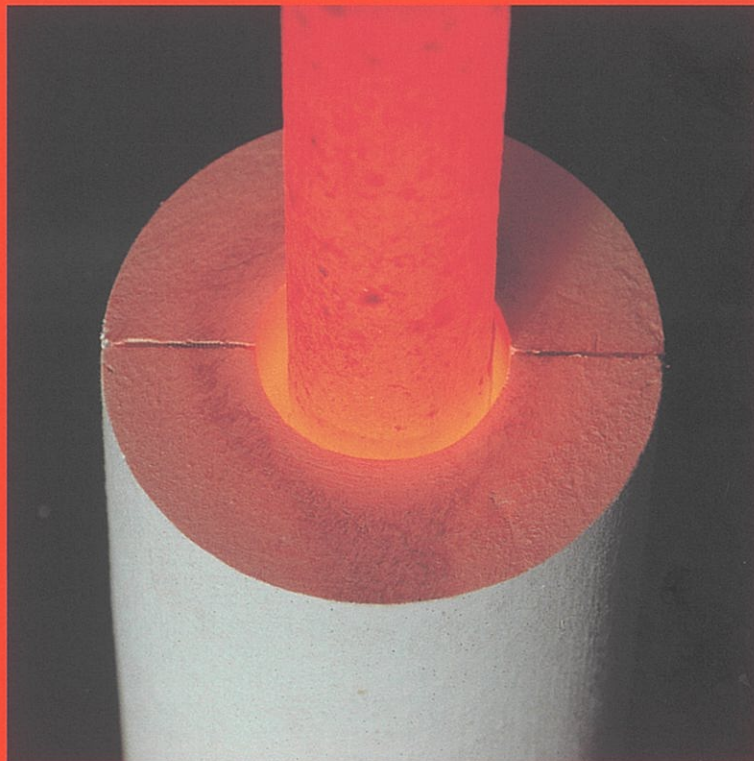




Ultra lightweight calcium silicate thermal insulator

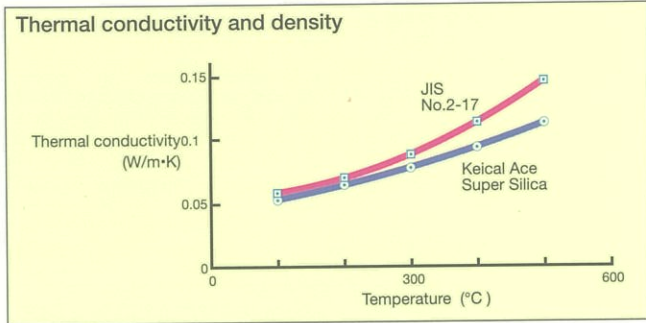
KEICAL ACE SUPER SILICA



NIPPON KEICAL LIMITED

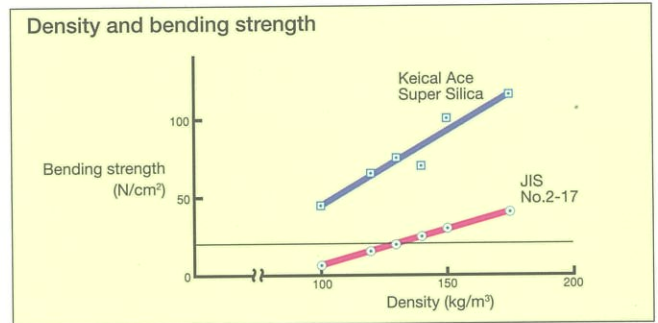
Excellent characteristics leading to as well as great

Low thermal conductivity



The thermal conductivity (λ) of Keical Ace Super Silica shows the lowest value in the calcium silicate thermal insulators. That is, Keical Ace Super Silica is a thermal insulator having excellent thermal insulation performance. This ensures energy and resource saving, as well as great improvement of economic effect.

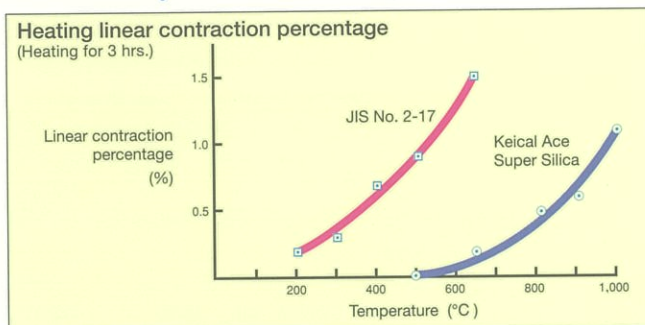
Light weight, High strength



The density of Keical Ace Super Silica is as small as 125 kg/m³. However, its bending strength is similar to or more than that of JIS No.2-17.

