

Forged Steel Roll Specifications

GRADE: DH3CR



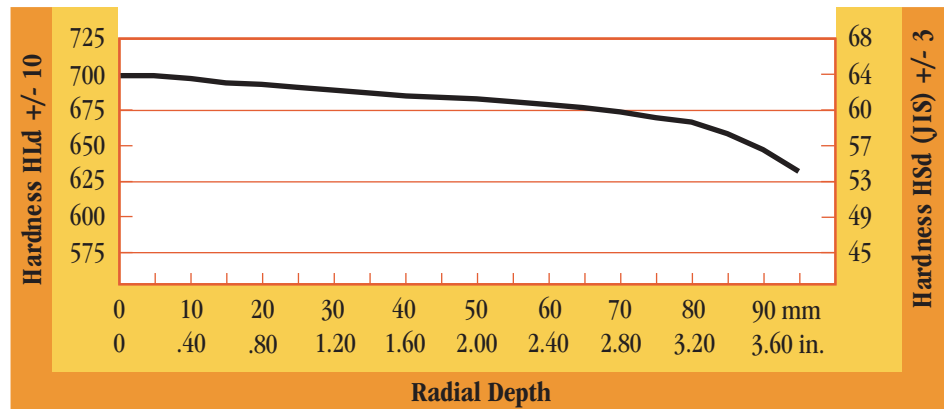
DESCRIPTION

This alloy can be used for back-up rolls in all types of ferrous and nonferrous mill applications. The 3% chromium alloy can be heat treated to increase neck strength for mill applications that require "flexure response" and increased resistance to neck breakage. The bainitic microstructure has proven to be effective in increasing the resistance to instantaneous low cycle contact stress fatigue.

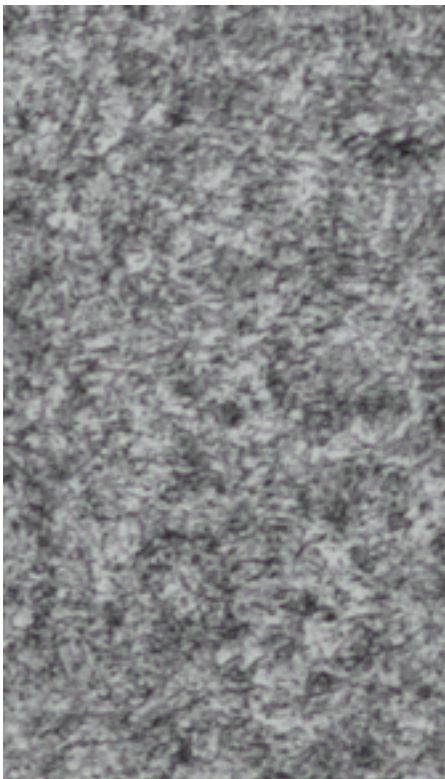
AIM CHEMISTRY (WT%)

C	Mn	P	S	Si	Cr	Mo	V
.50	.70	.015 max	.012 max	.37	3.12	.53	.06

DEPTH OF HARDNESS



MICROSTRUCTURE



1500X

HEAT TREATMENT CAPABILITY

Decrease from Initial Surface Hardness (Radial Depth)

Hardening Method	10/20 HLd	50/60 HLd
	2/4 Hsd (JIS)	10/12 Hsd (JIS)
Gas Fired	1.20" (30 mm)	3.60" (90 mm)

TYPICAL CARBIDE ANALYSIS

Carbide Type	Carbide Hardness (HV)	Surface Area (%)	Average Diameter (μ)	Carbide Density (Carbide/mm ²)
M ₃ C	850-1100	2 - 3	.7	0.8 x 10 ⁵