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1. Bulk Ferroalloys

(1) Ferro Silicon (FeSi)

Si: Min	Al: Max	C: Max	P: Max	S: Max
70%	2.0%	0.2%	0.04%	0.02%
72%	2.0%	0.2%	0.04%	0.02%
75%	2.0%	0.2%	0.04%	0.02%
75%	1.5%	0.1%	0.04%	0.02%

(2) High Purity Ferro Silicon (HP FeSi)

Si: Min	Al: Max	C: Max	P: Max	S: Max	Ti: Max
75%	0.5%	0.2%	0.04%	0.02%	0.05%
75%	0.5%	0.02%	0.04%	0.02%	0.05%

(3) Low Silicon Ferro Silicon (Low Si FeSi)

Si:	Al: Max	Ca: Min	Mn: Min	C: Max	P: Max	S: Max
45-50%	0.5%	0.5%	0.4%	0.15%	0.05%	0.05%

(4) Low Aluminum Ferro Silicon (Low Al FeSi)

Si: Min	Al: Max	C: Max	P: Max	S: Max
75%	1.0%	0.2%	0.04%	0.02%
75%	0.5%	0.2%	0.04%	0.02%
75%	0.3%	0.2%	0.04%	0.02%
75%	0.1%	0.2%	0.04%	0.02%

(5) Low Carbon Ferro Chrome (LC FeCr)

Grade	C: Max	Cr: Min	Si: Max	P: Max	S: Max
LC Cr60v25	0.25%	60%	1.5%	0.05%	0.05%
LC Cr55v25	0.25%	55%	1.5%	0.05%	0.05%
LC Cr60v20	0.20%	60%	1.5%	0.05%	0.05%

LC Cr60v15	0.15%	60%	1.5%	0.05%	0.05%
LC Cr65v10	0.10%	65%	1.5%	0.05%	0.05%
LC Cr60v10	0.10%	60%	1.5%	0.05%	0.05%
LC Cr60v5	0.05%	60%	1.5%	0.05%	0.05%

2. Inoculants

(1) Calcium Silicon (CaSi)

Grade	Ca: Min	Si:	Al: Max	C: Max	P: Max	S: Max
Ca30Si60	30-33%	58-65%	1.2%	0.8%	0.06%	0.06%
Ca28Si60	28-30%	55-65%	1.5%	1.2%	0.06%	0.06%

(2) Ferro Silicon Barium (FeSiBa)

Grade	Ba: Min	Si: Min	Al: Max	Ca: Max	C: Max	Mn: Max	S: Max	Fe: Max
FeSiBa 1-3	1-2%	68-73%	1-2%	1-2%	/	/	/	Balance
FeSiBa 4-6	4-6%	68-72%	1-2%	1-2%	/	/	/	/
FeSiBa 6-8	6-8%	65-70%	1-2%	1-2%	/	/	/	/
FeSiBa 6-10	6-10%	65-70%	1-2%	1-2%	/	/	/	/
FeSiBa 10-15	10-15%	58-68%	1-2%	/	1.0%	/	/	/
FeSiBa 20	20%	55%	2.0%	3.0%	1.0%	0.4%	0.05%	/
FeSiBa 25	25%	55%	2.0%	3.0%	1.0%	0.4%	0.05%	/
FeSiBa 30	30%	52%	2.0%	3.0%	1.0%	0.4%	0.05%	/
FeSiBa 35	35%	52%	2.0%	3.0%	1.0%	0.4%	0.08%	/

(3) Ferro Silicon Zirconium (FeSiZr)

Grade	Zr: Min	Si:	Al: Max	C: Max	S: Max	P: Max	Mn: Max	Ca: Max	Fe:
FeSiZr10	10%	45-60%	1.5%	0.5%	0.02%	0.04%	0.5%	1.3%	Balance
FeSiZr15	15%	45-60%	1.5%	0.5%	0.02%	0.04%	0.5%	1.3%	Balance

FeSiZr18	18%	45-60%	1.5%	0.5%	0.02%	0.04%	0.5%	1.3%	Balance
FeSiZr20	20%	45-60%	1.5%	0.5%	0.02%	0.04%	0.5%	1.3%	Balance
FeSiZr25	25%	45-60%	1.5%	0.5%	0.02%	0.04%	0.5%	1.3%	Balance
FeSiZr30	30%	45-60%	1.5%	0.5%	0.02%	0.04%	0.5%	1.3%	Balance
FeSiZr35	35%	45-60%	1.5%	0.5%	0.02%	0.04%	0.5%	1.3%	Balance

