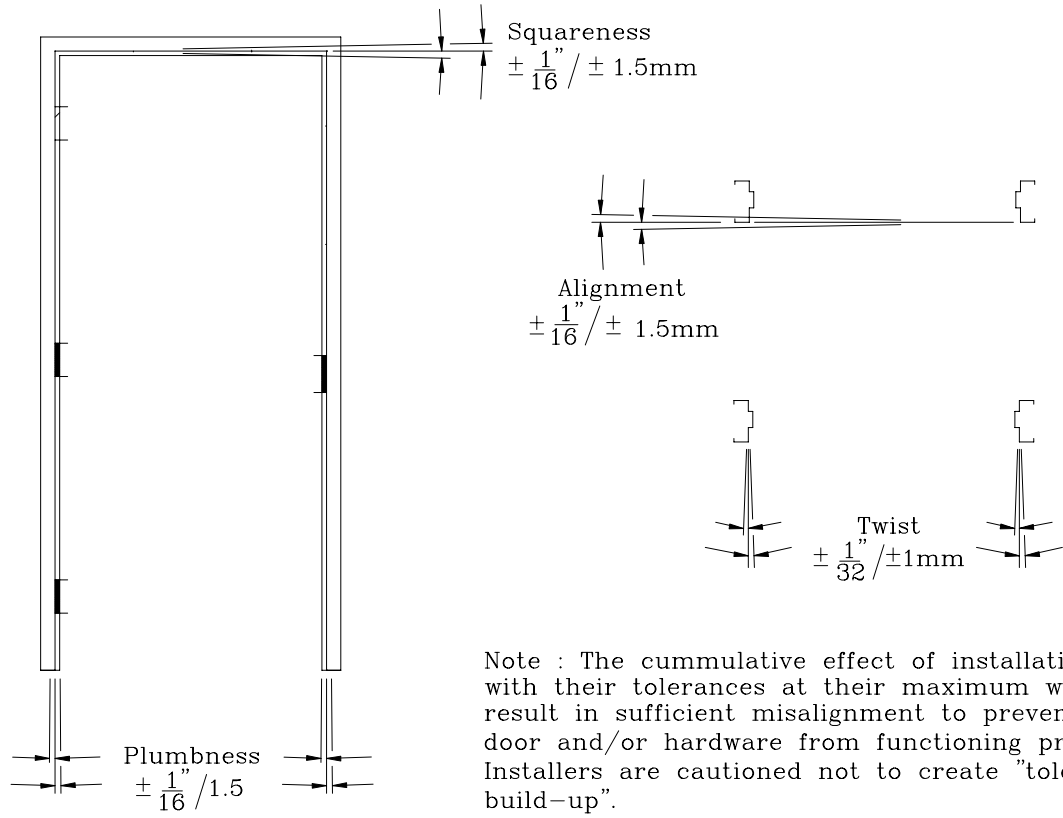
* : Tolerances are to be non-accumulative
 ** : As per ANSI A115
 *** : Hinge Backset : $+\frac{1}{32}$ / $-\frac{1}{64}$ / $+1$ / -0.5mm



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

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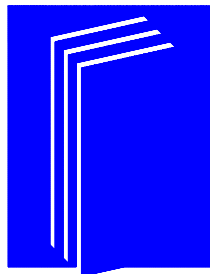
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