KT Refractories US Company
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KT Refractories Castable Manual

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Al_2O_3-SiC-C Iron Channel Refractory

Properties \ Brand		KT-F1	KT-F2	KT-F3	KT-F4	KT-F5	KT-F6	KT-F7
Chemical Composition (%)	Al_2O_3	70	60	65	60	70	65	65
	SiO_2	10	20	10	15	14	10	10
Bulk density after burnt (g/cm^3)		≥2.85	≥2.80	≥2.65	≥2.50	≥2.80	≥2.65	≥2.5
Bending Strength (MPa)	110°C×24h	4.0	4.0	4.0	4.0	4.0	3.0	4.0
	1450°C×3h	7.0	6.0	7.0	5.0	8.0	6.0	6.0
Compressive Strength (MPa)	110°C×24h	25	20	25	20	25	20	20
	1450°C×3h	40	30	40	30	50	50	30
Linear changing after burnt at 1450°C×3h (%)		0-+0.5	0-+0.5	0-+0.5	0-+0.5	0-+0.5	0-+0.5	0-+0.5
Application		Main iron channel	Main slag channel	Branch iron channel	Branch slad channel	Main channel, away channel	Branch iron channel	Main Channel
Note		For the blast furnace above 2000m^3				Blast furnace 1000-2000m^3		Blast furnace 1000m^3

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Alkali-resistant Castable Refractory

Properties \ Brand		KT-13N
Chemical Composition (%)	Al_2O_3	≥35
	SiO_2	50-60
	SiC	≤1.5
Max service temperature (°C)		1300
Bulk density after burnt at 110°C (g/cm^3)		≤2.4
Linear changing after burnt at 1200°C×3h (%)		±0.5
Compressive/Bending Strength (MPa)	110°C×24h	≥70/≥10
	1100°C×3h	≥90/≥5
	1300°C×3h	≥100/≥20
Water content for construction by weight (%)		7-10
Alkali-resistant degree		preheater inlet
Test standard		YB/T5202-2003
Packing		25kgs Plastic bag

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Anti-skin Castable Refractory for Preheater

Properties \ Brand		KT-50S	KT-55S	KT-60S
Chemical Composition (%)	Al_2O_3	20-30	20-30	20-30
	SiO_2	13-25	13-25	13-25
	SiC	40-55	45-60	50-65
Max service temperature (°C)		1200	1200	1200
Bulk density after burnt at 110°C (g/cm^3)		≥2.4	≥2.4	≥2.4
Linear changing after burnt at 1200°C×3h (%)		±0.3	±0.3	±0.3
Compressive/Bending Strength (MPa)	110°C×24h	≥80/≥10	≥80/≥10	≥80/≥10
	1200°C×3h	≥100/≥15	≥100/≥15	≥110/≥15
Max grain size of aggregate (mm)		5-6	5-6	5-6
Water content for construction by weight (%)		5-6	5-6	5-6
Usage		Preheater		
Test standard		YB/T5202-2003		
Packing		55lbs/25kg plastic bag		

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Corundum Spinel Castable Refractory

Properties \ Brand		KT-3	KT-88R	KT-88RX	KT-A
Chemical Composition (%)	Al_2O_3	≥93	≥88	≥88	≥70
	SiO_2	≤0.5	≤0.5	≤0.5	≤0.5
	MgO	2-3	6-8	6-8	≥20
Max service temperature (°C)		1800	1800	1800	1700
Bulk density after burnt at 110°C(g/cm^3)		≥3.0	≥3.1	≥3.1	≥2.85
Linear changing after burnt at 1500°C×3h (%)		±0.5	0.1-1.0	0.1-1.0	0.1-0.6
Compressive/Bending Strength (MPa)	110°C×24h	≥50/ ≥7	≥60/ ≥7	≥70/ ≥8	≥50/ ≥7
	1100°C×3h	≥60/ ≥8	≥70/ ≥8	≥90/ ≥10	≥60/ ≥8
	1500°C×3h	≥90/ ≥15	≥120/ ≥15	≥120/ ≥15	≥90/ ≥16
Max grain size of aggregate (mm)		5-6	5-8	8-12	5-6
Water content for construction by weight (%)		6-7	4.5-5.5	4.5-5.5	5-7
Usage		Oxygen or Argon gun	RH vacuum refining, Gunning for Oxygen blowing, Argon blowing	RH vacuum refining, CAS-OB dipping cover, Gunning	Burner
Test standard		YB/T5202-2003			
Packing		25kgs Plastic bag			

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High Alumina Self-flow Castable Refractory

