

MGM

# Refractory Bricks & Monolithic

Low Cost | High Performance | Easy Installation





## MAGNESIA CARBON

WEDGE offers Magnesia Carbon Refractories globally. Preferred globally for Basic Oxygen Furnaces to improve productivity. Particularly in high wear areas extra dense Magnesia Carbon refractories ensure very long lining life.

Product Name	MgO (%)	F.C. (%)	B.D. (gm/cc)	A.P. (%) Original condition	A.P.(%) Coked in reducing atmosphere at 1000°C	C.C.S. at R.T. (Kg/cm <sup>2</sup> )	MOR at R.T. (Kg/cm <sup>2</sup> )
	Min	Min	Min	Max	Max	Min	Min
WSILVERLINE-I	98	4	3.02	5.5	11	450	150
WSILVERLINE-II	98	8	2.92	5.0	12	400	130
WSILVERLINE-III	98	13	2.88	5.5	12	350	120
WSILVERLINE-IV	98	17	2.82	6.0	12	330	100
WSUPER SILVERLINE-I	98	4	3.00	5.0	10	450	150
SUPER WSILVERLINE-II	98	8	2.90	5.0	9	400	130
SUPER WSILVERLINE-III	98	13	2.86	5.0	10	350	120
SUPER WSILVERLINE-IV	98	17	2.80	5.5	12	330	100
WSILVERSTAR-I	97	4	3.08	4.0	11	450	150
WSILVERSTAR-II	97	8	3.04	4.0	11	400	130
WSILVERSTAR-III	97	12	2.99	4.0	12	350	120
WSILVERSTAR-IV	97	17	2.95	4.0	12	300	100
SUPER WSILVERSTAR-I	97	4	3.08	4.0	11	450	150
SUPER WSILVERSTAR-II	97	8	3.04	4.0	11	400	130
SUPER WSILVERSTAR-III	97	12	2.99	4.0	12	350	120
SUPER WSILVERSTAR-IV	97	17	2.95	4.0	12	300	100
WORICARB-I	97	4	3.02	6.0	12	500	150
WORICARB-II	96	8	2.96	6.0	12	450	140
WORICARB-III	96	13	2.92	6.0	13	380	120
WORICARB-IV	96	17	2.85	6.5	13	350	110
SUPER WORICARB-I	97	4	3.00	5.5	11	450	150
SUPER WORICARB-II	96	8	2.96	5.5	10	400	120
SUPER WORICARB-III	96	13	2.88	6.0	12	350	110
SUPER WORICARB-IV	96	17	2.86	6.0	12	350	110
WOXIMAG-I	94	4	3.00	7.0	14	425	140
WOXIMAG-II	94	8	2.95	7.0	14	400	130
WOXIMAG-III	94	13	2.95	7.0	14	400	110
SUPER WOXIMAG-II	95	8	2.90	7.0	12	400	130
SUPER WOXIMAG-III	95	13	2.85	7.0	13	350	120
WMAGBON-I	87	4-6	2.85	8.0	14	400	120
WMAGBON-II	93	7	2.86	8.0	15	350	120
WMAGBON-III	93	12	2.80	8.0	15	320	90
WMAGARC	94	16	2.85	7.0	14	300	100
SUPER WMAGARC	95	16	2.80	7.0	13	300	100

- 1) MgO on DBM basis.
- 2) CCS and MOR of higher values available where applications require the same.
- 3) Specifications are tailor made to suit the specific needs and for all international requirements.

## BASIC & SPECIAL BASIC BRICKS

These Magnesite Bricks are used for lining of various furnaces. WMagne-G are dense Magnesite bricks with high RUL. Super WMagne-B are low iron magnesite bricks for glass tank regenerator checkers and EAF below slag lines, safety lining of LD converter. WMagal is Magnesia alumina bricks specially developed for burning zone of white cement rotary kiln and vacuum induction furnaces. Conventional Magnesite and WMagchrome bricks for EAF sidewall and other general applications. WMagnecem, a special product for burning zone of cement rotary kiln. WORINKRAL, an import substitute and superior performer for cement kiln burning zone.

### Wedge Basic Bricks

BRAND	MgO (%)	Cr <sub>2</sub> O <sub>3</sub> (%)	SiO <sub>2</sub> (%)	P.C.E. Orton Cone	A.P (%)	B.D. (gm/cc)	C.C.S. (Kg/cm <sup>2</sup> )	R.U.L. Ta (°C)
	Min.	Min.	Max.	Min.	Max.	Min.	Min.	Min.
WMAGNE-B-I	91	-	4.0	38	18	2.85	600	1600
WMAGNE-B-II	85	-	5.5	38	22	2.80	350	1550
WMAGNE-B-III	62	-	30.0	38	20	2.70	400	1560
WMAGNE-C	85	-	5.5	38	14	2.85	400	1550
WMAGNE CHROME-B	60	15	-	38	25	2.95	200	1550
WMAGNE CHROME-C	60	15	-	38	15	3.00	400	1530
WCHROME MAGNE-B	35	25	-	38	25	2.95	200	1600
WCHROME MAGNE-C	35	25	-	38	15	3.00	350	1550
WCHROMEL-D	-	45	-	38	20	3.35	500	1550

