ROLL MATERIAL DATA SHEET

Checker Plate Roll

GRADE

HiCr-Iron

01 FIELD OF APPLICATION

Mill Type	Position
Hot Strip Mill	Last Finishing Stands - Work Roll

02 MECHANICAL PROPERTIES

HARDNESS RANGE	TENSILE STRENGTH	BENDING STRENGTH	YOUNG'S MODULUS
60-70 ShC	> **700** MPa	> **1000** MPa	approx. **225,000** MPa

This material, a special HiCr-Iron, is used as the top roll in the last stand of an HSM to produce a checker plate.

The hardness requirement - to ensure the notches can be machined - is adjusted by using a special heat treatment.

The microstructure of the high chromium cast iron consists of high amount of chromium carbides (M_7C_3) embedded in a matrix of tempered martensite. This grade shows very good wear and oxidation resistance.

Due to the special structure of the Chromium carbides the alloy has superior mechanical strength and toughness in comparison to other carbide containing materials.

PRODUCT HIGHLIGHTS

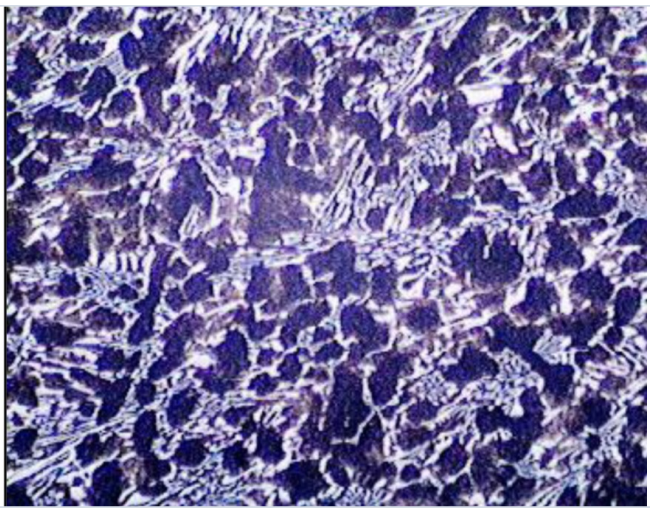
- Excellent wear resistance and oxidation resistance
- Constant material properties during service life



03 CHEMICAL COMPOSITION

wt. %	C	Mn	Si	P	S	Ni	Cr	Mo	Nb + V + W
Min	2.50	0.50	0.20	0.000	0.000	1.00	10.50	0.40	0.00
Max	3.10	1.50	1.00	0.050	0.050	2.00	19.00	3.60	2.00

04 MICROSTRUCTURE



100 X – etched (Nital)