Basic Refractory Products

1. MAGNESIA BRICKS

Product	MgO %	CaO %	SiO_2 %	Fe_2O_3 %	Al_2O_3 %	A.P %	CCS kg/cm^2	RUL $(Ta)^OC$ Max	Application
CC-MGR	87.00	2.00	6.50	-	1.00	22	350	1550	EAF, LD & Ladle Backup
CC-MGD	92.00	2.00	4.00	-	0.80	18	600	1600	Hot Metal Mixer
CC-M-96	96.00	2.00	1.00	0.50	0.30	17	500	1700	Glass Tank Regenerator

2. MAGNESIA CHROME BRICKS

Product	MgO %	Cr_2O_3 %	SiO_2 %	A.P %	CCS kg/cm^2	RUL $(Ta)^OC$ Max	Application
CC-MGR	63	11	6.30	22	300	1600	Open Hearth Roof
CC-MC40S3	60	15	3.00	20	300	1700	Rotary Kiln for dead Buring Dolomite
CC-CMN	35	22	-	22	250	1600	Backup Lining

3. DIRECT BONDED MAGNESIA CHROME BRICKS

Product	MgO %	Cr_2O_3 %	SiO_2 %	A.P %	B.D gm/cc	CCS kg/cm^2	RUL $(Ta)^OC$	Application
CC-CR-VX	58	20	0.8	18	3.15	400	1720	Copper,Glass, VOD & Zinc Furnaces
CC-CR-VV	60	18	1.5	18	3.00	400	1700	Copper,Glass, VOD & Zinc Furnaces
CC-CR-XV	55	24	1.0	17	3.18	550	1750	Copper smelting & converting Furnaces
CC-RH	58	18	1.0	18	3.15	400	1700	Snorkel & Lower vessel of RH degasser

4. MAGNESIA CARBON BRICKS

Product	MgO %	F.C %	A.P %	B.D gm/cc	CCS kg/cm^2	HMOR kg/cm^2	Application
CC-HMR-LD	97	8	5	3	300	90	LD Convertor Bottom & Tap Pad
CC-HMR-SL	97	10	5	3	300	-	Steel Ladle

5. ALUMINA MAGNESIA CARBON BRICKS

Product	Al_2O_3 %	MgO %	F.C %	A.P %	B.D gm/cc	CCS kg/cm^2	Application
CC-AMC-1	70	8	5	6	2.8	400	Steel Ladle Bottom & Metal Zone
CC-AMC-3	80	8	5	5	3.1	400	Steel Ladle Bottom & Metal Zone

6. BASIC MORTARS

Product	MgO %	Cr_2O_3 %	SiO_2 %	Setting	Grading mm	Sintering Temp Deg C	CCS kg/cm^2	Application
CC-MGRM	85	-	8	Ceramic	0-0.5	1600	-	Laying Magnesite Bricks
CC-MGW (I) M	92	-	2	-do-	0-0.5	1650	-	Laying hing Magnesia Bricks
CC-MCM	60	15	-	-do-	0-0.5	1650	-	Laying Magnesia Chorme Bricks
CC-CMM	40	25	-	-do-	0-0.5	1600	-	Laying Chorme Magnesia Bricks
CC-DBM/CM	65	15	2	-do-	0-0.5	1600	-	Laying DBMC Bricks
CC-CH-15	15	35	6	Hydraulic	0.5	1300	200	Copper and other applications

7. BASIC RAMMING MASSES

Product	MgO %	SiO_2 %	Fe_2O_3 %	Setting	Grading mm	Sintering Temp Deg C	Application on Temp Deg C	Application
CC-M-95	94	1.50	-	Chemical	0-5	1550	1750	Tap Hole of BOF
CC-M-85	85	5.00	6.00	Ceramic	0-8	1400	1750	Dry Ramming Mass for EAF Bottom
CC-EBT-45	45	-	-	-	2-6	-	1750	EBT-EAF Taphole Filling Mass
CC-M-84	83	8.50	-	Chemical	0-5	1550	1750	Wel Ramming Mass for EAF
CC-MCX	70	8.00 Cr_2O_3	-	Chemical	0-5	800	1750	Dry Ramming Mass for Induction Furn melting mild steel & alloy steel