### Wedge Special Basic Bricks

Brand	MgO (%)	Fe <sub>2</sub> O <sub>3</sub> (%)	Cr <sub>2</sub> O <sub>3</sub> (%)	SiO <sub>2</sub> (%)	CaO (%)	Al <sub>2</sub> O <sub>3</sub> (%)	P.C.E. Orton Cone	A.P. (%)	B.D. (gm/cc)	C.C.S. (Kg/cm <sup>2</sup> )	R.U.L. Ta (°C)	PLC (%) 1600° C/ 2 hrs
	Min.	Max.	Min.	Max.	Max.	Max.	Min.	Max.	Min.	Min.	Min.	Max.
WMAGNE-G	90	1.0	-	3.0	1.0	-	38	22	2.85	400	1600	±1.5
WSUPER MAGNE-B	95	0.8	-	1.0	2.5	-	38	20	2.90	450	1650	±0.8
WSUPER MAGNE-G	97	0.5	-	1.0	2.0	-	42	18	2.95	600	1700	±0.5
WMAGAL-I	85	1.0	-	-	-	6.0	38	22	2.85	500	1650	±1.0
WMAGAL-II	80	-	-	-	-	10.0	38	22	2.85	400	1650	±1.5
WMAGAL-III	90	-	-	-	-	4.0	38	20	2.90	500	1650	±1.0
WMAGAL-IV	70	2.5	-	-	-	12.0	38	23	2.85	350	1600	±2.5
WMAGNECEM	67	-	10	4.0	-	-	38	23	2.80	350	1550	-2.0
WORINKRAL	80	-	9	1.0	-	-	38	21	-	400	1600	-
WZIRMAG	75	0.8	ZrO <sub>2</sub> =1 3% Min.	-	-	0.3	-	18	3.00	700	1550	-

## DIRECT BONDED & DENSE MAGNESIA CHROME BRICKS

Direct Bonded Magnesia Chrome & Dense Mag-chrome; high strength refractories ensure longer campaign life. Supreme D, E, 60, 70 and 80 for burning zone of Rotary kiln, secondary steel making vessel applications, platinum, nickel and copper converters. Special dense magnesite chrome bricks for secondary steel making ladles and other applications.

### Direct Bonded Magnesia Chrome Bricks

BRAND	MgO (%)	Cr <sub>2</sub> O <sub>3</sub> (%)	A.P. (%)	B.D. (gm/cc)	C.C.S. (Kg/cm <sup>2</sup> )	R.U.L. Ta (°C)	PLC at 1700°C/ 2hr. (%)	HMOR at 1400°C/ 1 hr. (Kg/cm <sup>2</sup> )
	Min.	Min.	Max.	Min.	Min.	Min.	Max.	Min
WSUPREME-D	58	18	18	3.00	500	1680	0.5	55
WSUPREME-E	62	15	20	2.95	450	1640	0.8	30
WSUPREME-60	62	15	18	3.00	500	1680	0.5	45
WSUPREME-70	74	10	19	3.00	450	1600	0.5	-
WSUPREME-80	83	7.5	19	2.95	450	1650	0.5(at 1600°C/2hrs)	-
WSUPREME-156	62	18	18	3.10	400	1700	+0.3(at 1600°C/2hrs)	-
WSUPREME-155	45	25	18	3.15	350	1700	+0.3(at 1600°C/2hrs)	-

### Dense Magnesia Chrome Bricks

Brand	MgO (%)	Cr <sub>2</sub> O <sub>3</sub> (%)	P.C.E. Orton Cone	A.P. (%)	B.D. (gm/cc)	C.C.S. (Kg/cm <sup>2</sup> )	R.U.L. Ta (°C)	PLC at 1600°C /2 hrs
	Min.	Min.	Min.	Max.	Min.	Min.	Min.	Max.
WDENMAG CHROME-I	65	13	38	20	2.90	400	1620	0.5
WDENMAG CHROME-II	72	9	38	19	2.95	450	1620	0.5
WDENMAG CHROME-III	78	7	38	18	2.95	500	1620	0.5

## ALUMINA-MAGNESIA CARBON & ALUMINA SILICON CARBIDE CARBON

Alumina Magnesia Carbon bricks for LRF are developed with very high spalling and thermal shock resistance and having good expansion. Alumina-SiC-Carbon bricks are used in BF Ladles, Steel Ladles and Torpedo Ladle cars and other special applications.

### Alumina-Magnesia Silicon-Carbide Bricks for Various Applications

Product Name	Al <sub>2</sub> O <sub>3</sub> (%)	MgO (%)	F.C. (%)	B.D. (gm/cc)	A.P. original condition (%)	C.C.S. at R.T. (Kg/cm <sup>2</sup> )	MOR at R.T. (Kg/cm <sup>2</sup> )	Application Area
	Min.	Min.	Min.	Min.	Max.	Min.	Min.	
WEDGE AMC-I	60	15	7.0	2.85	8.0	400	140	Sidewall of Teeming ladle
WEDGE AMC-II	50	25	7.0	2.90	8.0	500	140	Bottom & impact pad of teeming ladle
WEDGE AMC-V	65	10	7.0	2.90	8.0	400	140	Sidewall of Teeming ladle
WEDGE AMC-VI	70	10	7.0	2.95	7.0	450	150	Sidewall of LRF
WEDGE AMC-VIII	40	40	8.0	3.00	6.0	500	150	Bottom & impact pad of LRF

### Al<sub>2</sub>O<sub>3</sub>-SiC-C Bricks For Torpedo Ladle & Hot Metal Pretreatment Ladle

Product Name	A.P. (%)	B.D. (gm/cc)	C.C.S. (Kg/cm <sup>2</sup> )	MOR at RT (Kg/cm <sup>2</sup> )	Al <sub>2</sub> O <sub>3</sub> (%)	SiC (%)	SiO <sub>2</sub> (%)	F.C. (%)	Appln. Area
	Max.	Min.	Min.	Min.	Min.	Min.	Max.	Min.	
ALCARB-F14	6.0	2.90	400	140	68	14	2	12	Slag Zone of Torpedo
ALCARB-F8	6.0	2.95	400	140	68	8	2	14	Slag Zone of Torpedo
ALCARB-F6	6.0	2.95	400	140	70	6	2	10	Slag Zone of Torpedo
ALCARB-FG8	6.0	2.90	400	140	66	8	4	13	Bath & impact area of Torpedo
ALCARB-FG6	6.0	2.90	400	140	70	6	4	10	Bath & impact area of Torpedo
ALCARB-T3	7.0	2.85	400	140	64	6	6	13	Bath & impact area of Torpedo
ALCARB-C8	8.0	2.65	300	120	60	8	8	13	Slag Zone of Hot Metal open ladle
ALCARB-C5	8.0	2.65	400	130	65	5	8	10	Bath area of hot metal open ladle
ALCARB-CT5	9.0	2.70	350	120	57	4.5	20	9	Impact area of hot metal open ladle

