

# Ferro Chromium

26	55.845	24	51.9961
<b>Fe</b>	<sup>5</sup> D <sub>4</sub>	<b>Cr</b>	<sup>7</sup> S <sub>3</sub>
	1,83		1,66
<b>Iron</b>		<b>Chromium</b>	
7,874	7,9024	7,14	6,7665
1538	2861	1907	2671
(m) 126	BCC	(m) 128	BCC
[Ar] 3d <sup>6</sup> 4s <sup>2</sup>		[Ar] 3d <sup>5</sup> 4s <sup>1</sup>	
+2,3		+2,3,6	

## Description

Ferro Chromium is a Ferro Alloy that is obtained by the reduction of chromium ore and uses more than 90% of the the mineral's total production. In international trade, Ferro Chrome is classified primarily according to its carbon content. For example, Metal Bulletin quotes for the following categories:

- Charge Chrome, base 52% Cr
- Ferro Chrome HC with C content from 6% to 8%, base 60% Cr, and a maximum of 1.5% Si.
- Ferro Chrome HC with C content from 6% to 8%, based on 60%-65% Cr, and 2% Si maximum.
- Ferro Chrome HC with C content from 6% to 8%, 50% Cr basis
- Ferro Chrome HC low P, Cr 65% minimum, C max 7%, Si max 1% max, P 0.015%, Ti 0.05% maximum.
- Ferro Chrome LC with C content from 0.10% and Cr content of 60%-70%.
- Ferro Chrome LC, 0.05% C, 65% minimum Cr
- Ferro Chrome LC, up to 0.06% C, 65% Cr
- Ferro Chrome LC, 0.10% C, 62% minimum Cr
- Ferro Chrome LC, 0.10% C, 60% - 70% Cr
- Ferro Chrome LC, 0.15% C, 60% minimum Cr

The Charge Chrome grade was introduced by the producers of the southernmost part of Africa (South Africa, Zimbabwe, etc.) to differentiate their product from the conventional HC Ferro Chrome. Countries with a greater production of Ferro Chrome are currently China, Kazakhstan, South Africa and India.

## Properties

PHYSICAL STATE	Solid
COLOUR	Metallic gray
ODOUR	Odourless
MELTING POINT	>1500°C
BOILING POINT	2700-3000°C
SPECIFIC GRAVITY	6-9 g/cm <sup>3</sup>
BULK DENSITY	3.2-3.7 g/cm <sup>3</sup>

Chromium is resistant to common corrosive agents at room temperature, and is therefore a fundamental constituent element for stainless steel, it also promotes the hardening of steels and the homogenization of this feature. It may react with some acids with the evolution of hydrogen. It can react with fused alkali with the formation of compounds containing hexavalent chromium. Ferro Chromium is neither classified as hazardous according to the relevant European regulations, nor is classified as a hazardous good for its transportation.

## Uses

- Over 80% of the production of Ferro Chrome is intended as a chromium alloying agent in the manufacturing of stainless steel. The rest goes to smelting with high content in Chromium, special steels manufacturing, etc.