8. BASIC GUNNING MASSES

Product	MgO %	SiO_2 %	Setting	Grading mm	PCE (SK)	After drying at 110°C		After Firing at 1550°C	
						B.D gm/cc	CCS kg/cm^2	PLC %	CCS kg/cm^2
CC-Gun-I	80	9.0	Chemical	0-3	38	-	-	-2.0	200
CC-Gun	85	8.0	Chemical	0-3	38	2.70	350	-1.5	300
CC-Gun-Super	90	4.0	Chemical	0-3	38	2.75	350	-1.5	200
CC-Gun-Super-SPL	94	2.0	Chemical	0-3	38	2.80	400	-1.5	200

9. BASIC SPRAYING MASSES

Products	MgO %	SiO2 %	Fe2O3 %	Setting	Grading mm	Sintering Temp in °C	Appln. Temp in °C	PLC	B.D gm/cc	Application Area
CC/87-70	66	25	5.5	Chemical	0-0.5	750	1600	-3.0	1.85	Spraying of bottom and walls of tundish
CC/87-80	78	14	5.0	Chemical	0-0.5	750	1650	-5.0	1.85	Spraying of bottom and walls Of tundish
CC/87-90	85	7	3.0	Chemical	0-0.5	750	1650	-5.0	1.85	Spraying of bottom and walls Of tundish
CC-VRC-80	78	14	5.0	Chemical	0-1	750	1650	-1.5	2.35	Dry vibratable mix for botton and wall of tundish

Fireclay & High Alumia Refractory Products

- Fire Clay and High Alumina Bricks
- Fire Clay and High Alumina Bricks for Non-recovery Coke Oven
- Fire Clay and High Alumina Ceramic Setting Mortars
- Fire Clay and High Alumina Chemical Setting Mortar
- Fire Clay and High Alumina Plastic Masses
- Fire Clay and High Alumina Castables

FIRE CLAY AND HIGH ALUMINA BRICKS

Product	Al_2O_3%	Fe_2O_3%	A.P%	B.D gm/cc	CCS Kg/cm^2	PLC %	PCE(SK)	RUL(Ta)^oC	Application Area
CC-BS(B)	36	1.70	18	2.15	300	±0.30 at 1450^{o}C/2 hrs	31	1450	Blast Furnace Stack Lining
CC-42D	42	1.50	16	2.25	400	±0.5 at 1450^{o}C/2 hrs	33	1500	Blast Furnace Lining
CC-45	45	1.50	21	2.20	350	±0.50 at 1500^{o}C/2 hrs	34	1450	Blast Furnace Lining, Cement Rotary Kiln, Lime Calcination Kiln, Glass Tank Furnace
CC-45D	45	1.50	16	2.30	450	±0.30 at 1450^{o}C/2 hrs	34	1500	Blast Furnace Lining, Cement Rotary Kiln, Lime Calcination Kiln, Glass Tank Furnace
CC-CB	50	1.30	18	2.35	350	±0.30 at 1500^{o}C/2 hrs	34	1530	Anode baking furnace
CC-CHL	50	1.5	9	2.42	700	-	-	1550	Chlorinator
CC-55D	55	1.50	18	2.40	500	±0.50< at 1450^{o}C/2 hrs	35	1520	Blast Furnace Lining, Cement Rotary Kiln, Lime Calcination Kiln, Glass Tank Furnace
CC-HIAL59	59	1.20	18	2.50	500	±0.50 at 1450^{o}C/2 hrs	36	1600	BF hot blast main, Glass tank furnace
CC-HIAL 50	50	1.10	18	2.40	400	±0.5 at 1450^{o}C/4 hrs	34	1520	Anode baking furnace
CC-AL65-SIC	65	1.50	12	2.65	400	-	36	1650	Torpedo Ladel
CC 45B	45	3.5	22	2.25	300	±1.5 at 1350^{o}C/2 hrs	33	1350	Cement Plants

