

TOMBO™ BRAND

Apr. 2024

Vapor barrier layer applied rock wool insulation material

MAKIBEE™ DANNETSU



 **NICHIAS**

Your problem, **MAKIBEE™**

I worry that insulation material burn and generate toxic gas in case of fire



Fire resistant, non-combustible insulation material.

MAKIBEE DANNETSU is the same material of steel structure fire proof purpose. Not like EPS, PU material, MAKIBEE DANNETSU will not generate toxic gas in case of fire.

1

I worry that MAKIBEE DANNETSU has enough insulation performance

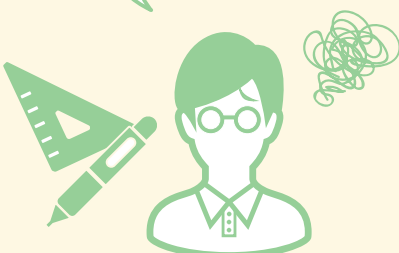


YES, MAKIBEE DANNETSU has enough performance both insulation and non-condensation

MAKIBEE DANNETSU thermal conductivity is less than $0.034(W/m \cdot K)$, one of the best performance in the fiber type insulation. (same level of high density polyurethane material Type A 1 criteria in Japan) Surface aluminum vapor barrier prevent from internal condensation. Inorganic fiber can not have aging degradation.

2

I worry that MAKIBEE DANNETSU has long term and high cost installation



No need thickness control at job site, parallel work possible, shorten total term of construction = cost reduction.

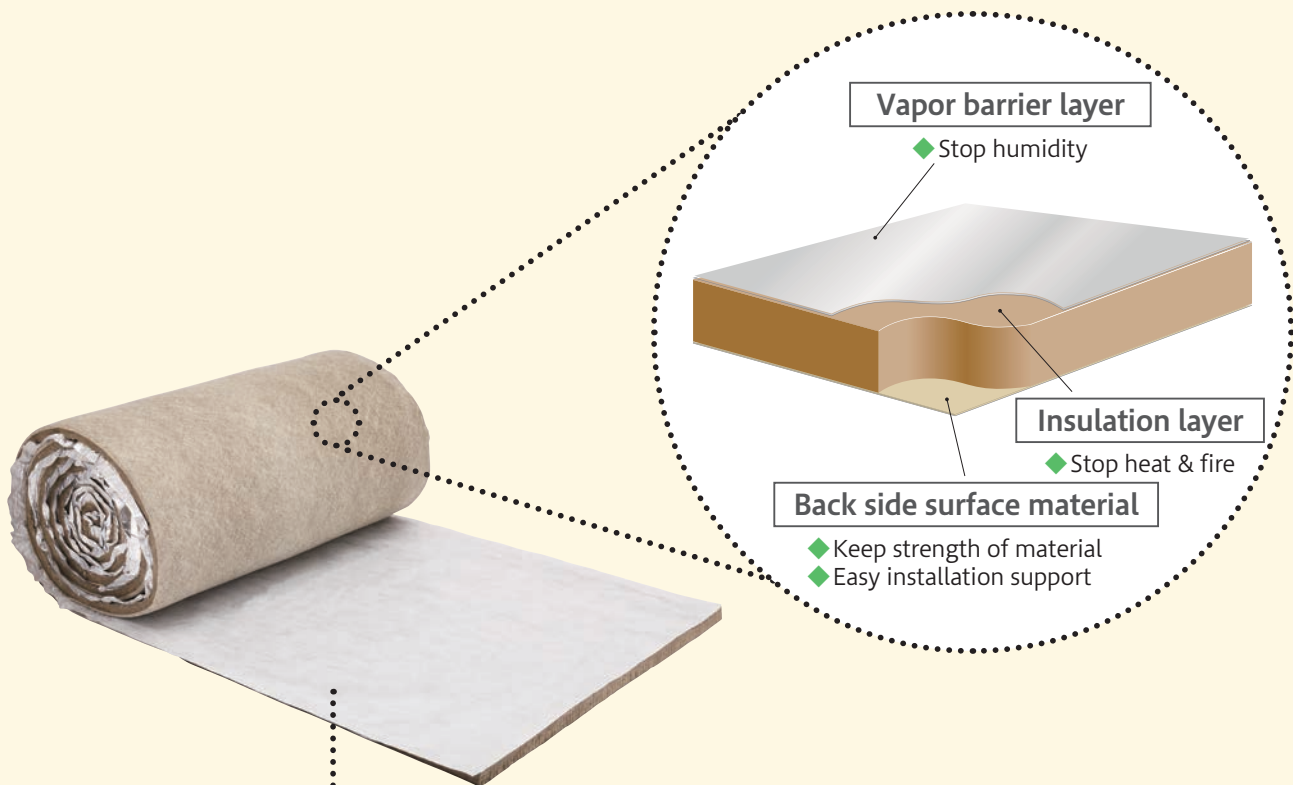
Factory made stable quality make you free from thickness control at job site like spray material. Dry method confirm no use of water, no need plastic film protection to keep cleanness. It allows to work together with M&E work.

