

PRESS BRAKE BENDING CHART

Tons required per foot to bend mild steel having max 72,000 PSI tensile strength and max 40,000 PSI yield strength.

THICKNESS OF METAL		WIDTH OF V DIE OPENING																							
Gauge	Inches	1/4"	5/16"	3/8"	7/16"	1/2"	5/8"	3/4"	7/8"	1"	1-1/8"	1-1/4"	1-1/2"	2"	2-1/2"	3"	3-1/2"	4"	5"	6"	7"	8"	10"	12"	
20	0.036	3.72	2.76	2.04	1.68	1.32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	0.048	6.36	4.80	3.60	3.00	2.64	2.04	1.56	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	0.060	11.52	8.52	6.72	5.40	4.56	3.36	2.64	2.16	1.80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	0.075	-	14.28	11.04	9.12	7.56	5.64	4.20	3.60	3.00	2.52	2.16	-	-	-	-	-	-	-	-	-	-	-	-	-
12	0.105	-	-	-	20.04	15.72	11.64	9.60	7.80	6.72	5.52	4.92	3.84	-	-	-	-	-	-	-	-	-	-	-	-
11	0.120	-	-	-	-	23.04	17.04	13.32	10.80	9.00	7.56	6.60	5.28	3.48	-	-	-	-	-	-	-	-	-	-	-
10	0.135	-	-	-	-	-	22.32	17.40	14.28	11.88	10.20	8.76	6.96	4.80	-	-	-	-	-	-	-	-	-	-	-
3/16"	0.188	-	-	-	-	-	-	32.88	27.72	23.16	19.68	17.16	13.44	9.00	6.84	5.28	-	-	-	-	-	-	-	-	-
1/4"	0.250	-	-	-	-	-	-	-	-	47.28	39.96	35.40	27.24	18.48	13.68	10.80	8.88	7.32	-	-	-	-	-	-	-
5/16"	0.313	-	-	-	-	-	-	-	-	-	-	60.48	47.76	32.40	23.64	18.36	15.24	12.60	9.24	-	-	-	-	-	-
3/8"	0.375	-	-	-	-	-	-	-	-	-	-	-	73.92	50.76	37.08	28.80	23.52	19.56	14.76	11.40	-	-	-	-	-
7/16"	0.438	-	-	-	-	-	-	-	-	-	-	-	-	74.04	54.96	42.48	34.32	29.28	20.76	17.76	13.44	-	-	-	-
1/2"	0.500	-	-	-	-	-	-	-	-	-	-	-	-	-	76.32	58.56	47.64	39.96	29.52	23.28	19.08	15.72	-	-	-
5/8"	0.625	-	-	-	-	-	-	-	-	-	-	-	-	-	-	103.44	84.00	69.96	51.72	39.96	32.88	27.96	20.28	-	-
3/4"	0.750	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	132.00	111.60	82.44	64.20	52.32	43.80	32.52	25.20	-
7/8"	0.875	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	164.40	124.80	96.84	77.52	63.48	47.64	37.92	-
1"	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	171.60	135.60	109.44	91.44	67.56	53.04	-

The tonnages indicated in **black** boxes are for die openings 8 times thickness of metal up 1/4" and 10 times thickness of metal recommended above 1/4" in **red** boxes.

The inside radius of a right angle bend is approximately equal to the thickness of the material. Bending tonnages for other metals, as compared to mild steel on the chart, are as follows: Soft brass: 50% of pressure shown; soft aluminum: 50% of pressure shown; aluminum heat-treated alloys: same as steel; stainless steel: 50% more than steel; chrome molybdenum: 100% more than steel.

All of the above bending tonnages are nominal and represent average conditions. These values are dependent upon the radius of the dies, the yield strength of the material, the temper of the material, the direction of the rolling strains, etc.

THEREFORE A SAFETY FACTOR OF AT LEAST 20% SHOULD BE PROVIDED IN SELECTING A PRESS FOR A GIVEN JOB.