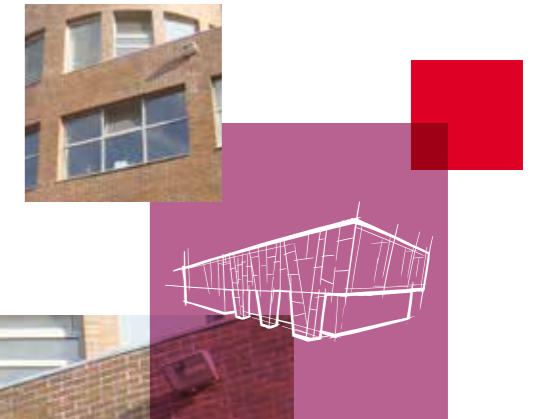


ROCKWOOL® is the registered trademark of ROCKWOOL Group.



ROCKWOOL FacadeRock DD/ DD Plus



ROCKWOOL CHINA

Factory:

Guangzhou

No.3 Taihua Street, Yonghe District, Guangzhou Economic And Technological Development Zone, Guangdong Province (511356)
Tel: (+86) 20 8298 6668 Fax: (+86) 20 8298 6877

Yangzhou

No.5, 4th Keyan Rd, Yizheng Econ & Tech Development Zone, Jiangsu Province (211400)
Tel: 0514-89189988

Beijing

Tel: (+86) 10 6590 6077

Shanghai

Tel: (+86) 21 6211 6725

Guangzhou

Tel: (+86) 20 3839 3636
Fax: (+86) 20 3839 3637

Hong Kong

Tel: (+852) 2754 0877

Taiwan

Tel: (+886) 4 2253 6866

Philippine

Tel: (+63) 2 7710 650
Fax: (+63) 2 7710 649

ROCKWOOL China Hotline: 400 665 0505

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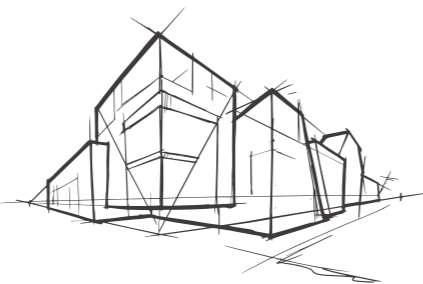
www.rockwool.com.cn ROCKWOOL Wechat

ROCKWOOL Group

We are the world leading stone wool manufacturer, with innovative products and systems, committed to protecting the environment and improving people's life.

ROCKWOOL Group is a global leader in thermal insulation, providing world-class products and solutions to building structures. Our products help secure fire safety and reduce energy consumption of buildings, coupled with excellent performance in sound absorption, noise reduction and indoor comfort. ROCKWOOL provides green solutions for the horticulture industry, special engineered stone wool fiber for the manufacturing industry, as well as effective insulation solutions for refining and processing industries, marine and offshore industries and other areas. We also have acoustic and vibration reduction system for modern infrastructure construction.

ROCKWOOL Group has a major market share in Europe, but we have also actively expanded our market in Russia, North America, India and East Asia, with more production, sales and service activities operating locally. ROCKWOOL Group's global network helps promote our products and systems around the world.



In China, ROCKWOOL provides a wide range of products for building insulation and other industrial areas that cater to different applications. We have more than 20 years of exploration and operation in China. ROCKWOOL stone wool is integrated with several excellent strengths: fire resilience, thermal properties, acoustic capabilities, durability and sustainability etc. Our products can stand the test of time. They protect buildings and people in any environment while reducing the carbon footprint. ROCKWOOL protects the environment and makes our society develop with a more sustainable approach.

ROCKWOOL China has an annual stone wool production capacity of 110,000 tons in Guangzhou and Yangzhou, and subsidiaries located in Beijing, Guangzhou, Hong Kong, Taiwan, Philippines and other major cities at present.

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Manufacturing facilities

100+

Countries sales coverage

11,000+

Employees globally

80 – 1,500 times

Ratio between energy saved during product life against energy used for production per unit is 80-1,500 times



ROCKWOOL FacadeRock DD/DD Plus

Introduction

FacadeRock DD/DD Plus product is an innovative insulation solution provided by ROCKWOOL. It is made from natural rocks such as basalt and limestone. The rocks are melted in a cupola at temperature of higher than 1450°C, and the molten lava is fiberized by a spinner. The inorganic fibers are bonded together using a thermosetting resin to form the final product which is cut into suitable sizes for easy handling and installation. Comparing with common stone wool board used in external wall insulation system, FacadeRock DD/DD Plus features lower density, higher adhesive strength to cementitious basecoat, and easier installation. It is an ideal combination of good thermal performance, fire resistance, acoustics, durability and sustainability.



