

S355MC / HSM 355 HD

Product information for hot-rolled precision strip



thyssenkrupp

Version 1/18

Microalloyed fine grain structural steel High ductility (HD)

High ductility (HD) microalloyed fine grain structural steels from BU Precision Steel meet the specifications of DIN EN 10149.

They are produced with a very fine microstructure and embedded nano-precipitates. These steel grades open up new design options in lightweight auto construction. Their extremely low carbon content counters the formation of coarse and brittle areas in the microstructure.

These materials are particularly suitable for the manufacture of complex forming geometries. Compared with conventional microalloyed steels they offer higher shear strain values and multiaxial elongation for greater process reliability in component production and are readily weldable.

Hohenlimburg precision strip:

- is used in virtually all industry sectors.
- offers close thickness tolerances similar to cold-rolled strip, optimum surface finishes and consistent material properties over the entire strip length and width.
- is characterized by its symmetrical strip profiles and mill edges.
- is the sum of all the experience we have gained in more than 100 years of manufacturing and processing steel.

Contents

Brief portrait
Technical features
Chemical composition
Mechanical properties
General thickness tolerances
Delivery options
Application examples

Technical features

Microalloyed fine grain structural steel High ductility (HD)

Material number: 1.0976

Material name: S355MC

Proprietary brand: HSM 355 HD

Delivery specification: DIN EN 10149-2

Application: Steels with very good forming, fine blanking and welding properties

Special feature: An adapted and optimized chemical analysis combined with a specially designed hot rolling strategy creates a ferritic microstructure with nano-precipitates. This results in increased forming reserves compared with the standard variant S355MC.

Chemical composition

Ladle analysis mass percentages	C [%]	Mn [%]	Si [%]	P [%]	S [%]	Al [%]	Nb [%]	V [%]	Ti [%]
min.	–	–	–	–	–	0.015	–	–	–
max.	0.03	0.30	0.06	0.020	0.005	0.060	0.05	0.05	0.05

Further special analyses available

Mechanical properties

Longitudinal to rolling direction	Yield strength R_{eH} [MPa]	Tensile strength R_m [MPa]	Elongation A_5 [%]	A_{80} [%]
Rolled condition	min. 355	430 – 510	min. 28	min. 23

General thickness tolerances

Strip thickness [mm]	1.5 – 2.54	2.55 – 4.03	4.04 – 6.03	6.04 – 8.03	8.04 – 9.03	9.04 – 11.03	11.04 – 14.03	14.04 – 16.00
Standard tolerances [mm]	± 0.04	± 0.04	± 0.05	± 0.055	± 0.06	± 0.07	± 0.08	± 0.10
Special tolerances [mm]	± 0.03	± 0.035	± 0.04	± 0.045	± 0.05	± 0.055	± 0.06	± 0.07

Possible delivery options

Options	Mill edge (NK) Cut edge (GK)	pickled	unpickled	slit	trimmed	cut to length
	HSM 355 HD	NK or GK	√	or √	√	√

General delivery options

Coil inner diameter:	standard 508 mm / optional 610 mm
Coil outer diameter:	max. 1,890 mm
Coil weight:	max. 20.5 kg/mm strip width
Strip width:	max. 720 mm
Strip thickness:	1.5 – 16 mm

Application examples for microalloyed fine grain structural steel High ductility (HD)



Special mill grades feature unique thyssenkrupp properties. Other terms and conditions of supply not specified here will be based on the applicable specifications. The specifications used will be those valid on the date of publication of this product information.

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