

## Material: ASTM A 512 Grade 1012

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

**Group:** Ferrous Mild Steel Alloys

**Sub Group:** ASTM A 512 Grade 1012 Carbon Steel Compositions For Forging To Hot-Rolled And Cold-Finished Tubing

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

**Grade Belongs to the Industry:** Tubing

| Chemical Composition |      |               | Heat Treatment                                                                                                                                                                                                   |  |
|----------------------|------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Carbon               | C %  | 0.100 - 0.150 | As Raw or Annealing or Normalizing or Hardening and Tempering                                                                                                                                                    |  |
| Manganese            | Mn % | 0.300 - 0.600 |                                                                                                                                                                                                                  |  |
| Phosphorus           | P %  | 0.040 max.    |                                                                                                                                                                                                                  |  |
| Sulphur              | S %  | 0.450 max.    |                                                                                                                                                                                                                  |  |
| Iron                 | Fe % | Balance       |                                                                                                                                                                                                                  |  |
| -                    | -    | -             |                                                                                                                                                                                                                  |  |
| -                    | -    | -             | <b>Mechanical Properties</b><br>Tensile Strength in Mpa 330 - 370<br>Yield Strength in Mpa 180 min.<br>Elongation in % 19 min.<br>Reduction of Area in % 40 - 50<br>Hardness in HB 95 - 105<br>Impact in Joule - |  |
| -                    | -    | -             |                                                                                                                                                                                                                  |  |
| -                    | -    | -             |                                                                                                                                                                                                                  |  |
| -                    | -    | -             |                                                                                                                                                                                                                  |  |
| -                    | -    | -             |                                                                                                                                                                                                                  |  |
| -                    | -    | -             |                                                                                                                                                                                                                  |  |
| -                    | -    | -             |                                                                                                                                                                                                                  |  |
| -                    | -    | -             |                                                                                                                                                                                                                  |  |

| Cross Reference Table |          |         |                                                   |
|-----------------------|----------|---------|---------------------------------------------------|
| Material              | Standard | Country | Grade Belong to the Industry                      |
| G10120                | UNS      | USA     | Bars, Wire Rods, Plates, Strip, Sheets and Tubing |
| 1012                  | SAE      | USA     | Bars, Wire Rods, Plates, Strip, Sheets and Tubing |
| 1012                  | AISI     | USA     | Bars, Wire Rods, Plates, Strip, Sheets and Tubing |
| A 1040 1012           | ASTM     | USA     | Bars, Wire Rods, Plates, Strip, Sheets and Tubing |
| A 29 1012             | ASTM     | USA     | Bar                                               |
| A 29 M1012            | ASTM     | USA     | Bar                                               |
| A 510 1012            | ASTM     | USA     | Wire Rod                                          |

**Disclaimer:** All information displayed in our data sheets are for reference purpose only and are sole property of their respective owners. Information and or material are used for educational purposes only. Data at actual may vary at actual and case to case basis. ICAST Alloys LLP does not guarantee validity of these parameters. Warranties and liabilities are exclusive to our terms and conditions of business.

Customer Care: +91-99090 45075 Email: [info@icastllp.com](mailto:info@icastllp.com)