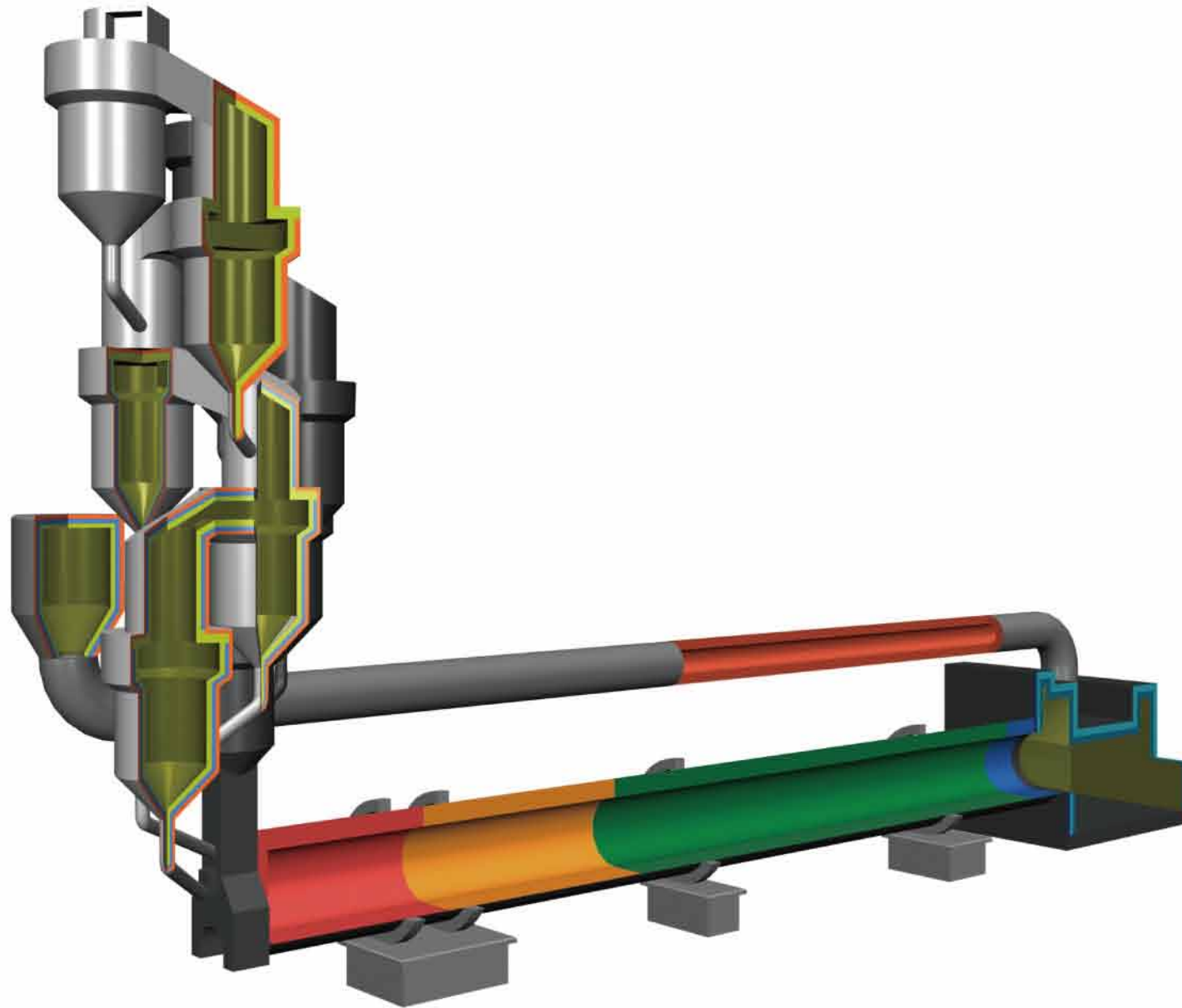


# 水泥旋窯耐火材料



- HA、H1-1、H2-1、H3、CA-150、CA-180、SGM-A50、SGM-A60、SGM-A70
- L1
- HA、H1-1、H2-1、H3
- MC-65、MC-75、UMC-65、UMC-75
- CA-150、CA-180、SNC-70

