## A Process for the Production of Ferrosilicon from Banded Hematite Jasper Ore

**Area**
- Ferro Alloys

**Uses**
- Ferrosilicon is used as (i) an alloying element and deoxidizer in iron and steel industries, (ii) reductant in Pidgeon process for production of magnesium and (iii) electrode coatings in arc welding

**Salient features**
- The most remarkable feature of this process is to use of non-standard materials such as BHQ and Jhama coal for production of standard Ferro-Silicon which is more suitable for iron and steel sector.

**Scale of development**
- Pilot Scale, (200 Kg FeSi /Shift), 500 kVA Submerged Arc Furnace

**Major raw materials**
- Banded Hematite Jasper Ore (BHJ), Quartzite and less reactive carbonaceous material such as Jhama Coal

**Major plant equipment/machinery**
- 500 kVA Submerged Arc Furnace and its accessories

**Details of specification application**
- The main application of Ferro-Silicon is in steel sector used as alloying element as well as deoxidiser

**Status of development**
- The process is ready for commercialization

**Ecological/environmental impact (if any, specify briefly)**
- Not much effect, similar like conventional Ferrosilicon production process

**Patenting details**
- Patent Filed Jointly with Tata Steel Ltd

**Commercialisation status**
- Under commercialization

**Techno-economics**
- The techno-economics of the process have been arrived at and found to be very favourable.

**Keywords**
- Lean ore, Banded Hematite Jasper Ore, less reactive coal, Jhama Coal, ferrosilicon, ferroalloys

**Product/device specifications photographs, design, etc.**

![Image](image-url)