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

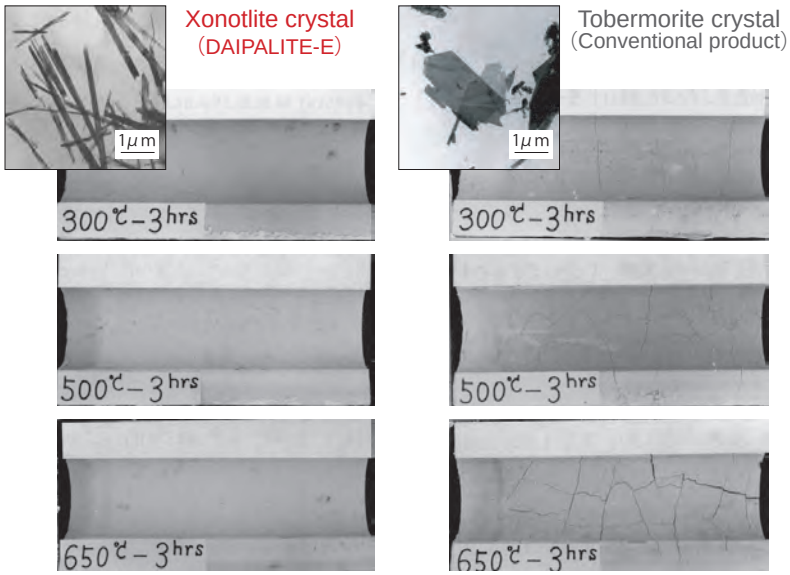
Calcium silicate thermal insulation material
JIS A 9510 Type. 1-15 product

DAIPALITE-E

DAIPALITE-E 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.

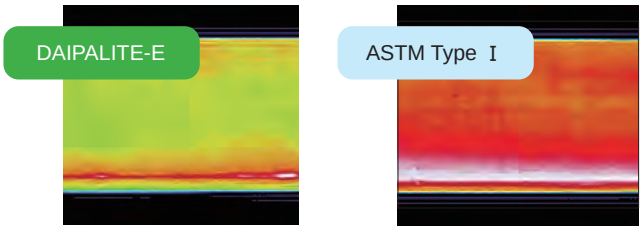
Light weight and high heat resistance

- Lightweight because the density is less than 155kg/m^3.
- 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℃ .



High thermal insulation performance

Surface temperature by thermography

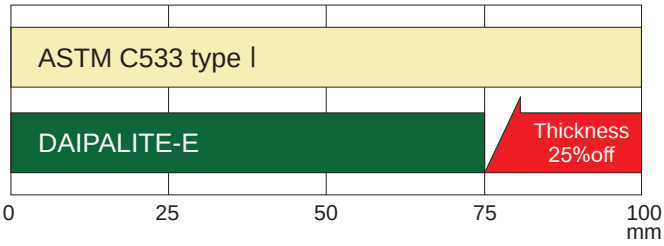


Surface Temp. 44.8°C
Heat loss:160W/m

Surface Temp. 48.5°C
Heat loss:190W/m

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

Thickness as same heat loss〔mm〕



Conditions
Outside air temperature : 25°C Heat loss : Same (less than 123W/m) Pipe inside temp : 300°C　Pipe outer diameter : 114mm

Standard physical properties of DAIPALITE-E (reference values)

Apparent Density	Flexural Strength	Compressive Strength	Heating Linear Shrinkage	Maximum Service Temperature	Recommended service temperature range	Thermal conductivity λ〔W/(m・K)〕, Temperature θ〔℃〕
≦ 155kg/m^3	≧ 200kPa (≧ 20N/cm^2)	≧ 300kPa (≧ 30N/cm^2)	2.0% max.	1000℃	Ordinary temperature to 1000℃	〔200 ≦ θ ≦ 300〕 $\lambda = 0.0407+0.000128 \cdot \theta$ 〔300 ＜ θ ≦ 600〕 $\lambda = 0.0555+2.05\times10^{-5} \cdot \theta+1.93\times10^{-7} \cdot \theta^2$