(4)Ferro Silicon Strontium (FeSiSr)

Sr:	Si:	Ca: Max	Al: Max
0.6-1.0%	46-50%	0.1%	0.5%
0.6-1.0%	73-78%	0.1%	0.5%
0.7-1.1%	73-78%	0.1%	0.5%
0.8-1.2%	73-78%	0.1%	0.5%
1.0-1.5%	70-75%	0.1%	0.5%
2.0-3.0%	70-75%	0.1%	0.5%

(5)Mould Inoculants (Cast Blocks)

Grade	Si:	Ca:	Al:	La:	Mn:	Fe:
Mould Inoculants	70-78%	0.3-1.4%	3.2-4.5%	/	/	Balance
Mould Inoculants	72-75%	0.5-1.5%	4.0-4.5%	/	/	Balance
Mould Inoculants+Mn1	70-78%	0.3-1.4%	0.8-1.8%	/	3.5-4.5%	Balance
Mould Inoculants+Mn2	70-78%	1.0-1.5%	1.0-1.8%	/	3.7-4.5%	Balance
Mould Inoculants+La	71-75%	0.6-1.2%	4.0-4.5%	2.2-2.4%	/	Balance
Weight	20g/40g/60g/80g/90g/150g/200g/300g/500g/800g/2kg/5kg/10kg blocks					

(6)Calcium Silicon Barium (CaSiBar)

Ca: Min	Ba: Min	Si: Min	Al: Max	Mn: Max.	C: Max	P: Max	S: Max
5%	15%	45%	3%	0.4%	0.4%	0.05%	0.05%
7%	15%	45%	3%	0.4%	0.4%	0.05%	0.05%

9%	10%	45%	3%	0.4%	0.4%	0.05%	0.05%
11%	10%	45%	3%	0.4%	0.4%	0.05%	0.05%
13%	10%	45%	3%	0.4%	0.4%	0.05%	0.05%
14%	14%	52%	2%	0.4%	0.5%	0.05%	0.05%
15%	10%	45%	3%	0.4%	0.4%	0.05%	0.05%

(7) Calcium Silicon Manganese (CaSiMn)

Si: Min	Ca: Min	Mn: Min	C: Max	P: Max	S: Max	Al: Max	Fe: Max
49-53%	14-18%	14-18%	1.0%	0.06%	0.06%	1.5%	Balance
49-53%	14-18%	14-18%	1.0%	0.06%	0.06%	1.5%	10%
50%	14%	14%	/	/	/	/	/

(8) Casting Pipe Mold Powder (Mould Powder)

Si:	Ca:	Ba:	Al: Max	Mn:	Zr:	Bi:	Re:
50-62%	13-18%	13-18%	1.5%	/	/	/	/
60-68%	2.5-3.5%	2.5-3.5%	1.5%	/	/	/	/
60-68%	1.0-3.0%	5.0-8.0%	1.5%	/	/	/	/
63-68%	0.7-1.9%	/	0.5-1.3%	2.8-4.5%	3.0-5.0%	/	/
68-75%	1.2-2.0%	0.1-0.6%	1.5%	/	/	0.8-1.3%	0.4-0.7%
70-74%	0.8-1.8%	1.0-2.5%	0.8-1.8%	/	/	/	/
Size	30-325mesh/0-0.3mm / 0.2-0.7mm 90% min						

(9) Ferro Silicon Zirconium Manganese (SiZrMn)

Zr:	Mn:	Ca:	Si:	Al:
3-5%	3-5%	0.5-1.5%	60-65%	1-1.5%
4-6%	4-6%	0.5-1.5%	60-69%	0.5-1.5%
5-8%	5-8%	0.5-1.5%	62-69%	0.5-1.5%
8-12%	8-12%	0.5-1.5%	55-60%	0.5-1.5%

3.Nodulizers

(1)Ti Vermicular Agent

Re:	Mg:	Si:	Ca:	Ti:	Ba:
2-4%	4-6%	40-45%	3-4%	4-6%	1-2%
9-15%	3-4%	40-45%	3-4%	/	/
17-20%	7-9%	40-45%	3-4%	/	/
28-30%	/	45-50%	3-4%	/	/

(2)Yttrium-Rare Earth Nodulizer

Re(Y):	Mg:	Si:	Ca:	Al: Max
1.0-2.5%	6.5-8.5%	42-46%	2.0-3.0%	0.8%
1.5-3.0%	6.5-8.5%	40-44%	2.0-3.0%	0.8%
2.5-3.5%	7.5-9.0%	42-46%	1.5-2.5%	0.8%
3.0-4.0%	7.5-9.0%	40-44%	1.5-2.5%	0.8%

