

## Tons of Pressure Required to Punch Mild Steel

( tonnage based on flat punches, taper punches require less because of their progressive shearing action )

Mittler Brothers Machine & Tool

Round Hole Diameter	Ga.	20	18	16	14	12	11	10	3/16"	1/4"	5/16"	3/8"	1/2"
	In.	.036	.048	.062	.075	.105	.120	.135	.188	.250	.312	.375	.500
1/8"		.4	.5	.6	.7	1.0	1.2	1.3	-	-	-	-	-
3/16"		.5	.7	.9	1.1	1.5	1.8	2.0	2.8	-	-	-	-
1/4"		.7	.9	1.2	1.5	2.1	2.4	2.6	3.7	4.9	-	-	-
5/16"		.9	1.2	1.5	1.8	2.6	2.9	3.3	4.6	6.1	7.8	-	-
3/8"		1.1	1.4	1.8	2.2	3.1	3.5	4.0	5.5	7.4	9.2	11.1	-
7/16"		1.2	1.6	2.1	2.6	3.6	4.1	4.6	6.4	8.6	10.7	12.8	-
1/2"		1.4	1.9	2.3	2.9	4.1	4.7	5.3	7.4	9.8	12.3	14.8	19.7
9/16"		1.6	2.1	2.6	3.3	4.6	5.1	5.9	8.3	11.1	13.9	16.5	22.0
5/8"		1.8	2.4	2.9	3.7	5.1	5.9	6.6	9.2	12.3	15.4	18.5	24.6
11/16"		1.9	2.6	3.2	4.0	5.7	6.2	7.3	10.1	13.5	17.0	20.2	26.9
3/4"		2.1	2.8	3.5	4.4	6.2	7.1	7.9	11.0	14.7	18.5	22.1	29.5
13/16"		2.3	3.1	3.8	4.8	6.7	7.6	8.6	12.0	16.0	20.0	23.8	31.8
7/8"		2.5	3.3	4.1	5.1	7.2	8.3	9.2	12.9	17.2	21.5	25.8	34.4
15/16"		2.6	3.5	4.4	5.5	7.7	8.8	9.9	13.8	18.4	23.0	27.5	36.8
1"		2.8	3.8	4.7	5.9	8.2	9.4	10.6	14.8	19.7	24.6	29.5	39.4
1 1/2"		4.2	5.5	7.0	8.8	12.3	14.0	25.9	22.0	34.4	43.0	51.5	68.8
2"		5.6	7.5	9.5	11.7	16.4	18.8	21.0	29.5	39.3	49.0	59.0	78.5
2 1/2"		7.0	9.4	11.7	14.7	20.5	23.5	26.5	36.8	49.0	61.5	73.6	98.2
3"		8.5	11.3	14.0	17.6	24.5	28.2	31.7	44.2	60.0	76.5	88.4	118.0