



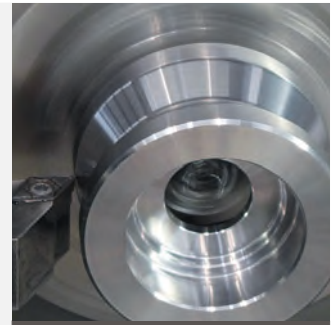
Guide Rollers: a selection of different materials to optimize performances.

Morgårdshammar guide rollers are well known on rolling mills for both machining quality and low operational wearing.

Different rollers are available to better meet customers' needs as for wearing performance and thermal shock. By acting on roller material and heat treatment, Morgårdshammar provides you with the best option for specific applications. Guide rollers are manufactured by CNC

machines in order to grant the required high precision, particularly on bearing seats and grooves. Special heat treatment is performed to increase all mechanical properties. Refer to your Morgårdshammar specialist to improve rollers performances.

Long-term supply agreements are available to grant quick delivery of grooved and ungrooved rollers from Morgårdshammar worldwide warehouses.



GUIDE ROLLERS SELECTION GUIDELINES





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Materials	Features	Hardness (HRC)	Life time	Thermal shock resistance	Price	Roughing Mill	Intermediate Mill	Finishing Mill	High Speed Block	Slitting Rollers
MHK-1H	Hot-working tool steel with chromium, molybdenum and vanadium. Excellent resistance to thermal shocks, excellent deep hardening properties, high degree of hot toughness, high impact strength.	54-56	1	Best	Best	R	R	ST	-	ST
MHK-1	Cold-working tool steel, with high chromium, molybdenum and vanadium content. Excellent wear resistance, good toughness and dimensional stability; good edge retaining.	55-60	1.5-3	Standard	Good	-	P	R	P	R
MHK-C	Cold-working tool steel, with high chromium content. High wear-resistance, good dimensional stability and hardening properties. Moderate toughness.	60-62	1.5-2	Standard	Best	-	P	R	P	R
MHK-S	Powder-metallurgical cold work tool steel; high vanadium content; fine carbide distribution, segregation free, excellent wear resistance.	60-64	5-6	Standard-low	Medium-high	-	P	R	P	R
Ferrodur	Titanium carbide on a metal-based matrix containing chromium and molybdenum. Very high hardness and wear resistance. Excellent dimensional stability. 20% lighter than steel rollers. Reduced re-grooving thickness.	69-71	6-10	Critical	Highest	-	-	P	R	-

R: recommended ST: recommended during plant startup P: possible