### Wedge Special Alumina Carbon Bricks

Brand	Al <sub>2</sub> O <sub>3</sub> (%)	F.C. (%)	SiO <sub>2</sub> (%)	A.P. (%)	B.D. (gm/cc)	MOR (Kg/cm <sup>2</sup> )	C.C.S (Kg/cm <sup>2</sup> )
	Min.	Min.	Max.	Max.	Min.	Min.	Min.
EXP.ALCARB-I	65	3	4	8	2.90	200	650
EXP.ALCARB-II	68	7	4	8	2.80	170	600

## SILICON CARBIDE & ZIRCON

These refractories are specially developed to resist high corrosion. Alucar I and II are for rotary kilns, petrocarbon industries, torpedo ladle cars etc. Mulsic is used for nose ring block of rotary kiln.

Zircon and Zirmul are used in glass tank application

### Silicon Carbide Products

Brand	SiC (%)	Al <sub>2</sub> O <sub>3</sub> (%)	P.C.E. Orton Cone	A.P. (%)	B.D. (gm/cc)	C.C.S. (Kg/cm <sup>2</sup> )	R.U.L. Ta (°C)
	Min.	Max.	Min.		Min.	Min.	Min.
WSILICAR	85	0.5	36	18/20	2.50	800	1600
WSILICAR-S	90	2.5	36	20/22	2.40	500	1540
WALUCAR-I	65	30	36	18/20	2.6/2.7	600	1600
WALUCAR-II	25	65	36	18/20	2.8/2.9	400	-
WMULSIC	25	40	36	20/24	2.2/2.4	400/600	1500

### Zircon Products

Brand	ZrO <sub>2</sub> (%)	Al <sub>2</sub> O <sub>3</sub> (%)	SiO <sub>2</sub> (%)	P.C.E. Orton Cone	A.P. (%)	B.D. (gm/cc)	C.C.S. (Kg/cm <sup>2</sup> )	P.L.C. at 1500°C/ 1 hr	R.U.L. Ta (°C)
	Min.	Min.	Max.	Min.	Max.	Min.	Min.	Max.	Min.
ZIRCON-I	61±2	-	34	38	23	3.3	600	-	1550
ZIRCON-II	42	-	40	31	23	3.0	500	0.5	-
ZIRMUL	18	70±2	-	31	23	3.1	400	-	1600

## Glass Plant Refractories

Import Substitute products for Glass tank bottom, sidewalls and feeder expendables. These products exhibit high corrosion resistance to glass melt.

## Special Quality Castables & Feeder Refractories For Glass Industry

Brand	Al <sub>2</sub> O <sub>3</sub> (%)	Fe <sub>2</sub> O <sub>3</sub> (%)	P.C.E. Orton Cone	A.P. (%)	B.D. (gm/cc)	C.C.S. (Kg/cm <sup>2</sup> )	PLC (%) at 1600°C/ 2hr.
	Min.	Max.	Min.	Max.	Min.	Min.	Max.
WMULLCAST-I	62	0.5	38	20	2.55	600	0.2
WMULLCAST SPECIAL-II	76	0.5	38	16	2.65	1000	0.2
WSILLCAST	56±2	1.2	35	21	2.40	400	-
WSUPERCAST	36±2	1.2	32	22	2.20	250	-
WORIFEEDMULL	66	0.5	37	20	Used for plungers, tubes, orifice ring, stirrer, rotar segment feeder		
WORIFEEDSILL	56±2	1.2	35	23	2.20	-	-
WORIFEED ZIRMUL	66	ZrO <sub>2</sub> =17-20	31	20-23	3.00	-	-
WSILMAX	52	1.3	34	22	2.30	400	-
WSILLCAST-62	62	1.2	36	21	2.40	450	Used for Glass Tank
WZIRALCAST	56	ZrO <sub>2</sub> =18%	31	17	3.00	1000	±0.2



## BASIC GUNNING MATERIALS

Basic gunning materials for EAF and BOF applications. Special Tundish coating compound for Hot Tundish.

Brand	MgO (%)	SiO <sub>2</sub> (%)	CaO (%)	C (%)	Grading (mm)	C.C.S. 1500°C (Kg/cm <sup>2</sup> )	Max.Safe Appl.Temp (°C)	Type of setting
	Min.	Max.	Max.	Min.		Min.		
OXYGUN	80	6.0	5.0	-	0-3	200	1750	Chemical/Ceramic
ARCGUN	80	6.5	5.0	-	0-3	250	1750	Chemical/Ceramic
SUPER ARCGUN	88-90	2.0	-	-	0-2	200	1850	Chemical/Ceramic
TUNDGUN	80	7.0	-	-	0-2	-	1750	Chemical/Ceramic
*MAGPATCH	87	7.0	-	10	0-5	-	1750	Chemical/Ceramic
*MAGPATCH SUPER	92	2.5	-	10	0-5	-	1750	Chemical/Ceramic

\*On Loss Free Basis

Grading: Min.95% passes through specified grading above.

## Special Quality Basic Monolithics & Ramming Mixes

Special Quality Basic Monolithics and Ramming Mixes, LD Taphole mix is used for patching, repairing and also for ramming of LD converter taphole. Super WMagram is high MgO ready mix basic ramming. Also used for OH furnace and repairing of bank and slag line of EAF. WORifet for fettling EAF banks and hearth, Inductram and Magalram for induction furnaces, WOXimagram for BOF. WORimagram is a wet ramming mass and Wedge Dryharth is a dry basic ramming mass for EAF.