(3)Cerium-Magnesium Nodulizer

Ce:	Mg:	Si:	Ca:	Al: Max
0.1-0.4%	5.5-6.5%	40-46%	2-3.5%	0.8%
0.4-0.6%	5.5-6.5%	40-46%	2-3.5%	0.8%
0.6-1.0%	6.5-7.5%	40-46%	2-3.5%	0.8%
0.9-1.3%	27-29%	44-48%	5-5.5%	1.0%

(4)Ferro Silicon Magnesium (FeSiMg)

FeSiMg Nodulizer A						
Si:	Mg:	Re:	Ca:	La:	Ba:	Al: Max
44-48%	4.3-4.8%	0.6-0.8%	0.8-1.2%	/	/	0.8%
44-48%	4.8-5.2%	1.8-2.2%	1.8-2.2%	/	/	0.3%
44-48%	4.8-5.2%	1.8-2.2%	1.8-2.2%	/	/	0.8%

44-48%	5.0-5.5%	0.8-1.2%	1.5-2.0%	/	/	0.5%
44-48%	5.3-5.8%	0.8-1.2%	1.5-2.0%	/	/	0.8%
44-48%	5.3-5.8%	0.8-1.2%	0.8-1.2%	/	1-1.5%	0.8%
44-48%	5.8-6.3%	0.8-1.2%	1.8-2.2%	/	/	0.8%
44-48%	5.8-6.3%	/	1.8-2.2%	/	/	0.8%
44-48%	7.2-7.8%	0.8-1.2%	1.5-2.0%	/	/	0.8%
44-48%	7.8-8.3%	1.8-2.2%	1.8-2.2%	/	/	0.8%
44-48%	8.8-9.3%	0.8-1.2%	2.5-3.5%	/	/	0.8%
44-48%	10-11%	0.8-1.2%	1.5-2.0%	/	/	0.8%
44-48%	10-11%	0.8-1.2%	3.0-3.5%	/	1-1.5%	0.8%
44-48%	5.3-5.8%	/	0.8-1.2%	0.4 -0.6%	/	0.8%
44-48%	5-3-5.8%	5.8-6.2%	1.8-2.2%	/	/	0.8%
43-48%	26-27%	0.7-1.1%	2.5-3.5%	/	/	0.8%

FeSiMg Nodulizer B					
Si: Max	Mg:	Re:	Ca:	Ba:	Al: Max
44-48%	6-7%	2-2.5%	2.0-2.5%	/	0.5%
44-48%	6-7%	0.8-1.2%	0.8-1.2%	1.5-2.2%	1.0%
44-48%	6-7%	2-2.5%	2.0-2.5%	/	1.0%
44%	7-9%	2-4%	2.0-3.0%	/	1.0%
44%	7-9%	4-6%	1.0-2.0%	/	1.0%
44%	7-9%	6-8%	1.0-2.0%	/	1.0%

(5)Lanthanum- Magnesium Nodulizer

La:	Mg:	Si:	Ca:	Al: Max
0.1-0.4%	5.5-6.5%	40-46%	2-3.5%	0.8%
0.4-0.6%	5.5-6.5%	40-46%	2-3.5%	0.8%

4. Complex Alloys

(1) Aluminum Calcium (AlCa)

Al: Min	Ca: Max
90%	10%

(2) Ferro Silicon Titanium (FeSiTi)

Si: Min	Ti:	Ca:	Fe: Min
46%	10-11%	1-4%	38%

(3) Ferro Silicon Aluminum (FeSiAl)

Al: Min	Si: Min
30%	27%
32%	25%
35%	25%
48%	16%

(4) Silicon Aluminum Calcium (SiAlCa)

Si: Min	Al: Min	Ca:
40%	20%	10-15%

(5) Silicon Aluminum Barium (SiAlBa)

Si: Min	Al: Min	Ba:
50%	20%	8-10%

(6) Silicon Aluminum Magnesium (SiAlMg)

Si: Min	Al: Min	Mg:
50%	10%	4-8%

(7) Silicon Aluminum Barium Calcium (SiAlBaCa)

Si: Min	Al: Min	Ba: Min	Ca: Min	Mn: Max	C: Max	P: Max	S: Max
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30%	16%	9%	12%	0.4%	0.4%	0.04%	0.02%
35%	12%	9%	9%	0.4%	0.4%	0.04%	0.02%
39%	21%	2%	10%	0.4%	0.4%	0.04%	0.02%