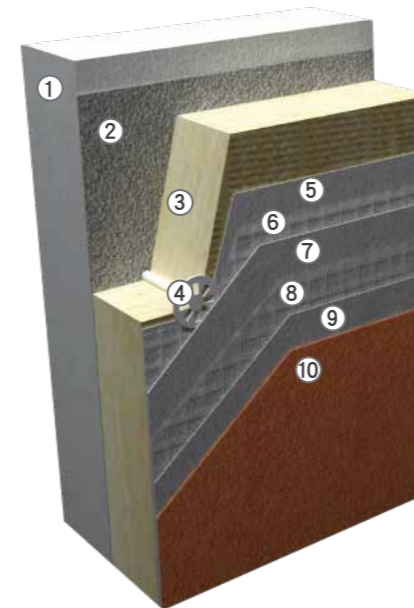
Application

FacadeRock DD/DD Plus is an ideal insulation material for new build, extension and retrofit projects as well as for rendered insulation system in non-transparent curtain wall structure. FacadeRock DD Plus is specially fits for buildings requiring high safety, such as super high rise buildings.

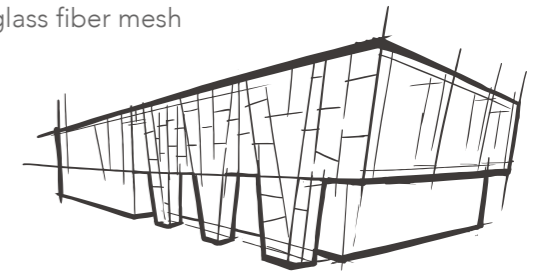


Typical structure

ROCKWOOL DD ETICS is the non-load-bearing system, with ROCKWOOL DD stone wool slabs as its core insulation material which are fixed to the external walls by adhesive, anchor, etc., The system consists of ROCKWOOL FacadeRock DD stone wool insulation layer, fixation material (adhesives, anchors, etc.), rendering material (glass fiber mesh embedded, etc.) and finishing coat. Besides high fire-resistance, the system also has excellent performance in thermal insulation, as well as durability, safety and reliability.



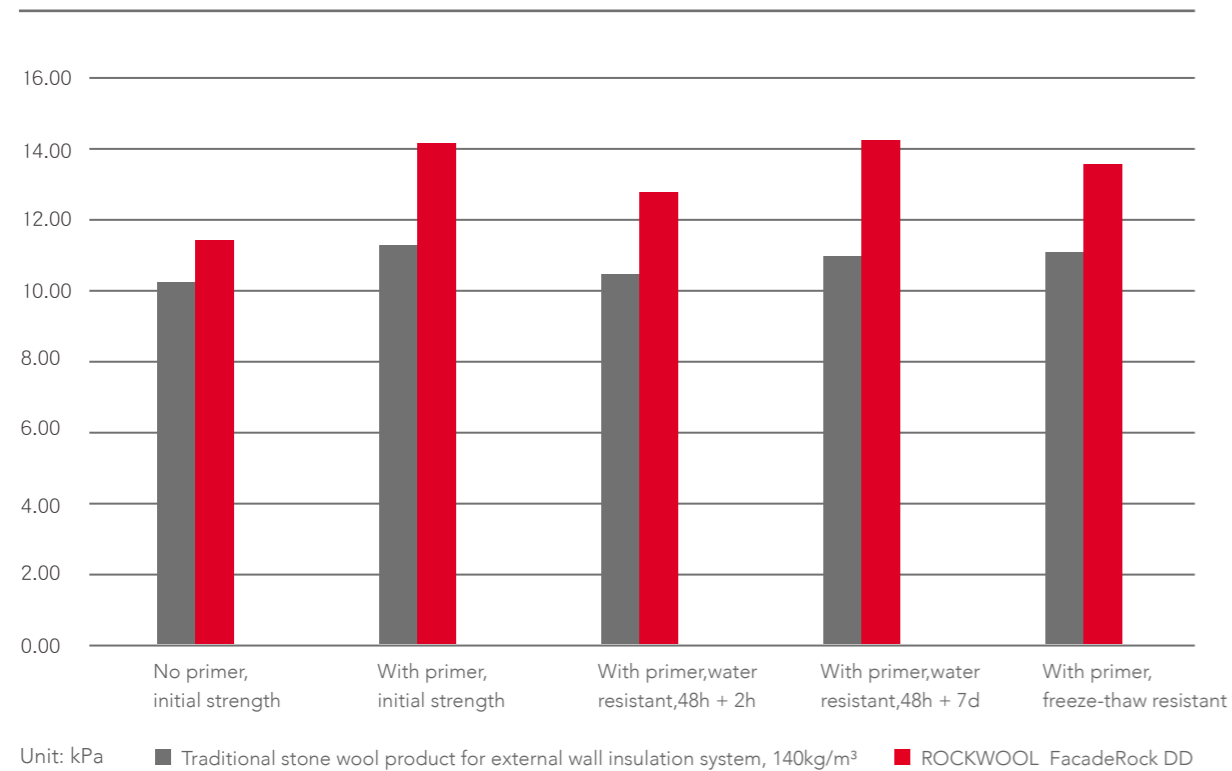
- ① Substrate
- ② Adhesive
- ③ FR-DD/FR-DD Plus (suggest to be treated with primer for both sides in advance)
- ④ Anchor
- ⑤ Basecoat
- ⑥ Alkaline-resistant glass fiber mesh
- ⑦ Basecoat
- ⑧ Alkaline-resistant glass fiber mesh
- ⑨ Basecoat
- ⑩ Finishing