## Special Quality Basic Monolithics

Brand	MgO (%)	SiO <sub>2</sub> (%)	CaO (%)	Cr <sub>2</sub> O <sub>3</sub> (%)	ZrO <sub>2</sub> (%)	C (%)
	Min.	Max.	Max.	Min.	Min.	Min.
LD TAPHOLE MIX	94	1.5	1.0	1.0	-	-
WSUPERMAGRAM-I	94	1.5	2.5	2.5	-	-
WSUPERMAGRAM-II	94	1.0	2.5	2.5	-	-
WORINIT MG-I	94	0.6	-	2.0	-	-
WORIFILL SG (C)	50	1.5	-	-	-	-
WORIFILL SG (Z)	-	-	-	-	60	-
WORIFILL SG (ZC)	-	-	-	-	50	8
WORIFIL TTF-100	90	6	-	-	-	-

## Basic Ramming Mixes

Brand	MgO (%) Min.	Fe <sub>2</sub> O <sub>3</sub> (%) Max	CaO (%) Max	SiO <sub>2</sub> (%) Max
DRYHEARTH-I	80.0	6.0	10.0	1.0

## SPECIAL BASIC RAMMING MIXES

Brand	MgO (%)	SiO <sub>2</sub> (%)	CaO (%)	C (%)	C.C.S. 1500°C (Kg/cm <sup>2</sup> )	Grading (mm)	Max.Safe Appl.Temp (°C)	PLC (%) 1500°C/ 2 hr.	Type of Setting
	Min.	Max	Min.	Min.	Min.			Max.	
WDOLOFET	50	2	40	-	-	0-5	1750	-	Ceramic
WORIFET	85	6.5	4.5	-	-	0-5	1750	-	Chemical/Ceramic
WORIMAGRAM	85	6.5	-	-	-	0-5	1750	-	Chemical/Ceramic

\*On loss free basis.

Grading: Min.95% passes through specified grading above.

## Low Cement, High Alumina Castable

WDencast AL-94, 98 are used in AOD Hoods, Channel Induction Furnaces for melting steel and iron, nose rings and lifters of Rotary Kiln. WDencast AL-60 is used for replacing bricks, plastics and other castables in iron and steel foundries. WDencast AL-45 is used for feed ends and chain zones of cement and lime rotary kilns. Also used for heat treatment and reheating furnace repairs and car decks in forge shops and lining doors and jambs.

## Wedge Low Cement Castables

Brand	Al <sub>2</sub> O <sub>3</sub> (%)	Fe <sub>2</sub> O <sub>3</sub> (%)	Dry Density (gm/cc)	Water reqd. (% by vol.)	Max Service Temp (°C)	C.C.S. (Kg/cm <sup>2</sup> )			P.L.C. (%)		
						110°C	1000°C	1550°C	110°C	1000°C	1550°C
	Min.	Max.	Min.								
WDENCAST-98	96	0.1	3.05	4-5	1800	350	350	400	nil	0.1	0.2
WDENCAST-94	92.5	0.3	3	3-4	1750	700	800	900	nil	0.1	0.2
WDENCAST-90	88	0.9	2.5	3.5-4.5	1700	800	900	1000	nil	0.1	0.3
WDENCAST-80	82	1.5	2.8	5-6	1650	700	800	1000	nil	0.1	0.6
WDENCAST-70A	70	1.5	2.7	5.5-6.5	1600	650	750	900	-	0.1	0.5
WDENCAST-70	70	0.7	2.75	4-5.5	1650	750	850	1000	-	0.2	0.5
								<u>1500°C</u> /3hr			<u>1500°C</u> /3hr
WDENCAST-60	60	1.5	2.55	6-7	1550	600	700	900	nil	0.2	0.5
WDENCAST-45	44	1.5	2.2	6-7	1500	550	650	750	nil	0.2	1
WROTOCAST-60	58	1.5	SiC = 39%	5-6	1500	500	700	900	-	0.2	-
WROTOCAST-40	38	1.5	SiC = 60%	6-7	1400	500	500	600	-	-	-
								(1400° C/3hr)			
		SiC	F.C.		Grading						
BF TROUGH CAST-I	72	14	4	4-5	0-8	300	400	450	nil	-	0.2
BF TROUGH CAST-II	68	20	3	4-5	0-8	300	350	500	nil	-	0.3

Grading: All low cement castables are supplied with grading of (0-5) mm. Min.95% passes through specified grading.

## HIGH ALUMINA CASTABLES

Wedge High Alumina castables for a wide range of applications in steel, cement, petrochemical, nonferrous industries etc.

