

## Datasheet ›

# Steel 1.0038

**(S235JR)**

## Alternative Designations

| Standard    | EN       | ANSI/AA | AFNOR | JIS      | SIS | UNE    |
|-------------|----------|---------|-------|----------|-----|--------|
| Designation | EN 10025 | A283    | A 33  | SN490B;C |     | A310-0 |

## Details

This is a hot rolled pure structural steel. With good plasticity, toughness and weldability, it has a lower yield strength of 235MPa. This material can be formed into many products such as I beams, channels, plates, angle bars etc. its excellent weldability makes it to be widely used in bridges, transmission towers etc. It is equivalent to Fe360B

## Key Features

Good plasticity • Tough • Good weldability

## Chemical Composition

| Element    | C    | Si | Mn   | P     | S     | Cu   | N     |  |  |
|------------|------|----|------|-------|-------|------|-------|--|--|
| Percentage | 0.17 |    | 1.40 | 0.035 | 0.035 | 0.55 | 0.012 |  |  |

## Mechanical Properties

| Property | Yield strength<br>[MPa] | Ultimate tensile strength<br>[MPa] | Elongation<br>[%] | Hardness |
|----------|-------------------------|------------------------------------|-------------------|----------|
| Value    | 175 - 235               | 340 - 520                          | 21                | 120      |

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### Physical Properties

| Property                                                               | Value       |
|------------------------------------------------------------------------|-------------|
| Density [g/cm <sup>3</sup> ]                                           | <b>7.85</b> |
| Module of elasticity [GPa]                                             | <b>200</b>  |
| Electrical conductivity [m/Ω · mm <sup>2</sup> ]                       | <b>1.82</b> |
| Coefficient of thermal expansion [K <sup>-1</sup> · 10 <sup>-6</sup> ] | <b>10</b>   |
| Thermal conductivity [W/m · K]                                         | <b>25</b>   |
| Specific heat capacity [J/kg · K]                                      | <b>460</b>  |

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