

# Material: ASTM A 576 10L49

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

**Group:** Ferrous Mild Steel Alloys

**Sub Group:** ASTM A 576 10L49 Carbon Steel Compositions For Forging To Hot-Rolled And Cold-Finished Steel

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

**Grade Belongs to the Industry:** Steel

| Chemical Composition |      |                |
|----------------------|------|----------------|
| Carbon               | C %  | 0.460 - 0.530  |
| Manganese            | Mn % | 0.600 - 0.900  |
| Phosphorus           | P %  | 0.040 max.     |
| Sulphur              | S %  | 0.050 max.     |
| Silicon              | Si % | 0.100 max.     |
| Boron                | B %  | 0.0005 - 0.003 |
| Copper               | Cu % | 0.200 max.     |
| Lead                 | Pb % | 0.150 - 0.350  |
| Iron                 | Fe % | Balance        |
| -                    | -    | -              |
| -                    | -    | -              |
| -                    | -    | -              |
| -                    | -    | -              |
| -                    | -    | -              |
| -                    | -    | -              |

| Heat Treatment  |
|---|
| As Raw or Annealing or Normalizing or Hardening and Tempering |

| Mechanical Properties   |           |
|-------------------------|-----------|
| Tensile Strength in Mpa | 600 - 670 |
| Yield Strength in Mpa   | 330 min.  |
| Elongation in %         | 10 min.   |
| Reduction of Area in %  | 30 - 40   |
| Hardness in HB          | 179 - 197 |
| Impact in Joule         | -         |

| Cross Reference Table |          |         |   |
|-----------------------|----------|---------|---|
| Material              | Standard | Country | Grade Belong to the Industry                      |
| G10490                | UNS      | USA     | Bars, Wire Rods, Plates, Strip, Sheets and Tubing |
| 1049                  | SAE      | USA     | Steel   |
| 1049                  | AISI     | USA     | Bar   |
| A 830 G10490          | ASTM     | USA     | Plate and Steel                                   |
| A 830 1049            | ASTM     | USA     | Plate and Steel                                   |
| A 29 1049             | ASTM     | USA     | Steel and Bar                                     |
| A 510 1049            | ASTM     | USA     | Wire Rods, Round Wire and Steel                   |

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