**Stainless Steel Tube**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **ASW** | As Welded | **CFS** | Cold Finished Seamless | **HR** | Hot Rolled |
| **AWAP** | As Welded Annealed & Pickled | **CW** | Cold Worked | **S** | Seamless |
| **BA** | Bright Annealed | **HD** | Hard Drawn | **W** | Welded |
| **CDS** | Cold Drawn Seamless | **HFS** | Hot Finished Seamless | **W&D** | Welded & Drawn |

**Specifications**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Spec** | **Material** | **Class** | **Temper** | **Quality** |
| **ASTM** | A-213 | 300 Series | CDS or HFS | Annealed | Heat Xchngr. |
| A-249 | 300 Series | WCW or W&D | Annealed | Heat Xchngr. |
| A-269 | 300 series | S, W, W&D | Annealed | Genl. Service |
| A-511 | 300 series | CFS or HFS | Annealed | Mechanical |
| A-511 | Type 416 | CFS | Annealed | Mechanical |
| A-554 | 300 series | Welded | Various | Mechanical |
| A-632 | 300 series | S or W, CF | Annealed | Genl. Service |
| **ASME** | SA-213 | 300 series | CDS or HFS | Annealed | Heat Xchngr. |
| SA-249 | 300 series | WCW or W&D | Annealed | Genl. Service |
| **Military** | T-6737 | 321/347 | Welded | Annealed | Ducting |
| T-6845 | Type 304 | S or W&D | 1/8 Hard | Hydraulic |
| T-8504 | Type 304 | S or W | Annealed | Hydraulic |
| T-8506 | Type 304 | S or W | Annealed | Structural |
| T-8606 | 304L/321/347 | S or W | Annealed | Structural |
| T-8808 | 321/347 | S or W&D | Annealed | Hydraulic |
| T-8973 | 304L/321/347 | S or W&D | 1/8 Hard | Hydraulic |
| **AMS** | 5556 | Type 347 | S or W&D | Annealed | Hydraulic |
| 5557 | Type 321 | S or W&D | Annealed | Hydraulic |
| 5558 | Type 347 | W (Thin Wall) | Annealed | Ducting |
| 5559 | Type 321 | W (Thin Wall) | Annealed | Ducting |
| 5560 | Type 304 | Seamless | Annealed | LP Hyd. |
| 5561 | 21-6-9 | W&D | 1/8-1/4Hard | Hydraulic |
| 5562 | 21-6-9 | W&D | Annealed | LP Hyd. |
| 5565 | Type 304 | Welded | Annealed | LP Hyd. |
| 5566 | Type 304 | S or W&D | 1/8 Hard | Hydraulic |
| 5567 | Type 304 | S or W&D | Annealed | Hydraulic |
| 5570 | Type 321 | Seamless | Annealed | Structural |
| 5571 | Type 347 | Seamless | Annealed | Structural |
| 5573 | Type 316 | Seamless | Annealed | Structural |
| 5575 | Type 347 | Welded | Annealed | Structural |
| 5576 | Type 321 | Welded | Annealed | Structural |
| 5639 | Type 304 | CFS | Annealed | Mechanical |
| 5645 | Type 321 | CFS | Annealed | Mechanical |
| 5647 | Type 304L | CFS | Annealed | Mechanical |
| 5648 | Type 316 | CFS | Annealed | Mechanical |

**Properties**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Material Type & Temper** | **Tensile PSI** | **Yield PSI** | **Elong. % In 2"** | **Rockwell Hardness** |
|  |  |  |  |  |
| 304/316 Annealed | 85,000 | 35,000 | 55 | R85B |
| 304L/316L Annealed | 80,000 | 30,000 | 55 | R80B |
| 321/347 Annealed | 85,000 | 35,000 | 55 | R85B |
| 304/321 1/8 Hard | 105,000 | 75,000 | 20 | R95B |
| Type 416 Annealed | 75,000 | 35,000 | 20 | R95B |
| 21-6-9 1/8 Hard | 142,000 | 120,000 | 20 | R30C |

**The information and data presented herein are typical or average values and are not a guarantee of maximum or minimum values. Applications specifically suggested for material described herein are made solely for the purpose of illustration to enable the reader to make his own evaluation and are not intended as warranties, either express or implied, of fitness for these or other purposes.**

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