CC 50B	50	3.5	22	2.30	350	±1.5 at 1400°C/2 hrs	33	1370	Cement Plants
CC-60B LF	60	2.50	22	2.45	450	±2.0 at 1450°C/2 hrs	35	1420	-
CC-60B	60	3.00	22	2.40	400	±2.0 at 1450°C/2 hrs	34	1400	-
CC-62	62	1.50	22	2.40	350	±0.40 at 1500°C/2 hrs	36	1500	Blast Furnace Stove Checkers, BF lining
CC-62D	62	1.20	16	2.50	600	±0.20 at 1500°c/2hrs	36	1550	Blast Furnace Hearth & tuyere
CC-HIAL 62	62	1.2	18	2.52	500	±0.3 at 1500°c/2hrs	36	1600	Blast furnace checkers
CC-70	70	1.5	20	2.60	500	±0.3 at 1500°c/2hrs	36	1550	Rotary kiln Lining
CC-Mul-70	70	0.80	20	2.50	500	±0.20 at 1550°c/2hrs	36	1700	Blast Furnace Hearth & Tap hole, Glass Tank Furnace
CC-Mul-70(F)	70	0.5	17	2.55	600	±0.20 at 1550°c/2hrs	36	1720	Blast Furnace Hearth & Tap hole, Glass Tank Furnace
CC-70B (LF)	70	2.5	20	2.60	500	±3.0 at 1600°c/2hrs	36	1480	EAF Roof, Ladle
CC-70B	70	3.0	22	2.55	450	±3.0 at 1450°c/2hrs	35	1440	EAF Roof
CC-80B (LF)	80	2.5	20	2.70	500	±3.0 at 1600°c/2hrs	37	1500	EAF Roof
CC-80B	80	3.0	22	2.70	500	±3.0 at 1600°c/2hrs	35	1460	EAF Roof
CC-85CBC	84	1.5	20	2.70	700	±0.5 at 1500°c/2hrs	37	1580	Aluminium Melting & Holding Furnace
CC-85DG	85	1.5	20	2.90	500	±0.5 at 1500°c/2hrs	37	1650	Torpedo Ladle lining
CC-88X	88	2.0	18	2.85	800	±0.5 at 1500°c/2hrs	37	1580	Reheating furnace hearth
CC-90XD	90	0.5	18	2.92	600	±0.2 at 1500°c/2hrs	38	1700	Carbon black reactor
CC-95	95	0.5	22	3.00	600	±0.2 at 1500°c/2hrs	38	1700	Secondary Steel making Vessel, chemical, petrochemical & Fertilizer application

CC-99C	99	0.1	18	3.00	750	±0.3 at 1500°c/2hrs	38	1700	Secondary Steel making Vessel, chemical, petrochemical & Fertilizer application

Note : (i) The above data related to pressed bricks Only. However for hand moulding shapes, A.P., B.D. & C.C.S may vary upto 15%

(ii) A.P & CCS values are arithmetic mean of individual results.

(iii) Size tolerance ± 1.5 % or ± 2mm whichever is greater.

FIRE CLAY AND HIGH ALUMINA BRICKS FOR NON-RECOVERY COKE OVEN

Products	Al2O3 %	Fe2O3 %	A.P %	CCS Kg/CM2	PLC %	RUL (Ta) ®C	PCE (®C)
CC-NRC-(40)	38.0	2.0	24	250	+0.1 -0.5	1350	1740
CC-NRC-(50)	48.0	1.5	22	400	+0.1 -0.4	1420	1750
CC-NRC-(55)	55.0	1.5	22	450	+0.1 -0.4 (1500®C/2 hrs)	1470	1770
CC-NRC-(65)	65.0	1.5	23	500	+0.1 -0.4 (1500®C/2 hrs)	1500	1790

Grading : 95% min. will pass through maximum grain size indicated.

FIRE CLAY AND HIGH ALUMINA CERAMIC SETTING MORTARS

Products	Setting	Sintering Temp. (®C)	Grading (mm)	Application Temp. (®C)	Al2O3 %	Fe2O3 %	PCE (SK)	Application Area
CC-HGM	Ceramic	1300	0-0.5	1400	33	2.5	32-33	Laying HG Bricks
CC-45M	Ceramic	1350	0-0.5	1450	42	2.0	33	Laying 42-45% Alumina Bricks
CC-60M	Ceramic	1350	0-0.5	1500	60	2.0	35	Laying 50-60% Alumina Bricks
CC-70M	Ceramic	1350	0-0.5	1550	70	2.0	35	Laying 70% Alumina Bricks
CC-mul-70M	Ceramic	1400	0-0.5	1600	70	1.5	36	Laying Mullite Bricks
CC-80M	Ceramic	1400	0-0.5	1650	80	2.5	36	Laying 80% Alumina Bricks
CC-90M	Ceramic	1400	0-0.5	1700	90	2.0	36	Laying 90% Alumina Bricks

Grading : 95% min. will pass through maximum grain size indicated.

FIRE CLAY AND HIGH ALUMINA CHEMICAL SETTING MORTAR

Products	Setting	Sintering Temp. (®C)	Grading (mm)	Application Temp. (®C)	Al2O3 %	Fe2O3 %	PCE (SK)	Application Area
CC-set-50 (F)	Air	1100	0-0.5	1550	50	4	32	Laying 45-50% alumina bricks
CC-set-50 (N)	Air	1100	0-1	1550	50	4	32	Laying 45-50% alumina bricks

Grading : 95% min. will pass through maximum grain size indicated.

