

# Material: ASTM A 1040 1055

## Standard Specification for Steel Castings for General Engineering Purposes

**Group:** Ferrous Mild Steel Alloys

**Sub Group:** ASTM A 1040 1055 Steel Castings for General Engineering Purposes

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

**Grade Belongs to the Industry:** Casting

| Chemical Composition |      |                 | Heat Treatment                                                                                                                                                                                                     |  |
|----------------------|------|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Carbon               | C %  | 0.500 - 0.600   | As Cast 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 - 0.0030 |                                                                                                                                                                                                                    |  |
| Copper               | Cu % | 0.200 max.      |                                                                                                                                                                                                                    |  |
| Iron                 | Fe % | Balance         |                                                                                                                                                                                                                    |  |
| -                    | -    | -               | <b>Mechanical Properties</b><br>Tensile Strength in Mpa 650 - 660<br>Yield Strength in Mpa 360 min.<br>Elongation in % 10 min.<br>Reduction of Area in % 30 - 40<br>Hardness in BHN 192 - 197<br>Impact in Joule - |  |
| -                    | -    | -               |                                                                                                                                                                                                                    |  |
| -                    | -    | -               |                                                                                                                                                                                                                    |  |
| -                    | -    | -               |                                                                                                                                                                                                                    |  |
| -                    | -    | -               |                                                                                                                                                                                                                    |  |
| -                    | -    | -               |                                                                                                                                                                                                                    |  |
| -                    | -    | -               |                                                                                                                                                                                                                    |  |
| -                    | -    | -               |                                                                                                                                                                                                                    |  |

| Cross Reference Table |          |         |                              |
|-----------------------|----------|---------|------------------------------|
| Material              | Standard | Country | Grade Belong to the Industry |
| AW3                   | BS       | British | Casting                      |
| 1055                  | SAE      | USA     | Casting                      |
| 1055                  | AISI     | USA     | Casting                      |
| A 29 1055             | ASTM     | USA     | Casting                      |
| A 510 1055            | ASTM     | USA     | Casting                      |
| A 576 10L55           | ASTM     | USA     | Bar                          |
| A 682 G10550          | ASTM     | USA     | Steel and Strip              |

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