5. Carbon Raisers

(1) Calcined Anthracite Coal (CAC)

F.C.: Min	S: Max	Ash: Max	VM: Max	Moi: Max
90%	0.3%	8.5%	1.5%	0.5%
93%	0.3%	6.0%	1.0%	0.5%
95%	0.3%	4.0%	1.0%	0.5%

(2) Calcined Petroleum Coke (CPC)

F.C.: Min	S: Max	Ash: Max	VM: Max	Moi: Max
98.5%	0.5%	0.7%	0.8%	0.5%

(3) Graphitized Petroleum Coke (GPC)

F.C.: Min	S: Max	Ash: Max	VM: Max	Moi: Max
98.5%	0.05%	0.7%	0.8%	0.5%
98.5%	0.1%	0.7%	0.8%	0.5%

6. Noble Alloys

(1) Ferro Boron (FeB)

Grade	B:	Al: Max	Si: Max	P: Max	C: Max	S: Max
Low C	19-21%	3.0%	4.0%	0.03%	0.1%	0.01%
	18-19%	3.0%	4.0%	0.1%	0.1%	0.01%
	19-21%	6.0%	2.0%	0.015%	0.05%	0.01%
Low Al	19-21%	0.1%	4.0%	0.1%	0.5%	0.01%
	17-19%	0.05%	4.0%	0.01%	0.5%	0.01%

	19-21%	0.05%	4.0%	0.1%	0.5%	0.01%
	17-19%	0.025%	4.0%	0.1%	0.5%	0.01%
Common Grade	21-23%	0.5%	4.0%	0.2%	0.5%	0.01%
	19-21%	0.5%	4.0%	0.2%	0.5%	0.01%
	18-19%	0.5%	4.0%	0.2%	0.5%	0.01%
	17-18%	0.5%	4.0%	0.2%	0.5%	0.01%
	14-17%	0.5%	4.0%	0.2%	1.0%	0.01%

(2)Ferro Titanium (FeTi)

Grade	Ti:	Al: Max	Si: Max	P: Max	S: Max	C: Max	Cu: Max	Mn: Max
FeTi30-A	25-35%	8.0%	4.5%	0.05%	0.03%	0.1%	0.4%	2.5%
FeTi30-B	25-35%	8.5%	5%	0.06%	0.04%	0.15%	0.4%	2.5%
FeTi40-A	35-45%	9.0%	3.5%	0.05%	0.03%	0.1%	0.4%	2.5%
FeTi40-B	35-45%	9.5%	4.0%	0.07%	0.04%	0.15%	0.4%	2.5%
FeTi70-A	65-75%	3.0%	1.0%	0.04%	0.03%	0.1%	/	1.0%
FeTi70-B	65-75%	5.0%	4.0%	0.06%	0.04%	0.2%	/	1.0%

(3)Ferro Tungsten (FeW)

W:	C: Max	S: Max	P: Max	Si: Max	Mn: Max	As: Max	Sn: Max	Cu: Max	Fe: Max
78-82%	0.1%	0.08%	0.05%	1.0%	0.5%	0.05%	0.05%	0.1%	Balance

(4)Ferro Vanadium (FeV)

Grade	V:	C: Max	Si: Max	P: Max	S: Max	Al: Max	Mn: Max
FeV40-A	38-45%	0.6%	2.0%	0.08%	0.06%	1.5%	/
FeV40-B	38-45%	0.8%	3.0%	0.15%	0.10%	2.0%	/
FeV50-A	48-55%	0.4%	2.0%	0.06%	0.04%	1.5%	/
FeV50-B	48-55%	0.6%	2.5%	0.10%	0.05%	2.0%	/
FeV60-A	58-65%	0.4%	2.0%	0.06%	0.04%	1.5%	/

FeV60-B	58-65%	0.6%	2.5%	0.10%	0.05%	2.0%	/
FeV80-A	78-82%	0.15%	1.5%	0.05%	0.04%	1.5%	0.5%
FeV80-B	78-82%	0.20%	1.5%	0.06%	0.05%	2.0%	0.5%

(5)Ferro Phosphorus (FeP)

P: Min	Mn: Max	Ti: Max	Si: Max	C: Max	S: Max	Ca: Max
22%	0.5%	0.05%	0.5%	0.1%	0.2%	0.02%
25%	2.5%	1.8%	1.5%	0.5%	0.5%	/
25%	1.5%	0.5%	0.5%	0.1%	0.2%	/

