

AIR BENDING FORCE CHART

Die Opening Selection Formula

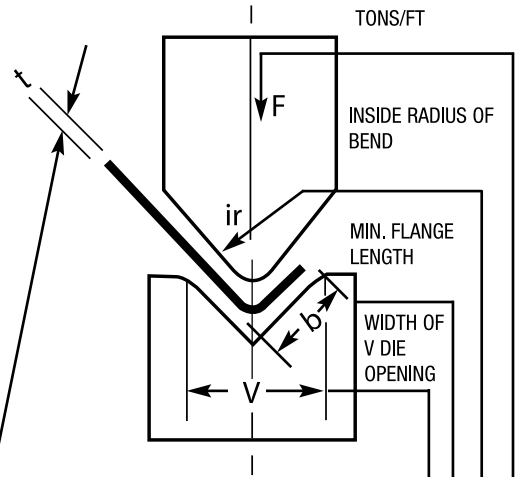
| | | | | | |
|----------|--------|--------------|-------------|-------------|-------------|
| t | GAUGE | 12 OR LESS | 11-5/16" | 3/8" - 1/2" | 5/8" UP |
| | INCHES | .105 OR LESS | .120 - .313 | .375 - .500 | .625 AND UP |
| "V" SIZE | | 6 X t | 8 X t | 10 X t | 12 X t |

The above formulas are for reference only. For more detailed information refer to the chart below.

If the material thickness and inside bend radius are known, the following can be obtained from the chart below:

1. Pressure required for bending the material for 1 foot.
2. Opening of the die to be used.
3. Minimum bendable flange length.

- t** Material thickness (tensile strength: 56892-71115 lbs/in²)
- F** Tons per 1 foot
- ir** Inside bend radius
- b** Minimum flange length
- v** Die opening



| t | | THICKNESS | | | | | | | | | | | | | | | | | | | | MILD STEEL | | | |
|----------|-------|-----------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------------|--------|----|--|
| GAUGE | DEC. | 4 | 6 | 7 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 | 125 | 160 | 200 | 250 | mm | v | |
| | | .156 | .250 | .281 | .313 | .375 | .500 | .563 | .625 | .688 | .750 | 1.000 | 1.250 | 1.500 | 2.000 | 2.500 | 3.000 | 4.000 | 5.000 | 6.000 | 8.000 | 10.000 | inches | b | |
| | | .125 | .188 | .203 | .219 | .281 | .344 | .406 | .438 | .531 | .563 | .688 | .875 | 1.125 | 1.375 | 1.750 | 2.188 | 2.188 | 3.500 | 4.500 | 5.500 | 6.875 | inches | b | |
| | | .031 | .031 | .047 | .047 | .063 | .078 | .094 | .109 | .125 | .141 | .156 | .203 | .250 | .313 | .406 | .516 | .625 | .750 | 1.031 | 1.313 | 1.625 | inches | ir | |
| 20 | 0.036 | 5.4 | 3.6 | 3.0 | 2.5 | 2.0 | 1.7 | | | | | | | | | | | | | | | | | | |
| 18 | 0.048 | | 6.8 | 5.8 | 4.8 | 3.7 | 2.7 | 2.4 | 2.0 | | | | | | | | | | | | | | | | |
| 16 | 0.060 | | | | 7.8 | 6.2 | 5.0 | 4.2 | 3.5 | 3.1 | 2.7 | | | | | | | | | | | | | | |
| 14 | 0.075 | | | | | 11.0 | 8.2 | 7.0 | 5.5 | 4.8 | 4.1 | 3.1 | | | | | | | | | | | | | |
| 12 | 0.105 | | | | | | 15.0 | 13.0 | 11.0 | 9.4 | 7.4 | 5.5 | 4.0 | | | | | | | | | | | | |
| 11 | 0.120 | | | | | | | | 16.0 | 13.0 | 10.0 | 7.3 | 5.0 | 3.8 | | | | | | | | | | | |
| 10 | 0.135 | | | | | | | | | | 12.0 | 9.0 | 6.2 | 4.7 | 3.5 | | | | | | | | | | |
| .188 | .188 | | | | | | | | | | | 24.0 | 15.0 | 11.0 | 7.5 | 5.7 | | | | | | | | | |
| .250 | .250 | | | | | | | | | | | | 30.0 | 20.0 | 14.0 | 10.5 | 8.5 | | | | | | | | |
| .313 | .313 | | | | | | | | | | | | | 36.0 | 25.0 | 18.0 | 13.0 | 10.0 | | | | | | | |
| .375 | .375 | | | | | | | | | | | | | | 38.0 | 28.0 | 20.0 | 15.0 | 11.0 | | | | | | |
| .500 | .500 | | | | | | | | | | | | | | | 52.0 | 39.0 | 30.0 | 22.0 | 16.0 | | | | | |
| .625 | .625 | | | | | | | | | | | | | | | | 70.0 | 52.0 | 38.0 | 27.0 | 20.0 | 15.0 | | | |
| .750 | .750 | | | | | | | | | | | | | | | | | | 66.0 | 43.0 | 32.0 | 22.0 | | | |
| 1.000 | 1.000 | | | | | | | | | | | | | | | | | | | 90.0 | 61.0 | 44.0 | | | |
| 1.250 | 1.250 | | | | | | | | | | | | | | | | | | | | 102.0 | 70.0 | | | |

Force required per linear foot to bend mild steel with air bend dies. (Measured in tons.)

TONS/FT