Brand	Al <sub>2</sub> O <sub>3</sub> (%)	Fe <sub>2</sub> O <sub>3</sub> (%)	P.C.E. Orton Cone	B.D. (gm/cc) at 110°C	C.C.S. (Kg/cm <sup>2</sup> )		Grading (mm)	MaxSafe Appl. Temp in °C
					110°C	At specified temp.		
	Min.	Max.	Min.	Min.	Min.	Min.		
WORIUNICAST	40	2.5	26	2.05	250	250/1400°C(3hrs)	0-4	1400
WEDGE STANDARD	55	2.5	26	2.20	250	300/1450°C(3hrs)	0-4	1450
WEDGE SUPER	75	3.5	32	2.50	300	400/1500°C(3hrs)	0-4	1500
WEDGE SUPER (A)	70	5.0	31/32	2.50	300	400/1500°C(3hrs)	0-4	1500
WORICAST-50	44	2.0	30	2.15	250	300/1400°C(3hrs)	0-4	1500
WORICAST-60	58	2.0	31	2.20	250	300/1400°C(3hrs)	0-4	1500
WORICAST-70	70	-	33	2.40	250	300/1500°C(3hrs)	0-4	1550
WORICAST-80	80	-	33	2.50	250	350/1500°C(3hrs)	0-4	1600
WORICAST-50(K)	48	1.5	32	2.20	300	400/1500°C(3hrs)	0-4	1550
WORICAST-50(K)SPL.	50	1.5	32	2.20	400	400/1500°C(3hrs)	0-4	1550
WEDGE SILICARCAST	16	SiC = 75%	34	2.40	250	300/1000°C(3hrs)	0-4	1500
WEDGE SUPERCAS-1600	58	1.5	32	2.40	300	400/1500°C(3hrs)	0-4	1600
WEDGE SUPERCAS-1600(SPL)	60	1.0	32	2.40	400	400/1500°C(3hrs)	0-4	1600
WEDGE SUPERCAS-1700	70	1.0	35	2.50	500	400/1600°C(3hrs)	0-4	1700
WEDGE SUPERCAS-1750(FH)	85	0.7	36	2.80	500	500/1550°C(3hrs)	0-4	1750
WEDGE SUPERCAS-1800	90	0.7	37	2.90	500	500/1550°C(3hrs)	0-4	1800
WEDGE SUPERCAS-1800A	88	1.2	37	2.85	500	500/1550°C(3hrs)	0-4	1800
WEDGE SUPERCAS-1850	93	0.3	37	2.90	500	400/1500°C(3hrs)	0-4	1850
WEDGE EXTRA STRENGTH	40	-	20	2.00	250/300	200/1300°C(3hrs)	0-4	1300
WEDGE DENSECAST	40	-	20	2.00	250/300	350/1400°C(3hrs)	0-4	1300
WEDGE ECOCAST	35	1.5	18	-	250	200/1300°C(3hrs)	0-4	1300

Grading: Min.95% passes through specified grading above.

## Non-Basic Ramming Masses

Brand	Al <sub>2</sub> O <sub>3</sub> (%)	Fe <sub>2</sub> O <sub>3</sub> (%)	P.C.E. Orton Cone	B.D. (gm/cc)	CCS (Kg/cm <sup>2</sup> )		Grading (mm)	Max.Safe Appl.Temp in °C
	Min.	Max.			Min.	at 110°C		
WALCOR-50	50	2.5	34	2.25	250	300	0-4	1600
WALCOR-60	60	2.5	35	2.40	250	300	0-4	1600
WALCOR-70	70	3.0	36	2.70	350	400	0-4	1700
WALCOR-80	80	3.5	37	2.80	400	450	0-4	1650
WALCOR-80AL	80	-	37	-	-	-	0-5	1500
WSTEMOL	80	-	38	-	-	-	0-4	1700
WALCOR-90	88	1.0	38	2.85	400	450	0-4	1750
WMULLITERAM	70	0.5	38	2.40	250	300	0-4	-
WALCOR-85	85	3.5	37	2.80	350	-	0-5	1650
WALCOR-85 (SPL)	83	1.5	37	2.80	400	450	0-4	1700
WSILICA R/MASS	SiO <sub>2</sub> =98 Min	0.5	31	-	-	-	0-5	1650
WZIRCON RAM-I	ZrO <sub>2</sub> =60/62	-	36/37	3.00	300	350/450	0-4	1600
WZIRCONRAM-II	ZrO <sub>2</sub> =62/64	-	38	3.00	300	350/450	0-0.2	1600
WZIRCON PATCH	ZrO <sub>2</sub> =60 Min	-	36/37	-	-	-	0-1	1600
WZIRMUL PATCH	ZrO <sub>2</sub> =18 Min	-	38	-	-	-	0-1	1600
	Al <sub>2</sub> O <sub>3</sub> =50 Min							
WORISWAN	SiO <sub>2</sub> =97 Min	-	31	-	-	-	0-4	1650
WCUPOLMIX	SiO <sub>2</sub> =92 Min	-	30	-	-	-	0-4	1600
WSILICAR RAM	SiC = 90 Min	-	38	-	-	-	0-3	1500
WORISSET-50	50	-	34	-	-	-	0-1.5	1600
WEDGE AL-65K	65	-	35	-	-	-	0-4	1600
WALCARB RAM	65	C = 5% Min	36	-	-	-	0-4	1750
BF TROUGH MIX	60	C = 4% Min	34	-	-	-	0-5	1550
WEDGE AL-50	50	-	34	-	-	-	0-4	1600
WEDGE AL-60	60	-	35	-	-	-	0-4	1600
WEDGE AL-70	70	-	35	-	-	-	0-4	1650
WEDGE AL-80	80	-	37	-	-	-	0-4	1700
KORONDRAM	86	0.3	38	2.6	250	300	0-4	SiO <sub>2</sub> =10Max
WZLT RAM	40	1.5	31	2	-	-	0-4	SiO <sub>2</sub> =55Max

## WEDGE FIRECLAY MORTARS

Brand	Al <sub>2</sub> O <sub>3</sub> (%)	Fe <sub>2</sub> O <sub>3</sub> (%)	P.C.E. (O.C)	Grain Size (mm)	Type of Setting
	Min.	Max.	Min.		
FIRECLAY MORTAR	40	2.5	32	0-0.5	Air setting
WHIALCO BOND	40	1.5	32	0-0.5	Air setting
SUPER HIALCO BOND	44	2.0	33	0-0.5	Air setting
AF MORTAR	43	1.8	35	0-0.5	Air setting
WHH BOND	38	2.0	31	0-0.5	Air setting
WC-II MORTAR	38	2.0	31	0-0.5	Air setting
WMH BOND	30	2.0	29	0-0.5	Air setting
WEXPOBOND-35	35	1.5	30	0-0.5	Chemical
WEXPOBOND-55	55	2.0	35	0-0.5	Chemical

## Wedge High Alumina Mortars

Wedge High Alumina Mortars are used for laying fireclay bricks and High Alumina bricks. AeroSet and HeatSet series used for obtaining tight joints when laying bricks.