(6)Ferro Molybdenum (FeMo)

Grade	Mo: Min	C: Max	S: Max	P: Max	Si: Max	Ca: Max	Sb: Max	Sn: Max
FeMo60	60%	0.15%	0.10%	0.05%	1.5%	0.5%	0.03%	0.03%
FeMo65	65%	0.1%	0.10%	0.05%	1.0%	0.5%	/	/

(7)Ferro Sulphur/Iron Pyrite (FeS)

S: Min	Fe: Min	SiO2: Max	H2O: Max
45%	42%	6.0%	0.5%
48%	43%	3.0%	0.5%
50%	44%	1.5%	0.5%

7.Minor Metals

(1)Silicon Metal

Grade	Si: Min	Fe: Max	Al: Max	Ca: Max
553	98.5%	0.5%	0.5%	0.30%
441	99%	0.4%	0.4%	0.10%
3303	99%	0.3%	0.3%	0.03%
2202	99%	0.2%	0.2%	0.02%

(2)Off-Grade Silicon Metal

Si: Min	Fe: Max	Al: Max	Ca: Max
95%	1.8%	1.5%	0.5%
97%	1.5%	1.5%	0.3%

(3) Chrome Metal

Cr: Min	Fe: Max	Al: Max	Si: Max	C: Max	S: Max	O: Max	N: Max
99%	0.35%	0.30%	0.25%	0.02%	0.02%	0.50%	0.05%
99%	0.40%	0.30%	0.30%	0.02%	0.02%	0.50%	0.05%
98.5%	0.45%	0.50%	0.35%	0.03%	0.02%	0.50%	0.05%
98.5%	0.50%	0.50%	0.40%	0.03%	0.02%	0.50%	0.05%
98%	0.80%	0.80%	0.40%	0.05%	0.03%	/	/

(4) Calcium Metal

Ca: Min	Mg: Max	Al: Max	Ni: Max	Fe: Max	Cu: Max	Mn: Max	Cl: Max	Si: Max	N: Max
98.5%	0.5%	0.5%	0.001%	0.15%	0.1%	0.05%	0.05%	0.08%	0.1%

(5) Magnesium Alloy

Grade	Mg:	Al:	Mn: Min	Zn: Max	Si: Max	Cu:Max	Ni: Max	Fe: Max	Other:
AM50A	Balance	4.5-5.3%	0.28-0.5%	0.2%	0.05%	0.008%	0.001%	0.004%	0.01%
AM60B	Balance	5.6-6.4%	0.26-0.5%	0.2%	0.05%	0.008%	0.001%	0.004%	0.01%
AZ91A	Balance	8.9-9.5%	0.15-0.4%	0.45-0.9%	0.20%	0.08%	0.01%	/	/
AZ91B	Balance	8.9-9.5%	0.15-0.4%	0.45-0.9%	0.20%	0.25%	0.01%	/	/
AZ91D	Balance	8.9-9.5%	0.17-0.4%	0.45-0.9%	0.05%	0.025%	0.001%	0.004%	0.01%
AZ91E	Balance	8.3-9.2%	0.17-0.5%	0.45-0.9%	0.20%	0.015%	0.001%	0.005%	0.01%
AZ91HP	Balance	8.0-9.5%	0.17%	0.45-0.9%	0.05%	0.015%	0.001%	0.004%	0.01%

(6) Magnesium Ingot

Mg: Min	Fe:Max	Si: Max	Ni: Max	Cu: Max	Al: Max	Ti: Max	Na: Max	Ca:Max	Mn:Max	Total impurities Max
99.8%	0.04%	0.03%	0.002%	0.02%	0.05%	0.01%	0.005%	0.005%	0.05%	0.20%

99.9%	0.03%	0.02%	0.001%	0.005%	0.02%	0.01%	0.002%	0.002%	0.03%	0.10%
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8.Manganese Products

(1)Ferro Manganese (FeMn)

