


Ferrotitanium (FeTi)

	Formula	FeTi
	CAS no.	12604-56-7
	Description	Ferrotitanium is a ferroalloy, an alloy of iron and titanium with between 10–20% iron and 45–75% titanium and sometimes a small amount of carbon. It is used in steelmaking as a cleansing agent for iron and steel; the titanium is highly reactive with sulfur, carbon, oxygen, and nitrogen, forming insoluble compounds and sequestering them in slag, and is therefore used for deoxidizing, and sometimes for desulfurization and denitrogenation. In steelmaking the addition of titanium yields metal with finer grain structure. Ferrotitanium can be manufactured by mixing titanium sponge and scrap with iron and melting them together in an induction furnace.

Physical Properties

General	The melting point and density of ferrotitanium depends on its titanium content			
Abrasion	good resistance to abrasion			
Corrosion	good resistance to corrosion			
Gravity	high specific gravity			
Magnetism	high magnetism			
	Density		Melting Point	
FeTi 30	6,2 g/cm ³	0,224 lb/in ³	1350-1500 °C	2462-2732 °F
FeTi 40	5,9 g/cm ³	0,213 lb/in ³	1300-1480 °C	2372-2696 °F
FeTi 50	5,5 g/cm ³	0,199 lb/in ³	1300-1480 °C	2372-2696 °F
FeTi 70	5,4 g/cm ³	0,195 lb/in ³	1070-1140 °C	1958-2084 °F

Source: Volkert, G. & Frank, K.-D.: Die Metallurgie der Ferrolegierungen

Actually requested materials based on [metalsHub](#) transactions

Material name	size [mm]	Composition, as percentages by mass					Packaging	Pallet
		Ti	Al	P	S	Si		
FeTi 65-80	Min.	10	65	-	-	-	1 mt big bags	euro pallet
	Max.	50	80	4,50	0,03	0,03		

The above data are based on real data from the metalsHub platform. These characteristics are the most common ones in metalsHub transactions. We will update the data regularly. [12,2020]

The DIN standard of Ferrotitanium (DIN 17566)

Material name	Composition, as percentages by mass														
		Ti ¹⁾	Al	B	Bi	C	Cu	Mn	N	P	Pb	S	Si	Sn	V
FeTi40Al6	Min.	36	-	-	-	-	-	-	-	-	-	-	-	-	-
	Max.	40	6	-	-	0,1	-	1,5	-	0,1	-	0,06	4,5	-	-
FeTi70Al0,5	Min.	65	-	-	-	-	-	-	-	-	-	-	-	-	0,5
	Max.	75	0,5	-	-	0,2	-	0,2	0,5	0,03	-	0,03	0,1	-	1,5
FeTi70Al2	Min.	65	-	-	-	-	-	-	-	-	-	-	-	-	-
	Max.	75	2	-	-	0,2	-	1	0,5	0,04	-	0,04	0,25	-	-
FeTi70Al5	Min.	65	-	-	-	-	-	-	-	-	-	-	-	-	-
	Max.	75	5	-	-	0,3	-	1	-	0,05	-	0,04	0,5	-	-
FeTi70Al4,5	Min.	68	-	-	-	-	-	-	-	-	-	-	-	-	-
	Max.	74	4,5	0,005	0,025	0,2	0,2	-	0,5	0,02	0,05	0,02	0,25	0,2	3

1) The titanium content shall not vary by more than 2 % within a consignment.

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the products traded on metalsHub.

[Click here for the ASTM standard specification for Ferrotitanium \(ASTM A324\)](#)

Interesting facts


FeTi 35
Vs
FeTi 70

There are two main grades of ferrotitanium, the first containing approximately 35% titanium and the second containing roughly 70% titanium. The 35% grade is produced via an aluminothermic reaction while the 70% grade is produced by melting titanium scrap and iron in an induction furnace.

Applications

- Steel and stainless steel processing units
- Additives for making special steel & flux-cored wire
- Military and commercial aircrafts
- Paints, varnishes, and lacquers.

Risk and Safety Statements

Symbols (GHS)			
Hazard Statements		H317	May cause an allergic skin reaction.
		H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
		H350i	May cause cancer via inhalation
		H372	Causes damage to lungs through prolonged or repeated inhalation exposure
Precautionary Statements	Prevention	P202	Do not handle until all safety precautions have been read and understood.
		P261	Avoid breathing dust / fume / gas / mist / vapors / spray.
		P280	Wear protective gloves / eye protection / face protection.
		P284	Wear respiratory protection.
	Response	P302+352	IF INHALED: Call a POISON CENTER or doctor / physician if you feel unwell.
	Storage	P405	Store locked up
Disposal	P501	Dispose of contents/container in accordance with local, regional, national, and international regulations.	

Source: VALE