



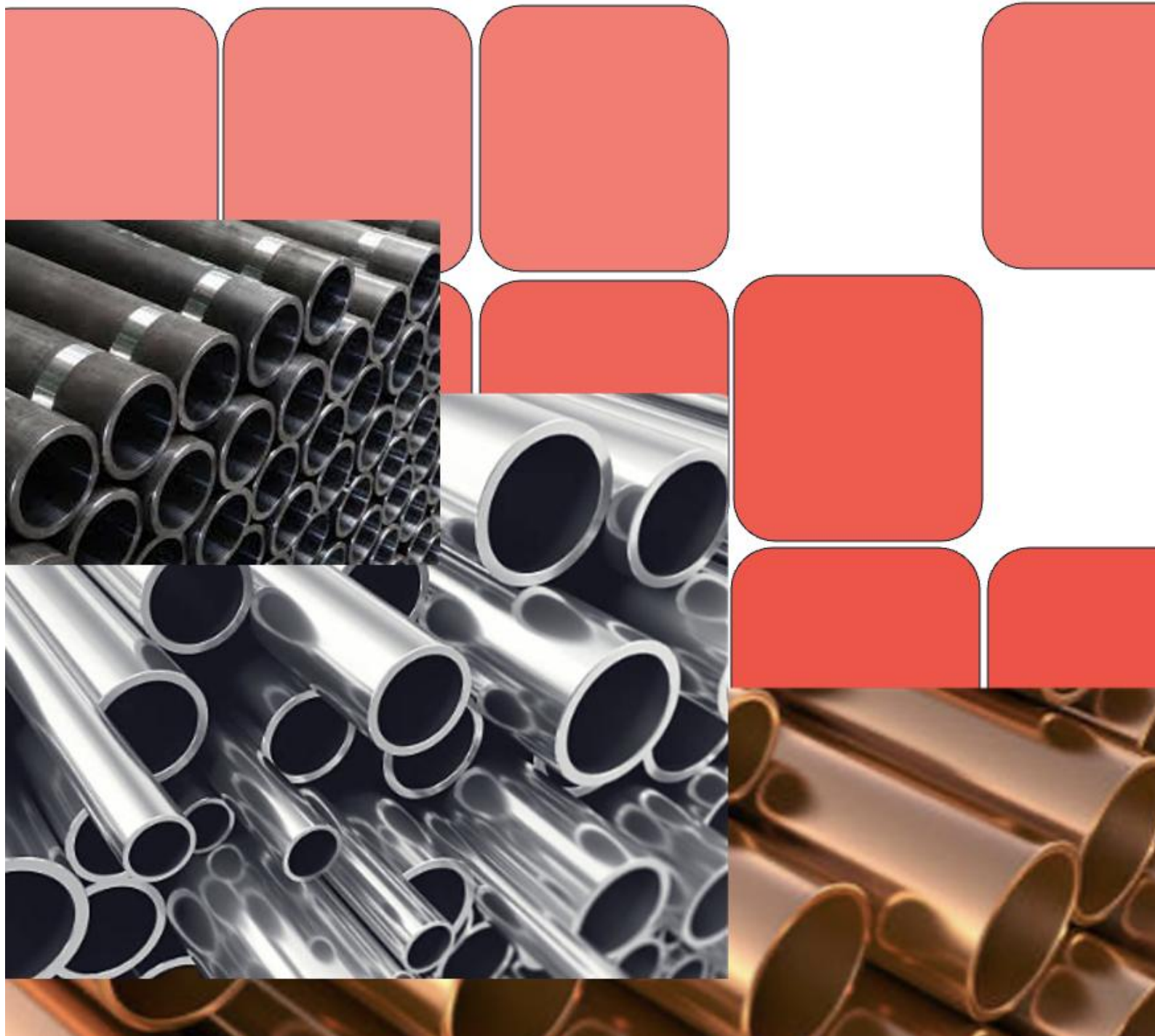
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# PIPES & TUBES