FIRE CLAY AND HIGH ALUMINA PLASTIC MASSES

Products	Setting	Sintering Temp. (®C)	Grading (mm)	Application Temp. (®C)	Al2O3 %	Fe2O3 %	PCE (SK)	Application Area
CC-plast-50	Chemical	1100	0-5	1600	50	1.0	35	Incinerators for medium & high temperature applicaton with high strength at intermediate temperature
CC-plast-80	Chemical	1100	0-5	1750	80	1.5	38	Steel & Aluminium Furnace
CC-plast-90	Chemical	1100	0-5	1750	88	0.5	38	Silver Melting furnace & Acid regeneration plant

FIRE CLAY AND HIGH ALUMINA CASTABLES

Products	Al2O3 %	Fe2O3 %	B.D gm/cc	Cold Crushing Strength (Kg/Cm2)			PLC %	PCE (®C)	Grain Size (mm)
				Dried at110®c/24 hrs	Fired at 1400®c/3 hrs	Fired at 1500®c/3 hrs			
Champcast-FH-14	40	2.5	1.9	250	350	-	±1.5 (1400®C/3h)	1580	0-5
Champcast-FH-45	45	4	2.1	250	350	-	±1.0 (1400®C/3h)	1580	0-5
Champcast-FH-70	70	5	2.5	350	450	-	±1.0 (1400®C/3h)	1680	0-5
Champcast-FH-50	50	1.5	2.1	350	250	400	±1.0 (1500®C/3h)	1660	0-5
Champcast-FH-50 PLUS	50	1	2.1	500	350	500	±1.0 (1500®C/3h)	1700	0-5
Champcast-FH-60	60	1	2.2	350	250	450	±1.5 (1500®C/3h)	1680	0-5
Champcast-FH-60 PLUS	60	1	2.2	500	350	500	±1.0 (1500®C/3h)	1760	0-5
Champcast-FH-70	70	1.5	2.5	500	300	550	±1.5 (1500®C/3h)	1760	0-5
Champcast-FH-80	80	1.5	2.6	550	300	550	±1.5 (1500®C/3h)	1780	0-5
Champcast-FH-90	88	1.5	2.75	550	300	550	±1.5 (1500®C/3h)	1780	0-5
Champcast-FH-90 PLUS	90	1.0	2.8	600	300	550	±1.5 (1550®C/3h)	1800	0-5

Grading : 95% min. will pass through maximum grain size indicated.

Acid and Heat Resistant Products

- Acid Proof Bricks as per IS-4860
- Acid Proof Tiles as per IS-4457
- Postassium Silicate/Sodium Silicate Mortar
- EPOXY
- Bitumastic
- Primer

1. ACID RESISTANCE BRICKS (CONFIRMING to IS:4860)

Properties	Unit	Class-I Bricks	Class-II Bricks	Application
Water Absorption	% Max	2	4	Chemical Process Floor, Chimneys, Tanks etc.
Flexural Strenght	Kg/cm^2	100	70	
Compressive Strength	Kg/cm^2	+700	+500	
Resistance to Acid	Loss in weight % Max	1.5	4.0	

2. ACID RESISTANCE TILES (CONFIRMING to IS:4457)

Properties	Unit	Class-I Bricks	Application
Water Absorption	% Max	2	Various Application specially in Chemical, Petrochemical and Fertilizer Industries.
Flexural Strenght	Kg/cm^2	200	
Compressive Strength	Kg/cm^2	+700	
Resistance to Acid	Loss in weight % Max	1.5	

3. SODIUM SILICATE MORTAR (CONFIRMING to IS:4832)

Properties	Unit	Class-I Bricks	Application
Working Time	Minutes	20	For laying of Fire Resistant Bricks
Flexural Strength	Kg/cm^2	35	
Compressive Strength	Kg/cm^2	100	
Bond Strength	Kg/cm^2	5	
Absorption of Toulene	% Max	18	

POTASSIUM SILICATE MORTAR (CONFIRMING to IS:4832)

Properties	Unit	Class-I Bricks	Application
Working Time	Minutes	20	For laying of Acid Resistant Bricks
Flexural Strength	Kg/cm^2	40	
Compressive Strength	Kg/cm^2	150	
Bond Strength	Kg/cm^2	5	
Absorption of Toulene	% Max	18	

4. EPOXY

- It is a Phenolic resin based, with silica filler, cold curing acid resistance cement. The advantage of this product is that it has good resistance towards acid and solvents.
- EPOXY carries ISI marking and conforms to ASTM C-395-80 and IS 4832 Part II.