Technical Parameters

Item	Unit	FR-DD	FR-DD Plus	Standard
Nominal density	kg/m ³	≤ 120	≤ 140	GB/T 5480
Fire performance	-	A (A1)		GB 8624
Thermal conductivity	W / (m · K)	≤ 0.039	≤ 0.040	GB/T 10295
Tensile strength (perpendicular to surface)	kPa	≥ 10	≥ 15	GB/T 25975
Tensile strength of top layer	kPa	≥ 12	≥ 20	GB/T 25975
Acidity ratio	-	≥ 1.8	≥ 1.8	GB/T 5480
Water repellence	%	≥ 99.5		GB/T 10299
Shot content (Shot size >0.25mm)	%	≤ 5		GB/T 5480
Short term water absorption (Partial Immersion, 24h)	kg/m ²	≤ 0.25		GB/T 30805
Long term water absorption (Partial Immersion, 28d)	kg/m ²	≤ 0.5		GB/T 30807
Moisture absorption	%	≤ 0.5		GB/T 54809

Comparison of adhesive strength in systems

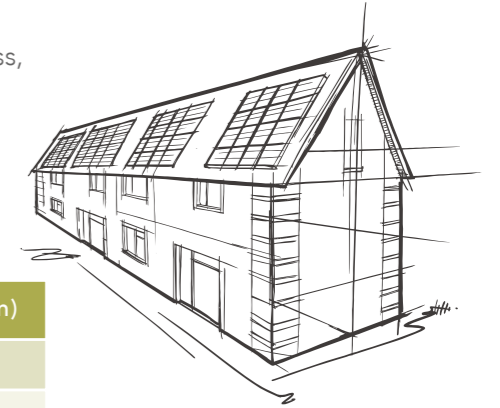


Performance comparison between FacadeRock DD and normal stone wool board:

ITEM	FR-DD	FR-DD Plus	Normal stone wool board	Normal stone wool board
Nominal density	≤120 kg/m³	140 kg/m³	140 kg/m³	160 kg/m³
Tensile strength (Perpendicular to surface)	TR10	TR15	TR7.5/TR10	TR15
Tensile strength of top layer	≥12kPa	≥20kPa	-	-
Adhesive strength to basecoat:	The strength can be increased 20% compared with normal board, leading to better system safety.			
Wind load resistance :	High	Super high	General	High
System weight (Based on 140kg/m³)	85%	100%	100%	114%
Application:	Lower bottom layer density allows easier flattening during installation		Not easy for leveling	

Benefits

- Class A non-combustible material, melting point above 1000°C;
- Good noise reduction and acoustic performance;
- Does not contain asbestos, non-hazardous to health;
- Does not release toxic gases, safe to use;
- Good dimensional stability, strong resistance to shrinkage at temperature encountered in fire conditions;
- Excellent air permeability, no corrosion to metal and components within the structure;
- Physically and chemically stable;
- No foaming agent and fire retardant needed during production process, contribute to sustainability of the environment.



Specifications

Product code	Thickness (mm)	Length x Width (mm)
FacadeRock DD	50-150	1200×600
FacadeRock DD Plus	50-120	1200×600

Design and Installation Specifications

- ROCKWOOL FacadeRock DD/DD Plus has two sides with different mechanical strength, a "ROCKWOOL" mark is placed on the side with higher strength for ease of identification. When installing the product, the marked side must be facing towards the outside.
- In ETICS, FacadeRock DD/DD Plus is fixed to the substrate by adhesive and anchor together, and the effective binding area should not be less than 60% of the slab surface area.
- Avoid using small slab when installing FacadeRock DD/DD Plus. Each slab shall be fixed closely to adjacent ones, and in such a way that the gaps are staggered between rows and columns.
- Cutting should be done by sharp tools like knife or panel saw. Requirements of the design drawing, regulations and other applicable standards shall be complied.

Packaging and Storage

ROCKWOOL FacadeRock DD/DD Plus is shrink-wrapped in polyethylene sheets for ease of handling, transportation, storage and identification. Do not exposed directly to water source (rain/snow) during transportation to prevent damage to products.

FacadeRock DD/DD Plus should be stored in a ventilated indoor space or in an open area covered with a tarpaulin.



Facade DD project- Yingkou Hospital, Liaoning