

HSM 800 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.

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Technical features

Microalloyed fine grain structural steel High ductility (HD)

Material number: 1.8655

Proprietary brand: HSM 800 HD

Delivery specification: extension to DIN EN 10149-2

Application: Steels with first class forming, fine blanking and welding properties

Special feature: An adapted and optimized chemical analysis and process model creates a ferritic microstructure with nano-precipitates.

Chemical composition

| Ladle analysis mass percentages | C [%] | Mn [%] | Si [%] | P [%] | S [%] | Al [%] | Nb [%] | V [%] | Ti [%] | Mo [%] | B [%] |
|---------------------------------|-------|--------|--------|-------|-------|--------|--------|-------|--------|--------|-------|
| min. | – | – | – | – | – | 0.015 | – | – | – | – | – |
| max. | 0.06 | 1.80 | 0.15 | 0.020 | 0.008 | 0.060 | 0.08 | 0.05 | 0.15 | 0.30 | 0.005 |

Further special analyses available

Mechanical properties

| Longitudinal to rolling direction | Yield strength $R_{p0,2}$ [MPa] | Tensile strength R_m [MPa] | Elongation A_5 [%] | A_{80} [%] |
|-----------------------------------|------------------------------------|---------------------------------|-------------------------|--------------|
| Delivery condition | min. 800 | 850 – 1,000 | min. 15 | min. 11 |

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 | | slit | trimmed | cut to length |
|------------|---------------------------------|---------|----|------|---------|---------------|
| | | or | ✓ | | | |
| HSM 800 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 |

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

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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