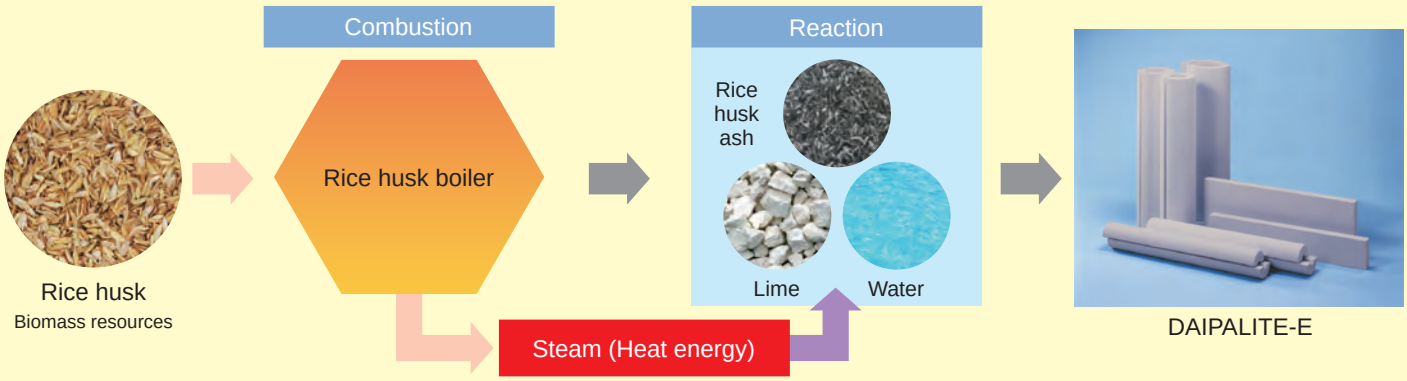
Environment-friendly production process (original manufacturing method in Vietnam plant)

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.

UNIDO ITPO Tokyo's STePP Sustainable Technology Promotion Platform

DAIPALITE-E series (Thermal Insulation Material Using Biomass) is registered to Sustainable Technology Promotion Platform (STePP) of United Nations Industrial Development Organization (UNIDO) Investment and Technology Promotion Office, Tokyo (ITPO Tokyo)

Manufacturing process diagram



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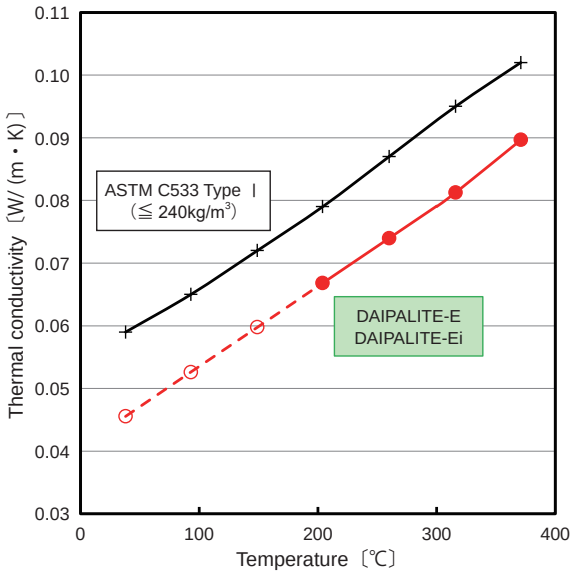
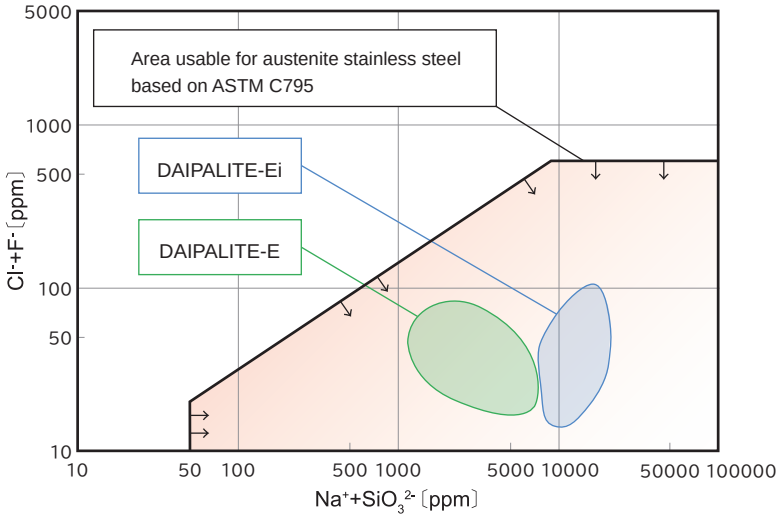
Thermal conductivity



