

# NIRA P

*Cast Nodular Iron*

## Chemical composition

|               | C                             | Mn                            | Si                            | Cr             | Mo              | Ni                            | W, V<br>Nb |
|---------------|-------------------------------|-------------------------------|-------------------------------|----------------|-----------------|-------------------------------|------------|
| <b>NIRA P</b> | <b>3.0</b><br>—<br><b>4.0</b> | <b>0.3</b><br>—<br><b>1.0</b> | <b>0.5</b><br>—<br><b>2.5</b> | <b>&lt;1.0</b> | <b>&lt;1.0</b>  | <b>1.0</b><br>—<br><b>3.5</b> | —          |
| NIRA<br>AC    | 3.0<br>—<br>4.0               | 0.3<br>—<br>1.3               | 0.5<br>—<br>2.5               | <1.0           | 0.5<br>—<br>1.0 | 2.5<br>—<br>4.5               | —          |
| NIRA<br>MO    | 3.0<br>—<br>4.0               | 0.5<br>—<br>1.5               | 1.5<br>—<br>2.5               | <0.5           | 0.2<br>—<br>1.0 | 1.5<br>—<br>2.5               | —          |

## Properties

|               | Hardness<br>LE (ShC)             | Tensile<br>strength<br>MPa | Bending<br>strength<br>MPa |
|---------------|----------------------------------|----------------------------|----------------------------|
| <b>NIRA P</b> | <b>620-650</b><br><b>(55-60)</b> | <b>400-600</b>             | <b>800-1100</b>            |
| NIRA AC       | 655-685<br>(61-66)               | 400-800                    | 800-1200                   |
| NIRA MO       | 530-575<br>(40-48)               | 420-750                    | 900-1300                   |

## Comparative properties

|               | Fire crack<br>resistance | Toughness | Wear<br>resistance |
|---------------|--------------------------|-----------|--------------------|
| <b>NIRA P</b> | —                        | —         | —                  |
| NIRA AC       | —                        | —         | —                  |
| NIRA MO       | —                        | —         | —                  |

## Description

Pearlitic nodular iron rolls.

## Applications

Roughing, Intermediate and  
Finishing stands of heavy and  
medium section mills.

Vertical rolls.

## Features & Benefits

- Suitable for most applications