- Alloy Pipes and Tubes
- Carbon Steel Pipes and Tubes
- High Steel Grade Line Pipes
- Stainless Steel Pipes and Tubes
- Duplex Steel Pipes and Tubes
- Nickel Pipes and Tubes
- Monel Pipes and Tubes
- Inconel Pipes and Tubes
- Incoloy Pipes and Tubes
- Hastelloy Pipes and Tubes
- Chrome Moly Pipes and Tubes
- Titanium Pipes and Tubes





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## Pipes&Tubes



**Alloy Pipes and Tubes**



**Carbon Steel Pipes and Tubes**



**High Steel Grade Line Pipes**



**Stainless Steel Pipes and Tubes**



**Duplex Steel Pipes and Tubes**



**Nickel Pipes and Tubes**



**Monel Pipes and Tubes**



**Inconel Pipes and Tubes**



**Incoloy Pipes and Tubes**



**Hastelloy Pipes and Tubes**



**Chrome Moly Pipes and Tubes**



**Titanium Pipes and Tubes**

| Alloy Steel Pipes and Tubes Product Standard Specification and Size                        |                    |                       |                                                       |
|--------------------------------------------------------------------------------------------|--------------------|-----------------------|-------------------------------------------------------|
| ASTM / ASME                                                                                |                    |                       |                                                       |
| Product Name                                                                               | Executive Standard | Dimension (mm)        | Steel Code / Steel Grade                              |
| Seamless Ferritic and Austenitic Alloy-Steel Boiler, Superheater, and Heat-Exchanger Tubes | ASTM A213          | Ø3.2~426 x WT1.0~36   | T5, T9, T11, T12, T22, T91                            |
| Seamless Ferritic Alloy Steel Pipes for High Temperature Use                               | ASTM A335          | Ø1/4"~42" x WT2~120mm | P5, P9, P11, P12, P22, P91, P92                       |
| Seamless Carbon and Alloy Steel for Mechanical Tubing                                      | ASTM A519          | Ø16"~42" x WT10~100mm | 4130, 4130X, 4140                                     |
| EN                                                                                         |                    |                       |                                                       |
| Product Name                                                                               | Executive Standard | Dimension (mm)        | Steel Code / Steel Grade                              |
| Seamless Ferritic Alloy Steel Pipes for High Temperature Use                               | EN10216-2          | Ø8"~42" x WT15~100    | 13CrMo4-5, 1-CrMo9-10, X10CrMoVNb9-1, 15NiCuMoNb5-6-4 |

#### Applications:

Alloy steel seamless pipe is ideally suitable for chemical, petrochemicals and other energy-related applications. They can be used in high-temperature and high-pressure environments, and they are also known for their excellent resistance to corrosion.

- Chemical industries
- Petrochemical industries
- Energy-related applications

| Carbon Steel Pipes and Tubes Specification and Size |                    |                        |                                                 |
|-----------------------------------------------------|--------------------|------------------------|-------------------------------------------------|
| Seamless                                            |                    |                        |                                                 |
| API SPEC 5CT                                        |                    |                        |                                                 |
| Product Name                                        | Executive Standard | Dimension (mm)         | Steel Code / Steel Grade                        |
| Casting                                             | API 5CT            | Ø114~219 x WT5.2~22.2  | J55, K55, N80, L80, P110                        |
| Tubing                                              | API 5CT            | Ø48.3~114.3 x WT3.2~16 | J55, K55, N80, L80, P110                        |
| API SPEC 5L                                         |                    |                        |                                                 |
| Product Name                                        | Executive Standard | Dimension (mm)         | Steel Code / Steel Grade                        |
| Line Pipes                                          | API 5L             | Ø10.3~1200 x WT1.0~120 | A, B, X42, X46, X52, X60, X70, X80, PSL1 / PSL2 |
| ASTM / ASME                                         |                    |                        |                                                 |