3

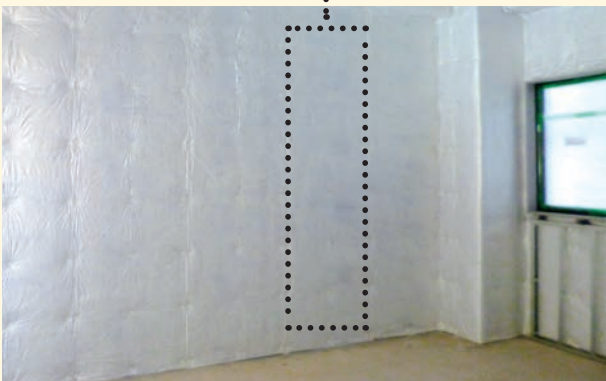
DANNETSU is an answer !!

Easy installation by pin fix method

MAKIBEE™ DANNETSU is developed based on installation professional requirement.



View after installation



MAKIBEE™ DANNETSU could

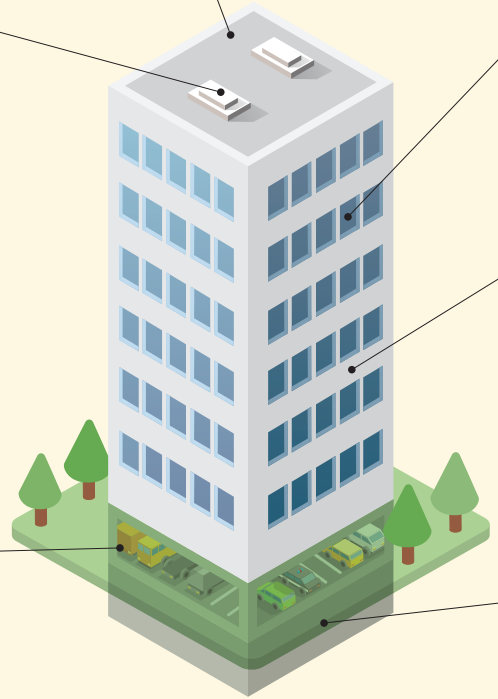
Mechanical room : Heat & Sound insulation



Ceiling Floor : Non-combustibility and heat insulation

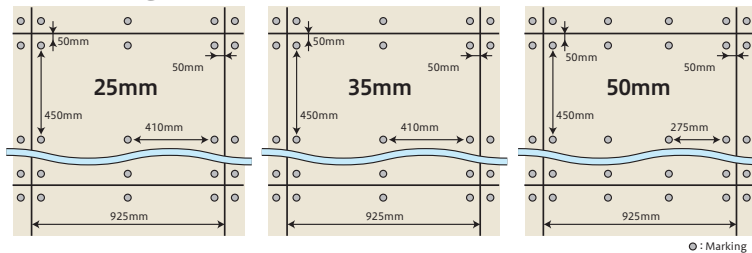
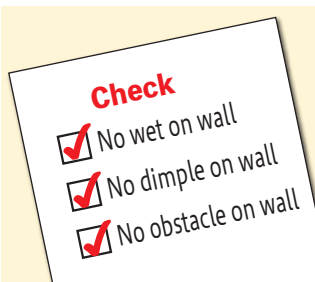


