

Materials of our products

Item		Unit	KE-F213	KE-F250	KE-F286	KE-F344	KE-F350	KE-120SP	KE-164SP	KE-130	KE-134	
Physical properties	Apparent specific gravity	—	3.41	3.50	3.53	3.55	3.63	3.41	3.40	3.44	3.40	
	Bulk specific gravity	—	2.90	2.97	2.98	2.95	3.01	2.98	2.94	2.85	2.90	
	Apparent porosity	%	15.0	15.1	15.7	17.1	17.2	12.6	13.6	17.3	14.9	
	M.O.R.	at R.T.	MPa	14.7	12.3	11.8	13.2	11.8	12.3	13.7	11.8	13.7
		at 1200°C	MPa	16.8	16.2	16.7	19.6	17.6	13.2	14.7	13.7	16.8
		at 1400°C	MPa	16.8	16.2	16.7	19.6	17.2	13.2	15.2	13.7	16.8
	Thermal expansion coefficient (R.T.~1000°C)	$\times 10^{-6} / ^\circ\text{C}$	5.7	5.7	5.7	5.7	5.7	5.6	5.6	5.7	5.7	
Thermal conductivity (at1000°C)	W /m·K	2.4	2.4	2.4	2.4	2.4	2.3	2.3	2.3	2.3		
Chemical composition	Al ₂ O ₃	%	86.1	88.3	88.4	89.0	92.2	85.3	85.1	86.3	85.7	
	SiO ₂	%	13.6	11.3	11.3	10.7	7.5	14.4	14.6	13.4	14.0	
	Fe ₂ O ₃	%	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	
	Na ₂ O	%	0.2	0.2	0.2	0.15	0.15	0.2	0.2	0.2	0.2	

In any shapes or materials

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Item		Unit	M-1289	B-100	B-102	B-201	B-111	B-211	S-10	S-12	
Physical properties	Apparent specific gravity	—	3.17	—	—	—	—	—	—	—	
	Bulk specific gravity	—	2.62	1.53	1.55	1.50	1.55	1.53	1.02	1.21	
	Apparent porosity	%	17.4	61	60	58	60	55	67	61	
	M.O.R.	at R.T.	MPa	12.7	10.8	11.8	6.2	9.8	6.0	2.9	4.9
		at 1200°C	MPa	11.8	5.9	4.4	8.8	4.0	8.0	1.0	2.0
	Thermal expansion coefficient (R.T.~1000°C)	$\times 10^{-6} / ^\circ\text{C}$	4.9	8.3	8.2	7.8	8.2	7.9	5.0	5.0	
	Thermal conductivity (at 1000°C)	W /m·K	2.1	1.2	1.2	1.0	1.2	1.0	0.6	0.8	
Chemical composition	Al ₂ O ₃	%	79.2	99.8	99.2	85.8	99.2	88.2	76.8	76.8	
	SiO	%	20.4	0.05	0.6	13.9	0.6	11.4	22.6	22.6	
	Fe ₂ O ₃	%	0.1	0.05	0.05	0.05	0.05	0.05	0.1	0.1	
	Na ₂ O	%	0.2	0.05	0.05	0.1	0.1	0.1	0.2	0.2	

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Item		Unit	Y-1H	Y-1	KS-1	KS-2	PA-8	ZE-22	ZE-35	KE-2	KE-9	ME-9	
Physical properties	Apparent specific gravity	—	3.98	3.98	3.58	3.70	2.91	5.68	5.25	3.46	3.52	3.20	
	Bulk specific gravity	—	2.90	3.15	2.79	2.70	1.70	3.51	3.19	2.82	2.98	2.54	
	Apparent porosity	%	27.1	20.6	22.1	27.2	56.7	38.3	39.2	18.5	15.3	20.6	
	M.O.R.	at R.T.	MPa	68.0	88.0	36.0	34.0	8.1	15.7	26.0	35.0	58.0	68.0
		at 1200°C	MPa	—	—	—	—	—	5.9	26.0	42.0	64.0	67.0
	Thermal expansion coefficient (R.T.~1000°C)	$\times 10^{-6} / ^\circ\text{C}$	—	—	—	—	—	8.9	—	5.8	5.9	5.0	
Thermal conductivity (at 1000°C)	W /m·K	—	—	—	—	—	1.5	—	2.3	2.4	2.0		
Chemical composition	Al ₂ O ₃	%	99.7	99.7	89.1	92.8	98.5	—	—	86.9	87.4	77.6	
	SiO ₂	%	0.05	0.05	10.7	7.0	1.0	0.1	0.1	12.7	12.1	21.8	
	Fe ₂ O ₃	%	0.05	0.05	0.05	0.05	0.05	0.05	0.05	—	—	—	
	Na ₂ O	%	0.1	0.1	0.1	0.1	0.05	0.05	0.05	0.15	0.2	0.2	
	ZrO ₂	%	—	—	—	—	—	94.5	85.2	—	—	—	
	CaO	%	—	—	—	—	—	5.0	3.7	—	—	—	
	MgO	%	—	—	—	—	—	—	8.3	—	—	—	

