



## Material - ASTM B 435 N12160

### Standard Specification for Nickel and Nickel-Cobalt Alloy Plate, Sheet and Strip

Group - Non-Ferrous Nickel Alloys

Sub Group - ASTM B 435 N12160 Nickel and Nickel-Cobalt Alloy Plate, Sheet and Strip

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

Grade Belongs to the Industry - Plate, Sheet and Strip

| Chemical Composition |      |                 | Heat Treatment                       |          |
|----------------------|------|-----------------|--------------------------------------|----------|
| Carbon               | C %  | 0.150 max.      | As-Cast or Annealing or Age Hardning |          |
| Silicon              | Si % | 2.400 - 3.000   |                                      |          |
| Manganese            | Mn % | 1.500 max.      |                                      |          |
| Chromium             | Cr % | 26.000 - 30.000 |                                      |          |
| Sulphur              | S %  | 0.015 max.      |                                      |          |
| Molybdenum           | Mo % | 1.000 max.      |                                      |          |
| Phosphorus           | P %  | 0.030 max.      |                                      |          |
| Titanium             | Ti % | 0.020 - 0.800   |                                      |          |
| Iron                 | Fe % | 3.500 max.      |                                      |          |
| Tungsten             | W %  | 1.000 max.      |                                      |          |
| Cobalt               | Co % | 27.000 - 33.000 | Mechanical Properties                |          |
| Niobium              | Nb % | 1.000 max.      | Tensile Strength in Mpa              | 620 min. |
| Nickel               | Ni % | Balance         | Yield Strength in Mpa                | 240 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 N1216           | ASTM     | USA     | Forging                      |
| B 619 N12160          | ASTM     | USA     | Pipe                         |
| B 622 N12160          | ASTM     | USA     | Pipe and Tube                |
| B 626 N12160          | ASTM     | USA     | Tube                         |
| B 472 N12160          | ASTM     | USA     | Billet and Bar               |
| B 572 N12160          | ASTM     | USA     | Rod                          |
| SB-564 N12160         | ASME     | USA     | Forging                      |

**Further any inquiry to discuss with Gravity Cast Pvt. Ltd. – Gravity Group of Companies team member Call on +918469160029, or email [marketing@gravitycastindia.com](mailto:marketing@gravitycastindia.com)**

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