

## Material: ONORM 38 CrS 2

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

**Group:** Ferrous Mild Steel Alloys

**Sub Group:** ONORM 38 CrS 2 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 - 0.420 | As Raw or Annealing or Normalizing or Hardening and Tempering                                                                                                                                                             |  |
| Silicon              | Si % | 0.400 max.    |                                                                                                                                                                                                                           |  |
| Manganese            | Mn % | 0.500 - 0.800 |                                                                                                                                                                                                                           |  |
| Phosphorus           | P %  | 0.035 max.    |                                                                                                                                                                                                                           |  |
| Sulphur              | S %  | 0.020 - 0.040 |                                                                                                                                                                                                                           |  |
| Chromium             | Cr % | 0.400 - 0.600 |                                                                                                                                                                                                                           |  |
| Iron                 | Fe % | Balance       |                                                                                                                                                                                                                           |  |
| -                    | -    | -             | <b>Mechanical Properties</b><br>Tensile Strength in Mpa 650 - 950<br>Yield Strength in Mpa 350 min.<br>Elongation in % 14 min.<br>Reduction of Area in % 35 min.<br>Hardness in BHN 255 max.<br>Impact in Joule 35 J @ RT |  |
| -                    | -    | -             |                                                                                                                                                                                                                           |  |
| -                    | -    | -             |                                                                                                                                                                                                                           |  |
| -                    | -    | -             |                                                                                                                                                                                                                           |  |
| -                    | -    | -             |                                                                                                                                                                                                                           |  |
| -                    | -    | -             |                                                                                                                                                                                                                           |  |
| -                    | -    | -             |                                                                                                                                                                                                                           |  |
| -                    | -    | -             |                                                                                                                                                                                                                           |  |
| -                    | -    | -             |                                                                                                                                                                                                                           |  |

| Cross Reference Table |          |                |                              |
|-----------------------|----------|----------------|------------------------------|
| Material              | Standard | Country        | Grade Belong to the Industry |
| 38Cr2                 | EN       | European Union | Bar and Rod                  |
| 1.7003                | EN       | European Union | Bar and Rod                  |
| 1.7023                | ONORM    | Australia      | Bar and Rod                  |
| 38 CrS 2              | EN       | European Union | Bar and Rod                  |
| 1.7023                | EN       | European Union | Bar and Rod                  |
| 38 CrS 2              | SFS      | Finland        | Bar and Rod                  |
| 1.7023                | SFS      | Finland        | Bar and Rod                  |

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