Car park : Heat & Sound insulation and Non-combustibility



Installation procedure

1 Check wall condition 2 Marking

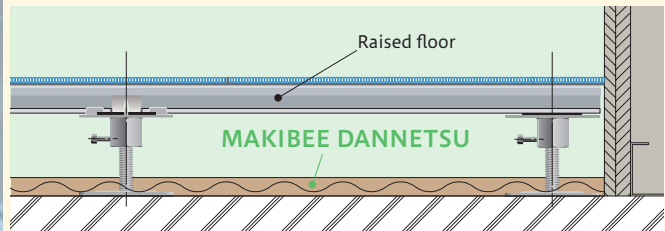
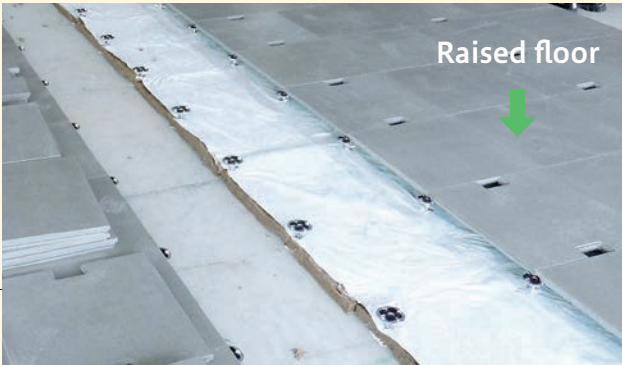


3 Pin fix



dissolve your head ache matters

Below raised floor system : Heat insulation, No dust generation



Wall : Out air attached heat insulation.



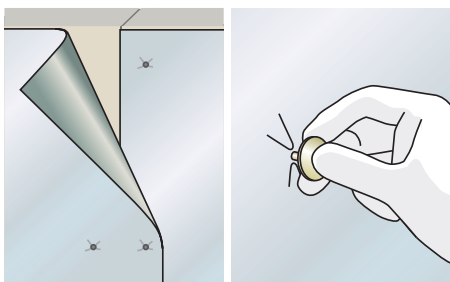
Window, door : Enforce heat insulation



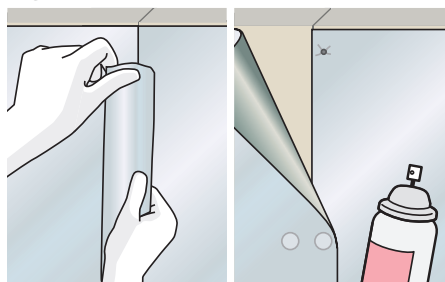
Pit : Non-combustibility and heat insulation



4 MAKIBEE Fix

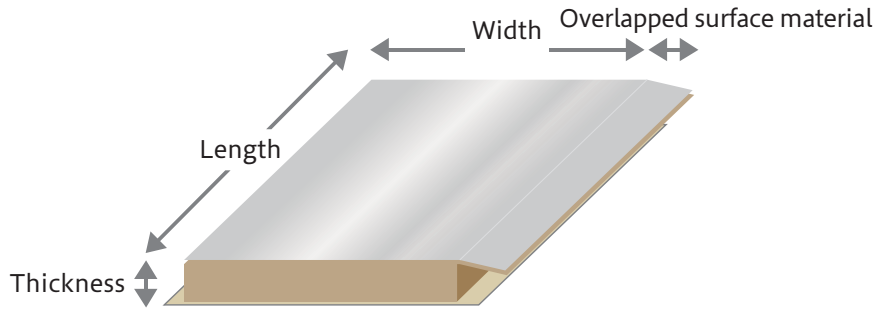


5 Joint finish



1. Check wall condition
2. Marking
Decide layout MAKIBEE and pin position
3. Pin fix Use adhesive
4. MAKIBEE Fix
Pierce MAKIBEE by pin Apply cap at pin end
5. Joint finish
Apply tape on joint and the end edge

