

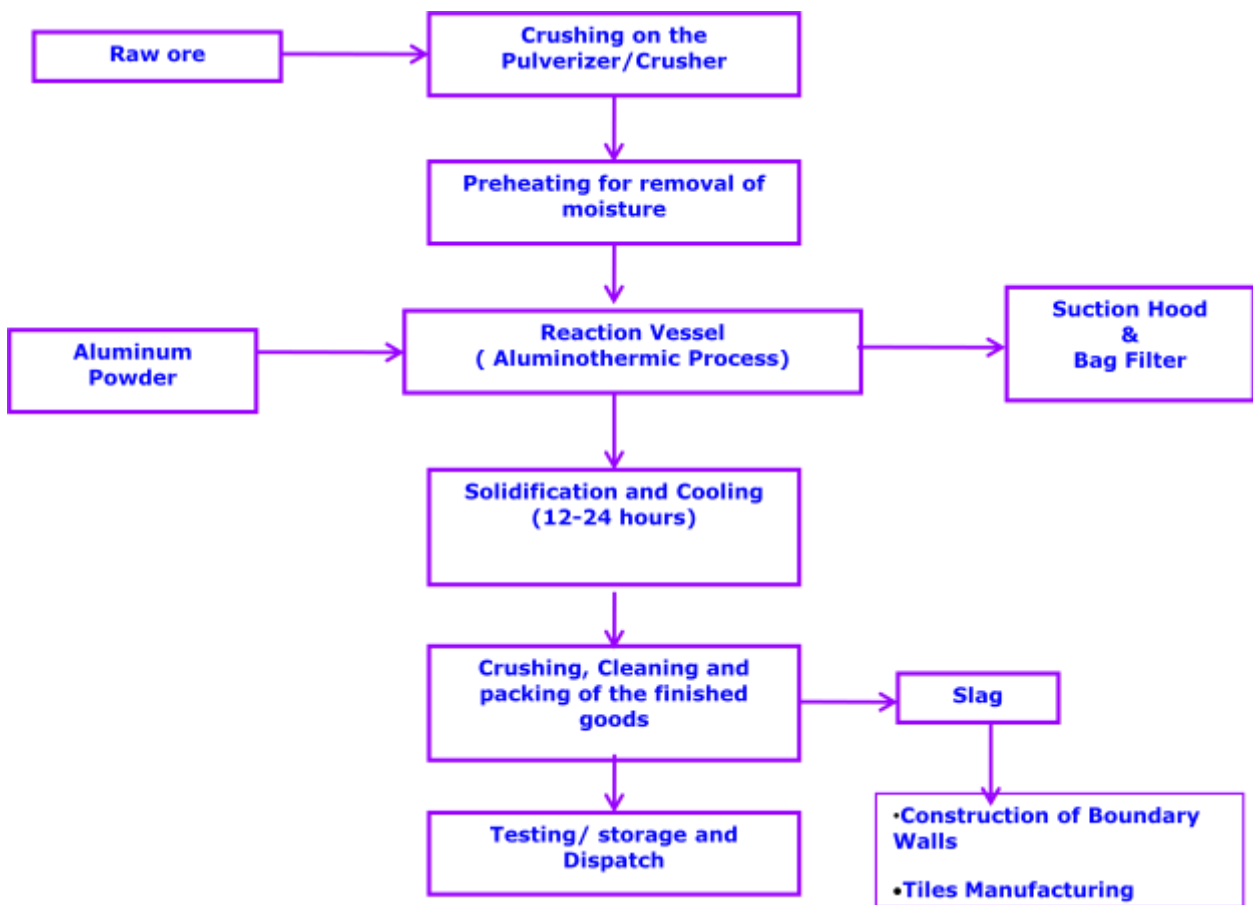
## Ferro Alloys / and Other Noble Ferro Alloys Thermite Process

Manufacturing of Ferro Alloys through Termite Process is very easy and simple.

Following activities are carried on:

- ✓ Powdering of different Alloys / Minerals.
- ✓ Mixing in blender in the required proposition
- ✓ Then a small fire is created (By aluminum powder) in the reaction vessel, where this blended material is added slowly. The powder starts melting inside the vessel and the Metallic contents are automatically separated which settles down and the sludge floats.
- ✓ Metal and Sludge are separated by manual processes.
- ✓ Metal is crushed and powdered in Pulveriser.
- ✓ The Metal is crushed and packed in bags and kept ready for dispatches.

The process flow chart is given in **Figure 2.5**.



**Figure 2.5: Thermite Process**

## Production Scenario

<b><u>By Thermite Process</u></b>	
Ferro Titanium <b>OR</b>	500 MTPA
Low/medium carbon ferro manganese <b>OR</b>	4000 MTPA
Ferro molybdenum <b>OR</b>	200 MTPA
Ferro vanadium <b>OR</b>	200 MTPA
Low/medium Carbon silico manganese <b>OR</b>	400 MTPA

### Quantitative Details of Raw Materials Required (Thermite Process)

Sr. No.	Raw material	Quantity required (TPA)				
		Low/medium carbon Si - Mn	Low/medium carbon Fe - Mn	Fe - V	Fe - Mb	Fe - Ti
1.	Manganese Ore	-	2500 MT	-	-	-
2.	Ilmenite Sand	-	-	-	-	300 MT
3.	Silico Manganese	400 MT	1000 MT	-	-	-
4.	Aluminum Powder	20 MT	100 MT	40 MT	40 MT	140 MT
5.	Aluminum Scrap	10 MT	400 MT	20 MT	10 MT	-
6.	Steel / Iron Scrap	-	-	-	5 MT	10 MT
7.	Molybdenum Concentrate	-	-	-	125 MT	-
8.	Flourspur,	-	-	2 MT	2 MT	5 MT
9.	Rutile / Zirconium,	-	-	-	-	50 MT
10.	Titanium Scrap,	-	-	-	-	40 MT
11.	Limestone Powder,	10 MT	400 MT	5 MT	5 MT	40 MT
12.	Titanium Dioxide,	-	-	-	-	5 MT