Union Electric Åkers
Forged and Cast Rolls

Product Data
HOT STRIP MILL WORK ROLLS

URMA
High Chrome Steel

Chemical composition

	C	Si	Mn	Mo	Cr	Ni	W, V, Nb
URMA	**0.8 – 1.8**	**0.5 – 1.5**	**0.5 – 1.5**	**<1**	**10.0 – 14.0**	**0.5 – 1.5**	**<1**
STELLA	0.8 – 1.8	0.5 – 1.5	0.5 – 1.5	2.0 – 8.0	5.0 – 9.0	0.5 – 1.5	1-6
SPECRA R	1.1 – 2.1	0.5 – 1.5	0.5 – 1.5	2.0 – 8.0	3.0 – 7.0	0.5 – 1.5	2-10

Properties

Hardness Range	Le	725-760
Tensile strength	(MPa)	850
Thermal conductivity	(W/m x K)	16
Thermal exp. coeff. (20-100C)	(1/Kx10-6)	10
Young's modulus	(GPa)	220
Poisson's ratio	–	0,28
Density	(kg/m^3)	7600
Specific heat	(J/kg x K)	490

Comparative properties

	Wear resistance	Fire crack resistance	Oxidation behaviour	Friction
URMA	—	—	—	—
STELLA	—	—	—	—
SPECRA R	—	—	—	—

Description

Double poured high chrome steel produced by the vertical spin casting process.

The microstructure consists of a tempered bainitic/martensitic matrix with Cr_7C_3 -carbides.

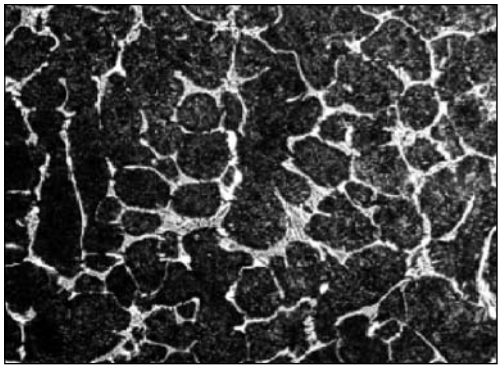
The roll is heat treated at high temperatures to obtain optimum material properties, favourable stress levels and homogeneous hardness.

CORE MATERIAL
Nodular iron (SG).

(Properties displayed in a separate product data sheet.)

Applications

Work rolls for the roughing stands of conventional HSM and Steckel mills.



Microstructure URMA

Features & Benefits

- Excellent fire crack resistance and very good oxidation behaviour at high temperatures.
- Very good wear resistance in combination with good operation safety.
- Constant material properties throughout the usable shell.

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