

Ferro Tungsten

26	55.845	74	183.84
Fe	⁵ D ₄	W	⁵ D ₀
	1,83		2,36
Iron		Tungsten	
7,874	7,9024	19,25	7,8640
1538	2861	3422	5555
(m) 126	BCC	(m) 139	BCC
[Ar] 3d ⁶ 4s ²		[Xe] 4f ¹⁴ 5d ⁴ 6s ²	
+2,3		+2,3,4,5,6	

Description

Ferro Tungsten is a Ferroalloy composed of iron and tungsten with a tungsten content ranging between 70%/75% and 75%/82%, with this content being the defining character for the quality of the product.

The production of Ferro Tungsten can be carried out through the carbothermic reduction of tungsten ore (WO₃) in a bath with iron scrap for grades between 70%/75%; for higher Tungsten grades, aluminothermic processes are required. The largest producer is China.

Properties

PHYSICAL STATE	Solid
COLOUR	Metallic gray
ODOUR	Odourless
MELTING POINT	1650-2100°C
BOILING POINT	-
SPECIFIC GRAVITY	3,75 g/cm ³

Adding Ferro Tungsten to an alloy distinctly increases its melting point, which makes it very useful in aerospace applications and in welding. It also increases the hardness of the alloys without increasing its breakability, and increases electrical conductivity.

The product is stable under normal conditions. It hides any risk of explosion in its original form. In the form of fine dust, there is a small but greater risk of explosions, but low positive pressure eliminates any danger of explosion. It may react with acids to produce flammable gas or hydrogen.

Its preparation is not classified as dangerous according to the relevant European regulations, and it is also not classed as a hazardous good for transportation.

Uses

The uses of Ferro Tungsten include:

- The manufacturing of high speed steels.
- The manufacturing of tool steels.
- The manufacturing of structural steels.
- The production of super alloys.
- Its use as a shield for military applications.

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