| Product Name                                                                              | Executive Standard  | Dimension (mm)            | Steel Code / Steel Grade                                                  |
|-------------------------------------------------------------------------------------------|---------------------|---------------------------|---------------------------------------------------------------------------|
| Black and Hot-Dipped Zinc-Coated Seamless Steel Pipes                                     | ASTM A53            | Ø10.3~1200 x WT1.0~150    | Gr.A, Gr.B, Gr.C                                                          |
| Seamless Carbon Steel Pipes for High Temperature Service                                  | ASTM A106           | Ø10.3~1200 x WT1.0~150    | Gr.B, Gr.C                                                                |
| Seamless Cold-Drawn Low-Carbon Steel Heat-Exchanger and Condenser Tubes                   | ASTM A179           | Ø10.3~426 x WT1.0~36      | Low Carbon Steel                                                          |
| Seamless Carbon Steel Boiler Tubes for High Pressure                                      | ASTM A192           | Ø10.3~426 x WT1.0~36      | Low Carbon Steel                                                          |
| Seamless Cold-Drawn Intermediate Alloy Steel Heat-Exchanger and Condenser Tubes           | ASTM A199           | Ø10.3~426 x 1.0~36        | T5, T22                                                                   |
| Seamless Medium-Carbon Steel Boiler and Superheater Tubes                                 | ASTM A210           | Ø10.3~426 x WT1.0~36      | A1, C                                                                     |
| Seamless Ferritic and Austenitic Alloy Steel Boiler, Superheater and Heat-Exchanger Tubes | ASTM A213           | Ø10.3~426 x WT1.0~36      | T5, T9, T11, T12, T22, T91                                                |
| Seamless Carbon and Alloy Steel for Mechanical Tubing                                     | ASTM A333           | Ø1/4"~42" x WT SCH20~XXS  | Gr.1, Gr.3, Gr.6                                                          |
| Seamless and Welded Carbon Steel Pipes and Alloy Steel Pipes for Low Temperature Use      | ASTM A334           | Ø1/4"~4" x WT SCH20~SCH80 | Gr.1, Gr.6                                                                |
| Seamless Cold-Drawn Carbon Steel Feedwater Heater Tubes                                   | ASTM A556           | Ø10.3~426 x WT1.0~36      | A2, B2                                                                    |
| DIN                                                                                       |                     |                           |                                                                           |
| Product Name                                                                              | Executive Standard  | Dimension (mm)            | Steel Code / Steel Grade                                                  |
| Seamless Steel Tubes for Elevated Temperature                                             | DIN 17175           | Ø10~762 x WT1.0~120       | St35.8, St45.8, 10CrMo910, 15Mo3, 13CrMo44, STPL340, STB410, STB510, WB36 |
| Seamless Steel Tubes                                                                      | DIN 1629 / DIN 2391 | Ø13.5~762 x WT1.8~120     | St37.0, St44.0, St52.0, St52.3                                            |
| Seamless Steel Tubes                                                                      | DIN 2440            | Ø13.5~165.1 x WT1.8~4.85  | St33.2                                                                    |
| Seamless Steel Pipes for Structural Purpose                                               | DIN 2393            | Ø16~426 x WT1.0~36        | RSt34-2, RSt37-2, RSt44-2, St52                                           |
| BS                                                                                        |                     |                           |                                                                           |
| Product Name                                                                              | Executive Standard  | Dimension (mm)            | Steel Code / Steel Grade                                                  |
| Seamless Steel Tubes for Machine Structure                                                | BS 970              | Ø10~762 x WT1.0~120       | Carbon Steel                                                              |
| Seamless Steel Tubes for Boiler and Heat Exchangers                                       | BS 3059             | Ø10~762 x WT1.0~120       | 360, 410, 440, 460, 490                                                   |
| Welded                                                                                    |                     |                           |                                                                           |
| API SPEC 5CT                                                                              |                     |                           |                                                                           |

