

## Material: ASTM A 1040 1043

### 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 1043 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 %  | 0.400 - 0.470  | As Raw or Annealing or Normalizing or Hardening and Tempering |           |
| Manganese            | Mn % | 0.700 - 1.000  |                                                               |           |
| Phosphorus           | P %  | 0.030 max.     |                                                               |           |
| Sulphur              | S %  | 0.035 max.     |                                                               |           |
| Boron                | B %  | 0.0005 - 0.003 |                                                               |           |
| Copper               | Cu % | 0.200 max.     |                                                               |           |
| Silicon              | Si % | 0.100 max.     |                                                               |           |
| Iron                 | Fe % | Balance        |                                                               |           |
| -                    | -    | -              | Mechanical Properties                                         |           |
| -                    | -    | -              | Tensile Strength in Mpa                                       | 570 - 630 |
| -                    | -    | -              | Yield Strength in Mpa                                         | 310 min.  |
| -                    | -    | -              | Elongation in %                                               | 12 min.   |
| -                    | -    | -              | Reduction of Area in %                                        | 35 - 45   |
| -                    | -    | -              | Hardness in HB                                                | 163 - 179 |
| -                    | -    | -              | Impact in Joule                                               | -         |

| Cross Reference Table |          |         |                                                   |
|-----------------------|----------|---------|---------------------------------------------------|
| Material              | Standard | Country | Grade Belong to the Industry                      |
| G10430                | UNS      | USA     | Bars, Wire Rods, Plates, Strip, Sheets and Tubing |
| 1043                  | SAE      | USA     | Steel                                             |
| 1043                  | AISI     | USA     | Bar                                               |
| A 29 1043             | ASTM     | USA     | Bar                                               |
| A 510 1043            | ASTM     | USA     | Wire Rod                                          |
| A 576 10L43           | ASTM     | USA     | Steel and Bar                                     |
| A 830 1043            | ASTM     | USA     | Plate and Steel                                   |

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