

## Material: ASTM A 1040 1084

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

**Group:** Ferrous Mild Steel Alloys

**Sub Group:** ASTM A 1040 1084 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 |      |                | Heat Treatment  |           |
|----------------------|------|----------------|---|-----------|
| Carbon               | C %  | 0.800 - 0.930  | As Raw or Annealing or Normalizing or Hardening and Tempering |           |
| Manganese            | Mn % | 0.600 - 0.900  |   |           |
| Phosphorus           | P %  | 0.030 max.     |   |           |
| Sulphur              | S %  | 0.035 max.     |   |           |
| Boron                | B %  | 0.0005 - 0.003 |   |           |
| Silicon              | Si % | 0.100 max.     |   |           |
| Copper               | Cu % | 0.200 min.     |   |           |
| Iron                 | Fe % | Balance        |   |           |
| -                    | -    | -              | Mechanical Properties   |           |
| -                    | -    | -              | Tensile Strength in Mpa                                       | 690 - 820 |
| -                    | -    | -              | Yield Strength in Mpa   | 450 min.  |
| -                    | -    | -              | Elongation in %   | 10 min.   |
| -                    | -    | -              | Reduction of Area in %  | 25 - 40   |
| -                    | -    | -              | Hardness in HB  | 192 - 241 |
| -                    | -    | -              | Impact in Joule   | -         |

| Cross Reference Table |          |         |   |
|-----------------------|----------|---------|---|
| Material              | Standard | Country | Grade Belong to the Industry                      |
| G10840                | UNS      | USA     | Bars, Wire Rods, Plates, Strip, Sheets and Tubing |
| 1084                  | SAE      | USA     | Steel   |
| 1084                  | AISI     | USA     | Steel and Bar                                     |
| A 29 1084             | ASTM     | USA     | Steel and Bar                                     |
| A 510 1084            | ASTM     | USA     | Wire Rods, Round Wire and Steel                   |
| A 576 10L84           | ASTM     | USA     | Steel and Bar                                     |
| A 713 G10840          | ASTM     | USA     | Steel and Bar                                     |

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