| Product Name                                | Executive Standard | Dimension (mm)                | Steel Code / Steel Grade                          |
|---------------------------------------------|--------------------|-------------------------------|---------------------------------------------------|
| Casting                                     | API 5CT            | Ø48.3~273 x WT2.77~11.43      | J55, K55, N80, L80                                |
| Tubing                                      | API 5CT            | Ø48.3~273 x WT2.77~11.43      | J55, K55, N80, L80, H40                           |
| API SPEC 5L                                 |                    |                               |                                                   |
| Product Name                                | Executive Standard | Dimension (mm)                | Steel Code / Steel Grade                          |
| Line Pipes                                  | API 5L             | Ø60.3~273.1 x WT2.77~12.7     | A25, A, B, X42, X46, X52, X56, X60, X65, X70, X80 |
| ASTM / ASME                                 |                    |                               |                                                   |
| Product Name                                | Executive Standard | Dimension (mm)                | Steel Code / Steel Grade                          |
| Electric-Resistance-Welded Steel Pipes      | ASTM A135          | Ø42.2~114.3 x WT2.11~2.63     | A                                                 |
| ERW and Hot-dip Galvanized Steel Pipes      | ASTM A53           | Ø21.3~273 x WT2.11~12.7       | A, B                                              |
| Pipes for Piling Usage                      | ASTM A252          | Ø219.1~508 x WT3.6~12.7       | Gr.2, Gr.3                                        |
| Tubes for General Structural Purpose        | ASTM A500          | Ø21.3~273 x WT2.11~12.7       | Gr.2, Gr.3                                        |
| Square Pipes for General Structural Purpose | ASTM A500          | 25 x 25~160 x 160 x WT1.2~8.0 | Carbon Steel                                      |
| DIN                                         |                    |                               |                                                   |
| Product Name                                | Executive Standard | Dimension (mm)                | Steel Code / Steel Grade                          |
| Threaded Steel Pipes                        | DIN 2440           | Ø21~164 x WT2.65~4.85         | Carbon Steel                                      |
| BS                                          |                    |                               |                                                   |
| Product Name                                | Executive Standard | Dimension (mm)                | Steel Code / Steel Grade                          |
| Screwed and Socketed Steel Tubes            | BS 1387            | Ø21.4~113.9 x WT2~3.6         | Carbon Steel                                      |
| EN                                          |                    |                               |                                                   |
| Product Name                                | Executive Standard | Dimension (mm)                | Steel Code / Steel Grade                          |
| Scaffolding Pipes                           | EN 39              | Ø48.3 x WT3.2~4               | Carbon Steel                                      |
| JIS                                         |                    |                               |                                                   |
| Product Name                                | Executive Standard | Dimension (mm)                | Steel Code / Steel Grade                          |



|                                                      |           |                             |                            |
|------------------------------------------------------|-----------|-----------------------------|----------------------------|
| Carbon Steel Tubes for General Structure Purpose     | JIS G3444 | Ø21.7~216.3 x WT2.0~6.0     | Carbon Steel               |
| Carbon Steel Tubes for Machine Structure Purpose     | JIS G3445 | Ø15~76 x WT0.7~3.0          | STKM11A, STKM13A           |
| Carbon Steel Pipes for Ordinary Piping               | JIS G3452 | Ø21.9~216.3 x WT2.8~5.8     | Carbon Steel               |
| Carbon Steel Pipes for Pressure Service              | JIS G3454 | Ø21.7~216.3 x WT2.8~7.1     | Carbon Steel               |
| Carbon Steel Rigid Steel Conduits                    | JIS G8305 | Ø21~113.4 x WT1.2~3.5       | G16~G104, C19~C75, E19~E75 |
| Carbon Steel Rectangular Pipes for General Structure | JIS G3466 | 16 x 16~150 x 150 x WT0.7~6 | Carbon Steel               |

#### Application

Carbon Steel Seamless welded pipe and tube are used in high-pressure conditions. They are highly resistant to shock and vibration, making them ideal to transport fluids. Carbon steel pipes are widely used in a number of industries, such as