Brand	Al <sub>2</sub> O <sub>3</sub> (%)	Fe <sub>2</sub> O <sub>3</sub> (%)	P.C.E. (O.C)	Grain Size (mm)	Type of Setting
	Min.	Max.	Min.		
WAEROSSET-50	50	2.5	33	0-0.5	Air setting
WAEROSSET-60	60	2.5	35	0-0.5	Air setting
WAEROSSET-70	70	3.0	37	0-0.5	Air setting
WAEROSSET-80	80	3.5	38	0-0.5	Air setting
WAEROSSET-90	90	3.5	38	0-0.5	Air setting
WORISSET-50(F)	50	2.5	33/34	0-0.5	Air setting
WHEATSET-40	40	2.0	32	0-0.5	Ceramic
WHEATSET-50	50	2.5	34	0-0.5	Ceramic
WHEATSET-60	60	2.5	35	0-0.5	Ceramic
WHEATSET-70	70	2.5	37	0-0.5	Ceramic
WHEATSET-80	80	3.0	38	0-0.5	Ceramic
WHEATSET-90	90	0.5	38	0-0.5	Ceramic

Grading: Min.95% passes through specified grading above.

## Wedge Special Mortars

Brand	Al <sub>2</sub> O <sub>3</sub> (%)	Fe <sub>2</sub> O <sub>3</sub> (%)	P.C.E. (O.C)	Grain Size (mm)	Type of Setting
	Min.	Max.	Min.		
SILLIMANITE MORTAR	55	1	33/34	0-0.5	Chemical
MULLITE MORTAR	66	1	37	0-0.5	Chemical
MASTIC	97	0.1	38	0-0.5	Chemical
WKXD MORTAR	98	1	38	0-0.5	Chemical
WALUMAX MORTAR	55	2.2	34	0-1	Chemical
WZIRMUL MORTAR	55	15	37	0-0.5	Chemical
ZIRCON MORTAR	5	ZrO <sub>2</sub> = 50%	37	0-0.5	Chemical
SILICA MORTAR	4.5	SiO <sub>2</sub> = 90%	29	0-0.5	Chemical
MAGNESITE MORTAR	MgO=85-90	SiO <sub>2</sub> =6.5%	38	0-0.5	Chemical

## INSULATING CASTABLES

Brand	Al <sub>2</sub> O <sub>3</sub> (%)	Fe <sub>2</sub> O <sub>3</sub> (%)	P.C.E. (O.C)	B.D. at 110°C (gm/cc)	C.C.S at 110°C (Kg/cm <sup>2</sup> )	Grading (mm)	Max.Safe Appl.Temp in °C
	Min.	Max.	Min.	Min.	Min.		
WCASTINSUL-1800	93	0.2	40	1.50	70	0-4	1800
WCASTINSUL-1700	85	-	37	1.80	120	0-4	1700
WCASTINSUL-1600	70	-	33	1.60	80	0-4	1600
WCASTINSUL-1500	60	-	32	1.50	60	0-4	1500
WCASTINSUL-1350	35-40	3-4	18	1.30	30	0-4	1350
WCASTINSUL-1300	45-50	0.7	-	1.00	15	0-4	1300
WCASTINSUL-1100	36	4.0	-	0.90	14	0-4	1100
WCASTINSUL-1100-A	32	4.0	-	1.45	80	0-4	1100
WCASTINSUL-1300-A	35	-	-	1.35	50	0-4	1300
WCASTINSUL-1350-A	42	2.0	18	1.60	120	0-4	1350
WCASTINSUL-1350-B	42	2.0	-	1.45	120	0-4	1350
WCASTINSUL-1100-B	45	3.5	-	0.85	40	0-4	1100
WCASTINSUL-1700-A	88	0.2	-	1.25	125	0-4	1700
WCASTINSUL-1000	32	-	-	0.80	12	0-4	950

## FIRE CLAY / CHAMOTTE BRICKS

Dense Fireclay bricks for blast furnace application which can withstand 500 hrs. CO test and minimum crushing strength of 500 kg/cm<sup>2</sup>. WCOROD-L2 for use in steel ladles and other locations. WEDGE SUPER-1H, WEDGE-MH, HH used for safety linings in various furnace and wear lining in cement cyclone preheaters.

### Fireclay Bricks

Brand	Al <sub>2</sub> O <sub>3</sub> (%)	Fe <sub>2</sub> O <sub>3</sub> (%)	P.C.E. (O.C)	A.P. (%)	B.D. (gm/cc)	C.C.S. (Kg/cm <sup>2</sup> )	PLC (%) at 1450°C/ 2 hr	RUL Ta (°C)
	Min.	Max.	Min.	Max.	Min.	Min.	Max.	Min.
WEDGE-MH	30	2.0	30	25	2.00	200	-	1350
WEDGE-HH	42	2.0	32	25	2.00	200	-	1400
WEDGE SUPER-1	42	2.0	33	25	2.00	250	-	1450
WEDGE SUPER-1H	42	2.0	33	20	2.00	350	-	1450
WEDGE SUPER-II	40	2.0	32	24	2.00	200	-	1450
WEDGE AL-45	45	2.3	33	22	2.25	350	-	1400
WCOROD-D1/COROD	40	1.5	33	17	2.15	400	±0.5	1470
WCOROD-L2	38	2.0	32	18	2.15	350	±0.5	1400
WCOROD-L1	34	2.0	31	18	2.15	350	±0.5	1400
WCOROD-SD	42	1.5	33	17	2.20	500	-0.5	1500
WCOROD-S	42	1.5	33/34	15	2.2	500	±0.2	1520
WCOROD-B	38	1.5	32/33	18	2.1	400	±0.3	1480
WCOROD-H	40	1.5	33	18	2.1	500	±0.5	1480
WCOROD-1H	45	1.1	34	15	2.3	600	±0.3	1550
WCOROD-C	26	2.5	26	15	2	500	±0.5	