# Refractories for Cement Rotary Kiln

## Product Specification

Properties	Brand	MC-65	MC-75	UMC-65	UMC-75	MS42	SGM-A50	SGM-A60	SGM-A70
Refractoriness(SK)		40	40	40	40	40	----	----	----
Apparent Porosity(%)		≤20	≤20	≤21	≤21	≤14	----	----	----
Bulk Density(g/cm <sup>3</sup> )		≥2.8	≥2.8	≥2.9	≥2.9	----	≥2.0 (1400°Cx3hrs)	≥2.1 (1500°Cx3hrs)	≥2.15 (1500°Cx3hrs)
Cold Crushing Strength(kg/cm <sup>2</sup> )		≥300	≥350	≥250	≥250	≥550	≥200 (1400°Cx3hrs)	≥200 (1500°Cx3hrs)	≥200 (1500°Cx3hrs)
Chemical Composition(%)	MgO	≥65	≥75	≥65	≥75	≥80	----	----	----
	Cr <sub>2</sub> O <sub>3</sub>	≥9	≥6	≥12	≥8	≥2.5	----	----	----
	Al <sub>2</sub> O <sub>3</sub>	----	----	----	----	≥15	≥50	≥60	≥70
Characteristics		Brick					Gunning		
Application		Rotary Kiln					Cooler、Head Exchanger、Kiln Hood		

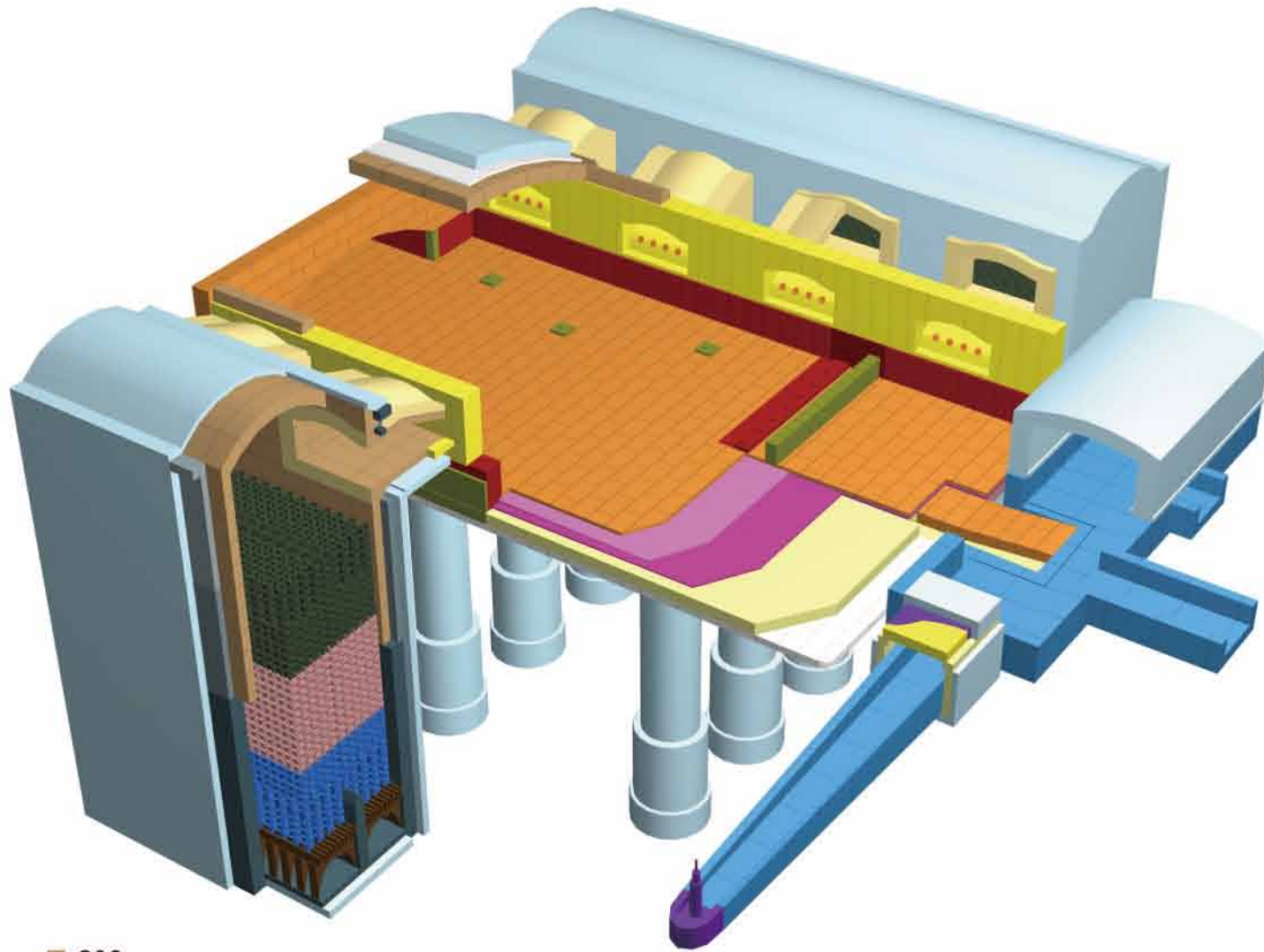
Properties	Brand	CA-150	CA-180	SNC-70	PL-150
Cold Crushing Strength (kg/cm <sup>2</sup> ) at °C x 3hrs		≥300 1400°C	≥250 1500°C	≥500 1500°C	≥180 1500°C
Modulus of Rapture (kg/cm <sup>2</sup> ) at °C x 3hrs		≥60 1400°C	≥60 1500°C	≥80 1500°C	≥60 1500°C
Bulk Density (g/cm <sup>3</sup> ) at °C x 3hrs		≥2.05 1400°C	≥2.35 1500°C	≥2.65 1500°C	≥2 1500°C
Chemical Composition (%)	Al <sub>2</sub> O <sub>3</sub>	≥45	≥70	≥70	≥40
	CaO	----	----	≤20	----
Water Require (%)		12~14	9~13	6~7	----
Characteristics		Casting			Plastic
Application		Head Exchanger	Cooler、Head Exchanger Kiln Hood	Cooler、Head Exchanger	Cooler

