

# S650MC / HSM 650

Product information for hot-rolled precision strip



thyssenkrupp

Version 1/18

## Microalloyed fine grain structural steel

Microalloyed fine grain structural steels are produced with low carbon equivalents in accordance with DIN EN 10149.

Hot-rolled fine grain structural steels are particularly suitable for direct processing with extended cold formability requirements. HSM steels (Hohenlimburg special structural steels, microalloyed) are suitable for bending and roll forming with tight radii and – with restrictions in the case of high-strength grades – deep drawing and stretch forming.

## 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.

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## Technical features

Microalloyed fine grain structural steel

Material number: 1.8976

Material name: S650MC

Proprietary brand: HSM 650

Delivery specification: DIN EN 10149-2

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

### Chemical composition

Ladle analysis mass percentages	C [%]	Mn [%]	Si [%]	P [%]	S [%]	Al [%]	Nb [%]	V [%]	Ti [%]	Mo [%]	B [%]
min.	–	–	–	–	–	0.015	–	–	–	–	–
max.	0.10	2.00	0.50	0.020	0.010	0.070	0.09	0.15	0.15	0.25	0.005

Further special analyses available

### Mechanical properties

Longitudinal to rolling direction	Yield strength $R_{eH}$ [MPa]	Tensile strength $R_m$ [MPa]	Elongation $A_5$ min. [%]	$A_{80}$ min. [%]
HSM 650	min. 650	700–820	min. 16	min. 13

### 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
		✓	or ✓			
HSM 650	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

Please contact our sales/technical customer advice team for detailed information.

## Application examples for microalloyed fine grain structural steel



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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