durostat®
greentec steel

BE SAFE

Innovation meets responsibility

durostat® HM

Highly wear-resistant hard manganese steel from hot-rolled steel strip

durostat® HM made by voestalpine is an austenitic hard manganese steel and corresponds to material grade 1.3401 (X120Mn12). It is exclusively available in the greentec steel Edition with a reduced carbon footprint and sets new premium quality standards in the efficiency and sustainability in machinery.

Reliable processability and hardness
The low material hardness in as-delivered condition (roughly 220 HB) makes durostat® HM easy to process. Impact and pressure during use increase the hardness near the surface up to 600 HB. Deeper areas remain ductile.

Wide variety of applications
- **Raw material recovery and processing:** crusher jaws, impact bars, blow bars, grating rods, centrifuges, linings, excavator teeth, chain sprockets
- **Security and protection technology:** vaults, doors, panels, armor components
- **Magnet manufacturing:** As an austenitic material, durostat® HM cannot be magnetized.


Easy processing such as in cutting, bending and welding


Armor for security vehicles


Best resistance to impact wear

durostat® HM is highly convincing.

Chemical composition

Heat analysis in mass %

durostat® HM	C	Si	Mn	P	S	Cr
min.	1.1	0.3	12			
max.	1.3	0.5	13	0.03	0.005	1.0

Mechanical properties

durostat®	Hardness [HB]	Yield strength $R_{p0,2}$ [MPa]	Tensile strength R_m (longitudinal) [MPa]	Total elongation [%]
durostat® HM	220	450	1,150	50

Hardness measurements are conducted pursuant to EN ISO 6506. Test condition HBW 2.5 | 187.5 is applied to ≤ 3 mm plate thickness.

Available dimensions

durostat®	Thickness [mm]	Width [mm]	Cut sheet length [mm]
durostat® HM	2.0 — 6.0[1)]	1,250 — 1,500	1,500 — 12,000

[1)] Further dimensions are available upon request

Processing information

- Cutting: Plasma, laser and shear cutting possible.
- Drilling: Possible with special drills.
- Welding: Possible using conventional methods (MSG, manual, electric). High-alloy filler materials are available for joining and deposit welding. Heat input must be kept low to avoid hot cracking and carbide precipitation. Preheating and postheating are not recommended.

Standards and regulations

- Material names: 1.3401, X120Mn12
- Dimensional and shape tolerances: EN 10051 (Category D)
- Surface quality: EN 10163 (Class B-UG3)

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Premium quality with reduced carbon footprint

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Hot-rolled steel strip – greentec steel Edition
Maximum carbon footprint: 1.95 kg CO_2e/kg steel [1)]
Hot-rolled steel strip – greentec steel Edition 600
Maximum carbon footprint: 0.60 kg CO_2e/kg steel [1)]

[1)] pursuant to EN 15804+A2 (EPD methodology), cradle to gate

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ONE STEP AHEAD.