### Structural steel grade designations according to EN-10025 & EN-10027


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<th>Steel group</th>
<th>Mechanical characteristics</th>
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<td>$ S $</td>
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<td>$ M $ thermomechanical rolling</td>
<td>Z15  min. 15% reduction of area</td>
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<td>XXX min. yield strength in MPa</td>
<td>$ N $ normalised rolling</td>
<td>Z25  min. 25% reduction of area</td>
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<td>$ AR $ as rolled</td>
<td>Z35  min. 35% reduction of area</td>
</tr>
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</table>

#### Example

**EN 10025-2:**

- $ S $ 355 J2 + Z35 + M

#### Mechanical characteristics

- Notch toughness
  - min. 27 J
  - min. 40 J
  - Temp. °C
  - JR
  - J0
  - J2

- Notch toughness at different temperatures:
  - JR
  - J0
  - J2

#### Special requirements

- Z15  min. 15% reduction of area
- Z25  min. 25% reduction of area
- Z35  min. 35% reduction of area

#### Physical characteristics - group 2

- L for low temperatures
- $ M $ thermomechanical rolling
- $ N $ normalised rolling
- W weathering

**Example**

**EN 10025-4:**

- $ S $ 355 ML
Explanation of the EN 10025 - 10027 specifications

The latest European Standards incorporate numbers and letters which identify the Properties of the various grades within the Standard. A typical Specification example might be: EN 10025: S275J0H.

EN indicates that it holds the status of a European Standard.
10025 indicates the number of the relevant Standard.

Next is a Letter denoting the type of steel, followed by a number, being the characteristic Yield Strength in N/mm$^2$ or the specified Minimum Tensile Strength in N/mm$^2$.

‘G’ = Steel Castings.
‘S’ = Structural Steels. The Number = minimum yield strength for smallest thickness.
‘P’ = Pressure Vessel Steels. The Number = minimum yield strength for smallest thickness.
‘L’ = Linepipe Steels. The Number = minimum yield strength for smallest thickness.
‘E’ = Engineering Steels. The Number = minimum yield strength for smallest thickness.
‘B’ = Steels for Reinforcing Concrete. The Number = characteristic yield strength.
‘Y’ = Steels for prestressing concrete. The Number = minimum tensile strength.
‘R’ = Steels for or in the form of Rails. The Number = minimum tensile strength.
‘H’ = Steels for Cold Rolled Flat Products of high strength steels for Cold Forming. The Number = characteristic yield strength.

‘D’ = Flat Products for Cold Forming (except ‘H’). Followed by ‘C’ for Cold Rolled, ‘D’ for Hot Rolled products for direct Cold Forming and ‘X’ for non specified rolled condition.
‘T’ = Tinmill Products.
‘M’ = Electrical Steels.
‘JR’ indicates that the Charpy Impact Test was conducted to 27 joules minimum at room temperature.
‘J0’ indicates that the Impact Test was performed to 27 joules minimum at 0°C.
‘J2’ indicates that the Impact Test was performed to 27 joules minimum at –20°C.
‘K2’ indicates that the Impact Test was performed to 40 joules minimum at –20°C.
‘G3’ indicates delivery conditions are at the manufacturer’s discretion.

The last letter, if applicable:

‘H’ indicates Hollow Section.
‘L’ indicates qualities with specified minimum values of impact energy at a temp. of –50°C.
‘M’ indicates Thermomechanically rolled feedstock material.
‘N’ indicates Normalised or Normalised Rolled Feedstock material.