USES :

- EPOXY is used for setting acid proof tiles / bricks. Various areas like floors, drains, neutralization pits, storage tanks, reaction vessels, filter notches, DM water plants are covered with brick lining using EPOXY Mortar.
- EPOXY Mortar is extensively used in industries like Dyestuff, Rayon, Metal Finishing, Fertilizers, Petrochemicals, etc.
- EPOXY is used for bedding and jointing of acid proof tiles / bricks when exposed to severe corrosive condition as prevailing in process tank / reaction vessels etc. for spillage conditions, EPOXY is used as pointing cement along with silicate mortar as the bedding cement.

5. BITUMASTIC

- Bitumastic consist of selected acid resistant siliceous fillers and bitumen, Blended homogeneously to form a butter like consistent mastic.

USES :

- Bitumasticis employed as an exposed lining for corrosion resistant floors where traffic is light or non-existent. It is employed as an impermeable chemical resistant membrane on floors, channels, manholes, sumps etc., which are constructed out of concrete and brick masonry. Bitumastic is used on vertical surface upto 600mm height.
- This is used in different industries like Dyes, Pigments, Chemicals, Automobiles, Petroleum and Petrochemicals, Fertilizers, Sulphuric, Phosphoric Acid plants etc.

6. PRIMER

- Primer is bitumen based corrosion resistant paint. It is a single component air curing paint. It is easily applied by brush; roller or spray and it meet the requirements of IS 9862 specification.

USES :

- Primer is used as primer over concrete surface for the application of mastic as membrane for the chemical resistant acid proof Tile / Brick Lining work on treatment with Primer, a good bond is developed between the concrete surface and the mastic.
- It is also used as anti-corrosive paint on steel structures for rust prevention. It is used for coating and protecting any surface, whether wood, metal or concrete in such constructions as bridges, tanks, girders, pipes, railways, docks, ship's interiors and exteriors such as holds, bunders, peaks, decks, funnels, top sides, iron gearing and fittings etc. Further uses are for painting gas works, power stations and smoke stacks.
- Primer form an elastic film which expands / contracts with the metal to which it adheres and is therefore not subjected to "Flaking" making in an ideal coating for exposed conditions.

CASTABLES AND MONOLITHICS PRODUCTS

- High Purity Dense Castable
- Medium Purity Dense Castable
- Fire Clay and High Alumina Castables
- Insulation
- Low Cement Castable
- Castable For Sponge Iron Kiln
- Flow Control Monolithics

1. CONVENTIONAL AND HIGH PURITY DENSE CASTABLES

Product	Max Grain Size mm	Al_2O_3 % mm	Fe_2O_3 % Max	Dry Density g/cc	CCS at 110 deg C /24 hrs	PCE OC	PLC % At °C/Hrs Max
Champcast-A	5	88	0.80	2.75	600	37	±1.00 at 1550°C/3 hrs
Champcast 90-Spl	5	90	0.80	2.85	800	37	±1.00 at 1550°C/3 hrs
Champcast-K	5	60	1.00	2.20	350	31	±1.50 at 1550°C/3 hrs
Champcast-C	5	50	1.30	2.10	350	30	±1.00 at 1550°C/3 hrs
Champcast-94	5	94	0.30	2.80	600	38	±0.50 at 1550°C/3 hrs
Champcast-7	5	96	0.30	2.80	400	38	±0.80 at 1550°C/3 hrs

2. MEDIUM PURITY DENSE CASTABLES

Product	Max Grain Size mm	Al_2O_3 % mm	Fe_2O_3 % Max	Dry Density g/cc	CCS at 110 deg C /24 hrs	PCE OC	PLC % At °C/Hrs Max
ChampCrete-N	5	45	4.00	2.10	250	20	±1.00 at 1350°C/3 hrs
ChampCrete-Spl	5	45	4.00	2.20	400	16	±1.00 at 1350°C/3 hrs
Champcast-K	20	40	3.00	2.20	400	16	±1.00 at 1350°C/3 hrs
ChampCrete-Super	5	70	5.00	2.50	350	31	±1.00 at 1400°C/3 hrs

