

## Material: ASTM B 462 R20033

### Standard Specification for Forged or Rolled Alloy Pipe Flanges, Forged Fittings, and Valves and Parts for Corrosive High-Temperature Service

**Group:** Non-Ferrous Nickel Alloys

**Sub Group:** ASTM B 462 R20033 Forged or Rolled Alloy Pipe Flanges, Forged Fittings, and Valves and Parts for Corrosive High-Temperature Service

**Application:** Intended for Valve, Pump, General Engineering, Automotive and other Industries

**Grade Belongs to the Industry:** Pipe Flanges, Forged Fittings and Valve

| Chemical Composition |      |                 | Heat Treatment                       |          |
|----------------------|------|-----------------|--------------------------------------|----------|
| Carbon               | C %  | 0.015 max.      | As-Cast or Annealing or Age Hardning |          |
| Silicon              | Si % | 0.500 max.      |                                      |          |
| Manganese            | Mn % | 2.000 max.      |                                      |          |
| Chromium             | Cr % | 31.000 - 35.000 |                                      |          |
| Sulphur              | S %  | 0.010 max.      |                                      |          |
| Molybdenum           | Mo % | 0.500 - 2.000   |                                      |          |
| Phosphorus           | P %  | 0.020 max.      |                                      |          |
| Nitrogen             | N %  | 0.350 - 0.600   |                                      |          |
| Copper               | Cu % | 0.300 - 1.200   |                                      |          |
| Nickel               | Ni % | 30.000 - 33.000 |                                      |          |
| Iron                 | Fe % | Balance         | Mechanical Properties                |          |
| -                    | -    | -               | Tensile Strength in Mpa              | 750 min. |
| -                    | -    | -               | Yield Strength in Mpa                | 380 min. |
| -                    | -    | -               | Elongation in %                      | 40 min.  |
| -                    | -    | -               | Reduction of Area in %               | -        |
| -                    | -    | -               | Hardness in BHN                      | -        |
| -                    | -    | -               | Impact in Joule                      | -        |

| Cross Reference Table |          |         |                              |
|-----------------------|----------|---------|------------------------------|
| Material              | Standard | Country | Grade Belong to the Industry |
| B 564 R20033          | ASTM     | USA     | Forging                      |
| B 649 R20033          | ASTM     | USA     | Bar and Wire                 |
| B 619 R20033          | ASTM     | USA     | Pipe                         |
| B 622 R20033          | ASTM     | USA     | Pipe and Tube                |
| B 626 R20033          | ASTM     | USA     | Tube                         |
| B 625 R20033          | ASTM     | USA     | Plate, Sheet and Strip       |
| SB-649 R20033         | ASME     | USA     | Bar and Wire                 |

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