ROLL MATERIAL DATA SHEET

Nodular Cast Iron (Pearlitic)

GRADE

SGP

01 FIELD OF APPLICATION

Mill Type	Position
Bar and Rebar Mills	Roughing and Intermediate Stands
Light Section Mills	Roughing and Intermediate Stands
Heavy and Medium Section Mills	Roughing, Intermediate and Finishing Stands

02 MECHANICAL PROPERTIES

HARDNESS RANGE	TENSILE STRENGTH	BENDING STRENGTH	YOUNG'S MODULUS
45-60 ShC	**350-450** MPa	**600-900** MPa	approx. **170,000** MPa

The microstructure of these rolls is composed of a pearlitic matrix containing primary carbides and nodular graphite. The relatively high volume fraction of graphite, together with its spherical shape, provides good resistance to thermal shock as well as crack formation and propagation. In case required, these rolls are subjected to a normalization heat treatment, which increases toughness and decreases hardness drop across the working depth.

Pearlitic rolls are mainly produced by static casting, however, centrifugal casting process can be employed depending on the desired properties and applications. Because of the above-mentioned characteristics, these rolls are well-suited for roughing and intermediate stands of section mills.

PRODUCT HIGHLIGHTS

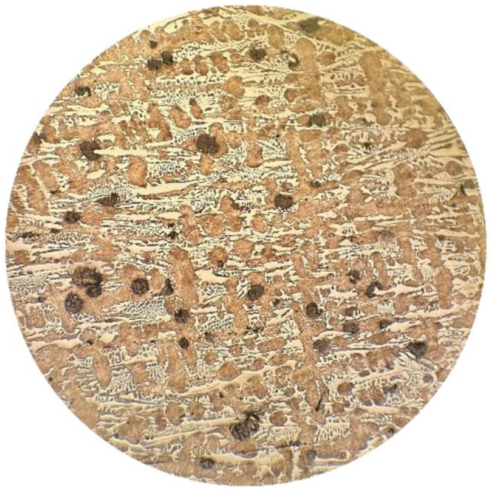
- Good wear resistance
- Good fire cracking resistance
- Good fracture toughness



03 CHEMICAL COMPOSITION

wt. %	C	Mn	Si	P	S	Ni	Cr	Mo
Min	3.10	0.30	1.20	0.00	0.00	1.30	0.20	0.00
Max	3.60	1.00	2.20	0.05	0.05	2.50	0.60	0.50

04 MICROSTRUCTURE



■ *100 X – etched*

05 HARDNESS GRAPH

