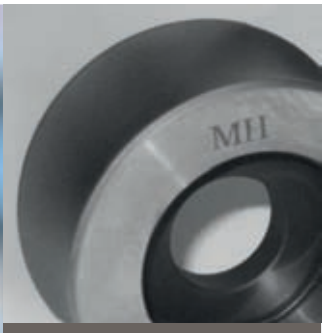
MORGÅRDSHAMMAR
Guide systems

Ferrodur Rollers
have been specifically developed to grant high durability and low wear at high speed.



GUIDE ROLLERS FOR HIGH SPEED

Guide Rollers for modern high-speed wire rod mills

Modern high speed wire rod mills reach an exit speed of more than 120 m/sec. This high speed causes several problems on roller guides like bearing failures, roller breakage, frequent redressing of grooves, etc. Guide rollers are exposed to temperatures of 800-1000 °C and rotate at an approximate speed of about 45,000 rpm. Moreover, they are subject to extremely high instantaneous acceleration from rest position to rod speed. The performances of Ferrodur rollers represent the right answer to the hostile environment and working conditions for high-speed rollers. Ferrodur rollers are also used on the finishing mill guides when customer are targeting long rolling campaign and therefore are focused on increasing rolling time without mill stoppages for guide maintenance (in particular when carbide rings are used for the rolling stands).

The utilization of Ferrodur brings to:

> Less wear on roller grooves, hence larger output of the mill.
> Less stock removal per regrind, hence longer life.
> Reduced risk of bearing breakage and failures.
> Uniformity and stability of the finished products.

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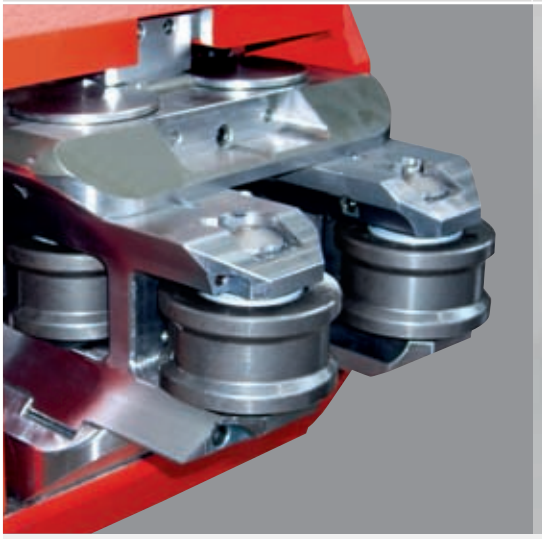
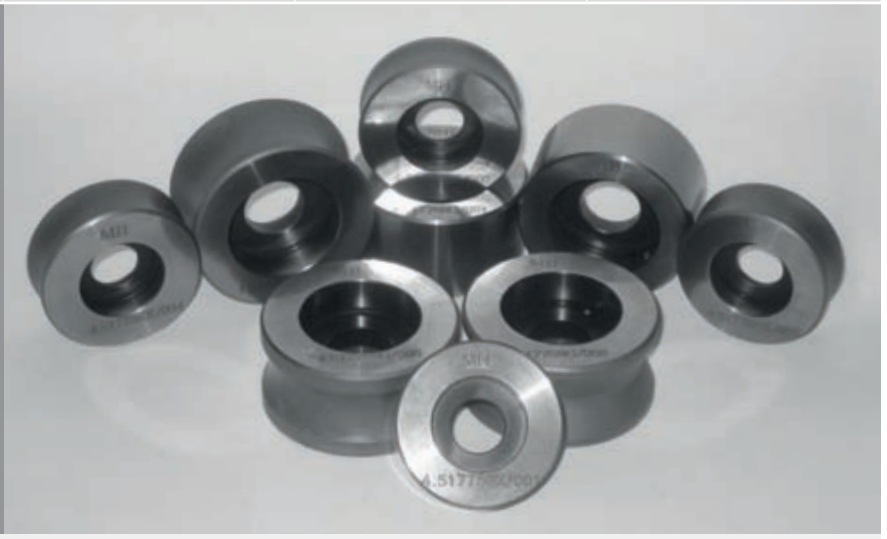
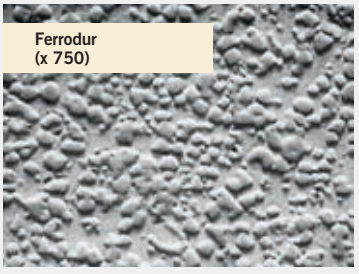
Feature	Ferrodur	Tool Steel	WC
Density (g/cm^3)	6.5	7.9-8.5	12.8-14.4
Hardness (HRc)	69-71	54-62	57-68
Transverse rupture strenght (MPa)	590-980	1470-1760	2450-2750
Compressive strength (MPa)	2000-2700	3500-3700	2850-4700

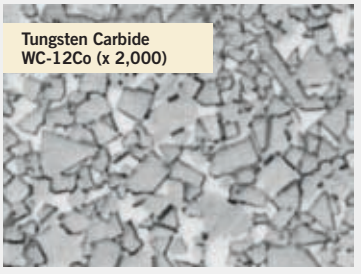




Ferrodur Rollers are based on Titanium Carbide dispersed into a tool metal matrix

Main Features
> High wear resistance thanks also to the smooth, rounded structure that offers an extremely non-abrasive surface to metal to metal contact.
> Lower specific weight (one third lighter than steel, less than one half the weight of tungsten carbide). Therefore it has less inertia leading to longer bearing life and lower wearing during acceleration phase.
> The sintered carbide composing the rollers is virtually porosity-free thanks to the hot isostatic process.


Ferrodur (x 750)


Tungsten Carbide WC-12Co (x 2,000)

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