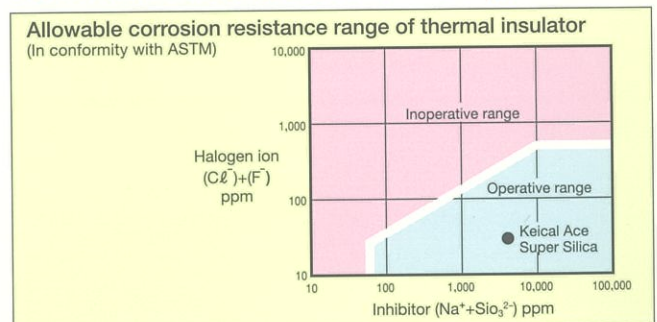
Therefore, it is expected to reduce the manpower during construction work, make the construction faster, and reduce the loss percentage during transportation.

Heat resistivity, Maximum working temperature : 1000°C

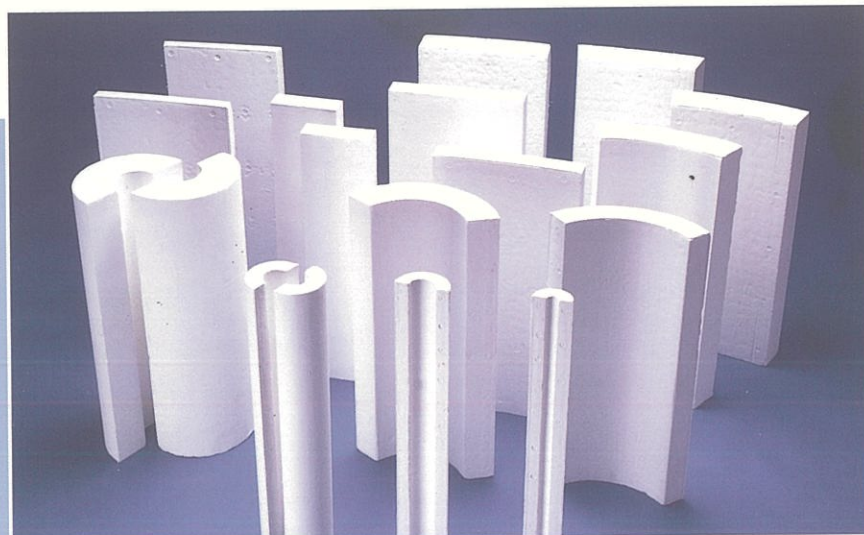


Keical Ace Super Silica is mainly composed of xonotlite crystal ($6\text{CaO}\cdot\text{SiO}_2\cdot\text{H}_2\text{O}$) and its working temperature is 1000°C specified in JIS No.1. Not only the maximum working temperature is higher than that of JIS No. 2, but also Keical Ace Super Silica shows no contraction in the medium temperature range (500°C or less), where the operation frequency is particularly large. This ensures safe operation.

Corrosion resistance $\text{Cl}^- + \text{F}^-$: 50 ppm or less



Keical Ace Super Silica suppresses the soluble halogen ion content to 50 ppm or less. Furthermore, since Keical Ace Super Silica includes the corrosion inhibitor, Keical Ace Super Silica has an allowance to the operative range specified in the standard (ASTM, C795) of the stress corrosion crack of the austenitic stainless steel.



energy and resource saving, improvement of economic effect!

Keical Ace Super Silica WP



If the rain water splashes during construction work under the working conditions of 70°C to 150°C, like thermal insulation of the heavy oil tank, the water is difficult to vaporize and rust is produced, causing the thermal insulation performance to lower. To prevent rain water during construction work, water-repelling material WP (Water Proof) (water-repelling of entire portion) is prepared .

Keical Excel

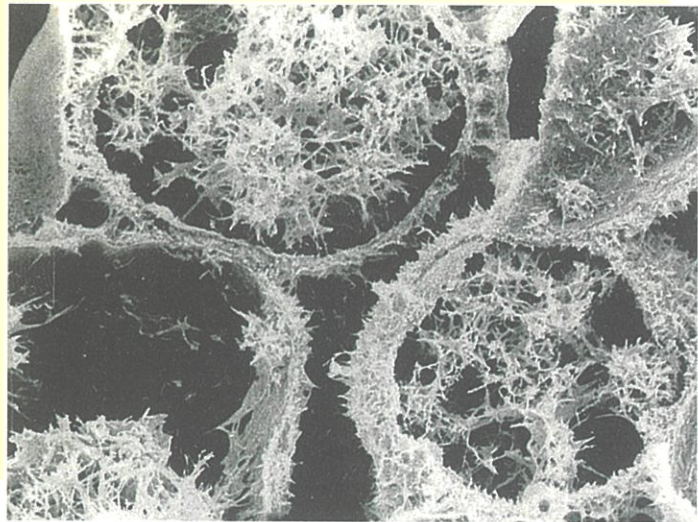


Keical Excel uses the radiative heat shielding agent and is a product that suppresses the thermal conductivity, which increases like secondary curve as the temperature increases. Additionally, the physical properties of Keical Excel are almost the same as those of the normal product. Keical Excel is specially developed for high-temperature use. Please use Keical Excel corresponding to your needs.

