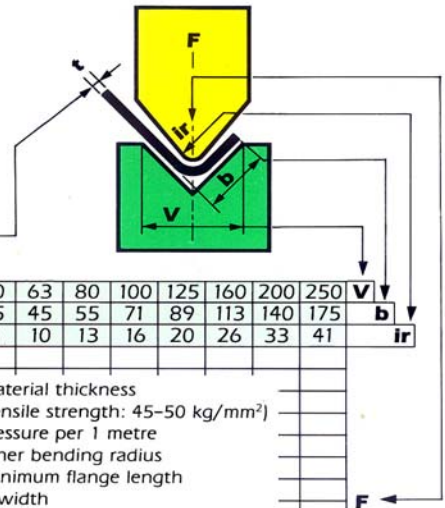


# Air Bending Force Chart Mild Steel

## How to Read the Pressure Chart

If the material thickness and inner bending radius are known, the following information can be obtained from the chart below:

1. Pressure required to bend material of 1 metre length.
2. V-width to be used.
3. Minimum bendable flange length.



| t   | 4   | 6  | 7   | 8   | 10  | 12 | 14  | 16  | 18 | 20  | 25 | 32 | 40  | 50 | 63 | 80 | 100 | 125 | 160 | 200 | 250 | V   | b   | ir |
|-----|-----|----|-----|-----|-----|----|-----|-----|----|-----|----|----|-----|----|----|----|-----|-----|-----|-----|-----|-----|-----|----|
| m/m | 0.7 | 1  | 1.1 | 1.3 | 1.6 | 2  | 2.3 | 2.6 | 3  | 3.3 | 4  | 5  | 6.5 | 8  | 10 | 13 | 16  | 20  | 26  | 33  | 41  |     |     |    |
| 0.5 | 4   | 3  |     |     |     |    |     |     |    |     |    |    |     |    |    |    |     |     |     |     |     |     |     |    |
| 0.6 | 6   | 4  | 4   | 4   |     |    |     |     |    |     |    |    |     |    |    |    |     |     |     |     |     |     |     |    |
| 0.8 |     | 7  | 7   | 5   | 4   |    |     |     |    |     |    |    |     |    |    |    |     |     |     |     |     |     |     |    |
| 1.0 |     | 11 | 10  | 8   | 7   | 6  |     |     |    |     |    |    |     |    |    |    |     |     |     |     |     |     |     |    |
| 1.2 |     |    | 14  | 12  | 10  | 8  | 7   | 6   |    |     |    |    |     |    |    |    |     |     |     |     |     |     |     |    |
| 1.4 |     |    |     | 15  | 13  | 11 | 10  | 9   | 8  |     |    |    |     |    |    |    |     |     |     |     |     |     |     |    |
| 1.6 |     |    |     |     | 17  | 15 | 13  | 11  | 10 | 9   |    |    |     |    |    |    |     |     |     |     |     |     |     |    |
| 2.0 |     |    |     |     |     | 22 | 19  | 17  | 15 | 13  | 11 |    |     |    |    |    |     |     |     |     |     |     |     |    |
| 2.3 |     |    |     |     |     |    | 25  | 23  | 19 | 17  | 15 | 12 |     |    |    |    |     |     |     |     |     |     |     |    |
| 2.6 |     |    |     |     |     |    |     | 28  | 25 | 22  | 18 | 14 |     |    |    |    |     |     |     |     |     |     |     |    |
| 3.0 |     |    |     |     |     |    |     |     | 34 | 30  | 24 | 19 | 15  |    |    |    |     |     |     |     |     |     |     |    |
| 3.2 |     |    |     |     |     |    |     |     |    | 34  | 27 | 22 | 17  | 14 |    |    |     |     |     |     |     |     |     |    |
| 3.5 |     |    |     |     |     |    |     |     |    |     | 33 | 26 | 20  | 16 | 13 |    |     |     |     |     |     |     |     |    |
| 4.0 |     |    |     |     |     |    |     |     |    |     | 43 | 34 | 27  | 21 | 17 |    |     |     |     |     |     |     |     |    |
| 4.5 |     |    |     |     |     |    |     |     |    |     |    | 44 | 34  | 27 | 21 |    |     |     |     |     |     |     |     |    |
| 5.0 |     |    |     |     |     |    |     |     |    |     |    | 52 | 42  | 33 | 26 | 21 |     |     |     |     |     |     |     |    |
| 6   |     |    |     |     |     |    |     |     |    |     |    |    | 60  | 48 | 38 | 30 | 24  |     |     |     |     |     |     |    |
| 7   |     |    |     |     |     |    |     |     |    |     |    |    |     |    | 52 | 41 | 33  | 26  |     |     |     |     |     |    |
| 9   |     |    |     |     |     |    |     |     |    |     |    |    |     |    |    | 67 | 54  | 43  |     |     |     |     |     |    |
| 10  |     |    |     |     |     |    |     |     |    |     |    |    |     |    |    | 85 | 67  | 53  | 42  |     |     |     |     |    |
| 12  |     |    |     |     |     |    |     |     |    |     |    |    |     |    |    |    | 96  | 78  | 60  | 55  |     |     |     |    |
| 16  |     |    |     |     |     |    |     |     |    |     |    |    |     |    |    |    |     | 136 | 107 | 86  |     |     |     |    |
| 19  |     |    |     |     |     |    |     |     |    |     |    |    |     |    |    |    |     |     |     | 150 | 125 | 100 |     |    |
| 22  |     |    |     |     |     |    |     |     |    |     |    |    |     |    |    |    |     |     |     |     | 160 | 130 |     |    |
| 25  |     |    |     |     |     |    |     |     |    |     |    |    |     |    |    |    |     |     |     |     |     | 210 | 170 |    |
| 30  |     |    |     |     |     |    |     |     |    |     |    |    |     |    |    |    |     |     |     |     |     |     | 240 |    |

### Material Thickness and V-width

The distance across the die opening is known as the V-width. The proper V-width should be selected according to the material thickness inasmuch as good bending is impossible at an arbitrary V-width. Table below shows the relationship between material thickness and V-width in bottoming. This table shows the optimum standards, but in reality the relationship is determined by flange length, product inner R, and mechanical capacity.

Relationship of Material Thickness (t) and V-Width

| Material thickness (t mm) | 0.5-2.5 | 3.0-8 | 9-10 | 12 or more |
|---------------------------|---------|-------|------|------------|
| V-width                   | 6t      | 8t    | 10t  | 12t        |