Properties	Brand	L1	F1	F3	H3	H2-1	H1-1	HA
Refractoriness(SK)		34	34	32	35	37	38	39
Apparent Porosity(%)		≥40	≤26	≤26	≤27	≤22	≤22	≤26
Cold Crushing Strength(kg/cm <sup>2</sup> )		≥150	≥300	≥300	≥245	≥500	≥500	≥500
Bulk Density(g/cm <sup>3</sup> )		≤1.6	≥2.2	≥2.0	≥2.1	≥2.4	≥2.5	≥2.5
Chemical Composition (%)	Al <sub>2</sub> O <sub>3</sub>	≥40	≥40	≥30	≥50	≥65	≥70	≥80
	Fe <sub>2</sub> O <sub>3</sub>	≤3	≤3.0	≤3.0	≤2.5	≤2.5	≤2.5	≤2.0
Characteristics		----	Brick	Brick	Brick	Brick	Brick	Brick
Application		Tertiary Air Duct	Cooler Head Exchanger	Head Exchanger	Rotary Kiln	Rotary Kiln Kiln Head	Kiln Head Calciner	Calciner



# 玻璃窯耐火材料

# Refractories for Glass Melting Furnace



- S96
- ZA33、ZA36、ZA41
- ZA33、ZA36、ZA41
- ZR60、ZR65
- PL-ZR
- F3、F2
- MA-98
- MA-95
- H3、H2
- F3、F2

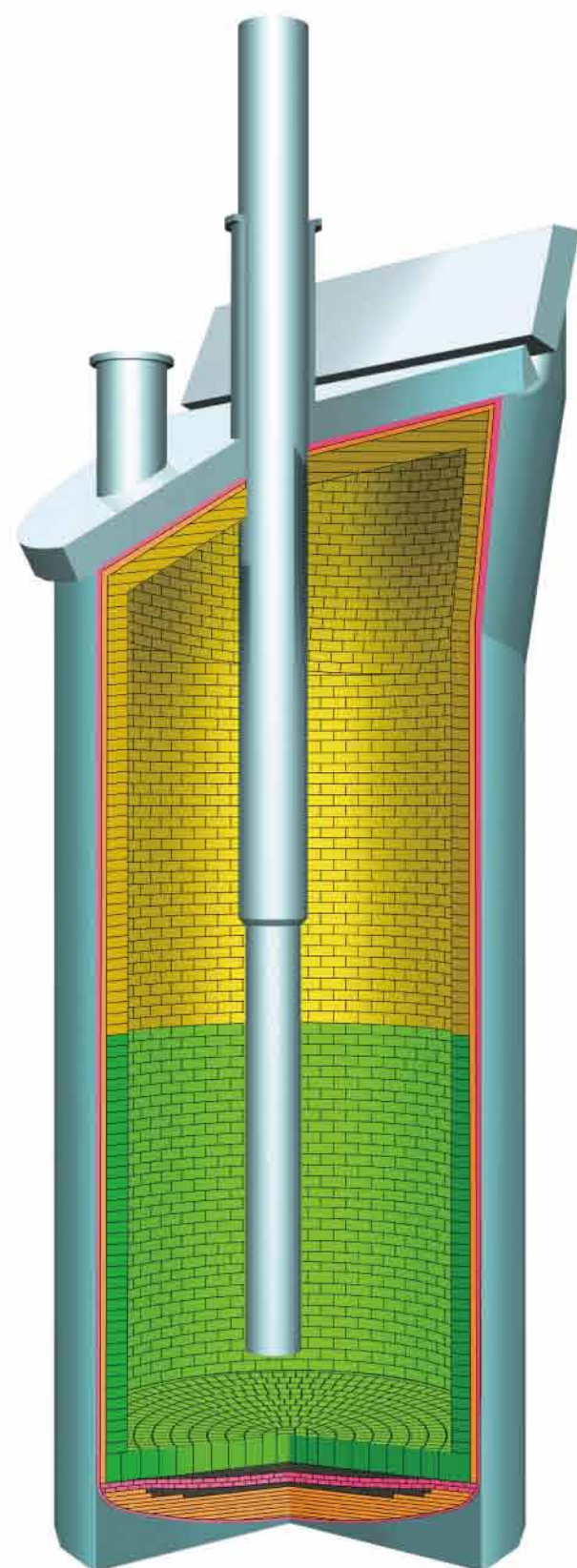
## Product Specification

Properties	Brand	F3	F2	H3	H2-1	H1-1	HS	MA-95	MA-98
Refractoriness (SK)		32	33	35	37	38	38	40	40
Apparent Porosity (%)		≤26	≤26	≤27	≤22	≤22	≤27	≤20	≤20
Cold Crushing Strength(kg/cm <sup>2</sup> )		≥300	≥300	≥245	≥500	≥500	≥249	≥400	≥400
Bulk Density (g/cm <sup>3</sup> )		≥2.0	≥2.1	≥2.1	≥2.4	≥2.5	≥2.4	≥2.8	≥3.0
Chemical Composition (%)	Al <sub>2</sub> O <sub>3</sub>	≥30	≥35	≥50	≥60	≥70	≥80	----	----
	Fe <sub>2</sub> O <sub>3</sub>	≤3.0	≤3.0	≤2.5	≤2.5	≤2.5	≤2.0	----	----
	MgO	----	----	----	----	----	----	≥94	≥98
Application		Melter Sidewall	Melter	Regenerater	Melter Sidewall	Melter	Regenerater		

Properties	Brand	ZA33	ZA36	ZA41	ZR40	ZR60	ZR65	S96	PL-ZR
Apparent Porosity(%)		----	----	----	≤22	≤22	≤22	≤2.0	≤20 1500°Cx3hrs
Bulk Density(g/cm <sup>3</sup> )		≥3.75	≥3.85	≥3.95	≥3.05	≥3.35	≥3.45	≥1.8	≥3.0 1500°Cx3hrs
Cold Crushing Strength(kg/cm <sup>2</sup> )		≥900	≥950	≥1000	≥500	≥500	≥500	≥300	≥500 1500°Cx3hrs
Chemical Composition(%)	Al <sub>2</sub> O <sub>3</sub>	≥48	≥46.5	≥42.5	----	----	----	----	≥70
	ZrO <sub>2</sub>	≥33	≥36	≥41	≥40	≥58	≥60	----	≥20
	SiO <sub>2</sub>	----	----	----	----	----	----	≥96	≥10
Characteristics		Fused Cast			Brick				Plastics
Application		Canal、Melter		Melter	Melter Sidewall、Pave	Melter Sidewall、Pave、Canal	Melter Sidewall、Pave	Crown	Melter



