

# Material: IS 8500 Fe490

## Standard Specification for Structural Steel - MiCroalloyed

**Group:** Ferrous Mild Steel Alloys

**Sub Group:** IS 8500 Fe490 Structural Steel - MiCroalloyed

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

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

| Chemical Composition |      |            | Heat Treatment                                                                                                                                                                                      |  |
|----------------------|------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Carbon               | C %  | 0.200 max. | As Raw or Normalizing                                                                                                                                                                               |  |
| Silicon              | Si % | 0.450 max. |                                                                                                                                                                                                     |  |
| Manganese            | Mn % | 1.500 max. |                                                                                                                                                                                                     |  |
| Phosphorus           | P %  | 0.040 max. |                                                                                                                                                                                                     |  |
| Sulphur              | S %  | 0.040 max. |                                                                                                                                                                                                     |  |
| Cerium               | Ce % | 0.420 max. |                                                                                                                                                                                                     |  |
| Iron                 | Fe % | Balance    |                                                                                                                                                                                                     |  |
| -                    | -    | -          | <b>Mechanical Properties</b><br>Tensile Strength in Mpa 490 min.<br>Yield Strength in Mpa 350 min.<br>Elongation in % 22 min.<br>Reduction of Area in % -<br>Hardness in BHN -<br>Impact in Joule - |  |
| -                    | -    | -          |                                                                                                                                                                                                     |  |
| -                    | -    | -          |                                                                                                                                                                                                     |  |
| -                    | -    | -          |                                                                                                                                                                                                     |  |
| -                    | -    | -          |                                                                                                                                                                                                     |  |
| -                    | -    | -          |                                                                                                                                                                                                     |  |
| -                    | -    | -          |                                                                                                                                                                                                     |  |
| -                    | -    | -          |                                                                                                                                                                                                     |  |

| Cross Reference Table |          |         |                                           |
|-----------------------|----------|---------|-------------------------------------------|
| Material              | Standard | Country | Grade Belong to the Industry              |
| Fe490B                | IS       | India   | Plate and Bar                             |
| 2062 E 350            | IS       | India   | Steel, Plate, Wire, Rod, Tube and Forging |
| 1018                  | SAE      | USA     | Steel, Plate, Wire, Rod, Tube and Forging |
| 1018                  | AISI     | USA     | Steel, Plate, Wire, Rod, Tube and Forging |
| A 830 G10180          | ASTM     | USA     | Steel, Plate, Wire, Rod, Tube and Forging |
| G10180                | UNS      | USA     | Steel, Bar, Wire, Rod, Tube and Forging   |
| SA-29 1018            | ASME     | USA     | Steel, Plate, Wire, Rod, Tube and Forging |

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