

## Material: BDS 1.6510

### Standard Specification for Mild Steel Alloys Bar and Rod

**Group:** Ferrous Mild Steel Alloys

**Sub Group:** BDS 1.6510 Mild Steel Alloys Bar and Rod

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

**Grade Belongs to the Industry:** Bar and Rod

| Chemical Composition |      |               | Heat Treatment                                                |            |
|----------------------|------|---------------|---------------------------------------------------------------|------------|
| Carbon               | C %  | 0.350 - 0.430 | As Raw or Annealing or Normalizing or Hardening and Tempering |            |
| Silicon              | Si % | 0.400 max.    |                                                               |            |
| Manganese            | Mn % | 0.500 - 0.800 |                                                               |            |
| Phosphorus           | P %  | 0.025 max.    |                                                               |            |
| Sulphur              | S %  | 0.035 max.    |                                                               |            |
| Chromium             | Cr % | 0.600 - 1.000 |                                                               |            |
| Molybdenum           | Mo % | 0.150 - 0.250 |                                                               |            |
| Nickel               | Ni % | 0.700 - 1.000 |                                                               |            |
| Iron                 | Fe % | Balance       | Mechanical Properties                                         |            |
| -                    | -    | -             | Tensile Strength in Mpa                                       | 740 - 1180 |
| -                    | -    | -             | Yield Strength in Mpa                                         | 540 min.   |
| -                    | -    | -             | Elongation in %                                               | 8 min.     |
| -                    | -    | -             | Reduction of Area in %                                        | 40 min.    |
| -                    | -    | -             | Hardness in BHN                                               | 295 max.   |
| -                    | -    | -             | Impact in Joule                                               | 35 J @ RT  |

| Cross Reference Table |          |                |                              |
|-----------------------|----------|----------------|------------------------------|
| Material              | Standard | Country        | Grade Belong to the Industry |
| 39NiCrMo3             | EN       | European Union | Bar and Rod                  |
| 1.651                 | EN       | European Union | Bar and Rod                  |
| NCMo 4                | MSZ      | Hungary        | Bar, Wire and Rod            |
| 39 NiCrMo 3           | CSN      | Czech Republic | Bar and Rod                  |
| 1.651                 | DIN      | Germany        | Bar and Rod                  |
| 39 NiCrMo 3           | DIN      | Germany        | Bar and Rod                  |
| 1.651                 | SFS      | Finland        | Bar and Rod                  |

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