

Ferro Alloys in Industrial Perspective

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ABSTRACT

Ferro alloys are used in preparing various alloy compositions by melting and alloying. Ferro alloys like Fe-Si, Fe-Mn, Fe-Cr etc., are very popular in iron and steel making. This is due to the following reasons :

- i) It is easier to store a ferro alloy safely as compared to its pure component like Si, Mn and Ca etc., because these pure components are very reactive when stored openly.*
- ii) It is easier to make the ferroalloys rather than making the pure components like Si, Mn, Cr, V, W, P, S etc.,*
- iii) The pure components pose multifarious problems and in some cases it is impossible to introduce a component in the bath unless it is alloyed suitably, whereas furnace additions are easier with ferro alloys. •*

In India popular ferroalloys are made abundantly for which raw materials are available indigenously. But now-a-days emphasis is more on special materials since designers are narrowing down their requirements to very stringent composition ranges on one side and designed materials on the other side. Now-a-days economic and quality criteria are usually the controlling factors for special alloy additions. Earlier melter was happy to add Ni as Ni shots, but today trade reasons demand it to be added as Ferro-Nickel. Similarly the melter had no choice to add graphite fines to introduce carbon in the bath but today the quality constraints have made it imperative to use Fe_3C because it goes into solution more easily. So, ferroalloy production has to take a new direction in the perspective of the present day competitive world and more so in the liberalised economy.