

# SECTION 8

## Stainless Steel

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# STAINLESS STEEL

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## General Information on Stainless Steel Standard Finishes of Stainless Steel Flat-Rolled Products

Surface finishes on stainless steel sheets, strip, and plates are generally selected for appearance, although degree and extent of forming and welding should be taken into consideration. Where forming is severe, or much welding is done, it is often more economical to use a cold rolled finish and then polish.

### Unpolished Finishes

**No. 1 Finish.** Hot rolled, annealed and descaled. Produced by hot rolling followed by annealing and descaling. Generally used in industrial applications, such as for heat or corrosion resistance, where smoothness of finish is not of particular importance.

**No. 2D Finish.** A dull cold rolled finish produced by cold rolling, annealing, and descaling. The dull finish may result from the descaling or pickling operation or may be developed by a final light cold roll pass on dull rolls. The dull finish is favorable for the retention of lubricants on the surface in deep drawing operations.

This finish is generally used in forming deep drawn articles which may be polished after fabrication.

**No. 2B Finish.** A bright cold rolled finish commonly produced in the same manner as No. 2D, except that the annealed and descaled sheet receives a final light cold rolled pass on polished rolls. This is a general purposes cold rolled finish. It is commonly used for all but exceptionally difficult deep drawing applications.

This is more readily polished than No. 1 or No. 2D Finish.

### Polished Finishes

Sheets can be produced with one or two sides polished. When polished on one side only, the other side may be rough ground in order to obtain the necessary flatness.

**No. 3 Finish** is a polished finish obtained with abrasives approximately 100 mesh, and which may or may not be additionally polished during fabrication.

**No. 4 Finish** is a general purpose polished finish widely used for restaurant equipment, kitchen equipment, store fronts, dairy equipment, etc. Following initial grinding with coarser abrasives, sheets are generally finished last with abrasives approximately 120 to 150 mesh.

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## STAINLESS STEEL

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**No. 6 Finish** is a dull satin finish having lower reflectivity than No. 4 Finish. It is produced by Tampico brushing No. 4 Finish sheets in a medium of abrasive and oil.

It is used for architectural applications and ornamentation where a high luster is undesirable; it is also used effectively to contrast with brighter finishes.

**No. 7 Finish** has a high degree of reflectivity. It is produced by buffing of finely ground surface, but the grit lines are not removed. It is chiefly used for architectural and ornamental purposes.

**No. 8 Finish** is the most reflective finish that is commonly produced. It is obtained by polishing with successively finer abrasives and buffing extensively with very fine buffing rouges. The surface is essentially free of grit lines from preliminary grinding operations. This finish is most widely used for press plates, as well as for small mirrors and reflectors.

### Type 303

| C    | Mn   | P    | S    | Si   | Cr           | Ni          |
|------|------|------|------|------|--------------|-------------|
| 0.15 | 2.00 | 0.20 | 0.15 | 1.00 | <u>17.00</u> | <u>8.00</u> |
| Max. | Max. | Max. | Min. | Max. | 19.00        | 10.00       |

**Type 303** is a chromium-nickel stainless steel modified by the addition of selenium or sulphur, as well as phosphorous, to improve machinability and non-seizing properties. It is the most readily machinable of all the chromium-nickel grades and has good corrosion resistance. It is non-magnetic in the annealed condition and non hardenable by heat treatment. Tensile strength can be increased by cold working.

**Applications**—Used almost exclusively for parts requiring machining, grinding or polishing where good corrosion resistance is also required. Its non-seizing and non-galling properties make it ideal for moving parts. Being an austenitic steel, it is useful where low magnetic permeability is desired.

# STAINLESS STEEL

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## Type 304

| C    | Mn   | P     | S     | Si   | Cr           | Ni          |
|------|------|-------|-------|------|--------------|-------------|
| 0.08 | 2.00 | 0.045 | 0.030 | 0.75 | <u>18.00</u> | <u>8.00</u> |
| Max. | Max. | Max.  | Max.  | Max. | 20.00        | 10.50       |

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**Type 304** is the basic chromium-nickel stainless steel. It combines excellent mechanical properties with excellent resistance to many corrosive agents encountered in domestic and industrial use. It is non-magnetic in the annealed condition and not hardened by heat treatment. Both hardness and tensile strength can be increased by cold working. The analysis of Type 304 is similar to that of Type 302, except that Type 304 is modified by lowered carbon content. This provides good resistance to corrosion in welded construction where subsequent heat treatment is not practicable.

**Applications**—Used where corrosion resistance and good mechanical properties are primary requirements. These grades are widely accepted in such industries as dairy, beverage and other food products where the highest degree of sanitation and cleanliness is of prime importance. Parts for handling acetic, nitric and citric acids, organic and inorganic chemicals, dyestuffs, crude and refined oils, etc., are fabricated from this material. Because of its lack of magnetism it is highly desirable for instruments. It is also widely used for architectural trim. Type 304, as noted above, finds particular use in applications requiring welding.

## Type 304 L (ELC)

| C     | Mn   | P     | S     | Si   | Cr           | Ni          |
|-------|------|-------|-------|------|--------------|-------------|
| 0.030 | 2.00 | 0.045 | 0.030 | 0.75 | <u>18.00</u> | <u>8.00</u> |
| Max.  | Max. | Max.  | Max.  | Max. | 20.00        | 12.00       |

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**Type 304 L (or ELC)** is a very low carbon chromium nickel steel with corrosion resistance similar to T 304, but with superior resistance to intergranular corrosion following welding or stress relieving. The range of carbon content is controlled to the level of .03 maximum. This limits the formation of harmful carbides to a great extent. Post-weld annealing isn't necessary in most cases.

**Applications**—Any fabricating applications where annealing after welding is impractical, or where the specifications are very exact regarding intergranular corrosion, otherwise used in same types of equipment as 304.

# STAINLESS STEEL

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## Type 316

| C    | Mn   | P     | S     | Si   | Cr           | Ni           | Mo          |
|------|------|-------|-------|------|--------------|--------------|-------------|
| 0.08 | 2.00 | 0.045 | 0.030 | 0.75 | <u>16.00</u> | <u>10.00</u> | <u>2.00</u> |
| Max. | Max. | Max.  | Max.  | Max. | 18.00        | 14.00        | 3.00        |

**Type 316** is a chromium-nickel stainless steel modified by the addition of molybdenum, which greatly increases its corrosion resistance as well as its mechanical properties at elevated temperatures. It is non-magnetic in the annealed condition and not hardenable by heat treatment. It is an outstanding stainless steel suitable for a large number of applications.

**Applications**—Widely used in the paper, textile and chemical industries, where parts are subjected to the corrosive effects of salts and reducing acids. Also used in the manufacture of pharmaceuticals in order to avoid excessive metallic contamination. Since Type 316 possesses the highest creep and tensile strength at elevated temperatures of any of the more commonly used stainless steels, it finds extensive use where the combination of high strength and good corrosion resistance at elevated temperatures is required. In aircraft applications, Type 316 is used for parts requiring good corrosion resistance and low magnetic permeability.

## Type 316 L (ELC)

| C     | Mn   | P     | S     | Si   | Cr           | Ni           | Mo          |
|-------|------|-------|-------|------|--------------|--------------|-------------|
| 0.030 | 2.00 | 0.045 | 0.030 | 0.75 | <u>16.00</u> | <u>10.00</u> | <u>2.00</u> |
| Max.  | Max. | Max.  | Max.  | Max. | 18.00        | 14.00        | 3.00        |

**Type 316L** is very low carbon grade with general corrosion resistance similar to Type 316, but with superior resistance to intergranular corrosion during welding or stress relieving. This precludes any harmful carbide precipitation in the 800 to 1500 F range, such as might otherwise occur in welding heavy sections.

