

## E360

### Non-alloy structural steels

Material no.	<b>1.0070</b>
according to	<b>DIN EN 10025-2</b>
Tensile strength class	<b>B</b>

#### Usage

Suitability for coldforming such as bending, folding, bordering and flanging etc.

The user of these steel grades must make sure that his calculation, design and processing methods are appropriate for the material. The welding technique used must be suitable for the intended application and comply with the state-of-the-art.

With distinctly closer chemical composition values and mechanical properties, the steel grades of the S235-S355 series are used as material for wheels of passenger cars, lorries and other vehicles.

#### Chemical composition<sup>1)</sup>

(in percent by weight)

	min.	max.
P		0,045%
S		0,045%
N		0,012% <sup>2)</sup>
C <sub>E</sub>		3) 4)

1) Heat analysis

2) The maximum nitrogen content shall not apply if the total aluminium content of the steel is at least 0.020% or if it contains enough other nitrogenfixing elements.

3) Max. carbon equivalent

$$C_E = C + Mn/6 + (Cr + Mo + V)/5 + (Cu + Ni)/15$$

4) The steel is suitable for hot dip galvanizing C<sub>E</sub> is raised by 0,2%.

#### Mechanical properties<sup>1)</sup>

Nom. thick. e	Yield strength R <sub>eL</sub> /R <sub>p0,2</sub>
≤ 16 mm	≥ 360 MPa
> 16 mm	≥ 355 MPa

Nom. thick. e	Tensile strength R <sub>m</sub>
< 3 mm	690 – 900 MPa
≥ 3 mm	670 – 830 MPa

Nom. thick. e	Total elongation A <sub>2</sub> <sup>2)</sup> (längs/quer)
< 3 mm	≥ 8/7 %
3 ≤ e < 25 mm	≥ 11/10 %

The samples for the tensile test are taken at right angles to rolling direction unless the product width is opposed to this.

1) The tensile test values given in the table apply to longitudinal samples (l); in case of strip and sheet steel of width ≥ 600 mm they apply to transverse samples (t).

2) It applies to nominal thickness e:

e < 3 mm: A<sub>80</sub>

e ≥ 3 mm: A<sub>5</sub>

#### Available dimensions

Hot-rolled coils unpickled, mill edge

Thickness in mm	Width in mm
2,00 – 2,24	900 – 1400
2,25 – 2,49	900 – 1450
2,50 – 2,99	900 – 1500
3,00 – 3,99	900 – 1680
4,00 – 12,70	900 – 1750

Hot-rolled slit strip

Thickness in mm	Width in mm
2,00 – 2,24	100 – 690
2,25 – 2,49	100 – 715
2,50 – 2,99	100 – 740
3,00 – 4,50	100 – 800
4,50 – 6,00	116 – 800
6,01 – 7,00	175 – 800
7,01 – 8,00	233 – 800

< 100 mm on request

#### Welding

No indications on weldability of steel grades S185, E295, E335 und E360 are made because there are no requirements on their chemical composition. The steel grades JR, JO, J2 and K2 categories are in general suitable for all welding techniques.

#### Condition of delivery, scope of testing and certificate

The provisions of DIN 10025-2, chapters 6.3 and 8 shall apply for delivery and inspection. Other inspections may be agreed.