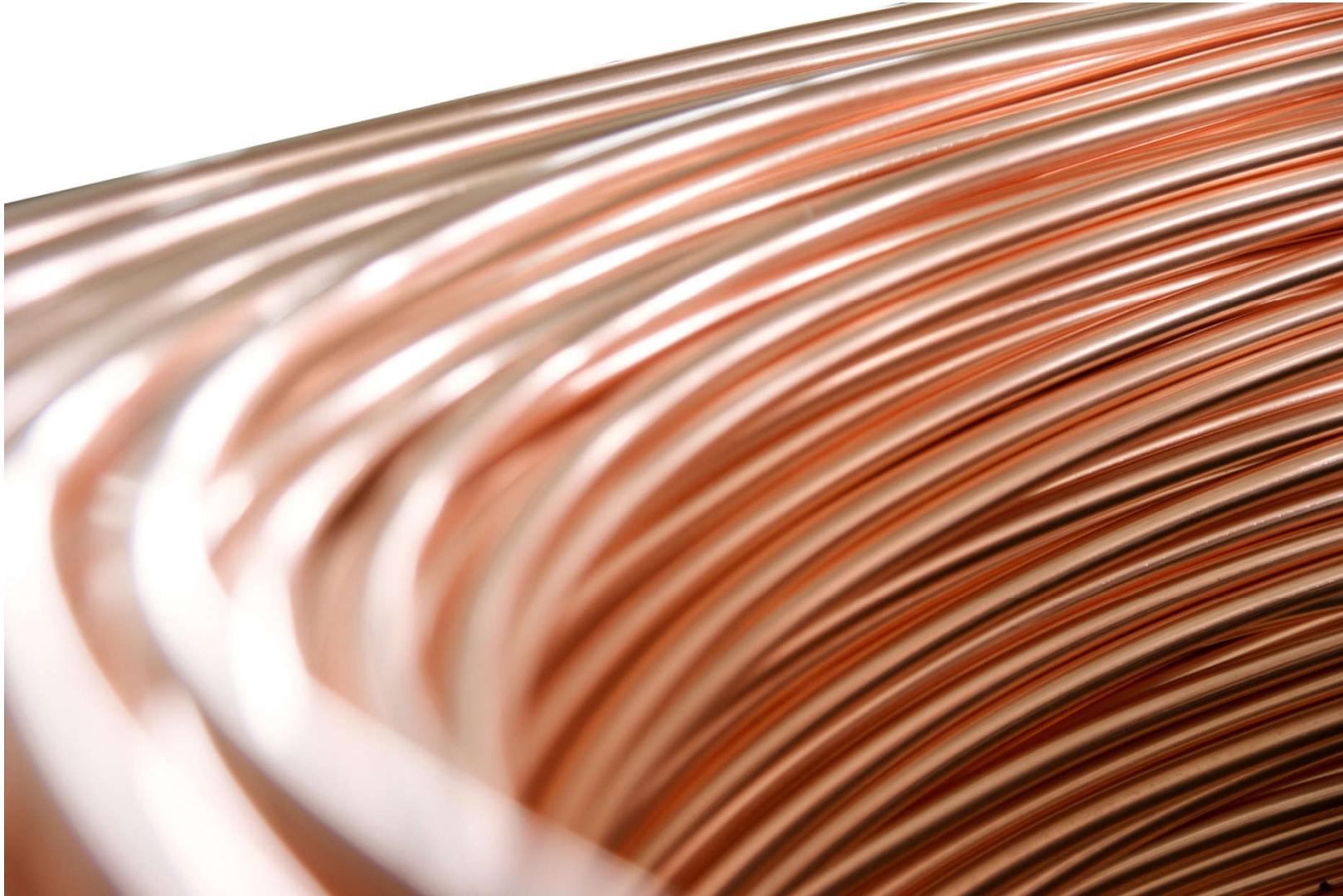


# **Standard Specifications**

**For Double Wall Copper Brazed Steel Tube (Bundy Tube)**



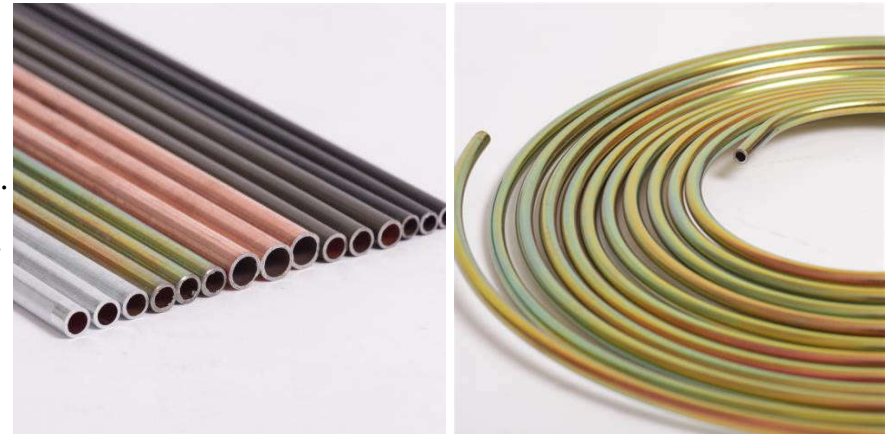
## Order Guide

The following information is requested for a complete and quick quote.

### 1. Tube OD & wall thickness.

### 2. Choose surface coating and specify NSS test hours:

- a) Original copper coating.
- b) Zinc plating:
  - i. White/silver - specify neutral salt spray test hours.
  - ii. Yellow/Iridescent - specify neutral salt spray test hours.
  - iii. Dark/olive green - specify neutral salt spray test hours.
- c) PVF coating - specify neutral salt spray test hours.
- d) Nylon coating - specify neutral salt spray test hours.
- e) Epoxy coating - specify neutral salt spray test hours.

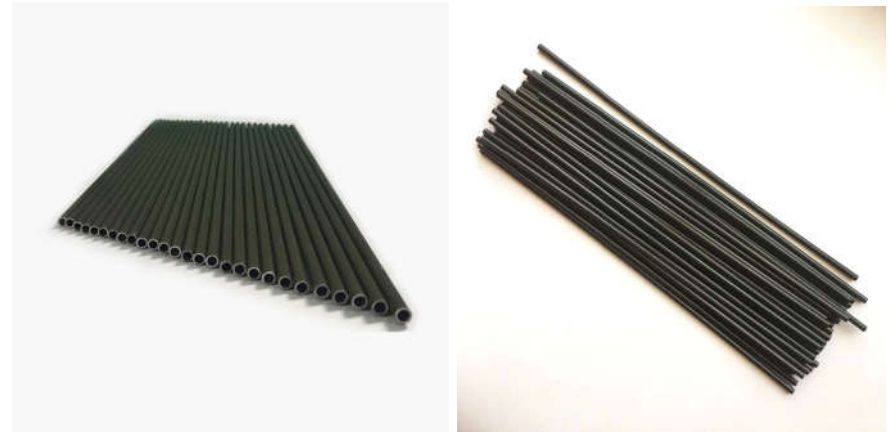


### 3. Choose package form:

- a) Large continuous coils uncut.
- b) Straight cut and length.
- c) Small coil cut and length.

### 4. Quantity of order for each size.

### 5. Preferred transport & delivery destination.



**Material**

Cold rolled steel strip chemical compositions (%):

|           | Si       | Mn        | P         | S         |
|-----------|----------|-----------|-----------|-----------|
| 0.02-0.08 | 0.03 max | 0.15-0.45 | 0.030 max | 0.030 max |

**Inside Cleanliness: 0.16g/m<sup>2</sup>****Accuracy (mm)**

| Outside Diameter |           | Wall Thickness |           |
|------------------|-----------|----------------|-----------|
| OD               | Tolerance | Thickness      | Tolerance |
| <4.76            | ±0.06     | 0.50           | ±0.07     |
| >4.76-8          | ±0.08     | >0.50-0.70     | ±0.08     |
| >8-12.7          | ±0.10     | >0.70-1.00     | ±0.09     |
| >12.7-16         | ±0.12     | >1.00-1.3      | ±0.10     |

