SALZGITTER FLACHSTAHL
A member of the Salzgitter Group

P310NB

Special steel grades for gas cylinders and gas vessels

Material no.	1.0437
according to	DIN EN 10120
Tensile strength class	B

General information

These stell grades are charcterised by a good weldability.

The user of these steel grades must make sure that his calculation, design and processing methods are appropriate for the material.

The steel grades of this series are used for manufacturing gas cylinders by welding cold-formed parts together and normalizing the finished cylinder.

Chemical composition[1)]

(in percent by weight)

	min.	max.
C		0,20%
Si		0,50%
Mn	0,70%	
P		0,025%
S		0,015%
$Al_{ges.}$	0,020% [2)]	
N		0,009% [3)]
Ti		0,03%
Nb		0,050%

1) Heat analysis

2) The aluminium content may in part be replaced by ≤0,050 % Nb and/or ≤0,03 % Ti.

3) With a ratio of $Al_{total}/N \geq 2{,}2$ or if Nb and/or Ti are added, the nitrogen content may be ≤0,012 %.

Mechanical properties

Nom. thick. e	Yield strength R_{eH}
	≥ 310 MPa

Nom. thick. e	Tensile strength R_m
	460 – 550 MPa

Nom. thick. e	Total elongation A[1)]
<3 mm	≥ 21 %
3 mm≤e≤5 mm	≥ 28 %
> 5 mm	on appointment

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

1) It applies to nominal thickness e:
e < 3 mm: A_{80}
e ≥ 3 mm: A_5

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

Thicknesses > 12,70 mm on request

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

Widths ≤100 mm on request

Welding

The Steel grades of this series may be welded using the usual welding techniques.

Condition of delivery, scope of testing and certificate

The provisions of DIN EN 10120 shall apply for delivery and inspection, chapters 6.2 and 8.

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