CCMA
CC Matals and Alloys, LCC

SILICON CONTAINING ALLOYS

Ferrosilicon

	%Si	%Al	%Ca	Other
50% FeSi-Reg. Grade	47-51	1.25 Max	0.30 Max	-
50% FeSi-Low Al	47-51	0.50 Max	0.20 Max	-
50% FeSi-High Purity	47-51	0.10 Max	0.10 Max	0.30 Max Ti
75% FeSi-Reg. Grade	74-79	1.50 Max	0.50 Max	-
75% FeSi-Low Al	74-79	0.50 Max	0.30 Max	-
75% FeSi-.10 Low Al	74-79	0.10 Max	0.30 Max	-
75% FeSi-Low C. Grade	74-79	-	-	0.02 Max C
75% FeSi-High Purity	74-79	0.10 Max	0.10 Max	0.04 Max Ti 0.03 Max C

Application: Ferrosilicon is used primarily as a deoxidizer. It readily combines with the oxygen in the molten metal. Sometimes used as a degasifier because of its affinity for undesirable gases. Used as a source of silicon in cast iron.

MAGNESIUM CONTAINING ALLOYS

* For certain Noduloy-Allys a silicon level of 40%-42% avaliable. More utilization of returns possible, because of the lower silicon-addition during the magnesium treatment.

** For certain Noduloy Alloys 0.5% maximum aluminum avaliable.

Noduloy

	% Mg	%Si	%Ca	%Ce	%T.R.E.	%Al
Noduloy 3	3.5-4.2	44-48	0.8-1.3	-	-	1.2 Max
Noduloy 5	6.0-6.8	44-48	0.8-1.3	-	-	1.2 Max

Application: Magnesium -Containing alloys for the nodularization of ductile iron.

Noduloy C-Series

	% Mg	%Si	%Ca	%Ce	%T.R.E.	%Al
Noduloy 5LC	6.0-6.8	44-48	0.8-1.3	0.3-0.5	-	1.2 Max
Noduloy 5C	6.0-6.8	44-48	0.8-1.3	0.5-0.8	-	1.2 Max
Noduloy 5C1	6.0-7.0	44-48	0.8-1.3	0.9-1.2	-	1.2 Max

Application: Magnesium-containing alloys with cerium for the nodularization of ductile iron. Cerium Content provides neutralization of deleterious elements and some carbide control. Also increases nodularizing efficiency.

Noduloy R-Series

	% Mg	%Si	%Ca	%Ce	%T.R.E.	%Al
Noduloy 3R	3.5-4.2	44-48	0.8-1.3	0.9-1.2	1.5-2.0	1.2 Max
Noduloy 5R-1	6.0-6.8	44-48	0.8-1.3	0.3-0.5	0.5-0.85	1.2 Max
Noduloy 5R-2	6.0-6.8	44-48	0.8-1.3	0.5-0.7	0.8-1.2	1.2 Max
Noduloy 5R-2+	6.3-7.0	44-48	1.7-2.3	0.5-0.7	0.8-1.2	1.2 Max
Noduloy 5R-2B	5.0-5.8	44-48	0.8-1.3	0.5-0.7	0.8-1.2	1.2 Max
Noduloy 5R-3	5.5-6.5	44-48	0.8-1.3	0.9-1.1	1.5-2.0	1.2 Max
VL623M	5.5-6.2	44-48	2.0-2.4	-	0.6-1.0	1.2 Max
Nodugran 2D MOD	1.7-1.9	46-50	0.6-0.9			1.2 Max

Application: An extremely flexible series of magnesium alloys with higher rare earth content for nodularizing ductile iron. Rare earths neutralize certain undesirable elements. Optimum rare earth addition provides greater carbide control and nodularizing performance than any other avaliable alloy. Permits castings of thinner sections without carbide formation.

SILICA FUME

Ferrosilicon

	%SiO2
Ferrosilicon	85.0 Min

Application: Silica Fume is used to produce high quality concrete with increased strength and durability. It is also used by refractory and the prefab chimney industries.

