

Precision Steel

precidur[®] X40MnCrAlV 19-2 HY

Product information for hot-rolled precision strip made in Hohenlimburg



thyssenkrupp

Version 01/22

TWIP steel

High-manganese steels from BU Precision Steel combine outstanding formability with extremely strong work hardening. These steels display a stable austenitic microstructure. Despite their high carbon content they can be joined by all common welding methods.

High-manganese steels can be both hot and cold formed.

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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.

Technical features

High-manganese steel

Material number:	1.7401
Material name:	X40MnCrAlV 19-2 HY / TWIP-steel
Proprietary brand:	precidur® H-Mn HY
Delivery specification:	Suitable for cold and hot forming
Application:	High formability with very high tensile strength. Strong work hardening through forming process.

Chemical composition

Ladle analysis mass percentages	C [%]	Si [%]	Mn [%]	P [%]	S [%]	Cr [%]	Al [%]	Ti [%]	V [%]	Ni [%]	Cu [%]
min.	0.30	0.20	16.00	-	-	-	0.5	-	-	-	-
max.	0.60	0.60	25.00	0.030	0.005	2.50	2.5	0.20	0.20	1.00	0.20

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} [%]
Rolled condition	550 - 750	850 - 1000	min. 35	min. 30

Possible delivery options

Options	Mill edge (NK) Cut edge (GK)	pickled		unpickled	slit	trimmed	Cut to length
		✓	or	✓	✓	✓	✓
precidur® X40MnCrAlV 19-2 HY	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.

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