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.



Temperature〔℃〕		38	93	149	204	260	316	371
DAIPALITE-E Thermal conductivity W/(m・K)	ASTM Requirement	.059	.065	.072	.079	.087	.095	.102
	Pipe cover Board	.046＊	.053＊	.060＊	.067	.074	.081	.090

＊ The value calculated by substituting the specified temperature into the temperature regression equation of the thermal conductivity
λ = 0.0407+0.000128・θ[200 ≦ θ ≦ 300] .

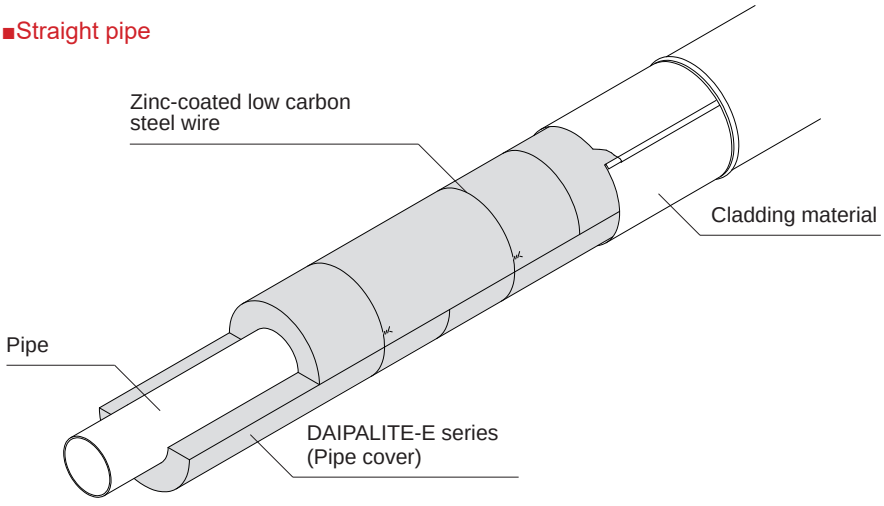
Standard dimension〔mm〕

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

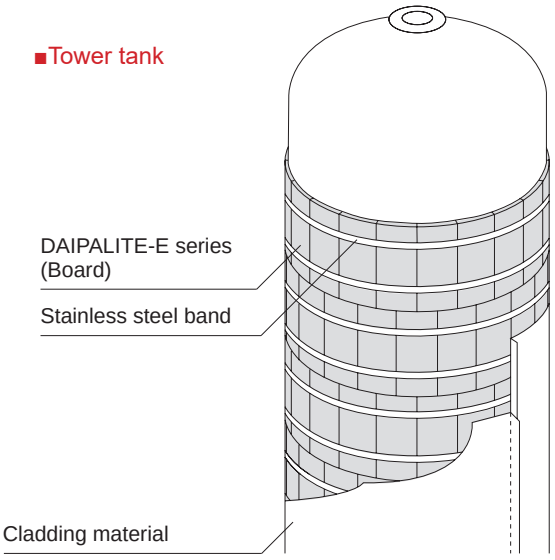
※ The 25mm thickness is for board only.

Installation image

■Straight pipe



■Tower tank



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＜ Notes and caution ＞

■ Please see our web site for the details.

August 2024 Revised PT9215E-2408-ver3.4.0