

## Material: SAE XM-33

### 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:** SAE XM-33 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 %  | 0.060 max.      | Annealing or Hardening + Tempering |          |
| Silicon              | Si % | 0.750 max.      |                                    |          |
| Manganese            | Mn % | 0.750 max.      |                                    |          |
| Phosphorus           | P %  | 0.040 max.      |                                    |          |
| Sulphur              | S %  | 0.020 max.      |                                    |          |
| Chromium             | Cr % | 25.000 - 27.000 |                                    |          |
| Molybdenum           | Mo % | 0.750 - 1.500   |                                    |          |
| Nickel               | Ni % | 0.500 max.      |                                    |          |
| Nitrogen             | N %  | 0.040 max.      |                                    |          |
| Copper               | Cu % | 0.200 max.      |                                    |          |
| Titanium             | Ti % | 0.200 - 1.000   | Mechanical Properties              |          |
| Iron                 | Fe % | Balance         | Tensile Strength in Mpa            | 470 min. |
| -                    | -    | -               | Yield Strength in Mpa              | 310 min. |
| -                    | -    | -               | Elongation in %                    | 20 min.  |
| -                    | -    | -               | Reduction of Area in %             | -        |
| -                    | -    | -               | Hardness in HB                     | 217 max. |
| -                    | -    | -               | Impact in Joule                    | -        |

| Cross Reference Table |          |         |                               |
|-----------------------|----------|---------|-------------------------------|
| Material              | Standard | Country | Grade Belong to the Industry  |
| A240 UNS S44626       | ASTM     | USA     | Steel, Plate, Sheet and Strip |
| S44626                | UNS      | USA     | Steel                         |
| A176 Type XM-33       | ASTM     | USA     | Steel, Sheet, Plate and Strip |
| A268 TP XM-33         | ASTM     | USA     | Steel and Tube                |
| A959 Type XM-33       | ASTM     | USA     | Steel                         |
| A731 Grade TP XM-33   | ASTM     | USA     | Steel and Pipe                |
| A791 Grade TP XM-33   | ASTM     | USA     | Steel and Tube                |

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