Grade	Grade	Mn:	C: Max	Si: Max		P: Max		S: Max
				I	II	I	II	
High C FeMn	FeMn78C8.0	75-82%	8.0%	1.5%	2.5%	0.20%	0.33%	0.03%
	FeMn74C7.5	70-77%	7.5%	2.0%	3.0%	0.25%	0.38%	0.03%
	FeMn68C7.0	65-72%	7.0%	2.5%	4.5%	0.25%	0.40%	0.03%
Medium C FeMn	FeMn82C1.0	78-85%	1.0%	1.5%	2.0%	0.20%	0.35%	0.03%
	FeMn82C1.5	78-85%	1.5%	1.5%	2.0%	0.20%	0.35%	0.03%
	FeMn84C2.0	75-82%	2.0%	1.5%	2.5%	0.20%	0.40%	0.03%
Low C FeMn	FeMn90C0.05	87-93.5%	0.05%	0.5%		0.03%		0.02%
	FeMn84C0.05	80-87%	0.05%	1.0%		0.04%		0.02%
	FeMn90C0.10	87-93.5%	0.10%	0.5%		0.03%		0.02%
	FeMn84C0.10	80-87%	0.10%	1.0%		0.04%		0.02%
	FeMn90C0.15	87-93.5%	0.15%	1.5%		0.03%		0.02%
	FeMn84C0.15	80-87%	0.15%	2.0%		0.04%		0.02%
	FeMn88C0.2	85-92%	0.2%	1.0%	2.0%	0.10%	0.30%	0.02%
	FeMn84C0.4	80-87%	0.4%	1.0%	2.0%	0.15%	0.30%	0.02%
	FeMn84C0.7	80-87%	0.7%	1.0%	2.0%	0.20%	0.30%	0.02%

(2)Silicon Manganese (SiMn)

Mn: Min	Si: Min	C: Max	S: Max	P: Max
65%	17%	2.0%	0.04%	0.3%
60%	14%	2.5%	0.04%	0.3%

(3)Manganese Metal Lumps

Mn:	C:	S: Max	P: Max	Si: Max
95-97%	0.05-0.1%	0.05%	0.05%	1.0%

(4)Manganese Metal Briquettes

Mn:	C:	S: Max	P: Max	Si: Max
95-97%	0.05-0.1%	0.05%	0.05%	0.8%
Size	55*35*25 ,90%min			

(5)Electrolytic Manganese Metal Flakes

Mn: Min	C: Max	S: Max	P: Max	Fe+Se+Si: Max
99.7%	0.04%	0.05%	0.005%	0.205%

9.Silicon Slags

(1)Ferro Silicon Slag

Si(Total): Min	SiC:	SiO2:	Si(Metallic):
40%	5-15%	20-40%	15-30%
50%	5-20%	30-45%	20-35%
55%	15-25%	10-20%	35-45%
45%	5-15%	20-40%	20-35%

(2)Silicon Metal Slag

Si:(Total)	SiC:	SiO2:	Si:(Metallic)	Fe: Max
45-55%	2-5%	20-40%	25-35%	4%

(3)Silicon Carbon Alloy

Si:	C:	P: Max	S: Max
65-70%	15-20%	0.05%	0.10%

(4)Ferro Silicon Briquettes

Si:	C: Max	Fe:
58-65%	3.5%	18-22%

10. Rare Earth Products

(1) Cerium Misch Metal

TREM: Min	Ce:	La:
99%	65%	35%
Weight	250-500gms/pcs	
Packing	250kg iron drum	

(2) Rare Earth Calcium Barium

Si:	Ca:	Al:	Re:	Mn:	Cr:	Ba:
40-45%	1-3%	1-1.5%	5-7%	9-11%	4-6%	4-6%
Size	0.5-2mm/2-8mm 90%					

(3) Rare Earth Ferro Silicon (Re FeSi)

Si:	Re:	Ce/La:
30—40%	10—35%	0-100/100-0
45—55%	10—35%	0-100/100-0

11. Nitrided Ferroalloys

(1) Nitrided Silicon

Grade	Si:	N:	Si ₃ N ₄ :	Fe:
S100-Si ₃ N ₄ 97	58-60%	36-39%	90-97%	1-2%
S100-Si ₃ N ₄ 90	54-58%	34-36%	85-90%	1-2%

(2) Nitrided Ferro Silicon

N: Min	Fe: Max	C: Max	Si ₃ N ₄ : Min	Ca: Max	Al: Max	O: Max
34%	1.0%	1.5%	85%	0.6%	0.8%	2.5%
36%	0.5%	1.0%	90%	0.5%	0.5%	2.0%

38%	0.4%	1.0%	95%	0.4%	0.4%	2.0%
39%	0.1%	0.5%	99%	0.1%	0.1%	/

(3) Nitrided Ferro Chrome

Grade	Cr: Min	N: Min	Si: Max	C: Max	S: Max	P: Max
FeCrN4	60%	4.0%	1.50%	0.10%	0.04%	0.04%
FeCrN5	60%	5.0%	1.50%	0.10%	0.04%	0.04%
FeCrN6	60%	6.0%	1.50%	0.10%	0.04%	0.04%
FeCrN7	60%	7.0%	1.50%	0.10%	0.04%	0.04%
FeCrN8	60%	8.0%	1.50%	0.10%	0.04%	0.04%
FeCrN8-10	60%	8-10%	1.50%	0.10%	0.04%	0.04%
FeCrN9-10.5	60%	9-10.5%	1.5%	0.06%	0.04%	0.03%