3. FIRE CLAY AND HIGH ALUMINA CASTABLES

Products	Al_2O_3%	Fe_2O_3%	B.D gm/cc	Cold Crushing Strength (Kg/Cm2)			PLC %	PCE (°C)	Grain Size (mm)
				Dried at 110°C /24 hrs	Fired at 1400°C /3 hrs	Fired at 1500°C /3 hrs			
Champcast-FH-14	40	2.5	1.9	250	350	-	±1.5 (1400°C/3h)	1580	0-5
Champcast-FH-45	45	4	2.1	250	350	-	±1.0 (1400°C/3h)	1580	0-5
Champcast-FH-70	70	5	2.5	350	450	-	±1.0 (1400°C/3h)	1680	0-5

Champcast-FH-50	50	1.5	2.1	350	250	400	±1.0 (1500°C/3h)	1660	0-5
Champcast-FH-50 PLUS	50	1	2.1	500	350	500	±1.0 (1500°C/3h)	1700	0-5
Champcast-FH-60	60	1	2.2	350	250	450	±1.5 (1500°C/3h)	1680	0-5
Champcast-FH-60 PLUS	60	1	2.2	500	350	500	±1.0 (1500°C/3h)	1760	0-5
Champcast-FH-70	70	1.5	2.5	500	300	550	±1.5 (1500°C/3h)	1760	0-5
Champcast-FH-80	80	1.5	2.6	550	300	550	±1.5 (1500°C/3h)	1780	0-5
Champcast-FH-90	88	1.5	2.75	550	300	550	±1.5 (1500°C/3h)	1780	0-5
Champcast-FH-90 PLUS	90	1.0	2.8	600	300	550	±1.5 (1550°C/3h)	1800	0-5

4. INSULATION CASTABLES

Products	Max Grain Size (mm)	Al_2O_3%	Fe_2O_3%	Dry Density kg/cc	CCS at 110°C/24 hrs	PCE (°C)	PLC % at °C/ hrs Max
Champcast-Insul-4	6	30	11.00	550	4	-	±0.4 800/3 HRS
Champcast-Insul-9	6	30	6.00	1000	15	14	±0.6 800/3hrs
Champcast-Insul-7	6	30	8.50	850	12	12	±0.8 800/3hrs
Champcast-Insul-11	6	30	3.50	1250	35	14	±0.2 1100/3 hrs
Champcast-Insul-13	6	35	3.50	1450	50	14	±0.2 1100/3 hrs
Champcast-Insul-15	6	35	3.20	1600	90	15	±0.2 1100/3 hrs
Champcast-Insul-11 Li	6	40	1.50	1250	45	14	±0.2 1100/3 hrs
Champcast-Insul-13 Li	6	40	1.50	1450	80	15	±0.2 1100/3 hrs
Champcast-Insul-15 Li	6	40	1.50	1600	130	15	±0.2 1100/3 hrs

5. LOW CEMENT CASTABLES

Products	Max Grain Size (mm)	Al_2O_3%	Fe_2O_3%	Dry Density kg/cc	CCS at 110°C/24 hrs	PCE (°C)	PLC % at °C/ hrs Max
Champcast-LC-45	6	45	1.00	2.30	700	32	±1.00 1500/3 HRS
Champcast-LC-60	6	60	1.50	2.60	750	36	±1.00 1500/3 HRS

Champcast-LC-70	6	70	1.50	2.70	750	36	±1.00 1550/3 HRS
Champcast-LC-80	6	80	1.80	2.90	800	37	±1.00 1550/3 HRS
Champcast-LC-90	6	90	1.00	3.00	950	37	±1.00 1550/3 HRS
Champcast-LC-95	6	94	0.30	3.10	1000	38	±1.00 1550/3 HRS

6. CASTABLES FOR SPONGE IRON KILN

Products	B.D gm/cc 110°C /24 hrs	Cold Crushing Strength (Kg/Cm^2)				PLC % 1100°C /3 hrs	PLC (%)	Grain Size (mm)
		Dried at 110°C /24 hrs	800°C /3 hrs	Fired at 1100°C /3 hrs	1400°C /3 hrs			
Champcast-LC-45 SI	2.2	500	600	700	800	±0.3	±0.5 1400°C/3 HRS	(0-5)
Champcast-LC-60 SI	2.3	500	600	700	800	±0.3	±0.5 1400°C/3 HRS	(0-5)
Champcast-LC-62 MSI	2.3	600	700	800	900	±0.3	±0.5 1400°C/3 HRS	(0-5)
Champcast-LC-70 SI	2.4	600	700	800	900	±0.3	±0.5 1400°C/3 HRS	(0-5)
Champcast-LC-80 SI	2.5	700	800	900	1000	±0.3	±0.5 1400°C/3 HRS	(0-5)
Champcast-AH-50 SI	2.1	300	200	150	400	±0.5	±1.0 1400°C/3 HRS	(0-5)
Champcast-11 SI	1.25 max	40	30	40	-	±0.8	±1.0 1400°C/3 HRS	(0-5)

