

## Product Data HOT STRIP MILL WORK ROLLS

# STELLA

Semi High Speed Steel

#### Chemical composition

	С	Si	Mn	Мо	Cr	Ni	
							Nb
STELLA	-	-	-	2.0 - 8.0	-	0.5 _ 1.5	1-6
URMA	0.8 1.8	0.5 _ 1.5	-	<1	10.0 		<1
SPECRA R	1.1 2.1	-	-	-	3.0 7.0	0.5 _ 1.5	2–10

#### Properties

Hardness Range	Le	740-775
Tensile strength	(MPa)	800
Thermal conductivity	(W/m x K)	18
Thermal exp. coeff. (20-100C)	(1/Kx10-6)	13
Young's modulus	(GPa)	235
Poisson's ratio	_	0,29
Density	(kg/m³)	7600
Specific heat	(J/kg x K)	475

## Comparative properties

		Fire crack resistance		Friction
STELLA	—		—	—
URMA	_		—	
SPECRA R			_	

## Description

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

The Shell microstructure is primary and finely precipitated secondary carbides of MC,  $M_2C$ , and some  $M_7C_3$  carbides in a matrix of tempered martensite. There is less than 3% retained austenite.

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

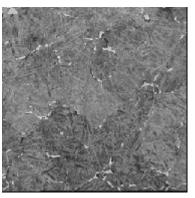
#### CORE MATERIAL

Nodular iron (SG).

(Properties displayed in a separate product data sheet.)

## Applications

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



Microstructure STELLA

# Features & Benefits

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

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