SilicoManganese

>PRODUCT DATA SHEET

1. Appearance

Lumpy material with a silvery metallic surface.

2. Effects of the addition of silicomanganese to steel

- Both silicon and manganese have an important influence on the properties of steel, depending on the amount added and the combined effect with other alloying elements.
- Silicon and manganese have a strong affinity for oxygen, and will act as deoxidisers.
- Deoxidation with SiMn results in a cleaner steel, as the liquid manganese silicate formed coagulates and separates easier from the melt, compared to solid SiO_2 formed during FeSi deoxidation.
- Use of silicomanganese adds less phosphorus, carbon, and nitrogen to steel compared to standard FeSi 75 plus HC FeMn.
- Computational Fluid Dynamics calculations show that the yield of silicon from silico-manganese is higher than that of standard FeSi 75.

3. Chemical composition (%)

	Mn	Si	C	P	S	Ti	B
GRADE	min.	min.	max.	max.	max.	max.	max.
SiMn	65	17	2.00	0.17	0.03	0.25	0.02

4. Sizing

- Examples of standard sizing:
  20 – 80 mm, maximum 10% undersize
  10 – 50 mm, maximum 10% undersize
  3 – 25 mm, maximum 5% undersize
- All sizes: maximum 10% oversize.

5. Packing

SiMn is usually delivered as bulk. Packing in big bags and other packaging on request.

6. Physical data

- Density : 6.1 g/cm^3
- Bulk density : approx. 3 200 kg/m^3
- Melting range : 1 060°C – 1 285°C
- Angle of repose : 40° - 60°, dependent on size of material.

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