

# Ferro Aluminium

26	55.845	13	26.981538
<b>Fe</b>	<sup>5</sup> D <sub>4</sub>	<b>Al</b>	<sup>2</sup> P <sub>1/2</sub>
	1,83		1,61
<b>Iron</b>		<b>Aluminum</b>	
7,874	7,9024	2,7	5,9858
1538	2861	660,32	2519
(m) 126	BCC	(m) 143	FCC
[Ar] 3d <sup>6</sup> 4s <sup>2</sup>		[Ne] 3s <sup>2</sup> 3p <sup>1</sup>	
+2,3		+3	

## Description

Ferro Aluminium is a Ferro Alloy composed of Iron and Aluminium with the content of the latter defining the quality of the product, ranging from 30% to 75%.

The manufacturing of Ferro Aluminum is performed as a three step process:

- Initially, Alumina (Al<sub>2</sub>O<sub>3</sub>) is obtained through the Bayer process by digestion of bauxite with sodium hydroxide (NaOH) at about 240° C
- Consequently, the alumina is subjected to a Hall electrolytic process together with Cryolite to obtain Aluminium that will then be combined with Iron to obtain the Ferro Aluminium.
- Finally, after the solidification of the metal, milling and sieving processes are carried out, thus obtaining the suitable particle size for its addition in steel and cast iron

Most of the world's Ferro Aluminium supply is produced by Australia, China, Russia, USA and Canada, with the cost of electricity being the decisive factor in the aluminium obtaining process.

## Uses

The uses of Ferro Aluminium include:

- Its ability to be a deoxidizing agent in the manufacturing of steels.
- The possibility to manufacture low melting point alloys.
- Its ability to carry out aluminothermic welding.