Specification of MAKIBEE™ DANNETSU



MAKIBEE DANNETSU specification

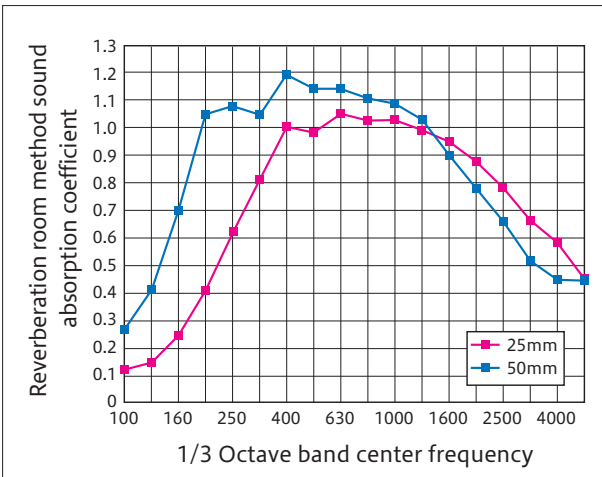
Density	Thickness	Size Width × Length	Overlapped surface materia	hermal conductivity At average temp.23°C	Transparent humidity resistance value (only surface material performance)
80-120kg/m ³	25mm	925mm×8,000mm	50mm	Less than 0.034W/ (m·K)	More than 82 × 10m ⁻³ m ² ·s·Pa/ng
	35mm	925mm×6,000mm			
	50mm	925mm×4,000mm			

TEST data

■ Sound absorption test by JIS A 1409(1998)

both 25mm and 50mm

Reverberation room method sound absorption coefficient



Measurement agency: Kobayasi Institute of physical Research
Measurement agency: General Building Research Corporation of Japan

■ Condensation test

Apply MAKIBEE DANNETSU on GRC panel

Test Construction		
	Test Condition	Outside air temperature
	Inside air temperature	22°C
	Inside air humidity	40%RH
	Test term	30 hours
Result	No condensation during and after the test.	

Measurement agency: General Building Research Corporation of Japan
These are actual measured values, not guaranteed values.

Supporting material

■ Fix pin with cap (Brand name SP anchor produced by Seven Industry Co.,Ltd)



	Brand name	Manufacturer
Fix pin with cap	SP anchor SP 25 (for 25mm thickness) SP 35 (for 35mm thickness) SP 50 (for 50mm thickness)	Seven Industry Co., Ltd
Adhesive for pin	Seven resins (SBR type)	Seven Industry Co., Ltd
	Super seven (Modified silicone type)	Seven Industry Co., Ltd
	Quick mender (2 liquid epoxy type)	Konishi Co., Ltd

■ Tape



WTA MAKIBEE TAPE

Width(mm)	Length(m)	Brand name	Manufacturer
100	100	WTA Tape	NICHIAS CO., LTD

Caution

⚠ Caution

- ❗ **Wear a dust mask when handling.**
Inhalation of a large amount of rock wool dust for a long period of time may cause damage to respiratory systems.
- ❗ **Wear long-sleeved work clothes, safety shoes and protective gloves for handling.**
Contact to rock wool may cause itching and/or inflammation of skin.
- ❗ **Manual tools such as a knife shall be used for cutting.**
For use of electric cutting machine, local exhaust ventilation and dust-prevention equipment shall be installed.
- ❗ **Pick dropped pins up from floor immediately to avoid step on injury.**

General Caution

Usage

- Do not use a product for any other than the purpose described in this catalog.
- Do not use as external insulation.
- Do not use for fireproof material or other purposes.
- Do not install at wet condition, or where has risk of wet condition in future.
- Do not use in windy locations, stormy air-flow conditions.

Transportation and Storage

- Do not drag the product.
- Avoid storing in harsh environments such as places exposed to wind, rain, direct sunlight, high temperature and humidity.
- Do not put product on ground directly. Put on pallets or shelf rack to avoid water.
- To prevent product from falling during storage, the stacking height should be 2.0m or less.
- Do not drop the product from truck car or the loading platform. Do not bind with rope by too strong power.

