

CRONA

High Chrome Iron

Chemical composition

| | C | Si | Mn | Mo | Cr | Ni | W, V, Nb |
|--------------|--------------------------|--------------------------|--------------------------|--------------------------|----------------------------|--------------------------|--------------------------|
| CRONA | <u>2.3</u> <u>3.0</u> | <u>0.6</u> <u>1.0</u> | <u>0.8</u> <u>1.2</u> | <u>1.0</u> <u>1.5</u> | <u>15.0</u> <u>20.0</u> | <u>1.0</u> <u>1.5</u> | <u>0.2</u> <u>0.6</u> |
| ICRA | <u>3.0</u> <u>4.0</u> | <u>0.5</u> <u>1.5</u> | <u>0.5</u> <u>1.6</u> | <u>0.2</u> <u>0.8</u> | <u>1.0</u> <u>2.0</u> | <u>3.0</u> <u>4.0</u> | <0.5 |
| MICRA | <u>3.0</u> <u>4.0</u> | <u>0.5</u> <u>1.5</u> | <u>0.5</u> <u>1.6</u> | <u>0.2</u> <u>0.8</u> | <u>1.0</u> <u>2.0</u> | <u>3.0</u> <u>4.0</u> | 1-4 |
| CICRA | <u>2.2</u> <u>2.9</u> | <u>0.7</u> <u>0.8</u> | <u>1.0</u> <u>1.2</u> | <u>1.0</u> <u>1.5</u> | <u>15.0</u> <u>20.0</u> | <u>1.0</u> <u>1.5</u> | 1-2 |
| URMA | <u>1.0</u> <u>2.0</u> | <u>0.7</u> <u>0.8</u> | <u>0.5</u> <u>1.5</u> | <u>0.2</u> <u>0.8</u> | <u>10.0</u> <u>14.0</u> | <u>0.5</u> <u>1.5</u> | <u>0.2</u> <u>0.6</u> |

Properties

| | | |
|-------------------------------|----------------------|-------------------|
| Hardness | Ld (ShC) | 710-765 (65 - 75) |
| Tensile strength | (MPa) | 650 |
| Thermal conductivity | (W/m x K) | 19 |
| Thermal exp. coeff. (20-100C) | (1/Kx10-6) | 13,5 |
| Young's modulus | (GPa) | 220 |
| Poisson's ratio | - | 0,31 |
| Density | (kg/m ³) | 7600 |
| Specific heat | (J/kg x K) | 450 |

Comparative properties

| | Wear resistance | Fire crack resistance | Toughness | Product surface |
|--------------|-----------------|-----------------------|-----------|-----------------|
| CRONA | — | — | — | — |
| ICRA | - | — | — | — |
| MICRA | — | — | — | — |
| CICRA | — | — | — | — |
| URMA | — | — | — | — |

Description

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

The microstructure consists of a tempered bainitic/martensitic matrix with Cr₇C₃-carbides.

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

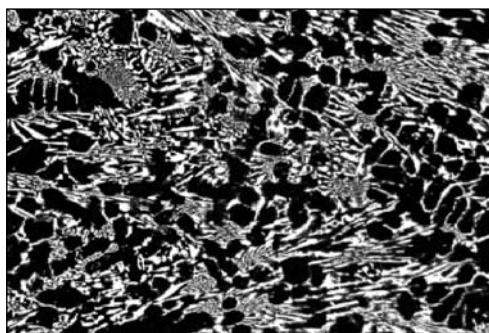
CORE MATERIAL

High strength flake iron (HS) or Nodular iron (SG).

(Properties displayed in a separate product data sheet.)

Applications

Work rolls for single or double stand plate mills.



Microstructure CRONA.

Features & Benefits

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