KUAN-HO REFRACTORIES INDUSTRY CORPORATION
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The TCC Group
THE FUTURE IS WORTH IT

THE QUALITY OF ORDINARY CASTABLE

Ordinary castable refractories are composed of different refractory aggregates and high alumina cement. It is furnished in dry form and shoud be mixed with water at job site for use. By means of casting, trowelling or gunning, castables can be casted into place to from a solid and joint-free monolithic refractory structures. Adequate construction and workmanship are important. Comparing with fire-bricks, castables have the following merits over bricks.

- Can be casted into place easily and quickly to save time and labor.
- Can be casted into any shape or dimension.
- Low thermal conductivity and good insulation.
- To form a solid and joint-free structure.
- Good resistance to spalling.

The life of a castable depends to a great extent on workmanship and construction method. We have a written manual on “workmanship of a monolithic refractories” for customers.

Typical Properties

Properties \ Brand		CA-185 CASTABLE	CA-180 CASTABLE	CA-170 CASTABLE	CA-165 CASTABLE	CA-160 CASTABLE	CA-155 CASTABLE	CA-150 CASTABLE
Max. Service Temperature ℃		1800	1800	1700	1650	1600	1550	1500
Quantity Required (Kg/m^3)		2910	2850	2380	2250	2200	2150	2150
Water Required For Mixing (%)		7-8	8-10	12-14	14-16	10-11	13-14	13-14
Chemical Composition (%)	Al_2O_3	94.9	92.2	67.0	60.0	58.0	50.0	46.8
	SiO_2	0.9	1.5	21.3	31.5	31.0	40.2	45
	CaO	3.1	2.9	2.5	2.5	2.5	7.0	7.2
Modulus of Rupture After Heating (Mpa) (Bending Strength)	110℃	3.4	5.4	3.6	4.2	4.3	5.4	8.2
	1000℃	2.8	4.5	2.5	2.3	2.7	3.2	-
	1500℃	17.9	33.3	10.8	8.6	10.8	10.4	16.2 (1400℃)
Permanent Linear Change(%)	1000℃		-	-				-
	1500℃	0.62	-0.56	-0.25	0.08	0.41	-0.10	1.36
Thermal Expansion at1000℃(%)		0.7	0.7	0.6	0.5	0.5	0.5	0.4
Thermal Conductivity (W/m.k)	At 500℃	1.50	1.5	0.86	0.86	0.83	0.83	0.68
	At1000℃	1.68	1.68	1.28	1.28	0.98	0.98	0.84
Application		Various furnace	Various furnace	Various furnace	Various furnace	Various furnace	Various furnace	Various furnace
Remark		Hot volume stability Abrasion resistance	Hot volume stability Abrasion resistance	High temperature	Spalling resistance Corrosion resistance			

Properties \ Brand		CA-145H CASTABLE	CA-145 CASTABLE	CA-135 CASTABLE	CA-130A CASTABLE	CA-130 CASTABLE	CA-120 CASTABLE
Max. Service Temperature ℃		1450	1450	1350	1300	1300	1200
Quantity Required (Kg/m^3)		2100	2100	2050	2350	1850	1850
Water Required For Mixing (%)		14-16	14-16	12-14	9-11	12-14	15
Chemical Composition (%)	Al_2O_3	48	42	40	54	38	28
	SiO_2	39	44	45	33.4	47	57
	CaO	9.2	9.0	8.2	7.5	8.1	9.8
Modulus of Rupture After Heating(Mpa)	110℃	8.7	5.0	3.5	12.6	3.2	8.6
	1000℃	4.6	2.5	1.9	17.7	1.8	4.5
	1400℃	9.5	7.8	5.1 (1300℃)	18.4	5.0 (1200℃)	5.6(1200℃)
Permanent Linear Change(%)	1400℃	2.86	1.05	–0.14 (1300℃)	-0.05(1400℃)	-0.05(1200℃)	-0.19(1200℃)
Thermal Expansion at1000℃(%)		0.4	0.4	0.6	0.5	0.6	0.6
Thermal Conductivity (W/m.k)	At 500℃	0.63	0.67	0.67	0.86	0.67	0.67
	At1000℃	0.87	0.77	0.81	1.28	0.77	0.81
Application		Various furnace	Various furnace	Various furnace	Various furnace	Various furnace	Various furnace
Remark		High strength			Abrasion resistance		