Installation

- When handling, please wear a helmet, fall prevention equipment, safety shoes (equipped with anti-piercing insoles), dust mask, cut resistant gloves, safety glasses, and long-sleeved work clothes.
- At cutting, use protection board to avoid the damage moisture-proof layer. Use a safety ruler, manual tools such as utility knives.
- Do not use fire near the product. If you have no choice but to use fire, protect the product by covering it with a fireproof sheet, etc.
- Be careful when unpacking, the roll-shaped product has static electricity.
- Prepare a work floor steps, etc., to work in a human comfortable position.
- When install on a concrete surface, confirm the surface is completely dry.
【Recomandable construction period】 Summer: 2 months after casting
Winter: 3 months after casting
- Follow the standard installation method described in the catalog for mounting the fixing pin.
- Adhesive details for the fixing pin, please contact the adhesive manufacturer.
- Install the product with the aluminum moisture-proof layer facing to the room inside.
- In the case of holes or scratches on the surface, repair with special tape.
- Do not paint the surface as it may reduce the flame retardant performance of the moisture barrier.

Disposal

- When disposing of the product, comply with your local legislation.



Head Office

6-1, Hatchobori 1-chome, Chuo-ku, Tokyo 104-8555, Japan
International Marketing and Sales Group
 Phone: 81-3-4413-1132 Fax: 81-3-3552-6108
 Web Site: <https://www.nichias.co.jp/>

Overseas Sales Companies

Indonesia

PT. NICHIAS SUNIJAYA

Sequis Tower Level 19 Suite 1&2,
 Jl. Jend Sudirman Kav. 71, Jakarta 12190, Indonesia
 Phone: +62-21- 2277-6101 Fax: +62-21- 2793-8033

Malaysia

NICHIAS SOUTHEAST ASIA SDN. BHD.

Suite A1102, 11th Floor, West Wing, Wisma Consplant 2,
 No. 7, Jalan SS 16/1, 47500 Subang Jaya, Selangor Darul Ehsan, Malaysia.
 Phone: +60-3-5636-4067 Fax: +60-3-5636-4078

Singapore

NICHIAS SINGAPORE PTE. LTD.

25 International Business Park, #01-15/17 German Centre,
 Singapore 609916
 Phone: +65-6571-0830/0838 Fax: +65-6265-7681

Vietnam

NICHIAS VIETNAM CO., LTD

Room 709, Elite Business Center, 7th Floor Diamond Flower Building,
 48 Le Van Luong Street, Nhan Chinh Ward, Thanh Xuan District,
 Hanoi, Vietnam
 Phone: + 84-24-6664-3136 Fax: + 84-24-6666-8168

Thailand

NICHIAS (THAILAND) CO., LTD.

85 Moo 1, Wellgrow Industrial Estate T. Homsin, A. Bangpakong
 Chachoengsao 24180, Thailand
 Phone: +66-38-570-600 Fax: +66-38-570-601

THAI NICHIAS INTERNATIONAL CO., LTD.

Unit 1107, 11th Floor, AIA Capital Center
 89 Ratchadaphisek Road, Dindaeng, Dindaeng, Bangkok 10400 Thailand
 Phone: +66-2-001-2060 Fax: +66-2-001-2062

China

NICHIAS (SHANGHAI) TRADING CO., LTD.

霓佳斯（上海）贸易有限公司
 Room 1701, THE PLACE, Tower A, No. 100 Zun Yi Road,
 Changning District, Shanghai, P.R.China Postcode 200051
 中国上海市长宁区遵义路100号虹桥南丰城A栋1701室 邮编200051
 Phone: +86-21-6236-1783 Fax: +86-21-6236-1781

NICHIAS (SHANGHAI) TRADING CO., LTD. Guangzhou Branch

霓佳斯（上海）贸易有限公司 广州分公司
 17F-G, Gold Sun Building, No.109 Tiyu West Road, Guangzhou,
 Guang Dong Province, 510620, P.R.China
 中国广东省广州市天河区体育西路109号高盛大厦17楼G室 邮编 510620
 Phone: +86-20-3879-1640 Fax: +86-20-3879-1647

NICHIAS (SHANGHAI) AUTOPARTS TRADING CO., LTD.