7. FLOW CONTROL MONOLITHICS

Product	Al_2O_3 % mm	Grading (mm)	Application Area
CC-95M	90	0-0.2	Jointing Mortar for Slide Plate & Nozzle
CC-95M	94	0-5	Ramming mass for Fixing well Block

Grading : 95% min. will pass through the maximum grain size indicated.

RAMMING/GUNNING SPRAY MASSES

1. BASIC RAMMING MASSES

Product	MgO %	SiO_2 %	Fe_2O_3 %	Setting Type	Grading (mm)	Sintering Temp. (^oC)	Appli. Temp. (^oC)	Application Area
CC-BRM-95	94	1.50	-	Chemical	0-5	1550	1750	Tap Hole of BOF
CC-BRM-85	85	5.00	6.00	Ceramic	0-8	1400	1750	Dry RAmming Mass for EAF Bottom
CC-EBT-45	45	-	-	-	2-6	-	1750	EBT-EAF Tap Hole Filling Mass
CC-WRM-84	83	8.50	-	Chemical	0-5	1550	1750	Wet Ramming Mass for EAF
CC-BRM-70	70	8.00 Cr_2O_3	-	Chemical	0-5	800	1750	Dry Ramming Mass for Induction Furnace Melting mild steel & alloy steel

2. SILICA RAMMING MASSES

Product	SiO_2 %	Fe_2O_3 %	Al_2O_3 %	Setting	Grading (mm)	PCE (SK)	Sintering Temp. (^oC)	Appli. Temp. (^oC)	Application Area
CC-SRM	98	0.3	-	Ceramic	0-5	32	1200	1700	Lining Coreless Induction Furnace
CC-SRM	98	0.2	0.9	Ceramic	0-5	32	1200	1700	Lining Coreless Induction Furnace

Grading : 95% min. will pass through the maximum grain size indicated.

3. BASIC GUNNING MASSES

Product	MgO %	SiO_2 %	Setting	Grading (mm)	PCE (SK)	After drying at 110°C		Appli. Temp. (°C)	
						B.D (gm/cc) Min	CCS (kg/cm^2) Min	PLC (%) Max	CCS (kg/cm^2) Min
CC-GUN-1	80	9.0	Chemical	0-3	38	-	-	-2.0	200
CC-GUN	85	8.0	Chemical	0-3	38	2.70	350	-1.5	300
CC-GUN-SUPER	90	4.0	Chemical	0-3	38	2.75	350	-1.5	200
CC-GUN-SUPER-SPL	94	2.0	Chemical	0-3	38	2.80	400	-1.5	200

4. BASIC SPRAYING MIXES

Product	MgO %	SiO_2 %	Fe_2O_3 %	Setting Type	Grading (mm)	Sintering Temp. (°C)	Appli. Temp. (°C)	PLC (%)	B.D (gm/cc)	Application Area
CC-SM/87-70	66	25	5.5	Chemical	0-0.5	750	1600	-3.0	1.80	Spraying of Bottom and walls of tundish
CC-SM/87-80	78	14	5.0	Chemical	0-0.5	750	1650	-5.0	1.85	Spraying of Bottom and walls of tundish
CC-SM/87-90	85	7	3.0	Chemical	0-0.5	750	1650	-5.0	1.85	Spraying of Bottom and walls of tundish
CC-SM/80	78	14	5.0	Chemical	0-1	750	1650	-1.5	2.30	Dry vibratable mix for bottom and wall of tundish

Grading : 95% min. will pass through the maximum grain size indicated.

5. COKE OVEN SPRAYING MIXES

Properties	CC-Spray-S
SiO2 (Min)	65.0
Maximum Service Temp (®C)	1200
Grading (mm)	0-0.5
Method of installation	Spraying
Setting	Chemical
Sintering Temp. ®C. Min	800
Area of Application	Hot repair of coke oven walls

Grading : 95% min. will pass through the maximum grain size indicated.

