

## Material: ASME SA-312 UNS S31725

### Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications

**Group:** Ferrous Stainless Steel Alloys

**Sub Group:** ASME SA-312 UNS S31725 Chromium and Chromium-Nickel Stainless Steel for Pressure Vessels and for General Applications

**Application:** Intended for Valve, Pump, General Engineering, Automotive and Other Industries Grade Belongs to

**the Industry:** Steel and Pipe

| Chemical Composition |      |                 | Heat Treatment          |          |
|----------------------|------|-----------------|-------------------------|----------|
| Carbon               | C %  | 0.030 max.      | Solution Annealing      |          |
| Silicon              | Si % | 0.750 max.      |                         |          |
| Manganese            | Mn % | 2.000 max.      |                         |          |
| Phosphorus           | P %  | 0.040 max.      |                         |          |
| Sulphur              | S %  | 0.030 max.      |                         |          |
| Chromium             | Cr % | 18.000 - 20.000 |                         |          |
| Molybdenum           | Mo % | 4.000 - 5.000   |                         |          |
| Nickel               | Ni % | 13.500 - 17.500 |                         |          |
| Copper               | Cu % | 0.750 max.      | Mechanical Properties   |          |
| Nitrogen             | N %  | 0.100 max.      | Tensile Strength in Mpa | 515 min. |
| Iron                 | Fe % | Balance         | Yield Strength in Mpa   | 205 min. |
| -                    | -    | -               | Elongation in %         | 25 min.  |
| -                    | -    | -               | Reduction of Area in %  | -        |
| -                    | -    | -               | Hardness in BHN         | -        |
| -                    | -    | -               | Impact in Joule         | -        |

| Cross Reference Table |          |         |                               |
|-----------------------|----------|---------|-------------------------------|
| Material              | Standard | Country | Grade Belong to the Industry  |
| A240 UNS S31725       | ASTM     | USA     | Steel, Plate, Sheet and Strip |
| A358 S31725           | ASTM     | USA     | Steel                         |
| A403 WP S31725        | ASTM     | USA     | Steel and Pipe                |
| A943 S31725           | ASTM     | USA     | Steel and Pipe                |
| SA-376                | ASME     | USA     | Steel and Pipe                |
| SA-409 UNS S31725     | ASME     | USA     | Steel and Pipe                |
| A240 S31726           | ASTM     | USA     | Steel                         |

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