- Transporting water and sewage
- Oil and gas industries
- Boiler and condenser tubes
- High-pressure applications
- Chemical processing

| High Steel <b>Grade Line Pipes</b> Specification and Size |                                                        |                |                          |
|-----------------------------------------------------------|--------------------------------------------------------|----------------|--------------------------|
| DIN                                                       |                                                        |                |                          |
| Product Name                                              | Executive Standard                                     | Dimension (mm) | Steel Code / Steel Grade |
| Seamless Line Pipes                                       | API 5L grade X52, X56, X60, X65, X70, X80, PSL1 & PSL2 | OD1"-OD14"     | Carbon Steel             |
| ERW Line pipes                                            | API 5L grade X52, X56, X60, X65, X70, X80, PSL1 & PSL2 | OD14"-OD24"    | Carbon Steel             |
| LSAW Line Pipes                                           | API 5L grade X52, X56, X60, X65, X70, X80, PSL1 & PSL2 | OD14"-OD60"    | Carbon Steel             |

#### Application

The foremost industries that use ERW Line Pipes and LSAW Line Pipes include

- Construction of oil and natural gas
- Automotive industries
- Furniture
- Public infrastructure
- Fabrication
- Textile Industry
- Food & Daily Industry

#### Stainless Steel **Pipes and Tubes** Product Specification and Size

| Seamless                                                                      |                                    |                                          |                                                                                                           |
|-------------------------------------------------------------------------------|------------------------------------|------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| ASTM /ASME                                                                    |                                    |                                          |                                                                                                           |
| Product Name                                                                  | Executive Standard                 | Dimension                                | Steel Code / Steel Grade                                                                                  |
| Seamless Austenitic Stainless Steel Pipes                                     | ASTM A312/A312M, ASME SA312/SA312M | OD: 6.0~914.0mm<br>WT: 0.5~88mm          | TP304, TP304L, TP304H, TP310, TP310S, TP316, TP316L, TP316Ti, TP317, TP317L, TP321, TP321H, TP347, TP347H |
| Seamless Austenitic Stainless Steel Tubing for General Service                | ASTM A269, ASME SA269              | OD: 6.0~50.8mm<br>WT: 0.8~10.0mm         | TP304, TP304L, TP304H, TP310, TP310S, TP316, TP316L, TP316Ti, TP317, TP317L, TP321, TP321H, TP347, TP347H |
| Seamless Austenitic Alloy-Steel Boiler, Super Heater and Heat-Exchanger Tubes | ASTM A213/A213M, ASME SA213/SA213M | OD: 6.0~50.8mm<br>WT: 0.8~10.0mm         | TP304, TP304L, TP304H, TP310, TP310S, TP316, TP316L, TP316Ti, TP317, TP317L, TP321, TP321H, TP347, TP347H |
| Seamless Duplex Stainless Steel Tubing for General Service                    | ASTM A789 / A789M                  | OD: 19.0~60.5mm<br>WT: 1.2~5.0mm         | S31803, S32205, S32750                                                                                    |
| Seamless Duplex Stainless Steel Pipes                                         | ASTM A790 / A790M                  | OD: 3/4"~10"<br>WT: SCH5S~SCH80S         | S31803, S32205, S32750                                                                                    |
| Seamless Stainless Steel Mechanical Tubing                                    | ASTM A511                          | OD: 6.0~50.8mm<br>WT: 1.8~10.0mm         | MT304, MT304L, MT304H, MT310, MT310S, MT316, MT316L, MT317, MT317L, MT321, MT321H, MT347                  |
| Seamless Stainless Steel Tubes for Pressure Purposes                          | EN 10216, DIN 17456, 17458         | OD: 6.0~914.0mm<br>WT: 0.5~88mm          | 1.4301, 1.4307, 1.4541, 1.4401, 1.4404, 1.4571, 1.4878, 1.4432, 1.4462                                    |
| Welded                                                                        |                                    |                                          |                                                                                                           |
| ASTM /ASME                                                                    |                                    |                                          |                                                                                                           |
| Product Name                                                                  | Executive Standard                 | Dimension                                | Steel Code / Steel Grade                                                                                  |
| Industrial Pipes                                                              | ASTM A312, A358, A778              | OD: 1/4"~40"<br>WT: SCH5S~SCH80S         | TP304, TP304L, TP316L, SUS304TP                                                                           |
| Tubes for Boiler and Heat-Exchanger, General Service Tubing                   | ASTM A249, A269, JIS G3463         | OD: 15.9~139.8mm<br>WT: 1.6~5.0mm        | TP304, TP304L, TP316L, SUS304TB                                                                           |
| Mechanical and Structural Tubes                                               | ASTM A554, JIS G3446               | OD: 7.9~152.4mm<br>WT: 0.5~6.5mm         | MT304, MT304L, MT316L, MT430 Grade 201, 202 as per mill's STD SUS304                                      |
| Square Tubes                                                                  | ASTM A554                          | OD: 12.7x12.7~150x150mm<br>WT: 0.7~6.5mm | MT304, MT304L, MT316L, MT430 Grade 201, 202 as per mill's STD                                             |
| Rectangular Tubes                                                             | ASTM A554                          | OD: 10x20~100x200mm<br>WT: 0.7~6.5mm     | MT304, MT304L, MT316L, MT430 Grade 201, 202 as per mill's STD                                             |
| Sanitary Tubing                                                               | ASTM A270                          | OD: 25.4~165.2mm<br>WT: 0.8~3.05mm       | TP304, TP304L, TP316L, SUS304TBS                                                                          |
| Large Gauge Pipes for Ordinary Piping                                         | JIS G3448                          | OD: 15.88~318.5mm<br>WT: 0.8~3.0mm       | SUS304TPD                                                                                                 |
| Large Diameter Pipes                                                          | JIS G3468                          | OD: 14"~40"<br>WT: SCH5S~SCH40S          | SUS304TPY                                                                                                 |