**Applications**—Same as those for Type 316. All other physical characteristics and applications are similar or equivalent to regular Type 316.

# STAINLESS STEEL SHEETS TYPE 304/304L



**Cold Rolled, Annealed No. 2B and #4**

| ASTM A 240**                  | ASME SA-240**              | ASTM A 666 Anld.          |
|-------------------------------|----------------------------|---------------------------|
| Gage<br>and Size<br>in Inches | lbs. per<br>Square<br>Foot | Est. lbs.<br>per<br>Sheet |
| <b>26 Ga. (.018)</b>          |                            |                           |
| 48 x 96                       | .7560                      | 24.19                     |
| 48 x 120                      | .7560                      | 30.24                     |
| <b>24 Ga. (.024)</b>          |                            |                           |
| 48 x 96                       | 1.008                      | 32.26                     |
| 48 x 120                      | 1.008                      | 40.32                     |
| <b>22 Ga. (.030)</b>          |                            |                           |
| 48 x 96                       | 1.260                      | 40.32                     |
| 48 x 120                      | 1.260                      | 50.40                     |
| 48 x 144                      | 1.260                      | 60.48                     |
| <b>20 Ga. (.036)</b>          |                            |                           |
| 48 x 96                       | 1.512                      | 48.38                     |
| 48 x 120                      | 1.512                      | 60.48                     |
| 48 x 144                      | 1.512                      | 72.58                     |
| 60 x 120                      | 1.512                      | 75.60                     |
| 60 x 144                      | 1.512                      | 90.72                     |
| <b>18 Ga. (.048)</b>          |                            |                           |
| 48 x 96                       | 2.016                      | 64.51                     |
| 48 x 120                      | 2.016                      | 80.64                     |
| 48 x 144                      | 2.016                      | 96.77                     |
| 60 x 120                      | 2.016                      | 100.8                     |
| 60 x 144                      | 2.016                      | 121.0                     |
| <b>16 Ga. (.060)</b>          |                            |                           |
| 48 x 96                       | 2.520                      | 80.64                     |
| 48 x 120                      | 2.520                      | 100.8                     |
| 48 x 144                      | 2.520                      | 121.0                     |
| 60 x 96                       | 2.520                      | 100.8                     |
| 60 x 120                      | 2.520                      | 126.0                     |
| 60 x 144                      | 2.520                      | 151.2                     |
| <b>14 Ga. (.075)</b>          |                            |                           |
| 48 x 96                       | 3.150                      | 100.8                     |
| 48 x 120                      | 3.150                      | 126.0                     |
| 48 x 144                      | 3.150                      | 151.2                     |
| 60 x 96                       | 3.150                      | 126.0                     |
| 60 x 120                      | 3.150                      | 157.5                     |
| 60 x 144                      | 3.150                      | 189.0                     |
| <b>13 Ga. (.090)</b>          |                            |                           |
| 48 x 120                      | 3.780                      | 151.2                     |
| <b>12 Ga. (.105)</b>          |                            |                           |
| 48 x 96                       | 4.410                      | 141.1                     |
| 48 x 120                      | 4.410                      | 176.4                     |
| 48 x 144                      | 4.410                      | 211.7                     |
| 60 x 96                       | 4.410                      | 176.4                     |
| 60 x 120                      | 4.410                      | 220.5                     |
| 60 x 144                      | 4.410                      | 264.6                     |
| <b>11 Ga. (.120)</b>          |                            |                           |
| 48 x 96                       | 5.040                      | 161.3                     |
| 48 x 120                      | 5.040                      | 201.6                     |
| 48 x 144                      | 5.040                      | 241.9                     |
| 60 x 96                       | 5.040                      | 201.6                     |
| 60 x 120                      | 5.040                      | 252.0                     |
| 60 x 144                      | 5.040                      | 302.4                     |
| <b>10 Ga. (.135)</b>          |                            |                           |
| 48 x 96                       | 5.670                      | 181.4                     |
| 48 x 120                      | 5.670                      | 226.8                     |
| 48 x 144                      | 5.670                      | 272.2                     |
| 60 x 96                       | 5.670                      | 226.8                     |
| 60 x 120                      | 5.670                      | 283.5                     |
| 60 x 144                      | 5.670                      | 340.2                     |
| <b>7 Ga. (.1874)</b>          |                            |                           |
| 48 x 96                       | 7.871                      | 251.9                     |
| 48 x 120                      | 7.871                      | 314.8                     |
| 48 x 144                      | 7.871                      | 377.8                     |
| 60 x 120                      | 7.871                      | 393.6                     |



**STAINLESS STEEL SHEETS**  
**TYPE 316/316L**  
**Cold Rolled, Annealed No. 2B Finish**

ASTM A 240\*\* ASME SA-240\*\* ASTM A 666 Anld.

| Gage and Size in Inches | Lbs. per Square Foot | Est. Lbs. per Sheet |
|-------------------------|----------------------|---------------------|
| <b>24 Ga. (.024)</b>    |                      |                     |
| 48 x 96                 | 1.008                | 32.26               |
| 48 x 120                | 1.008                | 40.32               |
| <b>22 Ga. (.030)</b>    |                      |                     |
| 48 x 120                | 1.260                | 50.40               |
| <b>20 Ga. (.036)</b>    |                      |                     |
| 48 x 120                | 1.512                | 60.48               |
| <b>18 Ga. (.048)</b>    |                      |                     |
| 48 x 96                 | 2.016                | 64.51               |
| 48 x 120                | 2.016                | 80.64               |
| <b>16 Ga. (.060)</b>    |                      |                     |
| 48 x 96                 | 2.520                | 80.64               |
| 48 x 120                | 2.520                | 100.8               |
| 60 x 120                | 2.520                | 126.0               |
| 60 x 144                | 2.520                | 151.2               |
| <b>14 Ga. (.075)</b>    |                      |                     |
| 48 x 96                 | 3.150                | 100.8               |
| 48 x 120                | 3.150                | 126.0               |
| 60 x 120                | 3.150                | 157.5               |
| 60 x 144                | 3.150                | 189.0               |
| <b>12 Ga. (.105)</b>    |                      |                     |
| 48 x 120                | 4.410                | 176.4               |
| 48 x 144                | 4.410                | 211.7               |
| 60 x 120                | 4.410                | 220.5               |
| 60 x 144                | 4.410                | 264.6               |
| <b>11 Ga. (.120)</b>    |                      |                     |
| 48 x 96                 | 5.040                | 161.3               |
| 48 x 120                | 5.040                | 201.6               |
| 48 x 144                | 5.040                | 241.9               |
| 60 x 120                | 5.040                | 252.0               |
| 60 x 144                | 5.040                | 302.4               |
| <b>10 Ga. (.135)</b>    |                      |                     |
| 48 x 120                | 5.670                | 226.8               |
| 48 x 144                | 5.670                | 272.2               |
| 60 x 120                | 5.670                | 283.5               |
| 60 x 144                | 5.670                | 340.2               |
| <b>7 Ga. (.1874)</b>    |                      |                     |
| 48 x 120                | 7.871                | 314.8               |
| 60 x 120                | 7.871                | 393.5               |