Properties \ Brand		KT-16SF
Chemical Composition (%)	Al_2O_3	≥75
	SiO_2	≤20
Max service temperature (°C)		1550
Bulk density after burnt at 110°C (g/cm^3)		≥2.7
Linear changing after burnt at (%)	1100°C×3h	±0.3
	1500°C×3h	±0.5
Compressive/Bending Strength (MPa)	110°C×24h	≥50/≥7
	1100°C×3h	≥80/≥10
	1500°C×24h	≥120/≥15
Max grain size of aggregate (mm)		5-6
Water content for construction by weight (%)		6.8-7.8
Self-flow value (mm)		165-210
Usage		Steel ladle or Middle everlasting liningetc.
Test standard		YB/T 5202-2003
Packing		25kgs Plastic bag

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High-purity Alumina-chrome Castable Refractory

Properties \ Brand		KT-19H	KT-19B	KT-19K
Chemical Composition (%)	Al_2O_3	≥95	≥95	≥93
	SiO_2	≤0.5	≤0.5	≤0.5
	Cr_2O_3	2-3	2-3	4-5
Max service temperature (°C)		1900	1900	1900
Bulk density after burnt at 1500°C (g/cm^3)		≥3.0	≥3.0	≥3.0
Linear changing after burnt at 1500°C×3h (%)		±0.5	±0.5	±0.5
Compressive/Bending Strength (MPa)	110°C×24h	≥50/≥6	≥25/≥5	≥40/≥6
	1100°C×3h	≥50/≥7	-	≥50/≥7
	1500°C×3h	≥100/≥15	≥85/≥16	≥100/≥15
Max grain size of aggregate (mm)		5-6	5-6	5-6
Water content for construction by weight (%)		5-6	5-6	5-6
Application		Hard carbon black reaction kiln		
Test standard		YB/T5202-2003		
Packing		25kgs Plastic bag		

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High-purity Corundum Castable Refractory

Properties \ Brand		KT-1	KT-2	GJ-18A	KT-18HS	KT-18H
Chemical Composition (%)	Al_2O_3	≥98	≥95	≥95	≥95	≥95
	SiO_2	≤0.2	≤0.5	≤0.2	≤0.4	≤0.4
Max service temperature (°C)		1850	1800	1800	1800	1800
Bulk density after burnt at 110°C (g/cm^3)		≥3.1	≥3.0	≥2.9	≥3.0	≥3.1
Linear changing after burnt at 1500°C×3h (%)		-0.2 ~ 0.6	-0.2 ~ 0.6	-0.2 ~ 0.6	-0.2 ~ -0.3(1100°C)	±0.5
Compressive/Bending Strength(MPa)	110°C×24h	≥20/≥4	≥60/≥7	≥50/≥4	≥60/≥8	≥70/≥7
	1100°C×3h	≥50/≥6	≥70/≥8	-	≥70/≥9	≥80/≥10
	1500°C×3h	≥60/≥10	≥100/≥15	≥100/≥15	≥120/≥10	≥150/≥15
Max grain size of aggregate (mm)		5-6	5-6	5-6	3	5-6
Water content for construction by weight (%)		5-6.5	5-6.5	5-6	5-6	5-6
Usage		High Temperature furnace	RH vacuum Refining and Oher high Temperature kilns	RH vacuum RefiningSoft carbon black Reaction furnace	Petrochemical	RH Soft carbon black
Test standard		YB/T5202-2003				
Packing		25kgs Plastic bag				

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High Strength Corundum Castable Refractory

Properties \ Brand		GJ-180	GJ-18S	GJ-180F	KT-185	KT-18SS	KT-180 S
Chemical Com position (%)	Al_2O_3	≥94	≥90	≥94	≥93	≥90	≥93
	SiO_2	≤0.5	≤5	≤0.5	≤5	≤4	≤0.5
	Fe_2O_3	≤0.5	≤0.5	≤0.5	≤0.1		
Max service temperature °C		1700	1650	1700	1650	1650	1700
Bulk density after burnt at 110 °C (g/cm^3)		≥2.9	≥3.0	≥2.8	≥3.0	≥2.9	≥2.9
Linear changing after burnt at 1500°C× 3h (%)		0 .1-0.5	-0.1~ -0.5	0 .1-0.5	-0.1~ -0 .5	0~-0.4 (1100 °C×3 h)	0~ -0 .3 (1100°C× 3h)
Compressive/Bending Strength (MPa)	110°C× 24h	≥80/≥8	≥90/≥10	≥70≥7	≥100/≥10	≥80/≥10	≥70/≥7
	1100°C× 3h	≥100/≥12	≥100 /≥15	≥90/≥10	≥110/≥12	≥110/≥20	≥100/≥15
	1500°C×3 h	≥120/≥20	≥150 /≥20	≥100/≥15	≥140/≥20		
Max grain size of aggregate (mm)		5-8	5-8	5-8	5-8	3	3
Water content for construction by weight (%)		5-6 .5	5-6	5.5-7	4-5	6-8	5.5-7.5
Usage		Cement kiln Outlet Burner	Cement kiln Outlet cooler	Cement kiln Outlet	Large Cement kiln Outlet Preheating room	Wear-resista nce lining of whirl wind separator in oil catalyst cracking unit	Wear-resist ance lining of whirl wind separator in oil catalyst cracking unit
Test standard		YB/T 5202-2003					
Packing		55lbs/25kgs Plastic bag					

