Cast Steel Roll Specifications

GRADE: Alloy Steel Base

Union Electric Åkers
Forged and Cast Rolls
™

DESCRIPTION

Alloy Steel Base is a low alloy hypereutectoid steel with a carbon content between 1.2% and 2.4%. The most important characteristic of this class of steels is the presence of carbide in the microstructure and this markedly increases the wear resistance of the material. Careful alloy selection and heat treatment ensures that the carbides do not form a continuous network.

The amount of carbide present and therefore the wear resistance increases with the carbon content but with some loss in strength. Accordingly the highest carbon grades are normally used for finishing applications.

The matrix can range from lamellar to spheroidised pearlite and is controlled by heat treatment according to the required mill application.

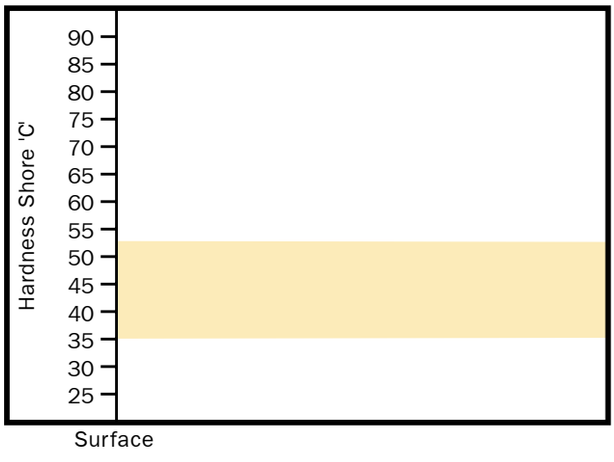
The most useful property of Steel Base is that the hardness and wear resistance are virtually constant across any given cross section. Rolls in this grade are therefore ideal for section rolling, particularly where deep grooves are required.

Product	Type of Mill	Position
Billet	2 High Continuous	Rough and Intermediary
Heavy Section and Rail	2 and 3 High	All Positions
Beams	Universal	All Positions
Medium Section	2 and 3 High	All Positions
Heavy Section	2 and 3 High	All Positions

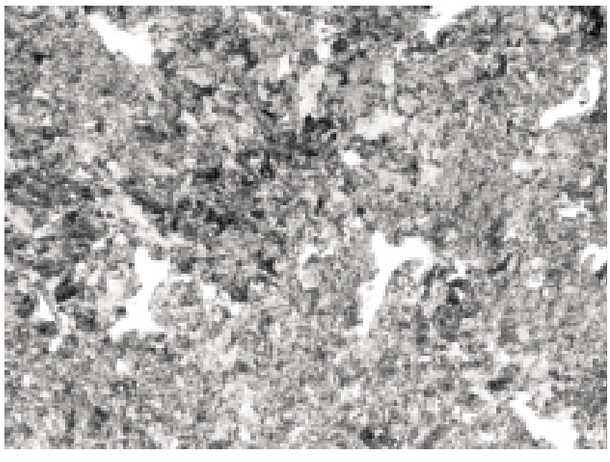
TYPICAL MECH. PROPERTIES

	N/mm2	
Property	Low Carbon	High Carbon
Tensile Strength	460	395
Bending Strength	650	540

DEPTH OF HARDNESS



MICROSTRUCTURE X100



AIM CHEMISTRY (WT%)

Code	Leeb E	Shore C	C	Si	Mn	Ni	Cr	Mo
S8	530/580	40-49	1.4/1.6	0.3/0.8	0.5/0.9	0.5max	0.8/1.4	0.25max
S10	560/610	45-54	1.8/2.0	0.3/0.8	0.5/0.9	0.5max	0.8/1.4	0.25max