

AIR BENDING FORCE CHART

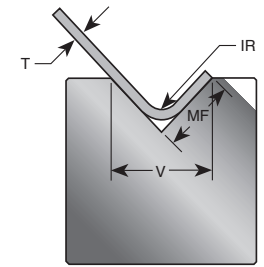
IMPERIAL TONNAGE • METRIC V-OPENINGS

NOTE: Formulas and chart are for reference only.

T = Material Thickness; **V** = V-Opening; **MF** = Minimum Flange Length; **IR** = Inside Radius

STANDARD FORMULAS FOR SELECTING A V-OPENING

Material Thickness: 2.6mm or Less = T x 6
 3.00mm - 8.0mm = T x 8
 9.00mm - 12.00mm = T x 10
 14.00mm & Thicker = T x 12



GAUGE	DEC. inch [mm]	IR	V (mm)	4	6	7	8	10	12	14	16	18	20	25	32	40	50	63	80	100	125	160	200	250
			V (in.)	0.157	0.236	0.276	0.315	0.394	0.472	0.551	0.630	0.709	0.787	0.984	1.260	1.575	1.969	2.480	3.150	3.937	4.921	6.299	7.874	9.843
		MF	0.110	0.165	0.193	0.220	0.276	0.331	0.397	0.454	0.510	0.567	0.709	0.945	1.181	1.476	1.860	2.362	2.953	3.789	4.850	6.063	7.579	
20	0.036 [0.9]	5.4	3.6	3.0	2.5	2.0	1.7																	
18	0.048 [1.2]		7.2	5.8	4.8	3.7	2.7	2.4	2.0															
16	0.060 [1.5]				7.8	6.0	5.0	4.2	3.5	3.1	2.7													
14	0.075 [1.9]						11.3	7.5	7.1	5.6	4.8	4.1	3.2											
13	0.090 [2.3]							12.5	10.1	8.2	7.2	5.4	3.7											
12	0.105 [2.7]							15.8	13.0	10.5	9.5	7.5	5.6	4.0										
11	0.120 [3]								16.1	13.1	10.1	7.2	5.0	3.8										
10	0.135 [3.4]										12.0	8.1	6.2	4.7	3.5									
9	0.150 [3.8]												13.1	9.0	6.7	5.2								
3/16"	0.188 [4.8]												24.1	15.0	11.3	7.5	5.8							
1/4"	0.250 [6.35]													30.0	20.0	15.0	10.5	8.5						
5/16"	0.313 [8]														37.6	25.0	18.8	13.1	10.0					
3/8"	0.375 [9.5]															38.3	28.1	22.5	15.0	11.3				
1/2"	0.500 [12.7]																52.0	39.0	30.0	22.0	16.0			
5/8"	0.625 [16]																	70.0	52.5	37.5	27.5	20.0	15.0	
3/4"	0.750 [19]																			66.0	45.0	32.3	22.5	
1"	1.000 [25.4]																				90.0	60.0	44.0	
1-1/4"	1.250 [32]																					102.5	75.0	

Larger v-openings generate less tonnage.

Smaller v-openings generate increased tonnage and are NOT recommended.

For more information, visit wilsontool.com, call our tooling technicians at 800-445-4518 or contact your sales engineer.

NOTE: The chart above is based on mild steel (tensile strength of 60,000 PSI) formed to an included angle of 88°. See chart to the right for other materials. Forming to other angles will change the Minimum Flange (MF), Inside Radius (IR) and tonnage.

Soft Brass = Tons x 50%
 Soft Aluminum = Tons x 50%
 Heat Treated Aluminum Alloys = Tons x 100%
 Stainless Steel = Tons x 150%
 High Strength Steel = Tons x 275%

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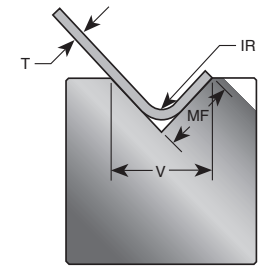
IMPERIAL TONNAGE • IMPERIAL V-OPENINGS

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T = Material Thickness; **V** = V-Opening; **MF** = Minimum Flange Length; **IR** = Inside Radius

STANDARD FORMULAS FOR SELECTING A V-OPENING

Material Thickness: .105" or Less = T x 6
 .120" - .313" = T x 8
 .375" - .500" = T x 10
 .625" & Thicker = T x 12



GAUGE	DEC. inch [mm]	V (in.)	0.250	0.313	0.375	0.500	0.625	0.750	0.875	1.000	1.125	1.250	1.500	2.000	2.500	3.000	3.500	4.000	5.000	
		MF	0.180	0.225	0.270	0.360	0.450	0.540	0.630	0.720	0.810	0.900	1.080	1.440	1.800	2.159	2.519	2.879	3.599	
		IR	0.042	0.052	0.063	0.084	0.104	0.125	0.146	0.167	0.188	0.209	0.251	0.334	0.418	0.501	0.585	0.668	0.835	
20	0.036 [.9]	TONS PER FOOT	2.9	2.2	1.7	1.2	1.0													
18	0.048 [1.2]		7.0	4.0	2.9	2.2	1.6	1.3												
16	0.060 [1.5]			7.8	5.6	3.6	2.7	2.2	1.7											
14	0.075 [1.9]				11.7	6.0	4.5	3.4	3.0	2.5	2.1									
13	0.090 [2.3]					12.2	6.8	5.4	4.3	3.7	3.3	2.9								
12	0.105 [2.7]						10.1	7.4	6.3	5.4	4.4	4.0	3.2							
11	0.120 [3]							10.5	8.8	7.2	6.2	5.4	4.3	3.2						
10	0.135 [3.4]								11.3	9.6	8.4	7.0	5.6	4.1						
9	0.150 [3.8]									13.1	11.9	9.0	6.7	5.2	3.5					
7	0.188 [4.8]										16.4	14.0	11.2	7.6	5.8	4.5				
1/4"	0.250 [6.35]											28.8	22.0	15.3	11.5	9.1	7.5	6.2		
5/16"	0.312 [8]												38.0	26.0	19.2	16.0	12.5	10.6	7.6	
3/8"	0.375 [9.5]													41.0	29.9	24.0	19.4	16.0	12.3	
7/16"	0.438 [11.1]														45.2	35.0	28.0	24.0	17.0	
1/2"	0.500 [12.7]															47.9	39.0	33.1	24.0	
5/8"	0.625 [16]																69.5	58.0	42.2	
3/4"	0.750 [19]																	92.0	69.0	
7/8"	0.875 [22]																			104.0
1"	1.000 [25.4]																			

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