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High strength, High Alumina Castable Refractory

Properties \ Brand		LC-140	LC-160	LC-170	LC-160S
Chemical Composition (%)	Al_2O_3	≥75	≥75	≥80	≥75
	SiO_2	≤20	≤20	≤15	≤20
Max Service Temperature °C		1300	1600	1650	1600
Bulk density after burnt at 110 °C (g/cm^3)		≥2.65	≥2.75	≥2.8	≥2.75
Linear change after burnt at 1500 °C × 3h (%)		-0.2~ 0.5 (1300 °C × 3h)	0.1~ -0.5	0.1~ -0.5	-0.2 -0.3
Compressive Bending Strength (MPa)	110° C × 24 h	≥60 /≥8	≥80 /≥9	≥100/≥10	≥75/≥8.5
	1100 °C × 3h	≥90 /≥8	≥100/≥12	≥110 /≥12	≥90 /≥9
	1500 °C × 3h	≥120/≥15	≥150/≥15	≥150/≥15	
Max grain size of aggregate (mm)		5-8	5-8	5-8	3
Water content for construction by weight (%)		6-7	5-6	5-6	5.5-6.5
Usage		Cement, Oil-chemical industry	Outlet cooler, preheater		The wearable liners of the hoist pipes in oil catalytic cracking device
Test standard		YB/T 5202-2003			
Packing		55lbs/25kgs plastic bag			

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Lightweight Insulating Castable Refractory

Properties \ Brand		KT-Q100	KT-Q135	GJ-18C
Chemical Composition (%)	Al_2O_3	≥20	≥45	≥95
	SiO_2	≤52	≤35	≤0.5
Max service temperature (°C)		1100	1300	1800
Bulk density after burnt at 110°C (g/cm^3)		≤1.0	≤1.35	1.3-1.5
Linear changing after burnt at 1100°C×3h (%)		0 ~ -0.5	0 ~ -0.4	±0.5(1500°C×3h)
Compressive/Bending Strength (MPa)	110°C×24h	≥5/≥1.5	≥10/≥3	≥8/≥3
	1100°C×3h	≥5/≥1.5	≥10/≥3	≥15/≥4
	1500°C×3h	-	-	≥20/≥6
Critical grain (mm)		5-8	5-8	5-6
Thermal Coefficient (w/m.k)	350°C×3h	≤0.21	≤0.45	-
	1000°C×3h	≤0.24	-	0.7-0.9
Water content for construction by weight (%)		15-20	20-30	9-12
Usage		The Heat Preservation Part for Cementkiln and Oil-Chemical industry		Lining for hard carbon black and petrochemical industry
Test standard		YB/T5202-2003		
Packing		25kgs Plastic bag		

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Mullite Castable Refractory

Properties \ Brand		KT-ASA	KT-ASB
Chemical Composition (%)	Al_2O_3	≥78	≥75
	SiO_2	≤20	5-10
	SiC	-	≥5
Max service temperature (°C)		1600	1500
Bulk density after burnt at 110°C (g/cm^3)		≥2.6	≥2.4
Linear changing after burnt at 1500°C×3h (%)		±0.3	±0.3
Compressive/Bending Strength (MPa)	110°C×24h	≥50/≥7	≥50/≥7
	1100°C×3h	≥60/≥8	≥60/≥8
	1500°C×3h	≥90/≥12	≥90/≥12
Water content for construction by weight (%)		5-7	5-7
Application		Hood, Cement kiln	
Test standard		YB/T5202-2003	
Packing		25kg plastic bag	

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Steel Ladle Castable Refractory

Properties \ Brand		KT-AM 1 (Al_2O_3-MgO)	KT-AM 2 (WA, Spinel)	KT-AM 3 (Al_2O_3-MgO)	KT-AM 4 (High alumina and Spinel)
Chemical Composition (%)	Al_2O_3	91.0	92.0	90.0	> 70
	MgO	6.0	5.0	5.0	MgO >11, SiO_2 <9
	CaO				
Linear changing after burnt at 1600°C×3h (%)		0.9	0-1.0	0.92	0.8-1.0
Bulk density (g/cm^3)	110°C×24h	3.05	3.10	3.08	> 2.90
	1600°C×3h	3.0	3.05	3.02	> 2.80
Bending Strength (MPa)	110°C×24h	8.2	10.0	9.5	> 9.0
	1600°C×3h	28.5	30.5	28.2	> 8.0
Compressive Strength (MPa)	110°C×24h	40	39.8	54	> 60
	1600°C×3h	129	96	> 85	> 60
Refractory (°C)		1820	1800	1820	-
Usage		The wall & Bottom of Medium-size ladle. RH and LF/VD secondary steel making processes ladle.			Continuous casting ladle