# 非鐵金屬耐火材料



- MC-75
- AC-80、AC-90
- CA-170、CA-180、CA-185

## Refractories for Nonferrous Metal Melting Furnace

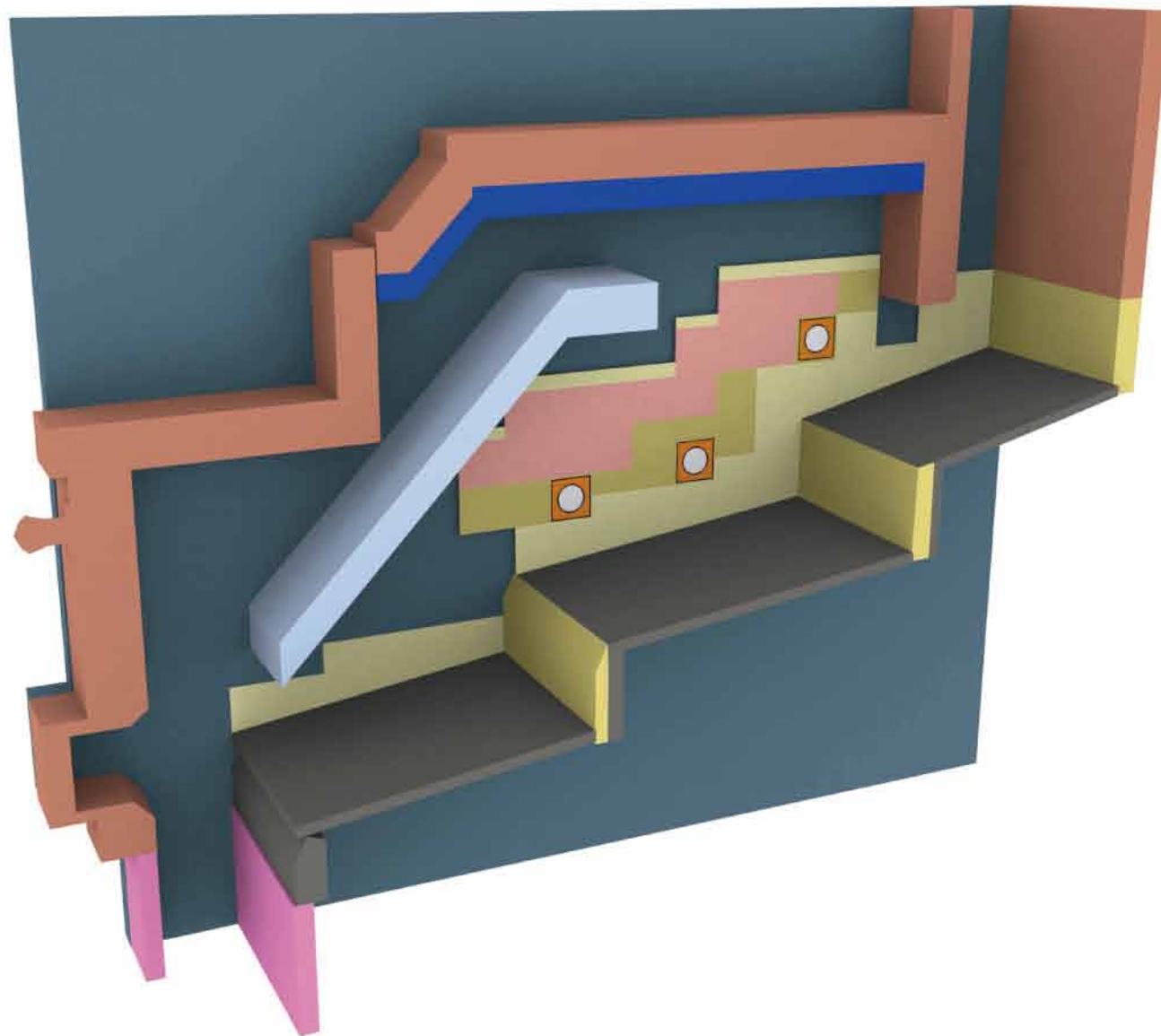
### Product Specification

Properties	Brand	AC-80	AC-90	MC-75	MC-80	DA-100	DA-90
Refractoriness (SK)		≥ 40	≥ 40	≥ 40	≥ 40	≥ 40	≥ 40
Cold Crushing Strength (kg/cm <sup>2</sup> )		≥ 700	≥ 1000	≥ 350	≥ 400	≥ 900	≥ 1000
Bulk Density (g/cm <sup>3</sup> )		≥ 2.8	≥ 3.25	≥ 2.9	≥ 3.0	≥ 3.20	≥ 3.0
Apparent Porosity (%)		≤ 20.0	≤ 16.0	≤ 20.0	≤ 15.0	≤ 14.5	≤ 12.5
Chemical Composition (%)	Al <sub>2</sub> O <sub>3</sub>	≥ 80	≥ 86.0	-----	-----	≥ 95	≥ 92
	Cr <sub>2</sub> O <sub>3</sub>	≥ 2.5	≥ 9.5	≥ 6	≥ 9.0	≤ 0.4	≤ 0.4
	MgO	-----	-----	≥ 75	≥ 78	-----	-----
Characteristics		Brick					

