

# Cast Iron Roll Specifications

## GRADE: Alloy Indefinite Chill

**Union Electric Åkers**  
Forged and Cast Rolls



### DESCRIPTION

#### Centrifugally Cast Nodular Core

The standard Alloy Indefinite Chill (AIC) roll material, also known as Indefinite Chill Double Pour (ICDP), is specially suited to the conditions exhibited in the late stands of hot rolling applications and has a long history of reliability and performance in operation. They also provide excellent results under variable operating conditions such as reversing finishing mill and plate mill operations.

The first class wear and mechanical damage resistance of the roll barrel material is achieved with a matrix consisting of a unique balance of hard, wear resistant primary carbides and graphite in a compacted flake form. The matrix of the roll barrel material is a carefully controlled mixture of tempered bainite and martensite for high strength, ductility and toughness. The centerline and neck of the roll is made using a well controlled spheroidal graphitic iron for optimum strength, ductility and toughness which has become increasingly important in mills which use heavy roll bending and shifting systems. The vertical centrifugal casting method used by Union Electric Åkers results in a high strength bond between the shell and the core which exhibits good resistance to separation during rolling.

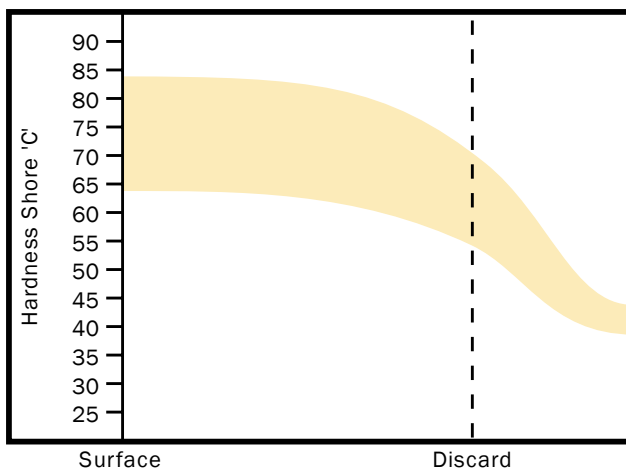
### APPLICATIONS

Product	Type of Mill	Position
Plate	2, 3 and 4 High	Roughing/Finishing
Wide Strip	4 High Continuous	Finishing
Wide Strip	4 High Reversing	Roughing/Finishing
Cold Reduced Strip	4 High Continuous	Work Rolls
Sheet and Coil	2 High Skin Pass	Work Rolls
Sheet and Coil	4 High Temper	Back Up Rolls

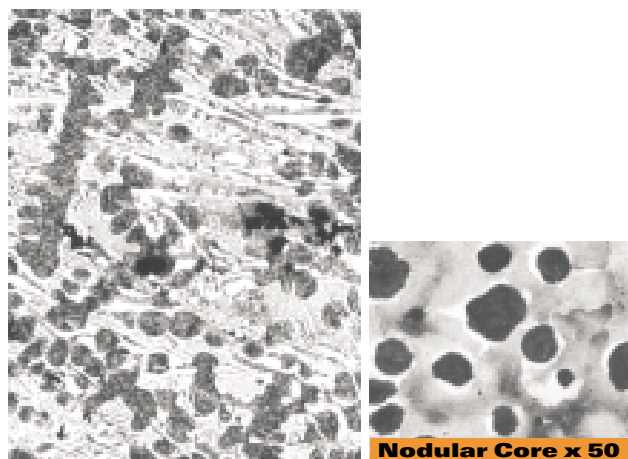
### TYPICAL MECH. PROPERTIES

Property	N/mm <sup>2</sup>	
	Barrel	Journals & Axis
	Nodular Core	
Tensile Strength	345	425
Bending Strength	540	835

### DEPTH OF HARDNESS



### AIC SHELL X100



**Nodular Core x 50**

### AIM CHEMISTRY (WT%)

Code	Leeb E	Shore C	C	Si	Mn	Ni	Cr	Mo
RX8	710/755	72/78	3.0/3.4	0.7/1.2	0.3/1.5	3.8/4.8	1.0/2.0	0.1/0.4
RX9	740/770	75/80	3.0/3.4	0.7/1.2	0.3/1.5	4.0/5.0	1.0/2.0	0.1/0.4