MAHANADI

FERRO ALLOYS

- Low-carbon Ferro Manganese
- Medium-carbon Ferro Manganese
- High-carbon Ferro Manganese
- Silico Manganese
- Ferrochrome

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LOW CARBON FERRO MANGANESE (LC-FeMn)

Low Carbon Ferromanganese (LC-FeMn) constitutes approximately 80% of manganese & 1% of carbon with lower contents of sulphur, phosphorous & silicon.
It is mostly used in the welding industry & is an essential ingredient for making high-strength low-alloy steel & stainless steel. It serves as a major constituent of making Mild Steel Welding Electrodes (E6013, E7018) & other electrodes & is widely acclaimed for its optimum quality & accurate composition.

SPECIFICATION PARAMETERS

Mn	Si	C	P
MIN 70%	1% Max	0.5% Max	0.25% Max
MIN 75%	1% Max	0.5% Max	0.20% Max
MIN 78%	1% Max	0.5% Max	0.20% Max
MIN 80%	1% Max	0.5% Max	0.20% Max

Low-carbon Ferro Manganese

MEDIUM CARBON FERRO MANGANESE (MC-FeMn)

Medium Carbon Ferro Manganese (MC-FeMn) Manganese is intentionally present in most grades of steel & is a residual constituent of virtually all others. Aside from its historic importance as a desulfurizer & deoxidizer, manganese is undoubtedly the most prevalent alloying agent in steels, after carbon.

SPECIFICATION PARAMETERS

Mn	Si	C	P
MIN 70%	1% Max	1.5% Max	0.25% Max
MIN 75%	1% Max	1.5% Max	0.20% Max
MIN 78%	1% Max	1.5% Max	0.20% Max
MIN 80%	1% Max	1.5% Max	0.20% Max

Medium-carbon Ferro Manganese

HIGH CARBON FERRO MANGANESE (HC-FeMn)

High-carbon ferromanganese, generally with 70–80% Mn & 6–7% C, is by far the largest tonnage ferroalloy used. It is a deoxidizing agent in steelmaking & an important alloying element. It has also the property of controlling the harmful effect of sulfur. Manganese combines with sulfur & forms manganese sulfide, which tends to float out of the liquid steel. Manganese has the effect of stabilizing the austenite phase; steels with 12–14% Mn are fully austenitic, which are used on a large scale for their wear & abrasion-resisting characteristics.

SPECIFICATION PARAMETERS

Mn	Si	C	P
MIN 70%	1% Max	7% Max	0.25% Max
MIN 73%	1% Max	7% Max	0.20% Max
MIN 75%	1% Max	7% Max	0.20% Max
MIN 76%	1% Max	7% Max	0.20% Max
MIN 78%	1% Max	7% Max	0.20% Max

High-carbon Ferro Manganese

SILICO MANGANESE

Silico Manganese is an alloy of Manganese, Silicon & iron with a small percentage of Carbon & several other elements. The silico Manganese can be majorly divided into various grades, depending upon the Carbon content in the Alloy. By incorporating Silico Manganese into steel, manufacturers can achieve:

- Increased Strength & Hardness
- Enhanced Corrosion Resistance
- Improved Castability

SPECIFICATION PARAMETERS

Mn	Si	C	P	S
MIN 55%	22% Min	0.50% Max	0.20% Max	0.02% Max
MIN 60%	14% Min	2.50% Max	0.30% Max	0.03% Max
MIN 60%	28% Min	0.10% Max	0.20% Max	0.02% Max
MIN 65%	16% Min	2.00% Max	0.25% Max	0.02% Max

Silico Manganese

Ferrochrome (FeCr)

Ferrochrome (FeCr) is a ferroalloy which includes iron & chromium. Depending on the application, ferrochrome contains between 50 & 70% chromium. It comes from the reduction of chromite, a mineral composed mainly of chrome oxide & iron oxide & mined as chrome ore.

Ferrochrome is the most important intermediate raw material for the production of stainless steel and uses the majority of the world's chrome supply.

High Carbon Ferrochrome

Low Carbon Ferrochrome

Specification of High Carbon Ferrochrome

Cr	C	Si	P	S
60% min	6-9% max	4% max	0.05% max	0.05% max

Specification of Low Carbon Ferrochrome

Cr	C	Si	P	S
60-72% min	0.1% max	1% max	0.05% max	0.04% max