

## Material: ASTM A 576 1118

### Standard Specification For Carbon Steel Compositions For Forging To Hot-Rolled And Cold-Finished Steel and Bar

**Group:** Ferrous Mild Steel Alloys

**Sub Group:** AISI A 576 1118 Carbon Steel Compositions For Forging To Hot-Rolled And Cold-Finished Steel and Bar

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

**Grade Belongs to the Industry:** Steel and Bar

| Chemical Composition |      |               | Heat Treatment                                                                                                                                                                                                                          |  |
|----------------------|------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Carbon               | C %  | 0.140 - 0.200 | As Raw or Annealing or Normalizing or Hardening and Tempering                                                                                                                                                                           |  |
| Manganese            | Mn % | 1.300 - 1.600 |                                                                                                                                                                                                                                         |  |
| Phosphorus           | P %  | 0.040 max.    |                                                                                                                                                                                                                                         |  |
| Sulphur              | S %  | 0.080 - 0.130 |                                                                                                                                                                                                                                         |  |
| Silicon              | Si % | 0.100 max.    |                                                                                                                                                                                                                                         |  |
| Iron                 | Fe % | Balance       |                                                                                                                                                                                                                                         |  |
| -                    | -    | -             |                                                                                                                                                                                                                                         |  |
| -                    | -    | -             | <b>Mechanical Properties</b><br>Tensile Strength in Mpa      345 - 515<br>Yield Strength in Mpa      205 - 415<br>Elongation in %      5 - 25<br>Reduction of Area in %      -<br>Hardness in HB      55 - 80<br>Impact in Joule      - |  |
| -                    | -    | -             |                                                                                                                                                                                                                                         |  |
| -                    | -    | -             |                                                                                                                                                                                                                                         |  |
| -                    | -    | -             |                                                                                                                                                                                                                                         |  |
| -                    | -    | -             |                                                                                                                                                                                                                                         |  |
| -                    | -    | -             |                                                                                                                                                                                                                                         |  |
| -                    | -    | -             |                                                                                                                                                                                                                                         |  |
| -                    | -    | -             |                                                                                                                                                                                                                                         |  |

| Cross Reference Table |          |         |                                                   |
|-----------------------|----------|---------|---------------------------------------------------|
| Material              | Standard | Country | Grade Belong to the Industry                      |
| G11180                | UNS      | USA     | Bars, Wire Rods, Plates, Strip, Sheets and Tubing |
| 1118                  | SAE      | USA     | Steel                                             |
| 1118                  | AISI     | USA     | Steel                                             |
| A 1040 1118           | ASTM     | USA     | Steel                                             |
| A 108 Grade 1118      | ASTM     | USA     | Steel and Bar                                     |
| A 29 1118             | ASTM     | USA     | Steel and Bar                                     |
| A 510 1118            | ASTM     | USA     | Wire Rod, Round Wire and Steel                    |

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