

Cast Steel Roll Specifications

GRADE: 3 Chrome

Union Electric Åkers
Forged and Cast Rolls



DESCRIPTION

The 3 Chrome differentially hardened Monobloc Roll is the industrial standard used in most rolling applications. Specifically used for Back-Up Rolls in 4-Hi Hot and Cold Mills as well as Roughing Mill Work Rolls in 2-Hi Mills. This material and manufacturing method has a long history of reliability and performance in operation.

In the differential hardening process, the rolls are first treated to produce the optimum tough journal neck structure for meeting the mechanical requirements of the mill. The barrel surface layer is then heated to a controlled depth by means of a special Rotary Selsas Furnace. The optimum wear resistant rolling structure is then obtained through a controlled water quench and isothermal hold. Finally, the roll is given a tempering treatment to achieve the appropriate hardness.

Thus, 3 Chrome Rolls combine resistance to breakage with good wear performance and surface finish and are capable of meeting the campaign requirements of most mills. The Monobloc Casting Method is preferred over the Duplex Casting Method to prevent potential shell to core bond problems. The high strength and spall resistance of the hardened layer makes these rolls particularly suitable as Back-Up Rolls.

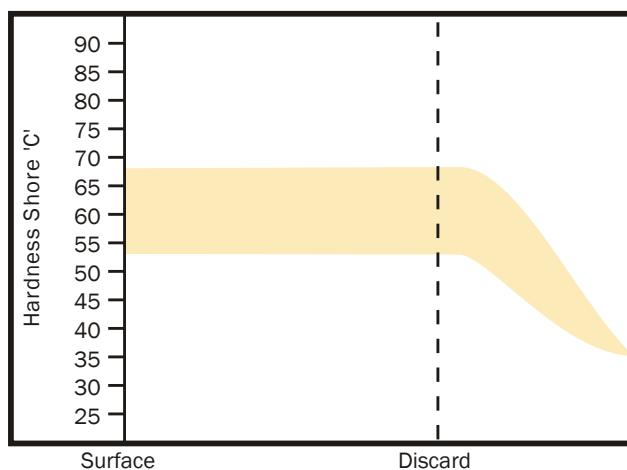
APPLICATIONS

Product	Type of Mill	Position
Hot Rolled Coil	2 High Roughing	Work Rolls
Hot Rolled Coil	4 High Roughing / Finishing	Back Up Rolls
Plate	2 High Roughing	Work Rolls
Plate	4 High Roughing / Finishing	Back Up Rolls
Aluminium	4 High Roughing / Finishing	Back Up Rolls
Cold Rolled Coil	4 High Tandem	Back Up Rolls
Cold Rolled Coil	4 High Temper / DR	Back Up Rolls
Cold Rolled Coil	4 High Galv / Skin Pass	Back Up Rolls

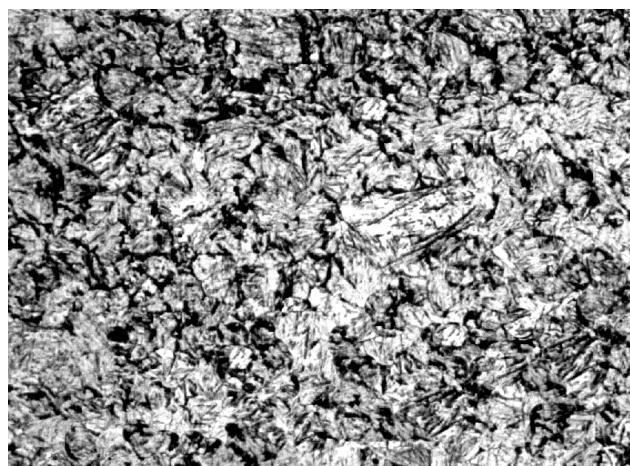
TYPICAL MECH. PROPERTIES

Property	N/mm ²	
	Barrel Surface	Journals & Axis
Tensile Strength	1350	750
Bending Strength	1850	1030

DEPTH OF HARDNESS



MICROSTRUCTURE X100



AIM CHEMISTRY (WT%)

Code	Leeb E	Shore C	C	Si	Mn	Ni	Cr	Mo
3 Chrome	620/700	55/68	0.3/0.7	0.3/0.8	0.5/1.10	1.0 max	2.5/3.6	0.3/0.6