

Rongsheng Mullite Bricks Physical and Chemical Index Tables

1. Technique Data of Mullite Brick

Item	Specification			
	SM65	SM70	SM75	SM80
Al ₂ O ₃ %	≥64	≥68	≥74	≥78
Fe ₂ O ₃ %	≤1.2	≤1.2	≤0.8	≤0.6
Apparent Porosity %	≤18	≤18	≤18	≤17
Bulk Density g/cm ³	≥2.45	≥2.50	≥2.60	≥2.75
CCS MPa	≥55	≥60	≥65	≥70
0.2MPa RUL, °C	≥1560	≥1580	≥1650	≥1700
PLC % 1500°C × 2h	-0.4~+0.1	-0.3~+0.1	-0.2~+0.1	

2. Technique Data of Zirconia Mullite Brick

Item	Specification	
	ZM-1	ZM-2
ZrO ₂ %	≥20	≥7
Al ₂ O ₃ %	≥68	≥73
SiO ₂ %	≤18	≤18
Fe ₂ O ₃ %	≤0.5	≤1.0
Apparent Porosity %	≤20	≤21
Bulk Density g/cm ³	≥3.2	≥3.0
CCS MPa	≥100	≥100
TSR, Cycle 1100°C Water	≥21	≥18
0.2MPa RUL °C	≥1700	≥1680

3. Technique Data of Fused Cast Mullite Brick

Item	Specification/Typical Value	
	Fused Cast Mullite Brick-FM	Fused Cast Zirconia Mullite Brick-ZM
SiO ₂ %	16	17
Al ₂ O ₃ %	75	77.5
ZrO ₂ %	5	2.5
TiO ₂ +CaO+MgO+Na ₂ O+K ₂ O %	2	3.0 (+Fe ₂ O ₃)
Bulk Density, g/cm ³ (Dense Part)	3.2	3.2
CMOR, MPa	140	140
CCS, MPa	300	300
Thermal Conductivity, 1300°C W/(m·K)	5.4	4.6
Thermal Expansion Rate, % 1300°C	0.9	0.8

4. Technique Data of Corundum Mullite Brick

Item	Specification			
	GMZ-90	GMZ-85	GMZ-80	GMZ-75
Al ₂ O ₃ %	≥90	≥85	≥80	≥75
Fe ₂ O ₃ %	≤0.8	≤1.0	≤1.0	≤1.2
Apparent Porosity, %	≤16	≤17	≤18	≤18
Bulk Density, g/cm ³	≥3.10	≥2.85	≥2.75	≥2.6
CCS, MPa	≥120	≥100	≥100	≥80
0.2MPa RUL °C	≥1700	≥1680	≥1650	
PLC, % 1500°C × 2h	±0.1		±0.2	
TSR, Cycle 1100°C Water	≥30	≥30	≥30	

5. Technique Data of Mullite Andalusite Brick

Item	Specification
Al ₂ O ₃ %	≥56
Fe ₂ O ₃ %	≤1.3
Apparent Porosity %	≤18
Bulk Density g/cm ³	≥2.4
CCS MPa	≥75
PLC % 1350°C × 2h	±0.1
TSR, Cycle 1100°C Water	≥30
0.2MPa RUL °C	≥1500

6. Technique Data of Mullite Insulation Brick

Item		Mullite Insulation Brick Specification (I)			
		JM23	JM25	JM26	JM27
Al ₂ O ₃ %		≥40	≥50	≥55	≥60
Fe ₂ O ₃ %		≤1.0	≤1.0	≤0.9	≤0.8
Bulk Density, g/cm ³		≤0.55	≤0.80	≤0.85	≤0.9
CCS, MPa		≥1.0	≥1.5	≥2.0	≥2.5
PLC, %		1230°C × 1 2h	1350°C × 1 2h	1400°C × 1 2h	1450°C × 1 2h
		-1.5~0.5			
Thermal Conductivity, W/ (m·K)	200±2 5°C	≤0.18	≤0.26	≤0.28	≤0.32
	350±2 5°C	≤0.20	≤0.28	≤0.30	≤0.32
	600±2 5°C	≤0.22	≤0.30	≤0.33	≤0.36
0.05MPa RUL, T _{0.5} °C		≥1080	≥1200	≥1250	≥1300

Item		Mullite Insulation Brick Specification (II)		
		JM28	JM30	JM32
Al ₂ O ₃ %		≥65	≥70	≥77
Fe ₂ O ₃ %		≤0.7	≤0.6	≤0.5
Bulk Density, g/cm ³		≤0.95	≤1.05	≤1.35
CCS, MPa		≥2.5	≥3.0	≥3.5
PLC, %		1510℃×12h	1620℃×12h	1730℃×12h
		-1.5~0.5		
Thermal Conductivity, W/(m·K)	200±25℃	≤0.35	≤0.42	≤0.56
	350±25℃	≤0.37	≤0.44	≤0.60
	600±25℃	≤0.39	≤0.46	≤0.64
0.05MPa RUL, T _{0.5} °C		≥1360	≥1470	≥1570