(4) Nitrided Ferro Vanadium

Grade	V:	N:	C: Max	Si: Max	P: Max	S: Max	Al: Max	Mn: Max	(N/V) Min
FeV45N10-A	43-47%	9-12%	0.5%	3.0%	0.09%	0.05%	2.5%	/	0.2%
FeV45N10-B	43-47%	9-12%	3.0%	2.5%	0.09%	0.05%	2.0%	/	0.2%
FeV55N11	53-57%	10-13%	0.5%	2.5%	0.07%	0.05%	2.0%	/	0.2%
FeV65N13	63-67%	11-15%	0.4%	0.4%	0.06%	0.05%	2.0%	0.5%	0.2%
Remark	N/V in weight ratio								

(5) Vanadium-Nitrogen Alloy

Grade	V:	N:	C: Max	P: Max	S: Max
VN12	77-81%	10-14%	10%	0.06%	0.1%
VN16	76-81%	14-18%	6%	0.06%	0.1%
Density	3.0g/cm ³ min				

(6) Nitrided Ferro Manganese

Mn:	C: Max	N:	Si: Max	P: Max	S: Max
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70-80%	0.15%	4-6%	1.0%	0.05%	0.05%
Size	10-60mm 90%,in Briquettes/Lumps				

(7)Nitrided Silicon Manganese

Si:	N:	Mn: Max	P: Max	S: Max
38-43%	26-32%	15%	0.1%	0.02%

(8)Nitrided Manganese Metal Flakes

Mn:	N:	C:	S: Max	P: Max	Si: Max
85-90%	6.0-7.0%	0.05-0.1%	0.05%	0.05%	0.8%

(9)Nitrided Manganese Metal Powder

Mn:	N:	C: Max	S: Max	P: Max	Si: Max
85-90%	7.0-8.0%	0.05-0.10%	0.05%	0.05%	0.8%

(10)Nitrided Ferro Manganese Powder

Mn:	N:	C: Max	S: Max	P: Max	Si: Max
70-80%	4.0-6.0%	0.15%	0.05%	0.05%	1.0%

(11)Nitrided Manganese Metal Briquettes

Mn:	N:	C:	S: Max	P: Max	Si: Max
85-90%	7.0-8.0%	0.05-0.1%	0.05%	0.05%	0.8%

12. Carbon Products

(1)Semi Coke

F.C.: Min	Ash:	VM:	S:	P: Max	Moi: Max
80-85%	8-11%	6-10%	0.2-0.4%	0.03%	10-18%
Size	6-18mm/18-35mm/35-80mm				

(2)Carbon Paste

Grade	Ash: Max	VM: Max	Compressive Strength Mpa:	Specific Resistance	Bulk Density:g/cm	Extensibility:
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			(Max)	m:(Max)	3	
Obturation Electrode Paste	4%	12-15.5%	18%	65%	1.38 g/cm ³	5-20%
	6%	12-15.5%	17%	75%	1.38 g/cm ³	5-20%
Normal Electrode Paste	7%	9.5-13.5%	22%	80%	1.38 g/cm ³	5-30%
	9%	11.5-15.5%	21%	85%	1.38 g/cm ³	15-40%
Chemical Industry Electrode paste	11%	11.5-15.5%	20%	90%	1.38 g/cm ³	15-40%
	11%	11.5-15.5%	18%	90%	1.38 g/cm ³	5-25%
Size	100*60*90mm/80*60*100mm					

(3)Graphite Electrode

Items	Properties	Unit	Grade		
			RP	HP	UHP
Bulk Density	Electrode	g/cm ³	1.60 -1.65	1.65-1.70	1.68-1.75
	Nipple		1.64-1.69	1.68-1.76	1.70-1.80
Resistivity	Electrode	μΩ•m	8.5-10.0	6.5-7.5	5.5-6.5
	Nipple		7.0-9.0	6.0-6.8	5.0-5.5
Bending Strength	Electrode	Mpa	8.0-12.0	12.0-16.0	16.0-20.0
	Nipple		13.0-15.0	16.0-18.0	17.0-20.0
Diameter		mm	50-900	200-600	400-800
Length		mm	1000-2400	1200-2700	1500-2400