FLOW CONTROL REFRACTORIES

- SLIDE GATE REFRACTORIES
- GAS PURGING REFRACTORIES

1. SLIDE GATE REFRACTORIES

Product	A.P.* %	B.D* (gm/cc)	Al_2O_3 %	Fe_2O_3 %	Cr_2O_3 %	MgO %	F.C %	ZrO_2 %	HMOR 1400°C (kg/cm^2)	Application Area
SLIDE PLATE :										
CC-SP-98-M	17	2.95	-	-	-	97	-	-	-	Continuous casting
CC-SP-85-CA	16	3.10	84	-	-	-	4	-	-	Ingot & Continuous casting
CC-SP-85-CAS	16	3.00	80	-	-	-	4	5.5	-	Continuous casting
CC-SP-85-CASS	16	3.00	72	-	-	-	4	9.0	-	Continuous casting
CC-AZC	6	3.00	75	-	-	-	4	9.0	150	Continuous casting
CC-SPSR	8	2.80	-	-	-	80	-	-	100	Continuous casting
NOZZLE										
CC-SN-90-C	20	3.00	88	0.5	3	-	-	-	-	Nozzle for slide gate system
CC-SN-85-F	20	2.95	84	0.5	-	-	-	-	-	Nozzle for slide gate system
CC-SN-85-CA	18	2.95	84	-	-	-	4	-	-	Nozzle for slide gate system
CC-SN-90-CA	12	2.90	90	-	-	-	2	-	-	Nozzle for slide gate system
CC-SN-90-M	12	2.90	-	-	-	90	5	-	-	Nozzle for slide gate system
WELL BLOCK/SEATING BLOCK :										
CC-SW-98-T	-	3.00	98	-	-	-	-	-	-	Well block/Seating Block
CC-SW-ULCC-75	-	2.75	75	0.7	-	-	-	-	-	Well block/Seating Block

Properties before pitch impregnation

2. GAS PURGING REFRACTORIES

Product	A.P.* %	B.D* (gm/cc)	Al_2O_3 %	Fe_2O_3 %	MgO %	Air Flow at 0.4 kg/cm^2 Ltrs/min	Application Area
POROUS PLUG :							
CC-PP (Part-1)	18	-	88	-	-	50	Steel Ladle, LRF, VOD
CC-PP (Part-2)	23-30	-	-	-	95	-	Steel Ladle, LRF, VOD
CC-MPP (1)	23-30	-	-	-	95	30	Steel Ladle, LRF, VOD

TUNDISH REFRACTORIES

- TUNDISH REFRACTORIES
- TUNDISH BOARD
- NOZZLE FILLING COMPOUND
- WELL BLOCK
- RADEX
- BACK FILLING MASS

1. TUNDISH REFRACTORIES

Product	A.P.* %	B.D* (gm/cc)	Al_2O_3 %	Fe_2O_3 %	ZrO_2 %	Application Area
NOZZLE :						
CC-ZRN-60	20	3.60	-	-	58	Tundish
CC-ZRN-66	20	3.65	-	-	65	Tundish
CC-ZRN-75	20	3.85	-	-	74	Tundish
SEATING BLOCK :						
CC-70-B	21	2.60	69	3.5	-	Seating Block for Zircon/Zirconia Nozzle

SPECIAL REFRACTORIES

- SILICON CARBIDE BRICKS
- ZIRCON BRICKS
- CASTING POWER
- NOZZLE FILLING COMPOUND
- TAP HOLE/TROUGH MASS
- MUDGUN MASS
- BED MATERIAL REFRACTORY

1. SILICON CARBIDE BRICKS

Product	SiC %	Al_2O_3 %	Fe_2O_3 %	B.D* (gm/cc)	A.P.* %	CCS (kg/cm^2)	HMOR at 1350°C (kg/cm)	Thermal Conductivity 1000°C W/mk	RUL °C	Application Area
CC-SiC	83	2.0	1.00	2.50	16	700	175	14.7	1720	Posts in Kiln cars, shape for Ferro alloy industry

2. ZIRCON BRICKS

Product	ZrO_2 %	Al_2O_3 %	B.D* (gm/cc)	A.P.* %	CCS (kg/cm^2)	RUL °C	Application Area
CC-ZR	62	-	3.30	20	500	1600	For Bottom paving & other locations of Glass Tank Furnace
CC-ZMG	18	68	3.10	21	500	1650	For Bottom paving & other locations of Glass Tank Furnace