

**CLC (low-cement castable)**

May, 2011

Product	CLC-A900-RE	CLC-A880-RE	CLC-A780-RE	CLC-A649-RE	CLC-A610-RE	CLC-A539-RE	CLC-SC559-RE	CLC-Z900-RE	CLC-Z900-AL	CLC-Z302-AL	CLC-Z310-AL	
Raw materials	Alumina	Alumina	Alumina	Alumina	High alumina	High alumina	High alumina	Zircon	Zircon	Semi-zircon	Semi-zircon	
Max service temperature (°C)	1700	1800	1700	1650	1650	1600	1400	1700	1700	1600	1600	
Installation requirement (t/m <sup>3</sup> )	2.90	2.88	2.65	2.45	2.35	2.40	2.55	3.48	3.48	3.12	3.14	
Water additions (wt%)	5.5~6.5	5~6	5.5~6.5	6.5~7.5	7.5~8.5	6.5~7.5	6~6.8	4.3~5.3	4.3~5.3	4.5~5.5	4.3~5.3	
Chemical composition (%)	SiO <sub>2</sub>	6	7	20	31	33	40	28	35	35	18	18
	Al <sub>2</sub> O <sub>3</sub>	91	88	78	63	61	53	55	6	6	59	59
	ZrO <sub>2</sub>								57	57	20	20
	SiC							10				
Bulk density	110°C × 24hrs.	2.90	2.88	2.65	2.45	2.35	2.40	2.53	3.48	3.48	3.12	3.14
	1000°C × 3hrs.	2.89	2.86	2.64	2.42	2.33	2.35	2.50	3.45	3.45	3.11	3.12
	1200°C × 3hrs.							2.50			3.06	3.07
	1500°C × 3hrs.	2.96	2.81	2.65	2.38	2.32	2.40		3.40	3.40		
Cold crushing strength (MPa) Bending strength (MPa)	110°C × 24hrs.	40 (8)	34 (6)	47 (9)	44 (8)	24 (5)	35 (5)	35 (9)	40 (8)	40 (8)	60 (12)	100 (17)
	1000°C × 3hrs.	117 (24)	53 (8)	83 (14)	68 (8)	44 (7)	70 (7)	90 (11)	70 (13)	70 (13)	80 (12)	120 (17)
	1200°C × 3hrs.							90 (11)			85 (13)	110 (18)
	1400°C × 3hrs.						80 (15)					
	1500°C × 3hrs.	132 (29)	68 (10)	107 (15)	86 (12)	58 (11)			85 (15)	85 (15)		
Permanent linear change (%)	110°C × 24Hrs	-0.1	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
	1000°C × 3hrs.	-0.2	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.1
	1200°C × 3hrs.							0.1			0.1	0.0
	1400°C × 3hrs.						-0.1					
	1500°C × 3hrs.	-0.8	0.1	0.0	0.1	0.8			0.4	0.4		
Porosity (%)	110°C × 24hrs.	12	14	12	15	17	14	11	13	13	9	9
	1000°C × 3hrs.	22	14	13	18	21	19	18	15	15	15	14
	1200°C × 3hrs.							18				
	1500°C × 3hrs.	20	14	14	20	22	18		15	15	17	17
Thermal expansion (%) at 1000°C	0.7	0.7	0.64	0.5	0.42	0.5	0.5	0.34	0.34	0.5	0.5	
Thermal conductivity (W/mK)	at 500°C	3.7	3.7	1.9	1.7	1.6	1.7	2.4	1.8	1.8	2.7	2.7
	at 1000°C	3.6	3.6	2.2	1.9	1.8	1.9	2.7	2.0	2.0	2.8	2.8
Standard package quantity(kg)	25	25	25	25	25	25	25	25	25	25	25	
Features	Spalling resistance Alkali resistance	Spalling resistance Alkali resistance	Spalling resistance	Spalling resistance Alkali resistance	Spalling resistance	Spalling resistance High corrosion resistance	Spalling resistance High corrosion resistance	Spalling resistance Volume stability	Spalling resistance Metal buildup prevention	Spalling resistance Metal reaction restraint	Spalling resistance Metal reaction restraint	
Typical applications	Incinerator	Incinerator (Na <sub>2</sub> SO <sub>4</sub> )	Incinerator Alumium melting furnace,Aluminum holding furnace	Incinerator	Burner tiles Lance pipes	Lance pipes	Types of kilns	Types of kilns	Aluminum melting furnace,Aluminum holding furnace	Aluminum melting furnace,Aluminum holding furnace	Aluminum melting furnace,Aluminum holding furnace	

※The data shown here is a representative value, and no hallmark value.