(4)Silicon Carbide (SiC)

SiC: Min	FC: Max	Fe ₂ O ₃ : Max
98.5%	0.2%	0.6%
98.0%	0.3%	0.8%
97.0%	0.3%	1.0%
95.0%	0.4%	1.0%

90.0%	0.6%	1.2%
88.0%	2.5%	2.5%
Size	0-10mm/1-10mm/ 10-50mm 90% min FEPA/JIS	

(5) Natural Flake Graphite

C:	Size:
80-99.99%	0.5mm-1 μ m

(6) Foundry & Metallurgical Coke

Spc	Foundry Coke		Metallurgical Coke	
	First Grade	Second Grade	First Grade	Second Grade
Ash: Max	10%	12.5%	13%	13%
Volatile Matter: Max	1.5%	1.5%	1.5%	1.5%
F.C.: Min	89%	86%	85%	85%
S: Max	0.5%	0.6%	0.75%	2.0%
Moi: Max	5.0%	5.0%	6.0%	6.0%

13. Cored Wire Products

Product Name	Si: Min	Ca:	Ba:	Al: Max	Mg:	Re:	Fe:	Diameter
Si-Ca Cored Wires	55-65%	28-32%	/	2.0%	/	/	Balance	16mm 13mm 9mm 5mm
Nodulized Cored Wires	0-50%	0-15%	Proper Amount	1.2%	0-100%	0-15%		
Inoculant Cored Wires	65%	0.8-5%	0.8-5%	1.5-3.5%	/	/		
Vermicularised Cored Wires	38-44%	Proper Amount	Proper Amount	Proper Amount	5-30%	10-25%		

14. Chemical Products

(1) Soda Ash

Grade	Na ₂ CO ₃ : Max	NaCl: Max	Fe ₂ O ₃ : Max	Insoluble Matter in	Fineness (180 μ m): Min
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				Water: Max	
Soda Ash Light	0.8%	0.7%	0.0035%	0.03%	/
Soda Ash Dense	0.8%	0.7%	0.04%	0.04%	75%

(2)Silica Fume

SiO2: Min	Cl: Max	CaO: Max	MgO: Max	LOI: Max	Moi: Max	Bulk Density:
85%	3%	3%	6%	3%	3%	550-700kg/m3
88%	3%	3%	6%	3%	3%	550-700kg/m3
90%	3%	3%	6%	3%	3%	550-700kg/m3
92%	3%	3%	6%	3%	3%	550-700kg/m3
Size	Over 0.044mm 10%max					
Packing	850/900kg big bag					

(3)Caustic Soda

Grade	NaOH: Min	Na2CO3: Max	NaCl: Max	Fe2O3: Max	Insoluble Matter in Water: Max	Fineness (180 μ m): Min
96% Flake	96%	1.0%	2.0%	0.01%	/	/
99% Flake	99%	0.5%	0.03%	0.005%	/	/
96% Solid	96%	1.0%	2.0%	0.01%	/	/
99% Solid	99%	0.5%	0.03%	0.005%	/	/
99% Pearls	99%	0.5%	0.03%	0.005%	/	/

(4)Calcium Carbide

Grade	Gas Yield (L/KG): Min	PH3(V/V): Max	H2S(V/V): Max
Premium Grade 40%	305	0.05%	0.09%
First Grade 55%	295	0.06%	0.08%
Salable 5%	285	0.08%	0.12%

(5)Sodium Sulphide

Grade	Na ₂ S: Min	Fe: Max	Na ₂ CO ₃ : Max	Water Insoluble: Max
1500PPM	60%	0.15%	5.0%	0.4%
150PPM	60%	0.015%	3.0%	0.2%
80PPM	60%	0.008%	2.0%	0.2%
50PPM	60%	0.005%	2.0%	0.2%
30PPM	60%	0.003%	2.0%	0.2%
20PPM	60%	0.002%	2.0%	0.2%
15PPM	60%	0.0015%	2.0%	0.2%
10PPM	60%	0.001%	2.0%	0.2%
5PPM	60%	0.0005%	2.0%	0.2%

(6)4A Zeolite (Sodium Alumino Silicate)

Ca Ion:	Exchange
Capacity(Dry):	315mg
White Grade:	98%
Loss in Ighition:	20.63%
Bulk Density:	0.435g/ml
Mesh Sieve:	325
Residue(Wet Sieve):	45UM 0.49% min
PH:	10.65
Packing:	40kg net bag