**Mechanical Properties**

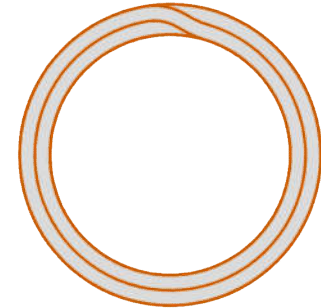
| Tensile R <sub>m</sub> | Yield R <sub>eL</sub> | Elongation A <sub>50mm</sub> * | Hardness HR30T |
|------------------------|-----------------------|--------------------------------|----------------|
| 290MPa min             | 180MPa min            | 20% min                        | 65 max         |

\* By changing annealing duration or cold drawing, mechanical properties can be adjusted according to buyer's request;

***elongation can be adjusted to 30% min if requested.*****Tube Structure**

720° Wrapped

Copper Brazed



**Weight (gram/meter)**

| <b>OD/Wall (mm)</b> | <b>0.5</b> | <b>0.6</b> | <b>0.7</b> | <b>0.8</b> | <b>0.9</b> | <b>1</b> | <b>1.1</b> | <b>1.2</b> | <b>1.3</b> |
|---------------------|------------|------------|------------|------------|------------|----------|------------|------------|------------|
| <b>3.18</b>         | 33.0       | 38.2       | 42.8       | 47.0       |            |          |            |            |            |
| <b>4</b>            | 43.2       | 50.3       | 57.0       | 63.1       |            |          |            |            |            |
| <b>4.76</b>         | 52.5       | 61.6       | 70.1       | 78.1       | 85.7       |          |            |            |            |
| <b>6</b>            | 67.8       | 79.9       | 91.5       | 102.6      | 113.2      | 123.3    |            |            |            |
| <b>6.35</b>         | 72.1       | 85.1       | 97.5       | 109.5      | 121.0      | 131.9    |            |            |            |
| <b>7</b>            | 80.1       | 94.7       | 108.8      | 122.3      | 135.4      | 148.0    | 160.1      | 171.6      |            |
| <b>7.94</b>         | 91.7       | 108.6      | 125.0      | 140.9      | 156.3      | 171.2    | 185.6      | 199.5      |            |
| <b>8</b>            | 92.5       | 109.5      | 126.0      | 142.1      | 157.6      | 172.6    | 187.2      | 201.2      | 214.8      |
| <b>9.52</b>         | 111.2      | 132.0      | 152.3      | 172.0      | 191.3      | 210.1    | 228.4      | 246.2      | 263.5      |
| <b>10</b>           | 117.1      | 139.1      | 160.5      | 181.5      | 202.0      | 222.0    | 241.4      | 260.4      | 278.9      |
| <b>12</b>           |            |            | 195.1      | 221.0      | 246.4      | 271.3    | 295.7      | 319.6      | 343.0      |
| <b>12.7</b>         |            |            | 207.2      | 234.8      | 261.9      | 288.5    | 314.7      | 340.3      | 365.5      |
| <b>14</b>           |            |            | 229.6      | 260.4      | 290.8      | 320.6    | 349.9      | 378.8      | 407.2      |
| <b>15.88</b>        |            |            | 262.1      | 297.5      | 332.5      | 367.0    | 400.9      | 434.4      | 467.4      |
| <b>16</b>           |            |            | 264.1      | 299.9      | 335.1      | 369.9    | 404.2      | 438.0      | 471.3      |

**Note:**

- Tube OD can be made to any size between 3.18 mm and 16 mm, and is not limited to the above listed.
- Tube wall thickness can be made to any value between 0.4 mm and 1.3 mm, and is not limited to the above listed.

