

## Material - ASTM A 959 S33228

**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 - ASTM A 959 S33228 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**

| Chemical Composition |      |                 | Heat Treatment          |          |
|----------------------|------|-----------------|-------------------------|----------|
| Carbon               | C %  | 0.040 - 0.080   | Solution Annealing      |          |
| Silicon              | Si % | 0.300 max.      |                         |          |
| Manganese            | Mn % | 1.000 max.      |                         |          |
| Phosphorus           | P %  | 0.020 max.      |                         |          |
| Sulphur              | S %  | 0.015 max.      |                         |          |
| Chromium             | Cr % | 26.000 - 28.000 |                         |          |
| Nickel               | Ni % | 31.000 - 33.000 |                         |          |
| Cerium               | Ce % | 0.050 - 0.100   | Mechanical Properties   |          |
| Niobium              | Nb % | 0.600 - 1.000   |                         |          |
| Aluminium            | Al % | 0.025 max.      |                         |          |
| Iron                 | Fe % | Balance         |                         |          |
| -                    | -    | -               |                         |          |
| -                    | -    | -               |                         |          |
| -                    | -    | -               |                         |          |
| -                    | -    | -               |                         |          |
| -                    | -    | -               |                         |          |
|                      |      |                 | Tensile Strength in Mpa | 500 min. |
|                      |      |                 | Yield Strength in Mpa   | 185 min. |
|                      |      |                 | Elongation in %         | 30 min.  |
|                      |      |                 | Reduction of Area in %  | -        |
|                      |      |                 | Hardness in BHN         | -        |
|                      |      |                 | Impact in Joule         | -        |

| Cross Reference Table |          |         |                               |
|-----------------------|----------|---------|-------------------------------|
| Material              | Standard | Country | Grade Belong to the Industry  |
| A240 UNS S33228       | ASTM     | USA     | Steel, Plate, Sheet and Strip |
| S33228                | UNS      | USA     | Steel                         |
| A167 S33228           | ASTM     | USA     | Steel, Sheet, Plate and Strip |
| A213 S33228           | ASTM     | USA     | Steel and Tube                |
| A312 S33228           | ASTM     | USA     | Steel and Pipe                |
| A249 S33228           | ASTM     | USA     | Steel and Tube                |
| A479 S33228           | ASTM     | USA     | Steel and Bar                 |

**For any further inquiries, please do not hesitate to contact us. You may visit our website at [AMTECH TECHNOCAST PVT. LTD.](http://AMTECH TECHNOCAST PVT. LTD.), call us at [+91 9879817994](tel:+919879817994), or email us at [manish@amtechtechnocast.com](mailto:manish@amtechtechnocast.com)**

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