Properties	Brand	AM-34	AM-36	AM-38	AM-40
Refractoriness (SK)		34	36	38	40
Bonding Strength (kg/cm <sup>2</sup> ) at °C x 3hrs		≥ 20 (1400°C)	≥ 20 (1400°C)	≥ 30 (1500°C)	≥ 30 (1500°C)
Grain Size (%)	+0.5mm	≤ 2	≤ 2	≤ 2	≤ 2
	-0.074mm	≥ 60	≥ 60	≥ 60	≥ 65
Chemical Composition (%) Al <sub>2</sub> O <sub>3</sub>		≥ 45	≥ 60	≥ 75	≥ 90
Characteristics		Mortar			

Properties	Brand	CA-185	CA-180S	CA-180	CA-170
Max. Service Temp(°C)		1800	1800	1800	1700
Cold Crushing Strength(kg/cm <sup>2</sup> ) at °C x 3hrs		≥ 2.65 (1500°C)	≥ 2.50 (1500°C)	≥ 2.35 (1500°C)	≥ 2.20 (1400°C)
Bulk Density(g/cm <sup>3</sup> ) at °C x 3hrs		≥ 300 (1500°C)	≥ 280 (1500°C)	≥ 250 (1500°C)	≥ 300 (1400°C)
Modulus of Rupture(kg/cm <sup>2</sup> ) at °C x 3hrs		≥ 80 (1500°C)	≥ 80 (1400°C)	≥ 60 (1400°C)	≥ 60 (1400°C)
Chemical Composition(%) Al <sub>2</sub> O <sub>3</sub>		≥ 95	≥ 90	≥ 75	≥ 60
Water Required(%)		8~9	9~11	11~13	11~13
Installation Method		Casting, Trowelling			