## Application

Stainless steel seamless and welded pipes and tubes can resist high temperatures for cleanliness and maintain the purity of materials which contact stainless steel directly. Stainless steel pipe and tubing are used in chemical plants, aviation fields, marine equipment, cryogenic transportation, medical and architectural industries.

- Chemical plants
- Aviation fields
- Marine equipment
- Cryogenic transportation
- Medical & architectural industries
- Automotive industries
- Food processing
- Water treatment facilities

| Nickle Alloy Pipes and Tube Specification and Size |                            |                         |                               |
|----------------------------------------------------|----------------------------|-------------------------|-------------------------------|
| Nickle Alloy 20                                    |                            |                         |                               |
| ASTM                                               |                            |                         |                               |
| Product Name                                       | Executive Standard         | Dimension (mm)          | Steel Code / Steel Grade      |
| Alloy 20 Seamless Tube                             | ASTM B729 ASME SB729       | Ø 0.5 – 219 x WT0.5~20  | Alloy 20 (UNS N08020)         |
| Alloy 20 Welded Tube                               | ASTM B468 ASME SB468       | Ø 5 – 1219.2 x WT0.5~20 | Alloy 20 (UNS N08020)         |
| Inconel                                            |                            |                         |                               |
| ASTM                                               |                            |                         |                               |
| Product Name                                       | Executive Standard         | Dimension (mm)          | Alloy Code / Grade            |
| Seamless Inconel Pipes - Tubes                     | ASTM / ASME SB 161 / B 163 | Ø 0.5 – 219 x WT0.5~20  | Inconel 600, 601, 625, 718    |
| ERW Inconel Pipes                                  | ASTM / ASME SB 725 / B730  | Ø 5 – 1219.2 x WT0.5~20 | Inconel 600, 601, 625, 718    |
| Incoloy                                            |                            |                         |                               |
| ASTM                                               |                            |                         |                               |
| Product Name                                       | Executive Standard         | Dimension (mm)          | Steel Code / Steel Grade      |
| Seamless Incoloy Pipes                             | B407, B163 / SB407, SB163  | Ø 0.5 – 219 x WT0.5~20  | Incoloy 800, 800H, 825, A-286 |
| ERW Incoloy Pipes                                  | B358, B515 / SB358, SB515  | Ø 5 – 1219.2 x WT0.5~20 | Incoloy 800, 800H, 825, A-286 |
| Monel                                              |                            |                         |                               |
| ASTM                                               |                            |                         |                               |
| Product Name                                       | Executive Standard         | Dimension (mm)          | Steel Code / Steel Grade      |