**Burst Pressure (MPa)**

| OD/Wall (mm) | 0.5   | 0.6   | 0.7   | 0.8   | 0.9   | 1     | 1.1   | 1.2   | 1.3   |
|--------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| <b>3.18</b>  | 119.9 | 150.4 | 184.3 | 222.1 |       |       |       |       |       |
| <b>4</b>     | 91.4  | 113.3 | 136.8 | 162.2 |       |       |       |       |       |
| <b>4.76</b>  | 74.9  | 92.2  | 110.6 | 130.1 | 150.9 |       |       |       |       |
| <b>6</b>     | 57.9  | 70.9  | 84.4  | 98.5  | 113.3 | 128.8 |       |       |       |
| <b>6.35</b>  | 54.4  | 66.5  | 79.1  | 92.2  | 105.8 | 120.1 |       |       |       |
| <b>7</b>     | 48.9  | 59.7  | 70.9  | 82.4  | 94.4  | 106.8 | 119.8 | 133.3 |       |
| <b>7.94</b>  | 42.7  | 52.0  | 61.6  | 71.5  | 81.6  | 92.2  | 103.0 | 114.3 |       |
| <b>8</b>     | 42.4  | 51.6  | 61.1  | 70.9  | 80.9  | 91.4  | 102.1 | 113.3 | 124.8 |
| <b>9.52</b>  | 35.2  | 42.8  | 50.5  | 58.4  | 66.6  | 74.9  | 83.4  | 92.2  | 101.3 |
| <b>10</b>    | 33.5  | 40.6  | 47.9  | 55.4  | 63.0  | 70.9  | 78.9  | 87.1  | 95.6  |
| <b>12</b>    |       |       | 39.4  | 45.4  | 51.6  | 57.9  | 64.3  | 70.9  | 77.5  |
| <b>12.7</b>  |       |       | 37.1  | 42.8  | 48.5  | 54.4  | 60.4  | 66.5  | 72.7  |
| <b>14</b>    |       |       | 33.5  | 38.5  | 43.7  | 48.9  | 54.3  | 59.7  | 65.2  |
| <b>15.88</b> |       |       | 29.3  | 33.7  | 38.2  | 42.7  | 47.4  | 52.0  | 56.8  |
| <b>16</b>    |       |       | 29.1  | 33.5  | 37.9  | 42.4  | 47.0  | 51.6  | 56.3  |

**Note:** The specifications are based on 320 MPa tensile and 200MPa yield strength.

**Working Pressure (MPa)**

| OD/Wall (mm) | 0.5  | 0.6  | 0.7  | 0.8  | 0.9  | 1    | 1.1  | 1.2  | 1.3  |
|--------------|------|------|------|------|------|------|------|------|------|
| <b>3.18</b>  | 36.0 | 45.1 | 55.3 | 66.6 |      |      |      |      |      |
| <b>4</b>     | 27.4 | 34.0 | 41.0 | 48.7 |      |      |      |      |      |
| <b>4.76</b>  | 22.5 | 27.7 | 33.2 | 39.0 | 45.3 |      |      |      |      |
| <b>6</b>     | 17.4 | 21.3 | 25.3 | 29.5 | 34.0 | 38.6 |      |      |      |
| <b>6.35</b>  | 16.3 | 20.0 | 23.7 | 27.7 | 31.8 | 36.0 |      |      |      |
| <b>7</b>     | 14.7 | 17.9 | 21.3 | 24.7 | 28.3 | 32.1 | 35.9 | 40.0 |      |
| <b>7.94</b>  | 12.8 | 15.6 | 18.5 | 21.4 | 24.5 | 27.6 | 30.9 | 34.3 |      |
| <b>8</b>     | 12.7 | 15.5 | 18.3 | 21.3 | 24.3 | 27.4 | 30.6 | 34.0 | 37.4 |
| <b>9.52</b>  | 10.6 | 12.8 | 15.2 | 17.5 | 20.0 | 22.5 | 25.0 | 27.7 | 30.4 |
| <b>10</b>    | 10.0 | 12.2 | 14.4 | 16.6 | 18.9 | 21.3 | 23.7 | 26.1 | 28.7 |
| <b>12</b>    |      |      | 11.8 | 13.6 | 15.5 | 17.4 | 19.3 | 21.3 | 23.3 |
| <b>12.7</b>  |      |      | 11.1 | 12.8 | 14.6 | 16.3 | 18.1 | 20.0 | 21.8 |
| <b>14</b>    |      |      | 10.0 | 11.6 | 13.1 | 14.7 | 16.3 | 17.9 | 19.6 |
| <b>15.88</b> |      |      | 8.8  | 10.1 | 11.5 | 12.8 | 14.2 | 15.6 | 17.0 |
| <b>16</b>    |      |      | 8.7  | 10.0 | 11.4 | 12.7 | 14.1 | 15.5 | 16.9 |

**Note:** This table is for reference only and it is subject to the users to determine the right safe factor that is suitable for its applications.