



Salzgitter240

Laser beam cutting grade

Materialinformationsblatt (MIB)

Material no.	-
Tensile strength class	A

Usage

In addition to outstanding cold forming properties, special grade Salzgitter 240 is particularly suitable for laser and plasma cutting. The user of these steel grades must make sure that his calculation, design and processing methods are appropriate for the material. The forming process used must be suitable for the intended application and comply with the state of the art; this is of fundamental importance to the processing behaviour of these steel grades.

Chemical composition¹⁾

(in percent by weight)

	min. in %	max. in %
C		0.12
Si		0.03
Mn		0.90
P		0.025
S		0.012
Al	0.015	

1) Heat analysis

Mechanical properties²⁾

Nom. thick. e in mm	Yield strength R _{p0.2} in MPa
1.50 - 6.00	240 - 320
≤ 15.00	220 - 320

Nom. thick. e in mm	Tensile strength R _m in MPa
1.50 - 6.00	360 - 440
≤ 15	350 - 440

Nom. thick. e in mm	Total elongation A ³⁾ in %
< 3	≥ 24
3 ≤ e < 15	≥ 30

2) The given values apply to longitudinal samples.

3) It applies to nominal thickness e:

e < 3 mm: A₈₀

e ≥ 3 mm: A₅

Melting form

Salzgitter 240 is melted as fine-grain steel according to the basic oxygen steel-making process.

Cold forming

These low-perlite steel grades offer excellent bending, flanging, cold-bordering and folding properties in both longitudinal and transverse direction.

In the 180° bending test, the quotient bending diameter / thickness is $d/t=0$.

Available dimensions

Hot-rolled coils unpickled, mill edge

Thickness in mm	Width in mm
1.50 - 1.79	900 - 1,250
1.80 - 1.99	900 - 1,400
2.00 - 2.24	900 - 1,520
2.25 - 2.70	900 - 1,700
2.71 - 5.99	900 - 1,880
6.00 - 15.00	900 - 1,950

Hot-rolled coils pickled, mill edge

Thickness in mm	Width in mm
1.50 - 1.79	900 - 1,250
1.80 - 1.99	900 - 1,400
2.00 - 2.24	900 - 1,520
2.25 - 2.70	900 - 1,700
2.71 - 5.99	900 - 1,880
6.00 - 12.50	900 - 1,530

Hot-rolled coils pickled, mill edge

Thickness in mm	Width in mm
1.50 - 1.79	900 - 1,230
1.80 - 1.99	900 - 1,380
2.00 - 2.24	900 - 1,500
2.25 - 2.70	900 - 1,680
2.71 - 5.99	900 - 1,860
6.00 - 10.00	900 - 1,510

Hot-rolled coils, split lengthwise

Thickness in mm	Width in mm
1.50 - 1.79	100 - 515
1.80 - 1.99	100 - 635
2.00 - 2.24	100 - 760
2.25 - 7.00	100 - 800
7.01 - 8.00	140 - 800
8.01 - 9.00	175 - 800
9.01 - 10.00	233 - 800



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Condition of delivery

The steel is produced as hot strip, as well as slit lengthwise or cut-to-length, in nominal thicknesses of 1.5 to 15 mm in widths in accordance with the Salzgitter Flachstahl delivery programme.

Welding

Provided that the general technical rules are observed, these steel grades can be welded both manually and using automatic equipment by means of all electrical welding processes. No major hardness increases

appear in the heat-affected zone. Pre-heating is not necessary under normal welding conditions and down to workpiece temperatures of +5 °C. Below +5 °C, pre-heating to 150 °C is recommended.

The welding wires and electrodes approved in the respective strength category must be used as filler metals.

In addition to this, the general meaning of the detailed information provided in 'Stahl-Eisen-Werkstoffblatt' (Iron and steel material sheet) 088 must be observed.

Thermal separation

This steel is highly suitable for all thermal separation methods.

It was designed in particular for laser or plasma-beam cutting. If these procedures are applied correctly, it is possible to achieve practically burr-free material separation.

Commitments regarding certain properties or a certain purpose of use require written agreements. Technical changes as well as typesetting and printing errors reserved.



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