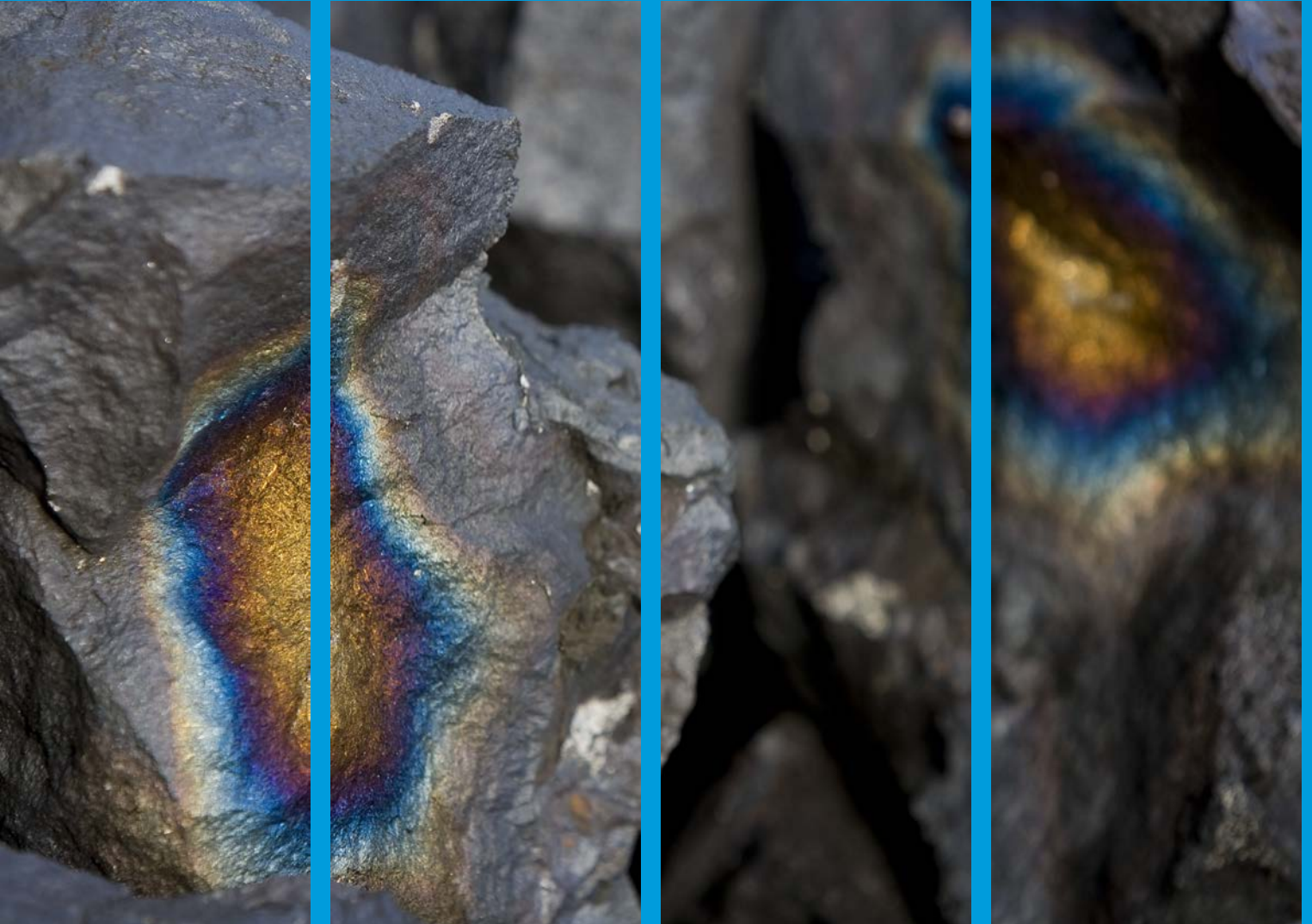


HIGH CARBON FERROMANGANESE

HCFeMn



MN ALLOYS

Mn alloys are mostly used in steelmaking and foundry activities.

Some 30 % of the manganese used today in steelmaking is still used for its properties as a deoxidant and a sulphide former. In this last case it combines with sulphur avoiding the formation of iron sulphides, which sulphides are low melting point phases which become liquid at hot rolling temperatures and which, consequently, generate surface cracking. The other 70 % of the manganese is used purely as an alloying element. Steels usually contain from 0,2 % to 2 % Mn depending on grades as Mn is the cheapest alloying element among those which enhance some key mechanical properties like strength and toughness. In the specific case of stainless steel it can substitute expensive nickel in some austenitic grades called 200 series.

There are two families of Mn alloys called ferro-manganese (FeMn) and silico-manganese (SiMn). Silico-manganese adds additional silicon which is a stronger deoxidizer and which also helps to improve some mechanical properties of steel. In each family carbon is controlled and is lowered when producing "refined" grades. Nitrogen, Boron, Titanium, Phosphorus are elements which can be controlled depending on requested specification.

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HCFeMn

CHEMICAL COMPOSITION

Typical grades available. Other grades are on request. Valid for sizes > 10 mm.

Grade	Mn Min.	C Min.	C Max.	P Max.	Si Max.	S Max.
HCFeMn 78	78	6.5	7.5	0.20	0.3	0.01

SIZING

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.

PHYSICAL DATA

Density: approx. 7.3 g/cm³

Bulk density: approx. 4000 kg/m³

Angle of repose: 40° - 60° - depending on size of material

Melting range: 1050°c – 1250°c

PACKING

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

ORIGIN OF PRODUCT

Norway.

CHARACTERISTICS

It is lumpy material with a metallic surface that becomes covered with a dark layer of oxides during storage.

Effects of the addition of ferromanganese to steel:

Manganese has an important influence on the structure and properties of steel, depending on the amount used and the combined effect with other alloying elements.

Among all other alloying elements, manganese has the strongest effect on the hardenability of steels.

Manganese improves the tensile strength, workability, toughness, hardness and resistance to abrasion. It also reacts with the remaining sulphur in the steel, thus preventing hot shortness.



Web: <http://www.eramet.fr> – Contact: sales@eramet-comilog.com



The Manganese Source®



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ISO 9001



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