## STAINLESS STEEL SHEETS TYPE 309, 310, 321, 330

ASTM A240 ASTM B536



| Gage and Size in Inches | Lbs. per Square Foot | Est. Lbs. per Sheet |
|-------------------------|----------------------|---------------------|
| <b>10</b><br>48 x 120   | 5.67                 | 226.8               |
| <b>11</b><br>48 x 120   | 5.04                 | 201.6               |
| <b>12</b><br>48 x 120   | 4.43                 | 177.1               |
| <b>14</b><br>48 x 120   | 3.15                 | 126.2               |
| <b>16</b><br>48 x 120   | 2.50                 | 100.0               |
| <b>18</b><br>48 x 120   | 2.02                 | 80.6                |
| <b>20</b><br>48 x 120   | 1.50                 | 60.0                |

## STAINLESS STEEL SHEETS TYPE 409, 410, 430

ASTM A240



| Gage and Size in Inches          | Lbs. per Square Foot | Est. Lbs. per Sheet |
|----------------------------------|----------------------|---------------------|
| <b>24 Ga. (.024)</b><br>48 x 96  | .9888                | 31.64               |
| 48 x 120                         | .9888                | 39.55               |
| <b>22 Ga. (.030)</b><br>48 x 120 | 1.236                | 49.44               |
| <b>20 Ga. (.036)</b><br>48 x 120 | 1.483                | 59.32               |
| <b>18 Ga. (.048)</b><br>48 x 120 | 1.978                | 79.12               |
| <b>16 Ga. (.060)</b><br>48 x 120 | 2.472                | 98.88               |
| <b>14 Ga. (.075)</b><br>48 x 120 | 3.090                | 123.6               |
| <b>12 Ga. (.105)</b><br>48 x 120 | 4.326                | 173.0               |
| <b>11 Ga. (.120)</b><br>48 x 120 | 4.944                | 197.8               |
| <b>10 Ga. (.134)</b><br>48 x 120 | 5.560                | 222.5               |



**STAINLESS STEEL PLATES**  
**TYPES 304, 304L, 304/304L**  
**Hot Rolled, Annealed and Pickled**  
**Non-Magnetic\***



ASTM A 240    ASME SA-240    ASTM A 666 AnD

| Size in Inches | Lbs. Per Sq. Ft.    | Est. Lbs. per Ft. | 304 | 304L | 304/304L |
|----------------|---------------------|-------------------|-----|------|----------|
| <b>3/16 x</b>  | <b>48</b>           | 34.32             | X   | X    | ..       |
|                | <b>60</b>           | 42.90             | X   | X    | ..       |
|                | <b>72</b>           | 51.47             | X   | X    | ..       |
|                | <b>96</b>           | 68.63             | X   | X    | ..       |
| <b>1/4 x</b>   | <b>48</b> ... 11.16 | 44.64             | X   | X    | ..       |
|                | <b>60</b>           | 55.80             | X   | X    | ..       |
|                | <b>72</b>           | 66.96             | X   | ..   | ..       |
|                | <b>96</b>           | 89.28             | X   | X    | ..       |
| <b>5/16 x</b>  | <b>48</b> ... 13.75 | 55.00             | X   | X    | ..       |
|                | <b>60</b>           | 68.75             | X   | X    | ..       |
|                | <b>72</b>           | 82.50             | X   | X    | ..       |
|                | <b>96</b>           | 110.0             | X   | X    | ..       |
| <b>3/8 x</b>   | <b>48</b> ... 16.50 | 66.00             | X   | X    | ..       |
|                | <b>60</b>           | 82.50             | X   | X    | ..       |
|                | <b>72</b>           | 99.00             | X   | ..   | ..       |
|                | <b>96</b>           | 132.0             | X   | X    | ..       |
| <b>1/2 x</b>   | <b>48</b> ... 21.66 | 86.64             | X   | X    | ..       |
|                | <b>60</b>           | 108.3             | X   | X    | ..       |
|                | <b>96</b>           | 173.3             | X   | X    | ..       |
| <b>5/8 x</b>   | <b>48</b> ... 26.83 | 107.3             | ..  | ..   | X        |
|                | <b>60</b>           | 134.1             | ..  | ..   | X        |
|                | <b>96</b>           | 214.6             | ..  | ..   | X        |
| <b>3/4 x</b>   | <b>48</b> ... 32.12 | 128.5             | ..  | ..   | X        |
|                | <b>60</b>           | 160.6             | ..  | ..   | X        |
|                | <b>96</b>           | 257.0             | ..  | ..   | X        |
| <b>7/8 x</b>   | <b>60</b> ... 37.29 | 186.4             | ..  | ..   | X        |
|                | <b>96</b>           | 298.3             | ..  | ..   | X        |
| <b>1 x</b>     | <b>48</b> ... 42.67 | 170.7             | ..  | ..   | X        |
|                | <b>60</b>           | 213.3             | ..  | ..   | X        |
|                | <b>96</b>           | 341.4             | ..  | ..   | X        |
| <b>1 1/8 x</b> | <b>60</b> ... 47.83 | 239.1             | ..  | ..   | X        |
| <b>1 1/4 x</b> | <b>48</b> ... 53.00 | 212.0             | ..  | ..   | X        |
|                | <b>60</b>           | 265.0             | ..  | ..   | X        |
|                | <b>96</b>           | 424.0             | ..  | ..   | X        |
| <b>1 1/2 x</b> | <b>48</b> ... 63.34 | 253.4             | ..  | ..   | X        |
|                | <b>60</b>           | 316.7             | ..  | ..   | X        |
|                | <b>96</b>           | 506.7             | ..  | ..   | X        |
| <b>1 3/4 x</b> | <b>48</b> ... 73.67 | 294.7             | ..  | ..   | X        |
|                | <b>60</b>           | 368.3             | ..  | ..   | X        |
|                | <b>96</b>           | 589.4             | ..  | ..   | X        |



## STAINLESS STEEL PLATES

### TYPES 316/316L

Hot Rolled, Annealed and Pickled

ASTM A 240 ASME SA-240

ASTM A 666 Anld

| Size in Inches                     | Lbs. Per Sq. Ft. | Est. Lbs. per Ft. |
|------------------------------------|------------------|-------------------|
| <b>3/16</b> x <b>48</b>            | 8.579            | 34.32             |
| <b>60</b>                          |                  | 42.90             |
| <b>72</b>                          |                  | 51.47             |
| <b>96</b>                          |                  | 68.63             |
| <b>1/4</b> x <b>48</b>             | 11.16            | 44.64             |
| <b>60</b>                          |                  | 55.80             |
| <b>72</b>                          |                  | 66.96             |
| <b>96</b>                          |                  | 89.28             |
| <b>5/16</b> x <b>48</b>            | 13.75            | 55.00             |
| <b>60</b>                          |                  | 68.75             |
| <b>72</b>                          |                  | 82.50             |
| <b>96</b>                          |                  | 110.0             |
| <b>3/8</b> x <b>48</b>             | 16.50            | 66.00             |
| <b>60</b>                          |                  | 82.50             |
| <b>72</b>                          |                  | 99.00             |
| <b>96</b>                          |                  | 132.0             |
| <b>1/2</b> x <b>48</b>             | 21.66            | 86.64             |
| <b>60</b>                          |                  | 108.3             |
| <b>96</b>                          |                  | 173.3             |
| <b>5/8</b> x <b>48</b>             |                  | 26.83             |
| <b>60</b>                          | 134.1            |                   |
| <b>96</b>                          | 214.6            |                   |
| <b>3/4</b> x <b>48</b>             | 32.12            |                   |
| <b>60</b>                          |                  | 160.6             |
| <b>96</b>                          |                  | 257.0             |
| <b>7/8</b> x <b>60</b>             |                  | 37.29             |
| <b>96</b>                          | 298.3            |                   |
| <b>1</b> x <b>48</b>               | 42.67            |                   |
| <b>60</b>                          |                  | 213.3             |
| <b>96</b>                          |                  | 341.4             |
| <b>1<sup>1/4</sup></b> x <b>48</b> | 53.00            | 212.0             |
| <b>60</b>                          |                  | 265.0             |
| <b>96</b>                          |                  | 424.0             |
| <b>1<sup>1/2</sup></b> x <b>48</b> | 63.34            | 253.4             |
| <b>60</b>                          |                  | 316.7             |
| <b>96</b>                          |                  | 506.7             |
| <b>1<sup>3/4</sup></b> x <b>48</b> | 73.67            | 294.7             |
| <b>60</b>                          |                  | 368.3             |

