

## Material: ASTM B 516 N06693

### Standard Specification for Nickel-Chromium-Iron Alloys and Nickel-Chromium-Cobalt-Molybdenum Alloy Seamless Tube

**Group:** Non-Ferrous Nickel Alloys

**Sub Group:** ASTM B 516 N06693 Nickel-Chromium-Iron Alloys and Nickel-Chromium-Cobalt-Molybdenum Alloy Seamless Tube

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

**Grade Belongs to the Industry:** Tube

| Chemical Composition |      |                 | Heat Treatment                                                                                                                                                                                      |  |
|----------------------|------|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Carbon               | C %  | 0.150 max.      | As-Cast or Annealing or Age Hardning                                                                                                                                                                |  |
| Silicon              | Si % | 0.500 max.      |                                                                                                                                                                                                     |  |
| Manganese            | Mn % | 1.000 max.      |                                                                                                                                                                                                     |  |
| Copper               | Cu % | 0.500 max.      |                                                                                                                                                                                                     |  |
| Sulphur              | S %  | 0.010 max.      |                                                                                                                                                                                                     |  |
| Chromium             | Cr % | 27.000 - 31.000 |                                                                                                                                                                                                     |  |
| Iron                 | Fe % | 2.500 - 6.000   |                                                                                                                                                                                                     |  |
| Aluminium            | Al % | 2.500 - 4.000   |                                                                                                                                                                                                     |  |
| Titanium             | Ti % | 1.000 max.      |                                                                                                                                                                                                     |  |
| Niobium              | Nb % | 0.500 - 2.500   |                                                                                                                                                                                                     |  |
| Nickel               | Ni % | Balance         | <b>Mechanical Properties</b><br>Tensile Strength in Mpa 690 min.<br>Yield Strength in Mpa 345 min.<br>Elongation in % 30 min.<br>Reduction of Area in % -<br>Hardness in BHN -<br>Impact in Joule - |  |
| -                    | -    | -               |                                                                                                                                                                                                     |  |
| -                    | -    | -               |                                                                                                                                                                                                     |  |
| -                    | -    | -               |                                                                                                                                                                                                     |  |
| -                    | -    | -               |                                                                                                                                                                                                     |  |
| -                    | -    | -               |                                                                                                                                                                                                     |  |

| Cross Reference Table |          |         |                              |
|-----------------------|----------|---------|------------------------------|
| Material              | Standard | Country | Grade Belong to the Industry |
| B 166 N06693          | ASTM     | USA     | Rod, Bar and Wire            |
| B 167 N06693          | ASTM     | USA     | Pipe and Tube                |
| B 168 N06693          | ASTM     | USA     | Plate, Sheet and Strip       |
| -                     | -        | -       | -                            |
| -                     | -        | -       | -                            |
| -                     | -        | -       | -                            |
| -                     | -        | -       | -                            |

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