### Silica Bricks

Brand	SiO <sub>2</sub> (%)	CaO (%)	Al <sub>2</sub> O <sub>3</sub> (%)	Fe <sub>2</sub> O <sub>3</sub> (%)	Alka-lies (%)	A.P (%)	B.D. (gm/cc)	CCS (Kg/cm <sup>2</sup> )	RUL Ta (°C)	RTE % at 1000° C	PLC at 1450°C/ 4 hrs	TSG	PCE
	Min.	Max.	Max.	Max.	Max.	Max.	Min.	Min.	Min.	Max.	Max.	Max.	Min.
WEDGE STD.SILICA	96.0	2.6	0.6	0.5	0.20	20	1.85	600	1600	1.2	0.30	2.33	32
WEDGE SILICA (G)	96.5	2.5	0.5	0.5	0.20	21	1.83	450	1630	1.2	0.20	2.32	32
SUPER SILICA (G)	96.5	2.5	0.4	0.4	0.15	21	1.81	400	1650	1.2	0.15	2.32	32

### Microsil Series

Brand	SiO <sub>2</sub> (%)	CaO (%)	Al <sub>2</sub> O <sub>3</sub> (%)	Fe <sub>2</sub> O <sub>3</sub> (%)	A.P. (%)	B.D. (gm/cc)	CCS (Kg/cm <sup>2</sup> )	PCE (O.C)
	Min.	Max.	Max.	Max.	Max.	Min.	Min.	Min.
WEDGE SILICA-INSUL	85	3.0	3.0	3.0	55	1.10	30	31
MICROSUL-I	60-70	-	35-45	2.5	45	1.65	250	-
MICROSUL-II	60-70	-	30-40	2.5	50	1.55	150	-
MICROSUL-III	60-70	-	30-40	2.5	60	1.10	15	-

## HIGH ALUMINA

WEDGE makes a wide range of High Alumina refractory bricks for various applications. WCEMAL-70 are special high alumina bricks for Cement Rotary Kiln. Chemically bonded high alumina bricks are available in AARCAL 70 and AARCAL 80 brands.

### Wedge High Alumina Bricks

Brand	Al <sub>2</sub> O <sub>3</sub> (%)	Fe <sub>2</sub> O <sub>3</sub> (%)	P.C.E (O.C)	A.P. (%)	B.D. (gm/cc)	CCS (Kg/cm <sup>2</sup> )	PLC at 1600°C/ 1 hr.(%)
	Min.	Max.	Min.	Max.	Min.	Min.	Max.
WEDGE AL-50	50	2.5	34	23	2.30	350	+2.0
WEDGE AL-55	55	2.5	35	23	2.35	350	+2.5
WEDGE AL-60	60	2.5	35	23	2.40	400	+3.0
WEDGE AL-65	65	3.0	36	23	2.40	400	+3.0
WEDGE AL-70	70	3.0	37	23	2.50	400	+3.5
WEDGE AL-70D	70	2.0	37	21	2.55	500	+3.0
WEDGE AL-75	75	3.5	37	23	2.60	400	+3.0
WEDGE AL-77AB	77	3.5	38	23	2.60	300	+3.0
WEDGE AL-80	80	3.0	38	23	2.60	300	+3.0
WEDGE AL-80D	80	2.5	38	22	2.60	450	+2.0
WEDGE AL-82	82	3.0	38	23	2.60	400	+1.5
WEDGE AL-85	85	3.0	38	22	2.65	450	+1.5
WALCOR-80B	80	3.0	38	22	2.70	600	±2.0
WCEMAL-70	70	2.5	37	21	2.60	400	±1.5
WARCAL-70	70	2.5	36	20	2.70	500	+2.5
WARCAL-80	80	2.0	37	20	2.80	500	+2.0
WALUMEL	60		38	25	2.90	600	±0.5



## DENSE HIGH ALUMINA

Special Dense low iron Alumina bricks for various applications like Sponge Iron Rotary Kilns, fertilizer and petrochemical plants etc. Also used for roof of Electric Arc Furnace manufacturing steel.

### Dense High Alumina Bricks

Brand	Al <sub>2</sub> O <sub>3</sub> (%)	Fe <sub>2</sub> O <sub>3</sub> (%)	Cr <sub>2</sub> O <sub>3</sub> (%)	PCE (O.C)	A.P. (%)	B.D. (gm/cc)	CCS (Kg/cm <sup>2</sup> )	PLC at 1600°C/1 hr (%)	RUL Ta°C
	Min.	Max.	Min.	Min.	Max.	Min.	Min.	Max.	Min.
WALUMAX-50	50	1.6	-	35	22	2.25	350	±1.0	1480
WALUMAX-I	54	1.5	-	35	20	2.30	400	±1.0	1500
WALUMAX-II	54	1.5	-	35	22	2.20	400	±0.5	1520
WALUMAX-60	60	1.0	-	36	18	2.50	500	±1.0	1550
WALUMAX-60A	60	1.0	-	36	20	2.40	400	±0.5	1500
WALUMAX-70	70	0.8	-	37	22	2.60	600	±1.0	1600
WALUMAX-70A	70	1.0	-	37	21	2.45	400	±0.5	1550
WALUMAX-75	75	1.0	-	37	23	2.60	400	±0.8	1600
WALUMAX-80	80	1.0	-	38	22	2.60	400	±0.5	1620
WALUMAX-80A	80	1.0	-	38	20	2.85	500	±0.5	1550
WALUMAX-85A	85	1.5	-	38	18	2.90	500	±1.5	1600
WSILLIMAX-I	58	2.0	-	36	22	2.40	400	±1.0	1520
WSILLIMAX-II (BRO-62)	60	1.5	-	36	25	2.30	350	±1.0	1550
WSILLIMAX-III (BRN-62)	62	1.5	-	36	18	2.50	500	±0.8	1600
WSILLIMAX-IV	58	1.5	-	36	23	2.30	400	±1.0	1550
WORIMUL-I	66	0.5	-	37	15	2.50	800	±0.5	1550
WORIMUL-II	72	0.5	-	38	21	2.50	600	±0.2	1650
WKOROND-80D	80	0.6	-	38	17	3.10	800	±0.3	1650
WKOROND-90	90	0.8	-	38	18	3.10	1000	±0.3	1600
WKOROND-90D	90	0.3	-	40	19	3.20	1000	±0.2	1700
WKOROND-98	98	0.3	-	40	21	3.00	800	±0.2	1600
WKORONDAL-XD	90	0.5	-	40	18	3.00	600	±0.2	1700
WEDGE SUPER DENSE AL-98	98	0.5	-	38	21	3.00	800	±0.3	1650
WALCHROME-I	68	-	15	38	21	3.10	800	±0.5	1700
WALCHROME-II	64	-	15	38	20	3.10	1000	±1.0	1650