\*May be slightly magnetic when cold worked



**STAINLESS STEEL ROUNDS**  
**TYPE 303 & 316**  
**Bearing Shaft Quality**  
**Annealed and Centerless Ground**  
**Optimum Machining**

ASTM A 582 Cond. A AMS 5640 Type 1 QQ-S-764 Cond. A  
Stock Lengths 12 Ft. Random

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| Size in<br>Inches    | Est. Lbs.<br>per Ft. |
|----------------------|----------------------|
| <b>.2495/ .2485</b>  | .1655                |
| <b>.3745/ .3735</b>  | .3735                |
| <b>.4995/ .4985</b>  | .6648                |
| <b>.6245/ .6235</b>  | 1.040                |
| <b>.7495/ .7485</b>  | 1.498                |
| <b>.8745/ .8735</b>  | 2.040                |
| <b>.9995/ .9985</b>  | 2.665                |
| <b>1.1245/1.1235</b> | 3.373                |
| <b>1.1870/1.1860</b> | 3.759                |
| <b>1.2495/1.2485</b> | 4.165                |
| <b>1.3745/1.3735</b> | 5.041                |
| <b>1.4370/1.4360</b> | 5.510                |
| <b>1.4995/1.4985</b> | 6.000                |
| <b>1.7495/1.7480</b> | 8.165                |
| <b>1.9995/1.9980</b> | 10.67                |

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**STAINLESS STEEL ROUNDS**  
**TYPES: 203EZ, 303, 303 Accuracy**  
**304, 304L, 316, 316L**



| Specifications        | 203EZ | 303 | Accuracy<br>Stock<br>303 | 304 | 304L | 316 | 316L |
|-----------------------|-------|-----|--------------------------|-----|------|-----|------|
| ASTM A276, A479, A580 | ..    | ..  | ..                       | X   | X    | X   | X    |
| ASTM A581, A582       | X     | X   | ..                       | ..  | ..   | ..  | ..   |
| ASME SA479            | ..    | ..  | ..                       | X   | X    | X   | X    |
| AMS 5639              | ..    | ..  | ..                       | X   | ..   | ..  | ..   |
| ASM 5640              | ..    | X   | ..                       | ..  | ..   | X   | ..   |
| AMS 5647              | ..    | ..  | ..                       | ..  | X    | ..  | ..   |
| AMS 5648              | ..    | ..  | ..                       | ..  | ..   | X   | ..   |
| AMS 5653              | ..    | ..  | ..                       | ..  | ..   | ..  | X    |
| AMS 5762              | X     | ..  | ..                       | ..  | ..   | ..  | ..   |
| QQS 763               | ..    | ..  | ..                       | X   | X    | X   | X    |

**STAINLESS STEEL ROUNDS**  
**TYPES: 203EZ, 303, 303 Accuracy**  
**304, 304L, 316, 316L**



| Size<br>in<br>Inches | Lbs.<br>per Ft. | 203EZ | 303 | Accuracy<br>Stock<br>303 | 304 | 304L | 316 | 316L |
|----------------------|-----------------|-------|-----|--------------------------|-----|------|-----|------|
| 1/16                 | .0104           | ..    | X   | ..                       | ..  | ..   | ..  | ..   |
| 5/64                 | .0163           | ..    | X   | ..                       | ..  | ..   | ..  | ..   |
| 3/32                 | .0235           | X     | X   | ..                       | ..  | ..   | ..  | ..   |
| 7/64                 | .0320           | ..    | X   | ..                       | ..  | ..   | ..  | ..   |
| 1/8                  | .0417           | X     | X   | ..                       | X   | ..   | X   | ..   |
| 9/64                 | .0528           | ..    | X   | ..                       | ..  | ..   | ..  | ..   |
| 5/32                 | .0652           | X     | X   | ..                       | ..  | ..   | ..  | ..   |
| 3/16                 | .0939           | X     | X   | ..                       | X   | ..   | X   | ..   |
| 13/64                | .1102           | ..    | X   | ..                       | ..  | ..   | ..  | ..   |
| 7/32                 | .1278           | X     | X   | ..                       | ..  | ..   | ..  | ..   |
| 1/4                  | .1669           | X     | X   | ..                       | X   | ..   | X   | ..   |
| 17/64                | .1884           | ..    | X   | ..                       | ..  | ..   | ..  | ..   |
| 9/32                 | .2113           | X     | X   | ..                       | ..  | ..   | ..  | ..   |
| 5/16                 | .2608           | X     | X   | ..                       | X   | ..   | X   | ..   |
| 21/64                | .2875           | ..    | X   | ..                       | ..  | ..   | ..  | ..   |
| 11/32                | .3156           | X     | X   | ..                       | ..  | ..   | ..  | ..   |
| 3/8                  | .3755           | X     | X   | X                        | X   | X    | X   | X    |
| 25/64                | .4074           | ..    | X   | ..                       | ..  | ..   | ..  | ..   |
| 13/32                | .4408           | X     | X   | ..                       | ..  | ..   | ..  | ..   |
| 7/16                 | .5111           | X     | X   | ..                       | X   | ..   | X   | ..   |
| 15/32                | .5869           | ..    | X   | ..                       | ..  | ..   | ..  | ..   |
| 1/2                  | .6676           | X     | X   | X                        | X   | X    | X   | X    |
| 17/32                | .7538           | X     | X   | ..                       | ..  | ..   | ..  | ..   |
| 9/16                 | .8449           | X     | X   | ..                       | X   | ..   | X   | ..   |
| 19/32                | .9416           | X     | X   | ..                       | ..  | ..   | ..  | ..   |
| 5/8                  | 1.043           | X     | X   | X                        | X   | X    | X   | X    |
| 21/32                | 1.150           | ..    | X   | ..                       | ..  | ..   | ..  | ..   |



