

Precision Steel

precidur[®] HSM 420 / S420MC

Product information for hot-rolled precision strip made in Hohenlimburg



thyssenkrupp

Version 9/21

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.

precidur[®]

- 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: | 1.0980 |
| Material name: | S420MC / H420LA |
| Proprietary brand: | precidur® HSM 420 |
| Delivery specification: | DIN EN 10149-2 / VDA 239-100 |
| Application: | Steels with very good forming, fine blanking and welding properties |

Chemical composition

| Ladle analysis mass percentages | C [%] | Si [%] | Mn [%] | P [%] | S [%] | Al [%] | Nb [%] | V [%] | Ti [%] |
|---------------------------------|-------|--------|--------|-------|-------|--------|--------|-------|--------|
| min. | - | - | - | - | - | 0.015 | - | - | - |
| max. | 0.10 | 0.10 | 1.20 | 0.020 | 0.010 | 0.070 | 0.09 | 0.10 | 0.10 |

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 [%] |
|-----------------------------------|---|--|----------------------------------|---------------------|
| precidur® HSM 420 | min. 420 | 480 - 580 | min. 22 | min. 18 |

Possible delivery options

| Options | Mill edge (NK) Cut edge (GK) | pickled | unpickled | slit | trimmed | Cut to length |
|-------------------|---------------------------------|---------|-----------|------|---------|---------------|
| precidur® HSM 420 | NK or GK | ✓ | or ✓ | ✓ | ✓ | ✓ |

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 |

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 |

* May be subjected to restrictions.

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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