Ferrosilicon Dross

	%Si
Ferrosilicon Dross	38-42

INOCULANTS

Calsifer 50 and Calsifer 75

	%Si	%Al	%Ca	%Ba	%Ce	%T.R.E.	%Ti	%Mn	%Fe
Calsifer 50	46-50	0.50-1.50	0.50-1.50	-	-	-	-	-	-

Calsifer 75	75-79	0.75-1.50	0.50-1.00	-	-	-	-	-	-
Calsifer 75	75-79	0.75-1.50	1.00-1.50	-	-	-	-	-	-

Application: Specially sized and a proper composition for the inoculation of gray and ductile cas irons.

Inoculoy 63 and SB5

	%Si	%Al	%Ca	%Ba	%Ce	%T.R.E.	%Ti	%Mn	%Fe
Inoculoy 63	60-65	0.8-1.50	1.25-3.0	4.0-6.0	-	-	-	7.0-12.0	-

*Application:*Powerful inoculant for gray and ductile cast irons.

	%Si	%Al	%Ca	%Ba	%Ce	%T.R.E.	%Ti	%Mn	%Fe
SB3	74-79	0.75-1.20	0.80-1.30	0.80-1.30	-	-	-	-	-
SB3M	68-78	0.75-1.20	0.75-1.25	0.75-1.25	-	-	-	-	-
SB5	68-74	0.8-1.50	0.80-1.50	1.50-2.50	-	-	-	-	-

*Application:*High efficiency permits use of small additions. Provides excellent chill reduction in gray irons.

InocuChrome

	%Si	%Al	%Ca	%Cr	%Ce	%T.R.E.	%Ti	%Mn	%Fe
InocuChrome	6-11	0.5 Max	0.5 Max	46-50	-	2-3	-	-	-

Application:(46-50% Chrome) Inoculant for gray cast irons for increasing mechanical properties.

VP216 and VP316

	%Si	%Al	%Ca	%Ba	%Ce	%T.R.E.	%Ti	%Mn	%Fe
VP216	70-77	3.0-4.5	0.5-1.5	-	-	-	-	-	-

VP316	70-77	0.8-2.0	0.8-1.5	2.5-3.5	-	-	-	-	-

*Application:*VP216 is highly effective and easily soluble inoculant for the inoculation of the ductile iron. It prevents chill problems and the formation of carbides in thin wall and other critical wall thickness of castings.
----------VP316 a ladle inoculant for the inoculation of gray iron.

CSF10

	%Si	%Ca	%Ce	%T.R.E.
CSF10	36-40	0.5-1.0	9.0-11.0	10.5-15.0

Application: Used for reducing chill and providing proper graphite structure for optimum mechanical properties in gray cast iron. A source of cerium and rare earth for gray and ductile cast iron.

CG 519

	%Mg	%Si	%Ca	%Ce	%Al	%Ti
CG 519	4.5-5.5	50-54	1.0Max	0.20-0.35	1.5Max	4.0-6.0

Application: CG 519 is a proprietary ferroalloy developed specifically for the consistent production of compacted graphite iron with a single alloy addition.

Graphidox

	%Si	%Ca	%Ti
Regular	50-55	5.0-7.0	9.0-11.0
Low Calcium	50-55	0.5-1.5	9.0-11.0

Application: GRAPHIDOX improves quality of steel castings and increases yield strength, ductility, and low temperature impact toughness properties
----------LOW CALCIUM Graphidox is a highly effective proprietary inoculant designed for effective, economical inoculation of both gray cast iron and compacted graphite irons. This titanium bearing ferroalloy is highly efficient as both a graphidizer and deoxidizer. In addition, titanium in Low Calcium Graphidox reacts with nitrogen in iron to reduce chances of nitrogen porosity.

SRF 50 ans SRF 75

	%Si	%Al	%Ca	%Sr
SRF 50	44-48	0.5Max	0.1Max	0.8-1.2
SRF 75	74-79	0.5Max	0.1Max	0.8-1.2

Application: e proprietary inoculant containing strontium, the most potent element for reducing chill and promoting type graphite structure in gray iron. Offers good machinability while keeping tensile strength and hardness to minimum

WELDING PRODUCTS AND POWDERED ALLOYS

Ferrosilicon

	Mesh	%Si	%C	%P	%S
Ferrosilicon %50 Grade, Unstabilized	40 x 325	47 Min	0.12 Max	0.04 Max	0.02 Max
Ferrosilicon %50 Grade, Stabilized	40 x 325	47 Min	0.12 Max	0.04 Max	0.02 Max

*Application:*Stabilized and unstabilized ferrosilicon is used in fluxes for both welding electrodes and core wire.