**STAINLESS STEEL ROUNDS**  
**TYPES: 203EZ, 303, 303 Accuracy**  
**304, 304L, 316, 316L**

| Size<br>in<br>Inches | Lbs.<br>per Ft. | 203EZ | 303 | Accuracy<br>Stock<br>303 | 304 | 304L | 316 | 316L |
|----------------------|-----------------|-------|-----|--------------------------|-----|------|-----|------|
| 1 1/16               | 1.262           | X     | X   | ..                       | X   | ..   | X   | ..   |
| 3/4                  | 1.502           | X     | X   | X                        | X   | X    | X   | X    |
| 1 3/16               | 1.763           | X     | X   | ..                       | X   | ..   | X   | ..   |
| 7/8                  | 2.045           | X     | X   | X                        | X   | ..   | X   | ..   |
| 1 5/16               | 2.347           | X     | X   | ..                       | X   | ..   | X   | ..   |
| 1                    | 2.670           | X     | X   | X                        | X   | X    | X   | X    |
| 1 1/16               | 3.015           | X     | X   | ..                       | X   | ..   | X   | ..   |
| 1 1/8                | 3.380           | X     | X   | ..                       | X   | ..   | X   | ..   |
| 1 3/16               | 3.766           | X     | X   | ..                       | X   | ..   | X   | ..   |
| 1 1/4                | 4.173           | X     | X   | X                        | X   | X    | X   | X    |
| 1 5/16               | 4.600           | X     | X   | ..                       | X   | ..   | X   | ..   |
| 1 3/8                | 5.049           | X     | X   | ..                       | X   | X    | X   | X    |
| 1 7/16               | 5.518           | ..    | X   | ..                       | X   | ..   | ..  | ..   |
| 1 1/2                | 6.008           | X     | X   | ..                       | X   | X    | X   | X    |
| 1 9/16               | 6.520           | ..    | X   | ..                       | X   | ..   | X   | ..   |
| 1 5/8                | 7.052           | X     | X   | ..                       | X   | X    | X   | X    |
| 1 11/16              | 7.604           | ..    | X   | ..                       | X   | ..   | X   | ..   |
| 1 3/4                | 8.178           | X     | X   | ..                       | X   | X    | X   | X    |
| 1 7/8                | 9.388           | X     | X   | ..                       | X   | X    | X   | X    |
| 1 15/16              | 10.02           | ..    | X   | ..                       | X   | ..   | X   | ..   |
| 2                    | 10.68           | X     | X   | ..                       | X   | X    | X   | X    |
| 2 1/16               | 11.36           | ..    | X   | ..                       | ..  | ..   | ..  | ..   |
| 2 1/8                | 12.06           | X     | X   | ..                       | X   | X    | X   | X    |
| 2 1/4                | 13.52           | X     | X   | ..                       | X   | X    | X   | X    |
| 2 3/8                | 15.06           | X     | X   | ..                       | X   | X    | X   | X    |
| 2 7/16               | 15.87           | ..    | X   | ..                       | X   | ..   | X   | ..   |
| 2 1/2                | 16.69           | X     | X   | ..                       | X   | X    | X   | X    |
| 2 9/16               | 17.53           | ..    | X   | ..                       | X   | ..   | ..  | ..   |
| 2 5/8                | 18.40           | ..    | X   | ..                       | X   | X    | X   | X    |
| 2 3/4                | 20.19           | ..    | X   | ..                       | X   | X    | X   | X    |
| 2 7/8                | 22.07           | ..    | X   | ..                       | X   | ..   | X   | ..   |
| 3                    | 24.03           | X     | X   | ..                       | X   | X    | X   | X    |
| 3 1/8                | 26.08           | ..    | X   | ..                       | X   | ..   | X   | ..   |
| 3 1/4                | 28.21           | ..    | X   | ..                       | X   | X    | X   | X    |
| 3 3/8                | 30.42           | ..    | X   | ..                       | X   | X    | X   | X    |
| 3 1/2                | 32.71           | ..    | X   | ..                       | X   | X    | X   | X    |
| 3 5/8                | 35.09           | ..    | X   | ..                       | X   | ..   | X   | ..   |
| 3 3/4                | 37.55           | ..    | X   | ..                       | X   | ..   | X   | X    |
| 3 7/8                | 40.10           | ..    | ..  | ..                       | X   | ..   | ..  | ..   |
| 4                    | 42.73           | X     | X   | ..                       | X   | X    | X   | X    |
| 4 1/4                | 48.23           | ..    | X   | ..                       | X   | X    | X   | X    |
| 4 1/2                | 54.08           | ..    | X   | ..                       | X   | X    | X   | X    |

# STAINLESS STEEL FLATS



## TYPES 304/304L, 316/316L

Annealed and Pickled

QQ-S-763 Cond. A ASTM A 276 Cond. A

ASTM A 479 Cond. A ASME SA-479 Cond. A

Stock Lengths 12 Ft. Random

### STRIP FLATS

| Size<br>in<br>Inches | Lbs.<br>per<br>Foot | Est.<br>Lbs.<br>12' Bar | <b>304/<br/>304L</b> | <b>316/<br/>316L</b> |
|----------------------|---------------------|-------------------------|----------------------|----------------------|
| <b>1/8</b> x 1/2     | .2125               | 2.550                   | X                    | ..                   |
|                      | .2656               | 3.187                   | X                    | ..                   |
|                      | .3188               | 3.826                   | X                    | ..                   |
| <b>1</b>             | .4250               | 5.100                   | X                    | ..                   |
| <b>1 1/4</b>         | .5313               | 6.376                   | X                    | ..                   |
| <b>1 1/2</b>         | .6375               | 7.650                   | X                    | ..                   |
| <b>1 3/4</b>         | .7438               | 8.962                   | X                    | ..                   |
| <b>2</b>             | .8500               | 10.20                   | X                    | X                    |
| <b>2 1/2</b>         | 1.063               | 12.76                   | X                    | ..                   |
| <b>3</b>             | 1.275               | 15.30                   | X                    | ..                   |
| <b>4</b>             | 1.700               | 20.40                   | X                    | ..                   |
| <b>3/16x</b> 1/2     | .3188               | 3.826                   | X                    | ..                   |
|                      | .3984               | 4.781                   | X                    | ..                   |
|                      | .4781               | 5.737                   | X                    | ..                   |
| <b>1</b>             | .6375               | 7.650                   | X                    | ..                   |
| <b>1 1/4</b>         | .7969               | 9.563                   | X                    | ..                   |
| <b>1 1/2</b>         | .9563               | 11.48                   | X                    | ..                   |
| <b>3/16x</b> 1 3/4   | 1.116               | 13.39                   | X                    | ..                   |
|                      | 1.275               | 15.30                   | X                    | X                    |
|                      | 1.594               | 19.13                   | X                    | ..                   |
| <b>3</b>             | 1.913               | 22.96                   | X                    | ..                   |
| <b>4</b>             | 2.550               | 30.60                   | X                    | ..                   |
| <b>5</b>             | 3.188               | 38.26                   | X                    | ..                   |
| <b>6</b>             | 3.825               | 45.90                   | X                    | ..                   |
| <b>1/4</b> x 3/4     | .6375               | 7.650                   | X                    | ..                   |
|                      | .8500               | 10.20                   | X                    | X                    |
|                      | 1.063               | 12.76                   | X                    | ..                   |
| <b>1 1/2</b>         | 1.275               | 15.30                   | X                    | X                    |
| <b>1 3/4</b>         | 1.488               | 17.86                   | X                    | ..                   |
| <b>2</b>             | 1.700               | 20.40                   | X                    | X                    |
| <b>2 1/4</b>         | 1.913               | 22.96                   | X                    | ..                   |
| <b>2 1/2</b>         | 2.125               | 25.50                   | X                    | X                    |
| <b>3</b>             | 2.550               | 30.60                   | X                    | ..                   |
| <b>3 1/2</b>         | 2.975               | 35.70                   | X                    | ..                   |
| <b>4</b>             | 3.400               | 40.80                   | X                    | ..                   |
| <b>6</b>             | 5.100               | 61.20                   | X                    | ..                   |

# STAINLESS STEEL FLATS



## TYPES 304/304L, 316/316L

Annealed and Pickled

QQ-S-763 Cond. A ASTM A 276 Cond. A  
 ASTM A 479 Cond. A ASME SA-479 Cond. A  
 Stock Lengths 12 Ft. Random

