

## FURNACE ROLLERS GX40CrNiSi25-12

### MATERIAL DATA SHEET



#### FEATURES

GX40CrNiSi25-12 is a cast austenitic and heat resistant alloy with chromium-nickel and an average carbon content. A balanced composition provides excellent structural stability, high stress rupture strength and solid resistance to oxidation and carburization.

The material is resistant to the scaling effect of gases at temperatures above 600°C and can be used in gases and combustion products up to 1050°C.

#### PRODUCT FORMS

GX40CrNiSi25-12 is designed with die casting and fine casting to match specific design criteria in terms of carburization and oxidation resistance. Additional information including maximum and minimum sizes is provided by our sales representatives in your region.

CHEMICAL COMPOSITION*	MASS, %
Carbon	0.3
Silicon	1.5
Manganese	1.5
Chromium	24
Phosphorus	0,035
Sulfur	0,030
Nickel	11

\* This is a typical composition which may be slightly modified according to the application.

## APPLICATIONS

The alloy is designed for oven parts with high mechanical stress including stoves for annealing furnaces, cooktop rails, glow augers and chain members in industrial furnace construction. Electric furnaces such as medium frequency induction furnaces is a typical application.

## PHYSICAL PROPERTIES

Density at 20°C: 7.8 g/cm<sup>3</sup>

## MECHANICAL PROPERTIES

(only for wall thickness less than 25 mm, in the as-cast condition).

The mechanical properties are determined by means of probes made from cast or separately cast samples. The product's values can differ due to solidification and casting technology influences.

## MANUFACTURING CHARACTERISTICS

### MACHINING

In general terms the machinability of GX40CrNiSi25-12 is similar to that of other heat-resistant alloys.

### HEALTH, SAFETY AND ENVIRONMENTAL INFORMATION

The operation and maintenance of welding equipment should conform to the provisions of relevant national standards for the protection of personnel and environment.

Mechanical ventilation is advisable and under certain conditions in confined spaces, it is necessary during welding operations to prevent possible exposure to hazardous fumes, gases or dust that may occur.

Nickel- and iron-base materials may contain, in varying concentrations, the elements chromium, iron, manganese, molybdenum, cobalt, nickel, tungsten and aluminium. Inhalation of metal dust from welding, grinding, melting and dross handling of these alloy systems may cause adverse health effects.