

## Material: SAE 5145

### Standard Specification for Steel Castings for General Engineering Purposes

**Group:** Ferrous Mild Steel Alloys

**Sub Group:** SAE 5145 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 %  | 0.430 - 0.480 | As Cast or Annealing or Normalizing or Hardening and Tempering                                                                                                                         |  |
| Silicon              | Si % | 0.150 - 0.300 |                                                                                                                                                                                        |  |
| Manganese            | Mn % | 0.700 - 0.900 |                                                                                                                                                                                        |  |
| Phosphorus           | P %  | 0.035 max.    |                                                                                                                                                                                        |  |
| Sulphur              | S %  | 0.040 max.    |                                                                                                                                                                                        |  |
| Chromium             | Cr % | 0.700 - 0.900 |                                                                                                                                                                                        |  |
| Iron                 | Fe % | Balance       |                                                                                                                                                                                        |  |
| -                    | -    | -             | <b>Mechanical Properties</b><br>Tensile Strength in Mpa -<br>Yield Strength in Mpa -<br>Elongation in % -<br>Reduction of Area in % -<br>Hardness in BHN 213 max.<br>Impact in Joule - |  |
| -                    | -    | -             |                                                                                                                                                                                        |  |
| -                    | -    | -             |                                                                                                                                                                                        |  |
| -                    | -    | -             |                                                                                                                                                                                        |  |
| -                    | -    | -             |                                                                                                                                                                                        |  |
| -                    | -    | -             |                                                                                                                                                                                        |  |
| -                    | -    | -             |                                                                                                                                                                                        |  |
| -                    | -    | -             |                                                                                                                                                                                        |  |
| -                    | -    | -             |                                                                                                                                                                                        |  |

| Cross Reference Table |          |         |                              |
|-----------------------|----------|---------|------------------------------|
| Material              | Standard | Country | Grade Belong to the Industry |
| BW2                   | BS       | British | Casting                      |
| BW3                   | BS       | British | Casting                      |
| BW4                   | BS       | British | Casting                      |
| SKS 43                | JIS      | Japan   | Casting                      |
| 1.2833                | DIN      | Germany | Casting                      |
| 5145                  | AISI     | USA     | Casting                      |
| A 29 5145             | ASTM     | USA     | Casting                      |

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