In any shapes or materials

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Item		Unit	995-C	5035-2C	KE-103C	M-1289C	A-98C	A-96G	A-95G	HA-P1	
Physical properties	Apparent specific gravity	—	3.98	3.50	3.60	3.11	3.80	3.78	3.72	3.91	
	Bulk specific gravity	—	3.20	2.75	2.98	2.52	3.80	3.78	3.72	3.91	
	Apparent porosity	%	20.0	21.5	17.2	18.9	0	0	0	0	
	M.O.R.	at R.T.	MPa	25.0	12.7	14.7	16.8	284	284	304	382
		at 1200°C	MPa	18.0	13.7	17.7	14.7	—	—	—	—
	Modulus of Elasticity	Gpa	—	—	—	—	314	294	324	373	
	Thermal expansion coefficient (R.T.~1000°C)	$\times 10^{-6} / ^\circ\text{C}$	8.3	6.0	6.3	4.8	7.9	7.7	7.6	7.9	
Thermal conductivity (at 1000°C)	W /m·K	2.9	2.3	2.4	2.1	—	—	—	—		
Chemical Composition	Al ₂ O ₃	%	99.8	88.6	90.8	76.1	98.0	95.7	94.9	99.6	
	SiO ₂	%	0.05	11.0	8.7	23.4	1.2	2.7	3.8	0.05	
	Fe ₂ O ₃	%	0.05	0.1	0.1	0.1	0.6	0.7	0.5	0.11	
	Na ₂ O	%	0.05	0.2	0.1	0.2	—	0.7	—	—	

In any shapes or materials

Materials of our products

Item		Unit	995-FMG	995-FFG	99	97	AZ95-FFG	Z-227	Z-243	Z-1001	MAG-2	MAG-4	MAG-21	
Physical properties	Apparent specific gravity	—	3.98	3.98	3.91	3.88	4.00	5.75	5.62	5.74	3.56	3.61	3.61	
	Bulk specific gravity	—	3.25	3.27	3.30	3.28	3.35	4.32	4.12	4.15	2.94	2.83	2.85	
	Apparent porosity	%	18.3	18.0	15.6	15.6	17.3	25.0	26.9	27.7	17.4	21.6	21.3	
	M.O.R.	at R.T.	MPa	17.7	22.5	55.0	93.1	12.6	13.7	19.1	47.1	22.6	15.7	17.3
		at 1200°C	MPa	12.7	15.0	24.0	37.1	10.0	9.8	10.3	24.5	17.7	11.8	13.4
	Thermal expansion coefficient (R.T.~1000°C)	$\times 10^{-6} / ^\circ\text{C}$	8.3	—	—	—	8.9	8.8	8.8	8.8	13.5	13.7	13.7	
	Thermal conductivity (at 1000°C)	W /m·K	2.9	—	—	—	2.6	1.4	1.4	1.4	3.7	3.5	3.5	
Chemical composition	Al ₂ O ₃	%	99.8	99.8	98.9	97.8	95.0	—	—	—	—	—	—	
	SiO ₂	%	0.05	0.05	0.8	2.0	0.1	0.1	0.1	0.1	3.0	0.2	0.1	
	Fe ₂ O ₃	%	0.05	0.05	0.05	—	—	0.05	0.05	0.05	0.1	0.1	0.1	
	Na ₂ O	%	0.05	0.05	0.05	0.1	—	—	—	—	—	—	—	
	ZrO ₂	%	—	—	—	—	4.5	94.8	94.5	94.7	—	—	—	
	CaO	%	—	—	—	—	0.2	4.3	4.9	4.5	0.3	0.3	0.3	
	MgO	%	—	—	—	—	—	—	—	—	96.1	99.2	99.2	