Nodular Cast Iron (Acicular) – SGA

Field of Application

Mill Type	Position
Bar and Rebar Mills	Intermediate and Finishing Stands
Light Section Mills	Intermediate and Finishing Stands

Properties

Hardness Range	60 -75 ShC
Tensile Strength	350 to 450 MPa
Bending Strength	600 to 900 MPa
Young's Modulus	≈ 170.000 MPa

The microstructure of these rolls consists of a bainitic matrix containing carbides and nodular or compact graphite. Owing to the bainitic matrix and the relatively high volume fraction of carbides, these rolls exhibit good wear resistance. At the same time, presence of graphite improves resistance to thermal shocks. Moreover, addition of alloying elements, inducing MC-carbides such as Nb and V, leads to the development of enhanced acicular grades with higher wear resistance.

These rolls are mainly produced through centrifugal casting; however, static casting can also be employed when producing grades with lower hardness.

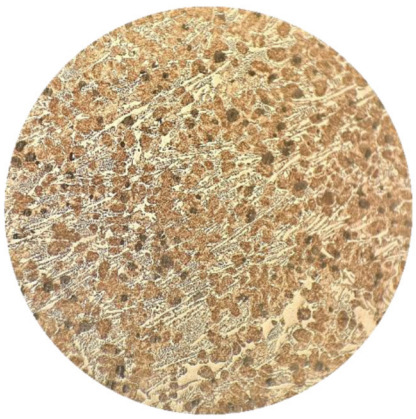
Product Highlights

- Good Wear Resistance
- Good Fire Cracking Resistance

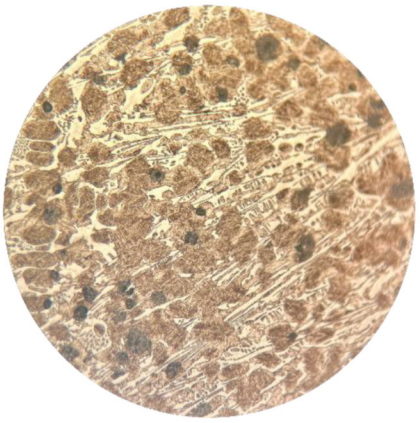
Chemical Composition:

	C	Mn	Si	P	S	Ni	Cr	Mo	Nb + V
Min	3.10	0.30	1.20	0.00	0.00	2.50	0.30	0.30	0.00
Max	3.60	1.00	2.20	0.05	0.05	3.70	1.20	1.00	1.50

Microstructure:

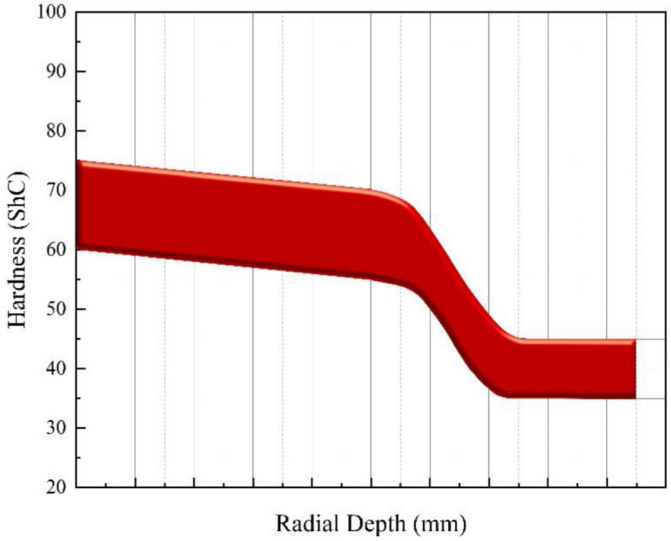


100 X – etched



200 X – etched

Hardness Graph (Shell – Interface – Core):



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