### BAR FLATS

| Size<br>in<br>Inches    | Lbs.<br>per<br>Foot | Est.<br>Lbs.<br>12' Bar | 304/<br>304L | 316/<br>316L |
|-------------------------|---------------------|-------------------------|--------------|--------------|
| <b>1/4</b> x 1/2        | .4250               | 5.100                   | X            | ..           |
|                         | .5313               | 6.376                   | X            | ..           |
| <b>3/8</b> x 1/2        | .6375               | 7.650                   | X            | ..           |
|                         | .9563               | 11.48                   | X            | ..           |
| <b>1</b>                | 1.275               | 15.30                   | X            | ..           |
| <b>1 1/4</b>            | 1.594               | 19.13                   | X            | ..           |
| <b>1 1/2</b>            | 1.913               | 22.96                   | X            | ..           |
| <b>2</b>                | 2.550               | 30.60                   | X            | ..           |
| <b>3</b>                | 3.825               | 45.90                   | X            | ..           |
| <b>4</b>                | 5.100               | 61.20                   | X            | ..           |
| <b>5</b>                | 6.375               | 76.50                   | X            | ..           |
| <b>1/2</b> x 3/4        | 1.275               | 15.30                   | X            | ..           |
|                         | 1.700               | 20.40                   | X            | X            |
| <b>1 1/4</b>            | 2.125               | 25.50                   | X            | ..           |
| <b>1 1/2</b>            | 2.550               | 30.60                   | X            | X            |
| <b>1 3/4</b>            | 2.975               | 35.70                   | X            | ..           |
| <b>1/2</b> x <b>2</b>   | 3.400               | 40.80                   | X            | ..           |
|                         | 4.250               | 51.00                   | X            | ..           |
| <b>3</b>                | 5.100               | 61.20                   | X            | ..           |
| <b>3 1/2</b>            | 5.950               | 71.40                   | X            | ..           |
| <b>4</b>                | 6.800               | 81.60                   | X            | ..           |
| <b>5</b>                | 8.500               | 102.0                   | X            | ..           |
| <b>6</b>                | 10.20               | 122.4                   | X            | ..           |
| <b>5/8</b> x <b>1</b>   | 2.125               | 25.50                   | X            | ..           |
| <b>3/4</b> x <b>1</b>   | 2.550               | 30.60                   | X            | ..           |
|                         | 3.188               | 38.26                   | X            | ..           |
| <b>1 1/2</b>            | 3.825               | 45.90                   | X            | ..           |
| <b>2 1/2</b>            | 6.375               | 76.50                   | X            | ..           |
| <b>1</b> x <b>1 1/2</b> | 5.100               | 61.20                   | X            | ..           |
|                         | 6.800               | 81.60                   | X            | X            |
| <b>3</b>                | 10.20               | 122.4                   | X            | ..           |
| <b>4</b>                | 13.60               | 163.2                   | X            | X            |
| <b>6</b>                | 20.40               | 244.8                   | X            | ..           |



## STAINLESS STEEL PLATE FLATS TYPE 304/316

Sheared and Edge Conditioned  
Hot Rolled, Annealed and Pickled

ASTM A 276 Cond. A    ASTM A 479 Cond. A    ASME SA-479 Cond. A  
QQ-S-763 Cond. A    ASTM A 240    ASME SA-240

Stock Lengths 12 Ft. Random

| Size in Inches               | Lbs. per Ft. | Est. Lbs. 12' Bar |
|------------------------------|--------------|-------------------|
| <b>3/8 x 1</b>               | 1.275        | 15.30             |
| <b>1<sup>1/2</sup></b>       | 1.913        | 22.96             |
| <b>1<sup>3/4</sup></b>       | 2.231        | 26.77             |
| <b>2</b>                     | 2.550        | 30.60             |
| <b>2<sup>1/2</sup></b>       | 3.188        | 38.26             |
| <b>3</b>                     | 3.825        | 45.90             |
| <b>4</b>                     | 5.100        | 61.20             |
| <b>5</b>                     | 6.375        | 76.50             |
| <b>6</b>                     | 7.650        | 91.80             |
| <b>1/2 x 1</b>               | 1.770        | 20.40             |
| <b>1/2 x 1<sup>1/2</sup></b> | 2.550        | 30.60             |
| <b>2</b>                     | 3.400        | 40.80             |
| <b>2<sup>1/2</sup></b>       | 4.250        | 51.00             |
| <b>3</b>                     | 5.100        | 61.20             |
| <b>3<sup>1/2</sup></b>       | 5.950        | 71.40             |
| <b>4</b>                     | 6.800        | 81.60             |
| <b>4<sup>1/2</sup></b>       | 7.650        | 91.80             |
| <b>5</b>                     | 8.500        | 102.0             |
| <b>6</b>                     | 10.20        | 122.4             |

\*May be slightly magnetic when cold worked





## STAINLESS STEEL ANGLES

### TYPES 304/304L, 316/316L

**Annealed and Pickled**

ASTM A 276 Cond. A    ASTM A 479 Cond. A    ASME SA-479 Cond. A  
 QQ-S-763 Cond. A

Stock Lengths 20 Ft. Random

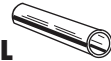
| Size in Inches |          |              | t   | Est. Lbs. per Foot | Est. Lbs. 20' Bar | 304/304L | 316/316L |
|----------------|----------|--------------|---|--------------------|-------------------|----------|----------|
| <b>1</b>       | <b>x</b> | <b>1</b>     | $\frac{3}{4}$ x $\frac{3}{4}$ x $\frac{1}{8}$ | 0.59               | 11.80             | X        | ..       |
|                |          |              | $\frac{1}{8}$                                 | 0.80               | 16.00             | X        | X        |
|                |          |              | $\frac{3}{16}$                                | 1.16               | 23.20             | X        | ..       |
| <b>1 1/4</b>   | <b>x</b> | <b>1 1/4</b> | $\frac{1}{4}$                                 | 1.49               | 29.80             | X        | ..       |
|                |          |              | $\frac{1}{8}$                                 | 1.01               | 20.20             | X        | ..       |
|                |          |              | $\frac{3}{16}$                                | 1.48               | 29.60             | X        | ..       |
| <b>1 1/2</b>   | <b>x</b> | <b>1 1/2</b> | $\frac{1}{4}$                                 | 1.92               | 38.40             | X        | ..       |
|                |          |              | $\frac{1}{8}$                                 | 1.23               | 24.60             | X        | X        |
|                |          |              | $\frac{3}{16}$                                | 1.80               | 36.00             | X        | X        |
| <b>2</b>       | <b>x</b> | <b>2</b>     | $\frac{1}{4}$                                 | 2.34               | 46.80             | X        | ..       |
|                |          |              | $\frac{1}{8}$                                 | 1.65               | 33.00             | X        | ..       |
|                |          |              | $\frac{3}{16}$                                | 2.44               | 48.80             | X        | X        |
| <b>2 1/2</b>   | <b>x</b> | <b>2 1/2</b> | $\frac{1}{4}$                                 | 3.19               | 63.80             | X        | X        |
|                |          |              | $\frac{3}{8}$                                 | 4.70               | 94.00             | X        | ..       |
|                |          |              | $\frac{3}{16}$                                | 3.07               | 61.40             | X        | ..       |
| <b>3</b>       | <b>x</b> | <b>1 1/2</b> | $\frac{1}{4}$                                 | 4.10               | 82.00             | X        | ..       |
|                |          |              | $\frac{3}{8}$                                 | 5.90               | 118.00            | X        | ..       |
|                |          |              | $\frac{1}{4}$                                 | 3.51               | 70.20             | X        | ..       |
| <b>3</b>       | <b>x</b> | <b>2</b>     | $\frac{3}{16}$                                | 3.07               | 61.40             | X        | ..       |
|                |          |              | $\frac{1}{4}$                                 | 4.10               | 82.00             | X        | ..       |
|                |          |              | $\frac{1}{4}$                                 | 4.90               | 98.00             | X        | X        |
| <b>3</b>       | <b>x</b> | <b>3</b>     | $\frac{3}{8}$                                 | 7.20               | 144.00            | X        | X        |
|                |          |              | $\frac{1}{4}$                                 | 5.80               | 116.00            | X        | ..       |
|                |          |              | $\frac{1}{4}$                                 | 6.60               | 132.00            | X        | ..       |
| <b>3 1/2</b>   | <b>x</b> | <b>3 1/2</b> | $\frac{3}{8}$                                 | 9.80               | 196.00            | X        | ..       |
|                |          |              | $\frac{1}{2}$                                 | 12.80              | 256.00            | X        | ..       |
|                |          |              | $\frac{3}{8}$                                 | 9.85               | 197.00            | X        | ..       |