## INSULATION & COMPOSITE PRODUCTS

### Super Hot Face Insulating Products

These are products with Alumina content ranging from 68 to 96% and suitable for high temperature applications. Mainly recommended for various reactors, regenerators, reformers, high temperature kilns and similar applications in various industries. Exhibit high refractoriness, high cold crushing strength and low thermal conductivity.

Brand	Al <sub>2</sub> O <sub>3</sub> (%)	Fe <sub>2</sub> O <sub>3</sub> (%)	PCE (O.C)	B.D. (gm/cc)	A.P. (%)	CCS (Kg/cm <sup>2</sup> )	PLC (%)	K/Kcal/m/hr/°C	Safe Appl. Temp (°C)
WORINSUL-1850	95-96	0.3	40	1.4	60-65	70	±1.0 at 1700°C/2hr.	0.90	1850
WORINSUL SPECIAL	85-90	0.8	38	2.2	35-40	200-250	±1.0 at 1600°C/2hr	1.00	1700
WHITEMLITE-I	68-72	0.8	36	1.4-1.6	40-45	120	±0.5 at 1600°C/2hr	0.85	1700

### Hot Face Insulating Products

Products available with Alumina content ranging from 36 to 58% and suitable for application temperatures upto 1500°C. Major application areas are tunnel kilns, regenerators, boilers, annealing and heat treatment furnaces etc. Exhibit low thermal conductivity.

Brand	Al <sub>2</sub> O <sub>3</sub> (%)	PCE (O.C)	B.D. (gm/cc)	A.P. (%)	CCS (Kg/cm <sup>2</sup> )	PLC (%)	K/Kcal/m/hr/°C	Safe Appl. Temp (°C)
WHITEMLITE-II	55-58	34	1.25	50	80	±1.5 at 1500°C/2 hrs.	0.80	1500
WHITEMLITE-III	40-45	32	1.00	50-55	40-50	±1.5 at 1450°C/2 hrs.	0.78	1450
WINSUL PB-12	36-38	28	0.90	55-60	20	±1.5 at 1250°C/2 hrs.	0.75	1350

## COLD FACE INSULATING PRODUCTS

Normal quality products for cold face applications in various furnaces like soaking pits, regenerator walls, annealing furnaces, BF stoves, heat treatment furnaces etc. Special foam insulation products for back up lining of aluminium pot furnaces and similar applications upto 850°C. Exhibits very low thermal conductivity.

Brand	Al <sub>2</sub> O <sub>3</sub> (%)	SiO <sub>2</sub> (%)	PCE (O.C)	B.D. (gm/cc)	A.P. (%)	CCS (Kg/cm <sup>2</sup> )	K/Kcal/m/hr/°C	Safe Appl. Temp (°C)
WINSUL PA-8	30-35	-	26	0.8	60	10-15	0.70	1100
WINSUL PA-10	36-38	-	27	0.9-1.0	50-55	20	0.75	1300
WEDGE FOAM	10	75-80	11	0.50-0.55	70-75	10-12	0.15	850

## Composite Products

Cost saving and energy saving products manufactured through a very special process technique. Serve twin purpose of withstanding the severe operational conditions through a dense and compatible wear face as well as save energy and cost through an insulating/cheaper material in the cold face. Recommended for a wide range of applications in rotary kilns, high temperature furnaces etc.

Brand	Al <sub>2</sub> O <sub>3</sub> (%)	Fe <sub>2</sub> O <sub>3</sub> (%)	MgO (%)	Cr <sub>2</sub> O <sub>3</sub> (%)	SiC (%)	A.P. (%)	B.D. (gm/cc)	CCS (Kg/cm <sup>2</sup> )	PCE (O.C)	RUL Ta (°C)	K/K Cal/m/hr/°C
WDENSUL 40											
Wear side	40	2.5	-	-	-	24	2.1	300	-	1400	1.20
Shell side	20-35	-	-	-	-	45-55	1.5-1.6	50-80	-	-	0.45
WDENSUL 70											
Wear side	70	3.0	-	-	-	24	2.6-2.7	500	-	1300	1.30
Shell side	20-35	-	-	-	-	45-55	1.3-1.4	35-50	-	-	0.45
WCOMBINOR SF											
Wear side	-	-	-	-	85	18-20	2.4	600	36	1540	-
Shell side	42	-	-	-	-	22	2.2	250	33	1400	-
WCOMBINOR MC-A											
Wear side	-	-	65	12	-	20-22	2.9	300-400	-	1600	3.0/600°C
Shell side	45	-	50	-	-	35-40	2.0	100-150	-	-	1.2/600°C
WCOMBINOR MA											
Wear side	10	-	85	-	-	18-20	2.9	300-400	-	1650	2.0/600°C
Shell side	50	-	45	-	-	35-40	1.8-2.0	100-150	-	-	1.1/600°C

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