- SIC-80T
- SIC-60、SIC-85
- SSA-50、SSC-80、SSC-85、SSC-90、SSF-70
- F1、H2
- CA-12I、CA-150、CA-160
- PL-170

## Product Specification

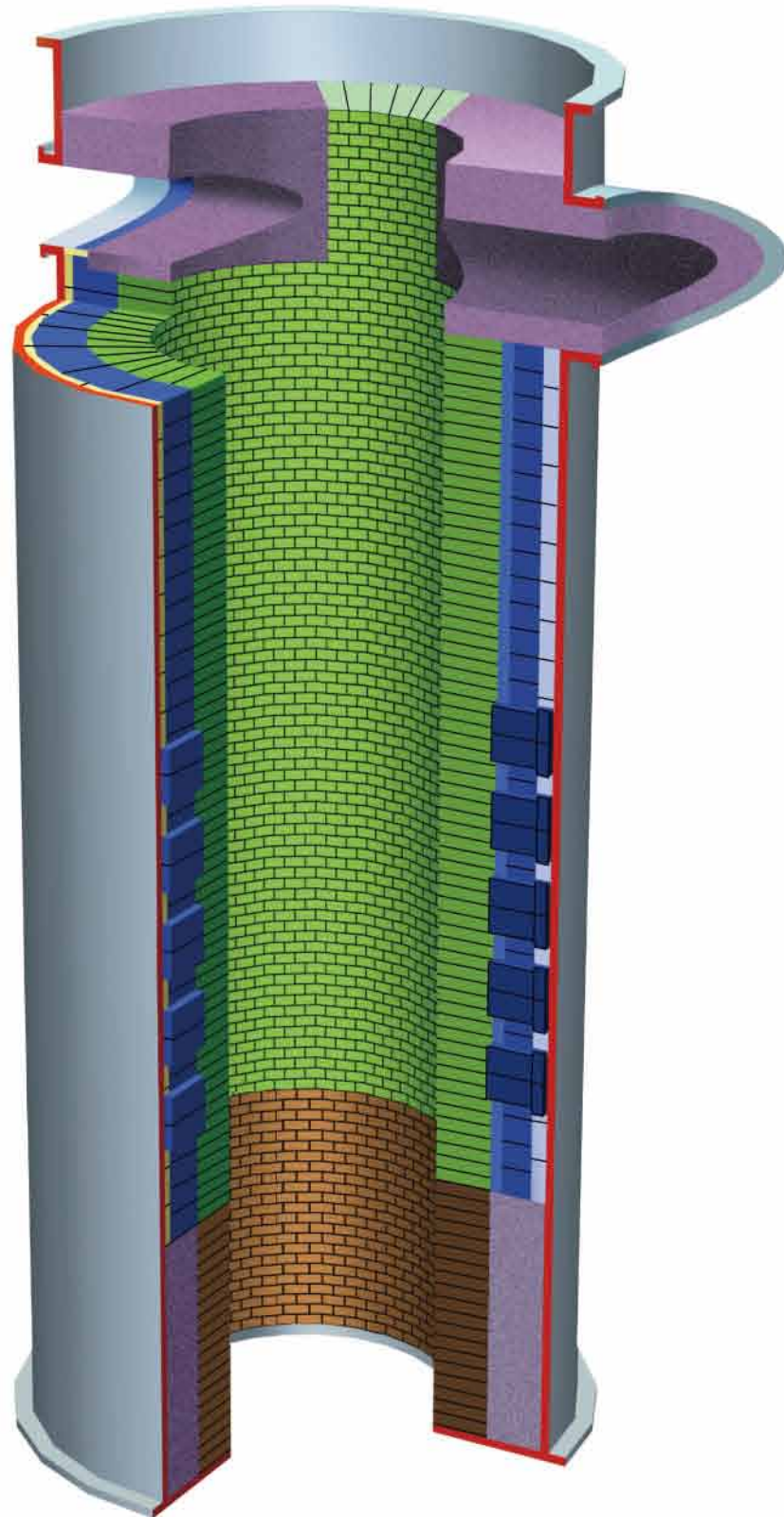
Properties	Brand	CA-12I	CA-150	CA-160	PL-170	F1	H3	H2
Refractoriness(SK)		—	—	—	—	34	35	37
Apparent Porosity(%)		—	—	—	—	≤26	≤27	≤27
Cold Crushing Strength (kg/cm <sup>2</sup> ) at °C x 3hrs		≥30 1200°C	≥300 1400°C	≥350 1500°C	≥120 1500°C	≥300	≥245	≥294
Modulus of Rapture (kg/cm <sup>2</sup> ) at °C x 3hrs		≥10 1200°C	≥60 1400°C	≥80 1500°C	≥25 1500°C	—	—	—
Bulk Density (g/cm <sup>3</sup> ) at °C x 3hrs		≤1.30 1200°C	≥2.05 1400°C	≥2.10 1500°C	≥2.05 1500°C	≥2.20	≥2.10	≥2.20
Chemical Composition (%)	Al <sub>2</sub> O <sub>3</sub>	≥30	≥45	≥53	≥53	≥40	≥50	≥60
	Fe <sub>2</sub> O <sub>3</sub>	—	—	—	—	≤3.0	≤2.5	≤2.0
Water Require (%)		30~40	12~14	11~13	—	—	—	—
