

DAIPALITE-E^A is a calcium silicate thermal insulation material for industrial equipment, which is pre-formed for pipes and blocks, and is supplied to various industrial fields such as oil refinery plants, power plants, petrochemical plants, and others.



CO₂ reduction

Environment-friendly production process

JIC is the first and the only one that succeeded in inventing the production process using rice husk. Rice husk is used as energies for reaction of raw materials and drying formed products. The rice husk ash is used for as a raw material instead of Silica rock. This unique process is certificated as an environment-conscious business by Viet Nam Government.

Standard dimensions [mm]

	Internal Diameter	Thickness	Width	Length			
Pipe cover	22~610	25 30	—	914			
Board	_	40 50 65 75	303 × 914 150 × 914				

List of ASTM C533 test results

Calculation of CO₂ Emission during the process for Manufacturing %

CO₂ Emission of Vietnam-made Product which is made with rice husk has been able to reduce by half compared with Japan-made Product.

► CO₂ Emission of Japan Factory CO₂ Emissions Intensity : 740kg-CO₂/m³

► CO₂ Emission of Vietnam Factory CO₂ Emissions Intensity :320kg-CO₂/ m³

※Calculated from CO₂ Emission of Raw ⁰ Material, Fuel, Electricity.





Property	Test Methods	ASTM C533 Requirement							Test Results	
Density (Dry) *	ASTM C302	\leq 240 kg/m ³							Pass	
Flexural Strength*	ASTM C203	≧ 344 kPa (50 psi)							Pass	
Compressive Strength*	ASTM C165	≧ 688 kPa (100 psi)							Pass	
Abrasion Resistance Weight Loss by Tumbling*	ASTM C421	After the first 10 min <20%,After the second 10min <40%						Pass		
Linear Shrinkage after Heat Soaking*	ASTM C356	Less than 2% after 24hr,Soaking period at 650°C							Pass	
Hot Surface Performance of High Temperature*	ASTM C411	Warpage ≦ 6mm Cracking : no cracks completely through the insulation thickness. Surface cracks on hot face are acceptable							Pass	
Surface Burning Characteristics*	ASTM E84	Flame spread - 0,Smoke Developed-0							Pass	
	ASTM C177/GHP ASTM C518/HFM ASTM C335/Pipe cover ASTM C1045	Temp. 〔℃〕	38	93	149	204	260	316	371	Pass
Apparent Thermal Conductivity"		λ W/(m•K)	≦ .059	≦ .065	≦ .072	≦ .079	≦ .087	≦ .095	≦ .102	Pass
Stress Corrosion Performance* (Austenitic Stainless Steel)	ASTM C795 ASTM C692 ASTM C871	(1) Na [*] + SiO ₃ ²⁻ ions : \ge 50ppm (2) Acceptable range of Cl ⁺ F ⁻ and Na [*] + SiO ₃ ²⁻ (3) pH ≤ 12.5 (at 25°C) (4) The stress corrosion test (ASTM C692) must be passed.							Pass	
Moisture Content*	ASTM C1616	≦ 20%							Pass	
Combustibility*	ASTM E136	Non-Combustible						Pass		
Corrosion**	ASTM C1617	$\begin{array}{l} \mbox{Mass Loss Corrosion Rate } (MLCR) \leq \mbox{DI} \\ (The MLCR of Type 1 materials, when tested with extracted solutions, shall be equal to or less than that determined when tested with DI Water) \end{array}$						Pass		

* Tested product : DAIPALITE-E^A

** Tested product : DAIPALITE-Ei^A(Water-repellent type)

Innovative, Environment-Friendly Inorganic, Non-combustible, Asbestos-free

Calcium silicate thermal insulation material ASTM C 533 Type | product

DA PALITEDA

Thermal conductivity



	Temperature (℃)		38	93	149	204	260	316	371
DAIPALITE-E ^A Thermal conductivity W/(m·K)	ASTM Requirement	.059	.065	.072	.079	.087	.095	.102	
	Pipe cover	.052	.056	.061	.067	.073	.080	.088	
	Board	.054	.059	.063	.068	.074	.080	.088	

* The above thermal conductivitiy values were mesured on samples with density of 170kg/m³.

High heat resistance

It is mainly composed of calcium silicate hydrate of Xonotorite crystals. It has higher heat resistance than other calcium silicate products, and its maximum service temperature is 1000°C





Tobermorite crystal (Conventional product)



High thermal insulation performance

Surface temperature by thermography



Pipe inside temp : 300°C Pipe outer diameter : 114mm Thermal insulation thickness : 50mm

* The above values were mesured on samples with density of 170kg/m³.

Thickness as same heat loss (mm)



Outside air temperature : 25°C

Heat loss : Same (less than 123W/m)

Pipe inside temp : 300°C Pipe outer diameter : 114mm The above values were mesured on samples with density of 170kg/m³

Stress corrosion cracking inhibition (ASTM C795)

These calcium silicate materials have performance to satisfy ASTM standards as a thermal insulation material in contact with austenitic stainless steel.





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