\*May be slightly magnetic when cold worked

# STAINLESS STEEL TUBING

## ROUND WELDED TYPE 304/304L

**Cold Finished, Annealed and Pickled or Bright Annealed**



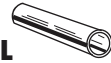
1/2" & under ASTM A 269  
Over 1/2" ASTM A 249 ASME SA-249 ASTM A 269  
Stock Lengths 17-24 Ft. Random

| O.D.  | Gage      | Wall | I.D. | Lbs.<br>per Ft. |
|-------|-----------|------|------|-----------------|
| 1/8   | x 22      | .028 | .069 | .0293           |
|       | 3/16 x 22 | .028 | .132 | .0481           |
|       | 20        | .035 | .118 | .0575           |
| 1/4   | x 22      | .028 | .194 | .0670           |
|       | 20        | .035 | .180 | .0811           |
|       | 18        | .049 | .152 | .1062           |
| 5/16  | x 22      | .028 | .257 | .0859           |
|       | 20        | .035 | .243 | .1047           |
|       | 18        | .049 | .215 | .1392           |
| 3/8   | 16§       | .065 | .183 | .1734           |
|       | x 22      | .028 | .319 | .1047           |
|       | 20        | .035 | .305 | .1283           |
| 7/16  | 18        | .049 | .277 | .1722           |
|       | 16        | .065 | .245 | .2172           |
|       | x 20      | .035 | .368 | .1519           |
| 1/2   | 18        | .049 | .340 | .2052           |
|       | 16        | .065 | .308 | .2610           |
|       | x 22      | .028 | .444 | .1425           |
| 5/8   | 20        | .035 | .430 | .1754           |
|       | 18        | .049 | .402 | .2382           |
|       | 16        | .065 | .370 | .3048           |
| 3/4   | 13§       | .095 | .310 | .4148           |
|       | 11††      | .120 | .260 | .4916           |
|       | x 22      | .028 | .569 | .1802           |
| 7/8   | 20        | .035 | .555 | .2226           |
|       | 18        | .049 | .527 | .3043           |
|       | 16        | .065 | .495 | .3924           |
| 1     | 11        | .120 | .385 | .6533           |
|       | x 20      | .035 | .680 | .2698           |
|       | 18        | .049 | .652 | .3703           |
| 1 1/8 | 16        | .065 | .620 | .4800           |
|       | 13        | .095 | .560 | .6708           |
|       | 11        | .120 | .510 | .8150           |
| 1 1/4 | x 20      | .035 | .805 | .3169           |
|       | 18        | .049 | .777 | .4363           |
|       | 16        | .065 | .745 | .5676           |
| 1 3/8 | 11        | .120 | .635 | .9767           |
|       | x 20      | .035 | .930 | .3641           |
|       | 18        | .049 | .902 | .5023           |
| 1 1/2 | 16        | .065 | .870 | .6552           |
|       | 14        | .083 | .834 | .8205           |
|       | 11        | .120 | .760 | 1.1384          |
| 3/16  |           | .188 | .624 | 1.6456          |

# STAINLESS STEEL TUBING

## ROUND WELDED TYPE 304/304L

Cold Finished, Annealed and Pickled or Bright Annealed



1/2" & under ASTM A 269  
Over 1/2" ASTM A 249 ASME SA-249 ASTM A 269  
Stock Lengths 17-24 Ft. Random

| O.D.         | Gage            | Wall        | I.D.        | Lbs.<br>per Ft. |
|--------------|-----------------|-------------|-------------|-----------------|
| <b>1 1/8</b> | x 16            | <b>.065</b> | .995        | .7427           |
| <b>1 1/4</b> | x 20            | <b>.035</b> | 1.180       | .4584           |
|              | 18              | <b>.049</b> | 1.152       | .6344           |
|              | 16              | <b>.065</b> | 1.120       | .8303           |
|              | 14              | <b>.083</b> | 1.084       | 1.0442          |
|              | 11              | <b>.120</b> | 1.010       | 1.4618          |
| <b>1 3/8</b> | x 16            | <b>.065</b> | 1.245       | .9179           |
| <b>1 1/2</b> | x 20            | <b>.035</b> | 1.430       | .5527           |
|              | 18              | <b>.049</b> | 1.402       | .7664           |
|              | 16              | <b>.065</b> | 1.370       | 1.0055          |
|              | 14              | <b>.083</b> | 1.334       | 1.2678          |
|              | 11              | <b>.120</b> | 1.260       | 1.7852          |
|              | <sup>3/16</sup> | <b>.188</b> | 1.124       | 2.6590          |
| <b>1 5/8</b> | x 16            | <b>.065</b> | 1.495       | 1.0931          |
| <b>1 3/4</b> | x 20            | <b>.035</b> | 1.680       | .6471           |
|              | 18              | <b>.049</b> | 1.652       | .8985           |
|              | 16              | <b>.065</b> | 1.620       | 1.1807          |
|              | 11              | <b>.120</b> | 1.510       | 2.1086          |
|              | <b>2</b>        | x 20        | <b>.035</b> | 1.930           |
|              | 18              | <b>.049</b> | 1.902       | 1.0306          |
|              | 16              | <b>.065</b> | 1.870       | 1.3559          |
|              | 14              | <b>.083</b> | 1.834       | 1.7152          |
|              | 11              | <b>.120</b> | 1.760       | 2.4320          |
| <b>2 1/4</b> | x 16            | <b>.065</b> | 2.120       | 1.5310          |
|              | 11              | <b>.120</b> | 2.010       | 2.7554          |
|              | <sup>3/16</sup> | <b>.188</b> | 1.874       | 4.1789          |
| <b>2 1/2</b> | x 18            | <b>.049</b> | 2.402       | 1.2947          |
|              | 16              | <b>.065</b> | 2.370       | 1.7062          |
|              | 11              | <b>.120</b> | 2.260       | 3.0788          |
| <b>3</b>     | x 16            | <b>.065</b> | 2.870       | 2.0566          |
|              | 14              | <b>.083</b> | 2.834       | 2.6100          |
|              | 11              | <b>.120</b> | 2.760       | 3.7256          |
| <b>3 1/4</b> | x 11            | <b>.120</b> | 3.010       | 4.0490          |
| <b>3 1/2</b> | x 16            | <b>.065</b> | 3.370       | 2.4069          |
|              | 11              | <b>.120</b> | 3.260       | 4.3724          |
| <b>4</b>     | x 16            | <b>.065</b> | 3.870       | 2.7573          |
|              | 14              | <b>.083</b> | 3.834       | 3.5047          |
|              | 11              | <b>.120</b> | 3.760       | 5.0192          |

