

## Material: ASTM A 1040 1010

### Standard Specification For Carbon Steel Compositions For Forging To Hot-Rolled And Cold-Finished Bars, To Wire Rods, Plates, Strip, Sheets, Tubing

**Group:** Ferrous Mild Steel Alloys

**Sub Group:** ASTM A 1040 1010 Carbon Steel Compositions For Forging To Hot-Rolled And Cold-Finished Bars, Wire Rods, Plates, Strip, Sheets and Tubing

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

**Grade Belongs to the Industry:** Bars, Wire Rods, Plates, Strip, Sheets and Tubing

| Chemical Composition |      |                | Heat Treatment                                                                                                                                                                                                  |  |
|----------------------|------|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Carbon               | C %  | 0.080 - 0.130  | As Raw or Annealing or Normalizing or Hardening and Tempering                                                                                                                                                   |  |
| Manganese            | Mn % | 0.300 - 0.600  |                                                                                                                                                                                                                 |  |
| Phosphorus           | P %  | 0.030 max.     |                                                                                                                                                                                                                 |  |
| Sulphur              | S %  | 0.035 max.     |                                                                                                                                                                                                                 |  |
| Boron                | B %  | 0.0005 - 0.003 |                                                                                                                                                                                                                 |  |
| Silicon              | Si % | 0.100 max.     |                                                                                                                                                                                                                 |  |
| Iron                 | Fe % | Balance        |                                                                                                                                                                                                                 |  |
| -                    | -    | -              |                                                                                                                                                                                                                 |  |
| -                    | -    | -              | <b>Mechanical Properties</b><br>Tensile Strength in Mpa 275 - 655<br>Yield Strength in Mpa 170 min.<br>Elongation in % 5 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                      |
| G10100                | UNS      | USA     | Bars, Wire Rods, Plates, Strip, Sheets and Tubing |
| 1010                  | SAE      | USA     | Sheet and Tubing                                  |
| 1010                  | AISI     | USA     | Tubing                                            |
| A 108 Grade 1010      | ASTM     | USA     | Bar and Sheet                                     |
| A 29 1010             | ASTM     | USA     | Bar                                               |
| A 29 M1010            | ASTM     | USA     | Bar                                               |
| A 510 1010            | ASTM     | USA     | Bars, Wire Rods, Plates, Strip, Sheets and Tubing |

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