Characteristics		Casting	Casting	Casting	Plastic	Brick	Brick	Brick
Application		Safety Zone	Inlet Zone		Burners	Inlet Zone、Burners Ared Dried Area		

Properties	Brand	SSA-50	SSC-80	SSC-85	SSC-90	SSF-70	SiC60	SiC85	SiC80T
Apparent Porosity(%)		≤18	≤18	≤15	≤15	≤15	≤15	≤22	≤28
Cold Crushing Strength (kg/cm <sup>2</sup> )		≥600	≥600	≥1000	≥900	≥1000	≥350	≥300	≥300
Bulk Density(g/cm <sup>3</sup> )		≥2.65	≥2.45	≥2.60	≥2.60	≥2.60	≥2.40	≥2.40	≥2.20
Chemical Composition (%)	Al <sub>2</sub> O <sub>3</sub>	≥35.0	—	—	—	—	—	—	—
	SiC	≥47.0	≥80.0	≥85.0	≥88.0	≥70.0	≥60.0	≥85.0	≥80.0
	Si <sub>3</sub> N <sub>4</sub>	—	—	—	—	≥20.0	—	—	—
Water Require (%)		—	—	—	—	—	7.0~8.0	7.5~8.5	13~15
Characteristics		Brick	Brick	Brick	Brick	Brick	Casting	Casting	Troweling
Application		Dried Area	Burned Area				Grate Sidewall		