## STAINLESS STEEL TUBING SQUARE AND RECTANGULAR WELDED TYPE 304



ASTM A 554  
For Ornamental, Structural and Mechanical Applications  
Stock Lengths 20 Ft. Random

| Size in<br>Inches    | Wall          |      | Lbs.<br>per Ft. |
|----------------------|---------------|------|-----------------|
|                      | Gage          | Dec  |                 |
| <b>1/2 x 1/2</b>     | <b>x 18</b>   | .049 | .301            |
| <b>3/4 x 3/4</b>     | <b>x 16</b>   | .065 | .6055           |
|                      | <b>x 14</b>   | .083 | 1.034           |
| <b>1 x 1</b>         | <b>x 18</b>   | .049 | .6337           |
|                      | <b>x 14</b>   | .083 | 1.034           |
|                      | <b>x 16</b>   | .065 | .8265           |
| <b>1 1/4 x 1 1/4</b> | <b>x 11</b>   | .120 | 1.436           |
|                      | <b>x 16</b>   | .065 | 1.047           |
| <b>1 1/2 x 1 1/2</b> | <b>x 16</b>   | .065 | 1.269           |
|                      | <b>x 14</b>   | .083 | 1.600           |
|                      | <b>x 11</b>   | .120 | 2.252           |
|                      | <b>x 7</b>    | .180 | 3.321           |
| <b>2 x 1</b>         | <b>x 3/16</b> | .187 | 3.600           |
|                      | <b>x 16</b>   | .065 | 1.269           |
|                      | <b>x 11</b>   | .120 | 2.255           |
| <b>2 x 2</b>         | <b>x 11</b>   | .120 | 3.068           |
|                      | <b>x 7</b>    | .180 | 4.455           |
|                      | <b>x 1/4</b>  | .250 | 6.007           |
|                      | <b>x 3/16</b> | .187 | 4.430           |
| <b>2 1/2 x 2 1/2</b> | <b>x 3/16</b> | .187 | 5.680           |
|                      | <b>x 11</b>   | .120 | 3.884           |
| <b>3 x 2</b>         | <b>x 7</b>    | .180 | 5.679           |
|                      | <b>x 11</b>   | .120 | 4.700           |
|                      | <b>x 7</b>    | .180 | 6.903           |
| <b>4 x 2</b>         | <b>x 1/4</b>  | .250 | 8.953           |
|                      | <b>x 11</b>   | .120 | 4.700           |
|                      | <b>x 7</b>    | .180 | 6.903           |
| <b>4 x 4</b>         | <b>x 1/4</b>  | .250 | 8.953           |
|                      | <b>x 11</b>   | .120 | 6.260           |
|                      | <b>x 7</b>    | .180 | 9.270           |
|                      | <b>x 1/4</b>  | .250 | 12.683          |



**STAINLESS STEEL PIPE  
ROUND WELDED  
TYPE 304/304L**

**Cold Finished, Annealed and Pickled**

ASTM A 312 ASME SA-312  
Random Lengths 17-24 Ft.  
Schedule 40 & Schedule 80

| Nominal<br>Size<br>in Inches | Schedule | Wall | O.D.  | Lbs.<br>per Ft. |
|------------------------------|----------|------|-------|-----------------|
| <b>1/8</b>                   | 40       | .068 | .405  | .2470           |
|                              | 80       | .095 | .405  | .3175           |
| <b>1/4</b>                   | 40       | .088 | .540  | .4288           |
|                              | 80       | .119 | .540  | .5401           |
| <b>3/8</b>                   | 40       | .091 | .675  | .5729           |
| <b>1/2</b>                   | 40       | .109 | .840  | .8589           |
|                              | 80       | .147 | .840  | 1.098           |
| <b>3/4</b>                   | 40       | .113 | 1.050 | 1.141           |
|                              | 80       | .154 | 1.050 | 1.487           |
| <b>1</b>                     | 40       | .133 | 1.315 | 1.695           |
|                              | 80       | .179 | 1.315 | 2.192           |
| <b>1 1/4</b>                 | 40       | .140 | 1.660 | 2.294           |
| <b>1 1/2</b>                 | 40       | .145 | 1.900 | 2.743           |
|                              | 80       | .200 | 1.900 | 3.665           |
| <b>2</b>                     | 40       | .154 | 2.375 | 3.687           |
|                              | 80       | .218 | 2.375 | 5.069           |
| <b>2 1/2</b>                 | 40       | .203 | 2.875 | 5.847           |
| <b>3</b>                     | 40       | .216 | 3.500 | 7.647           |
|                              | 80       | .300 | 3.500 | 10.35           |
| <b>3 1/2</b>                 | 40       | .226 | 4.000 | 9.195           |
|                              | 80       | .318 | 4.000 | 12.62           |
| <b>4</b>                     | 40       | .237 | 4.500 | 10.89           |
| <b>5</b>                     | 40       | .258 | 5.563 | 14.75           |
| <b>6</b>                     | 40       | .280 | 6.625 | 19.15           |



## STAINLESS CHANNELS

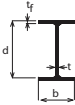
### Bar Size

ASTM A276 ASTM A479

ASME SA479 QQS 763

Random Lengths 20' to 24'

| Size in Inches |                                     |               | Lbs. Per Foot | Est. Lbs. 20' |
|----------------|-------------------------------------|---------------|---------------|---------------|
| d              | b                                   | t             |               |               |
| <b>2</b>       | <b>x 1</b>                          | <b>x 1/4</b>  | 2.60          | 52.00         |
| <b>3</b>       | <b>x 1<sup>3</sup>/<sub>8</sub></b> | <b>x 3/16</b> | 4.19          | 83.80         |
| <b>3</b>       | <b>x 1<sup>1</sup>/<sub>2</sub></b> | <b>x 1/4</b>  | 4.75          | 95.00         |
| <b>4</b>       | <b>x 1<sup>3</sup>/<sub>4</sub></b> | <b>x 1/4</b>  | 6.69          | 133.8         |
| <b>4</b>       | <b>x 2</b>                          | <b>x 1/4</b>  | 6.65          | 133.0         |
| <b>5</b>       | <b>x 1<sup>7</sup>/<sub>8</sub></b> | <b>x 3/8</b>  | 10.43         | 208.6         |
| <b>6</b>       | <b>x 1.9</b>                        | <b>x .343</b> | 8.32          | 166.4         |
| <b>8</b>       | <b>x 2.53</b>                       | <b>x .39</b>  | 18.7          | 374.0         |



## STAINLESS BEAMS

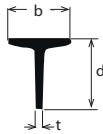
### Bar Size

ASTM A276 ASTM A479

ASME SA479 QQS 763

Random Lengths 20' to 24'

| Size in Inches                              | Lbs. Per Foot | Est. Lbs. 20' |
|---|---------------|---------------|
| <b>3 x 2<sup>3</sup>/<sub>8</sub> x 1/4</b> | 6.60          | 132.00        |
| <b>4 x 2<sup>3</sup>/<sub>4</sub> x 1/4</b> | 8.44          | 168.80        |



## STAINLESS TEES

### Bar Size

ASTM A276 ASTM A479

ASME SA479 QQS 763

Random Lengths 20' to 24'

| Flange Inches b | Stem Inches d | Thickness Inches t | Lbs. Per Foot | Est. Lbs. 20' |
|-----------------|---------------|--------------------|---------------|---------------|
| <b>2</b>        | <b>2</b>      | <b>1/4</b>         | 3.19          | 63.80         |