

NZTM-Q02B:- D/t Ratio for carbon steel tube sizes manufactured by NZTM

Where D = Outside diameter or equivalent
t = Nominal Wall thickness

Keys

| | | | | | |
|---|----|-----------|---|----|---------|
| ① | | D/t Ratio | < | 15 | 300 Mpa |
| ② | 15 | D/t Ratio | < | 25 | 275 Mpa |
| ③ | 25 | D/t Ratio | < | 35 | 250 Mpa |
| ④ | 35 | D/t Ratio | < | | 200 Mpa |

Yield (min) on as formed tube

Lower D/t Ratio

NZTM Carbon Steel Tube D/t Ratio

| Nominal Size (Inch) | Nominal Size (mm) | Actual Size (D) (mm) | D/t Ratio | | | | | | | | | |
|---------------------|-------------------|----------------------|-----------|------|------|------|------|------|------|------|------|--|
| | | | 1.0 | 1.2 | 1.4 | 1.56 | 1.8 | 2.0 | 2.5 | 2.6 | 3.0 | |
| 3/8 " | 9.5 | <u>9.53</u> | 9.5 | 7.9 | 6.8 | 6.1 | | | | | | |
| 7/16 " | 11.1 | <u>11.11</u> | 11.1 | 9.3 | | | | | | | | |
| 1/2 " | 12.7 | <u>12.70</u> | 12.7 | 10.6 | 9.1 | 8.1 | 7.1 | 6.4 | | | | |
| 5/8 " | 16.0 | <u>15.88</u> | 15.9 | 13.2 | 11.3 | 10.2 | 8.8 | 7.9 | | | | |
| 3/4 " | 19.0 | <u>19.05</u> | 19.1 | 15.9 | 13.6 | 12.2 | 10.6 | 9.5 | | | | |
| 7/8 " | 22.2 | <u>22.23</u> | 22.2 | 18.5 | 15.9 | 14.2 | 12.3 | 11.1 | | | | |
| 1 " | 25.4 | <u>25.40</u> | 25.4 | 21.2 | 18.1 | 16.3 | 14.1 | 12.7 | 10.2 | 9.8 | | |
| 1 1/8 " | 28.6 | <u>28.58</u> | 28.6 | 23.8 | 20.4 | 18.3 | 15.9 | 14.3 | | | | |
| 1 1/4 " | 31.8 | <u>31.75</u> | 31.8 | 26.5 | 22.7 | 20.4 | 17.6 | 15.9 | 12.7 | 12.2 | 10.6 | |
| 1 3/8 " | 35.0 | <u>34.93</u> | 34.9 | 29.1 | 24.9 | 22.4 | 19.4 | 17.5 | 14.0 | 13.4 | 11.6 | |
| 1 1/2 " | 38.0 | <u>38.10</u> | 38.1 | 31.8 | 27.2 | 24.4 | 21.2 | 19.1 | 15.2 | 14.7 | 12.7 | |
| 1 5/8 " | 41.3 | <u>41.28</u> | 41.3 | 34.4 | 29.5 | 26.5 | 22.9 | 20.6 | 16.5 | 15.9 | 13.8 | |
| 1 3/4 " | 44.5 | <u>44.45</u> | 44.5 | 37.0 | 31.8 | 28.5 | 24.7 | 22.2 | 17.8 | 17.1 | 14.8 | |
| 1 7/8 " | 47.6 | <u>47.63</u> | 47.6 | 39.7 | 34.0 | 30.5 | 26.5 | 23.8 | 19.1 | 18.3 | 15.9 | |
| 2 " | 51.0 | <u>50.80</u> | 50.8 | 42.3 | 36.3 | 32.6 | 28.2 | 25.4 | 20.3 | 19.5 | 16.9 | |
| 2 1/8 " | 54.0 | <u>53.98</u> | 54.0 | 45.0 | 38.6 | 34.6 | 30.0 | 27.0 | 21.6 | 20.8 | 18.0 | |
| 2 1/4 " | 57.2 | <u>57.15</u> | 57.2 | 47.6 | 40.8 | 36.6 | 31.8 | 28.6 | 22.9 | 22.0 | 19.1 | |
| 2 3/8 " | 60.3 | <u>60.33</u> | 60.3 | 50.3 | 43.1 | 38.7 | 33.5 | 30.2 | 24.1 | 23.2 | 20.1 | |
| 2 1/2 " | 63.5 | <u>63.50</u> | 63.5 | 52.9 | 45.4 | 40.7 | 35.3 | 31.8 | 25.4 | 24.4 | 21.2 | |
| 2 3/4 " | 70.0 | <u>69.85</u> | 69.9 | 58.2 | 49.9 | 44.8 | 38.8 | 34.9 | 27.9 | 26.9 | 23.3 | |
| 3 " | 76.2 | <u>76.20</u> | 76.2 | 63.5 | 54.4 | 48.8 | 42.3 | 38.1 | 30.5 | | | |
| 3 1/2 " | 88.9 | <u>88.90</u> | 88.9 | 74.1 | 63.5 | 57.0 | 49.4 | 44.5 | 35.6 | | | |
| 4 " | 101.6 | <u>101.60</u> | | | | 65.1 | 56.4 | 50.8 | | | | |

Note: D/t is critical factor in forming and bending tube, lower the D/t ratio of the tube requires higher yield strength.