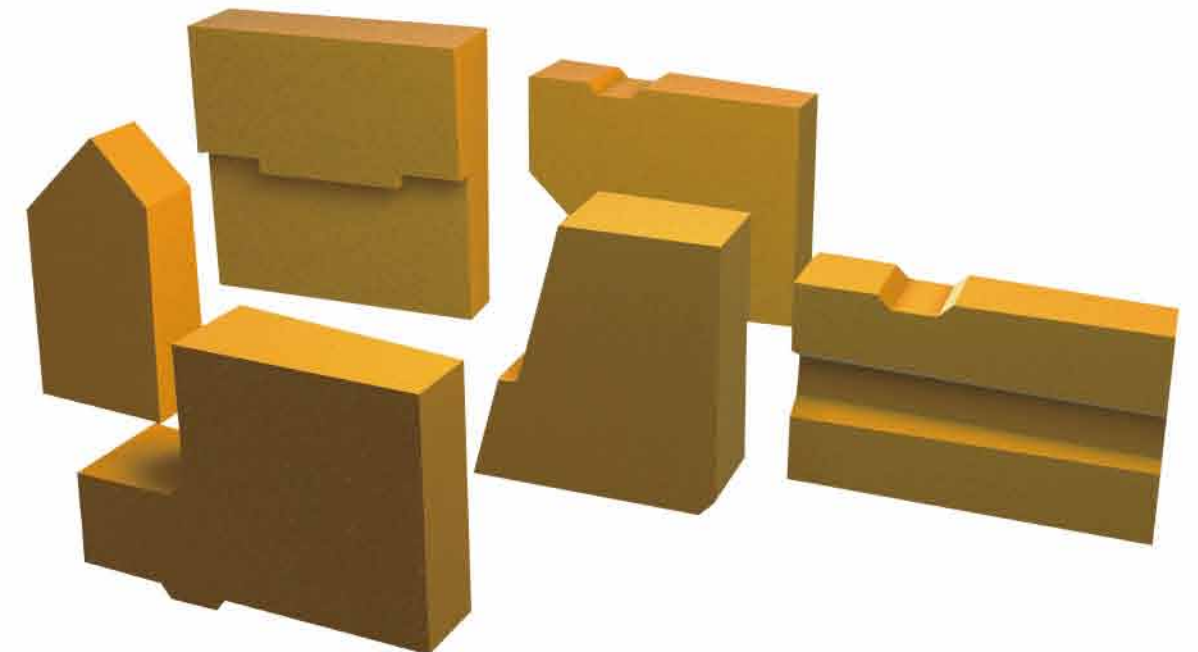


# 石灰豎窯耐火材料

# Refractories for Lime Shaft Kiln



- H3、H2、H1-1
- MC-65、MC-75、MB-90
- H3、H2、H1-1
- H4、H3、H2、H1-1



## Product Specification

Properties	Brand	H1-1	H2	H3	H4	F1	F3	MC-65	MC-75	MB-90	MS-42
Refractoriness(SK)		38	37	35	35	34	32	40	40	40	40
Apparent Porosity(%)		≤22	≤27	≤27	≤28	≤26	≤26	≤19	≤17	≤16	≤14
Cold Crushing Strength(kg/cm <sup>2</sup> )		≥500	≥294	≥245	≥196	≥200	≥300	≥300	≥350	≥450	≥550
Bulk Density(g/cm <sup>3</sup> )		≥2.5	≥2.20	≥2.10	≥2.10	≥2.20	≥2.00	≥3.35	≥3.05	≥2.95	—
Chemical Composition (%)	Al <sub>2</sub> O <sub>3</sub>	≥70	≥60	≥50	≥45	≥40	≥28	—	—	—	≥15
	Fe <sub>2</sub> O <sub>3</sub>	≤2.5	≤2.00	≤2.50	≤2.00	≤3.00	≤3.00	—	—	—	—
	MgO	—	—	—	—	—	—	≥65.0	≥75.0	≥95	≥80
	Cr <sub>2</sub> O <sub>3</sub>	—	—	—	—	—	—	≥24.0	≥10	—	≥2.5
Characteristic		Brick									