Elbow Ace



In the normal construction work of piping elbows, the thermal insulation tube is cut corresponding to the elbow parts and these cut tubes are jointed. To shorten the construction work period and reduce the machining loss, Elbow Ace is available that the elbow parts are prefabricated. When needing Elbow Ace, please contact us early.



Keical Ace Super Silica configure Xonotlite Crystal



Physical performance

Item	Unit	Keical Ace Super Silica (Note 1)	(Reference) JIS A-9510-2016 base		
			No.1-15	No.1-22	No.2-17
Density	kg/m ³	125	155 or less	220 or less	170 or less
Bending strength	N/cm ²	65	20 or more	30 or more	20 or more
Compressive strength	N/cm ²	75	30 or more	45 or more	30 or more
Linear contraction percentage	%	3 hrs. at 1000°C 1.4	Same as left. 2.0 or less	Same as left. 2.0 or less	—
		3 hrs. at 650°C (0.2)	—	—	3 hrs. at 650°C. 2.0 or less
Thermal conductivity (θ:Temperature(°C))	W/m·K	200°C	0.066 or less	0.077 or less	0.070 or less
		300°C	0.079 or less	0.088 or less	0.088 or less
		400°C	0.095 or less	0.106 or less	0.113 or less
		500°C	0.114 or less	0.127 or less	0.146 or less
		600°C	0.137 or less	0.152 or less	—
	Reference formula (W/m·K)	(200 ≤ θ ≤ 300) $\lambda = 0.0407 + 1.28 \times 10^{-4} \cdot \theta$	(200 ≤ θ ≤ 300) $\lambda = 0.0535 + 1.16 \times 10^{-4} \cdot \theta$	(200 ≤ θ ≤ 500) $\lambda = 0.0570 - 9.36 \times 10^{-6} \cdot \theta + 3.74 \times 10^{-7} \cdot \theta^2$	
		(300 < θ ≤ 600) $\lambda = 0.0555 + 2.05 \times 10^{-5} \cdot \theta + 1.93 \times 10^{-7} \cdot \theta^2$	(300 < θ ≤ 600) $\lambda = 0.0612 + 3.38 \times 10^{-5} \cdot \theta + 1.95 \times 10^{-7} \cdot \theta^2$		
(Note 1) For Keical Ace Super Silica, the physical property values of the board with a thickness of 50mm are shown.					



Standard dimensions

Length : 610mm

	Nominal		Thickness of thermal insulator (mm)				
	A(mm)	B (inch)					
Pipe Cover	15	1/2	30	40	50	65	75
	20	3/4	30	40	50	65	75
	25	1	30	40	50	65	75
	32	1 1/4	30	40	50	65	75
	40	1 1/2	30	40	50	65	75
	50	2	30	40	50	65	75
	65	2 1/2	30	40	50	65	75
	80	3	30	40	50	65	75
	90	3 1/2	30	40	50	65	75
	100	4	30	40	50	65	75
	125	5	30	40	50	65	75
	150	6	30	40	50	65	75
	175	7	30	40	50	65	75
	200	8	30	40	50	65	75
	225	9	—	40	50	65	75
	250	10	30	40	50	65	75
	275	11	—	40	50	65	75
	300	12	30	40	50	65	75
	350	14	30	40	50	65	75
	400	16	30	40	50	65	75
	450	18	30	40	50	65	75
	500	20	30	40	50	65	75
	550	22	30	40	50	65	75
	600	24	30	40	50	65	75
650	26	30	40	50	65	75	
700	28	—	40	50	65	75	
750	30	—	40	50	65	75	
800	32	30	40	50	65	75	
850	34	—	40	50	65	75	
900	36	—	40	50	65	75	
Curved Board	950	—	30	40	50	65	75
	1000	—	30	40	50	65	75
	1250	—	30	40	50	65	75
	1500	—	30	40	50	65	75
	2000	—	30	40	50	65	75
	3000	—	30	40	50	65	75
	4000	—	30	40	50	65	75
	5000	—	30	40	50	65	75

	Width(mm)	Length (mm)	Thickness of thermal insulator (mm)					
Flat Board	150	610	25	30	40	50	65	75
	303	610	25	30	40	50	65	75



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