霓佳斯（上海）汽车零部件贸易有限公司
 Room 1702, THE PLACE, Tower A, No. 100 Zun Yi Road,
 Changning District, Shanghai, P.R.China Postcode 200051
 中国上海市长宁区遵义路100号虹桥南丰城A栋1702室 邮编200051
 Phone: +86-21-6236-2668 Fax: +86-21-6236-2667

Overseas Construction Companies

Malaysia

NICHIAS SOUTHEAST ASIA SDN. BHD.

Suite A1102, 11th Floor, West Wing, Wisma Consplant 2,
 No. 7, Jalan SS 16/1, 47500 Subang Jaya, Selangor Darul Ehsan, Malaysia.
 Phone: +60-3-5636-4067 Fax: +60-3-5636-4078

Thailand

THAI-NICHIAS ENGINEERING CO., LTD.

45 Huaypong-Nongbon Road, Huaypong, Muang Rayong,
 Rayong Province 21150, Thailand
 Phone: +66-38-682-242 Fax: +66-38-691-156

Overseas Factories

Indonesia

PT. NICHIAS ROCKWOOL INDONESIA

PT. NICHIAS METALWORKS INDONESIA

Malaysia

NICHIAS FGS SDN. BHD.

NT RUBBER-SEALS SDN. BHD.

Vietnam

NICHIAS HAIPHONG CO., LTD.

China

SUZHOU NICHIAS INDUSTRIAL PRODUCTS CO., LTD.

(苏州霓佳斯工业制品有限公司)

SUZHOU NICHIAS SEAL MATERIAL CO., LTD.

(苏州霓佳斯密封材料有限公司)

SHANGHAI XINGSHENG GASKET CO., LTD.

(上海兴盛密封垫有限公司)

SUZHOU SHUANGYOU AUTOPARTS CO., LTD.

(苏州双友汽车零部件有限公司)

India

NICHIAS INDUSTRIAL PRODUCTS PRIVATE LTD.

Czech

NICHIAS AUTOPARTS EUROPE a.s.

Mexico

NAX MFG, S.A.DE C.V.

⚠ Cautions

- The products included in this catalog are intended for common use, including those presented in the catalog. If you intend to use any of the products in a way that requires extremely high quality and reliability such that any possible defect may directly affect the safety of human lives, please make sure to consult with our company in advance and take necessary measures at your responsibility.
- Because the stated material values may vary according to actual usage environments or circumstances, please consider such figures as indications for reference.
- The content of the catalog explains the features of the products when they are used alone. When actually using the products, please start using them after testing them under the actual usage environment.
- The content of the explanation of the products may be modified without any advance notice, and the production of the product may also be discontinued without advance notice. Please obtain the latest version of the catalog, and confirm the content thereof. The date of issuance of this catalog is printed on this page.
- The standards, accreditation and provisions of laws included in the catalog may not conform with the latest version thereof.
- We strictly prohibit any acts of infringement upon our rights that are protected by the Copyright Act with regard to information included in the catalog, through the production of copies or imitations, misappropriation or unauthorized reprinting.
- Please be informed that, in the case where any problem involving a third party's industrial property right arises due to the use of any product included in the catalog, our company shall not be responsible for any problems other than the problems arising strictly due to reasons related to only such products.
- Please be aware that our company will not bear any responsibility for the following damage related to our products:
 - Damage arising due to natural disasters or accidents occurring for reasons that are not attributable to our company;
 - Damage arising due to remodeling, repairing or other acts by a third party;
 - Damage arising due to the willful intent or negligence of the customer or the user, or due to the improper use or use under abnormal conditions of the products;
 - Damage arising due to the failure to carry out regular checkups and appropriate repairs, maintenance and part replacements, considering various conditions, such as the usage conditions, usage environment and usage period, etc., of the product;
 - Indirect damage (including any operational damage, lost profits, opportunity losses, etc.) arising due to the use of or inability to use our company's product;
 - Damage arising due to a situation which was unforeseeable under the technical standards at the time of the shipment of our company's product; or
 - Damage arising due to reasons that are not attributable to our company.