|                          |                                        |                         |                                        |
|--------------------------|----------------------------------------|-------------------------|----------------------------------------|
| Seamless Monel Pipes     | ASTM / ASME SB 161 / B 163             | Ø 0.5 – 219 x WT0.5~20  | Monel 400, K-500                       |
| ERW Monel Pipes          | ASTM / ASME SB 725 / B730              | Ø 5 – 1219.2 x WT0.5~20 | Monel 400, 401, 404, R-405, K-500, 502 |
| <b>Hastelloy</b>         |                                        |                         |                                        |
| <b>ASTM</b>              |                                        |                         |                                        |
| <b>Product Name</b>      | <b>Executive Standard</b>              | <b>Dimension (mm)</b>   | <b>Steel Code / Steel Grade</b>        |
| Seamless Hastelloy Pipes | ASTM B 622, ASME SB 622                | Ø 0.5 – 219 x WT0.5~20  | Hastelloy B-3, C-276, G-30, X          |
| ERW Hastelloy Pipes      | ASTM B 619, B 626, ASME SB 619, SB 626 | Ø 5 – 1219.2 x WT0.5~20 | Hastelloy B-3, C-276, G-30, X          |

#### Application

Nickel Alloy makes them good for use in heat exchangers in chemical processing, for example, which relies on tubing that can withstand both the hot and corrosive environment. Nickel-based tubes and pipes are also used in

- Steam generators
- Aircraft systems
- Oil and gas extraction
- Marine Applications
- Power Generation
- Thermal Processing etc.

| <b>Chrome Moly Pipes and Tubes Specification and Size</b> |                                                        |                         |                                 |
|-----------------------------------------------------------|--------------------------------------------------------|-------------------------|---------------------------------|
| <b>ASTM</b>                                               |                                                        |                         |                                 |
| <b>Product Name</b>                                       | <b>Executive Standard</b>                              | <b>Dimension (mm)</b>   | <b>Steel Code / Steel Grade</b> |
| Seamless Chrome Moly Pipes                                | SA335 & A335                                           | Ø 0.5 – 219 x WT0.5~20  | P5, P9, P11, P22, P91, P92      |
| ERW Line pipes                                            | A691, SA335 & A335 - Grades P5, P9, P11, P22, P91, P92 | Ø 5 – 1219.2 x WT0.5~20 | P5, P9, P11, P22, P91, P92      |

| <b>Titanium Pipes and Tubes Specification and Size</b> |                           |                         |                                           |
|--------------------------------------------------------|---------------------------|-------------------------|-------------------------------------------|
| <b>ASTM</b>                                            |                           |                         |                                           |
| <b>Product Name</b>                                    | <b>Executive Standard</b> | <b>Dimension (mm)</b>   | <b>Steel Code / Steel Grade</b>           |
| Seamless Titanium Pipes                                | ASTM B338, ASTM B862      | Ø 0.5 – 219 x WT0.5~20  | GR.1, GR.2, GR.3, GR.4, GR.7, GR.9, GR.12 |
| Welded Titanium Pipes                                  | ASTM B338, ASTM B862      | Ø 5 – 1219.2 x WT0.5~20 | GR.1, GR.2, GR.3, GR.4, GR.7, GR.9, GR.12 |

The Chrome Moly Alloy Steel Pipe and Titanium Pipes make it ideal for use in

- Power plants,
- Refineries,
- Petro chemical plants and oil field services
- Marine Applications
- Power Generation
- Thermal Processing etc.



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