

# Material: DIN 10 CrMo 9-10

## Standard Specification for Forgings and Hot Rolled or Forged Bars of Steels for Elevated Temperatures

**Group:** Ferrous Mild Steel Alloys

**Sub Group:** DIN 10 CrMo 9-10 Forgings and Hot Rolled or Forged Bars of Steels for Elevated Temperatures

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

**Grade Belongs to the Industry:** Forging

| Chemical Composition |      |               |
|----------------------|------|---------------|
| Carbon               | C %  | 0.080 - 0.150 |
| Silicon              | Si % | 0.400 max.    |
| Manganese            | Mn % | 0.400 - 0.700 |
| Phosphorus           | P %  | 0.035 max.    |
| Sulphur              | S %  | 0.030 max.    |
| Chromium             | Cr % | 2.000 - 2.500 |
| Molybdenum           | Mo % | 0.900 - 1.100 |
| Nickel               | Ni % | 0.500 max.    |
| Iron                 | Fe % | Balance       |
| -                    | -    | -             |
| -                    | -    | -             |
| -                    | -    | -             |
| -                    | -    | -             |
| -                    | -    | -             |
| -                    | -    | -             |

| Heat Treatment                                    |  |
|---|--|
| Normalizing or Annealing or Hardening + Tempering |  |

| Mechanical Properties   |           |
|-------------------------|-----------|
| Tensile Strength in Mpa | 430 - 630 |
| Yield Strength in Mpa   | 240 min.  |
| Elongation in %         | 17 min.   |
| Reduction of Area in %  | -         |
| Hardness in BHN         | -         |
| Impact in Joule         | 27 J @ RT |

| Cross Reference Table |          |                |                              |
|-----------------------|----------|----------------|------------------------------|
| Material              | Standard | Country        | Grade Belong to the Industry |
| SA-217 WC9            | ASME     | USA            | Casting                      |
| 10 CrMo 9-10          | AFNOR NF | France         | Steel                        |
| J21890                | UNS      | Germany        | Forging                      |
| 10 CrMo 9-10          | EN       | European Union | Casting                      |
| 10 CrMo 9-10          | UNI      | Italy          | Casting                      |
| 622                   | BS       | British        | British                      |
| A217 Grade WC9        | ASTM     | USA            | Casting                      |

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