

Cast Iron Roll Specifications

GRADE: High Chrome Iron

Union Electric Åkers
Forged and Cast Rolls



DESCRIPTION

Centrifugally Cast, Nodular Core

Developed for use as work rolls in the early finishing stands of hot strip mills, High Chrome Iron rolls are centrifugally cast double poured and consist of a shell which is essentially a high chromium white iron with journals and barrel axis of cast iron. This type of shell material combines very good wear properties with an excellent resistance to fire cracking and banding, and also has good hot hardness characteristics. Thus the rolls are very resistant to both surface deterioration and damage in service leading to high tonnage output, good stock finish and extended mill availability.

The structure of the shell metal consists of primary chromium carbides in a matrix which is acicular with fine globular carbides.

High Chrome Iron rolls have also proved to be very successful as cold mill work rolls as they offer a number of advantages. As well as their excellent grip properties which greatly facilitate 'threading' of the mill, High Chrome Iron rolls have much higher wear resistance which leads to higher tonnage outputs. Other factors are that High Chrome Iron rolls show little fall off in hardness to discard so that expensive re-hardening is not required. Their lower residual stress and relatively high toughness make the rolls much more resistant to damage from mill incidents.

High Chrome Iron rolls for cold mills can be supplied with a hardness of up to 87 Shore C.

The core material for any centrifugally cast High Chrome Iron roll will be nodular iron which achieves greater mechanical strength. The extra strength provided has become increasingly important in mills using work roll bending and shifting systems.

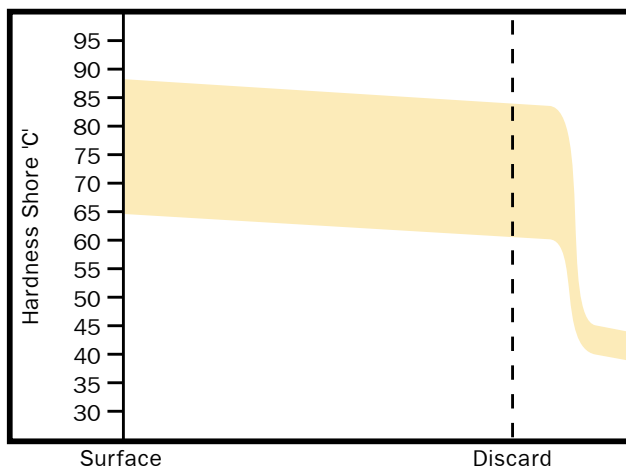
APPLICATIONS

Product	Type of Mill	Position
Plate	4 High	Work Rolls
Wide Strip	4 High	Roughing/Finishing
Sheet and Coil	2 High Skin Pass	Work Rolls

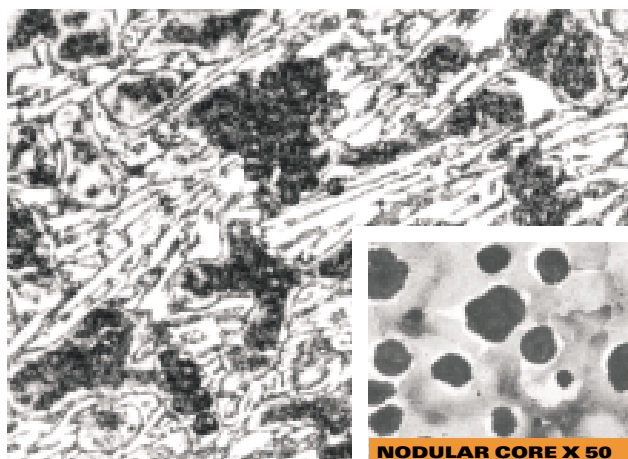
TYPICAL MECH. PROPERTIES

Property	N/mm ²	
	Barrel	Journals & Axis
Tensile Strength	850	425
Bending Strength	1300	835

DEPTH OF HARDNESS



MICROSTRUCTURE X500



NODULAR CORE X 50

AIM CHEMISTRY (WT%)

Code	Leeb E	Shore C	C	Si	Mn	Ni	Cr	Mo
HC	711/805	70/87	2.4/3.0	0.5/1.8	0.7/1.5	0.6/1.5	14/20	0.7/3.5