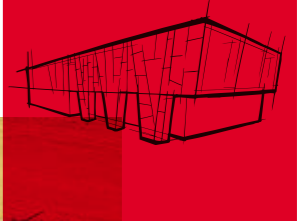


ROCKWOOL® is the registered trademark of ROCKWOOL Group.



ROCKWOOL Roofing System



RW-CN/RS-BRO/02-2020/4/EN

ROCKWOOL CHINA

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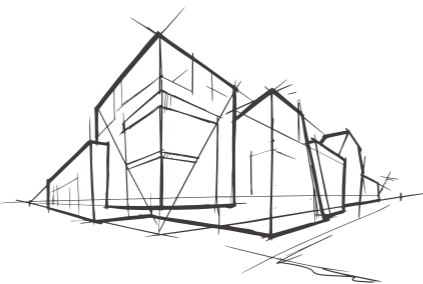
www.rockwool.com.cn ROCKWOOL Wechat

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.

46

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

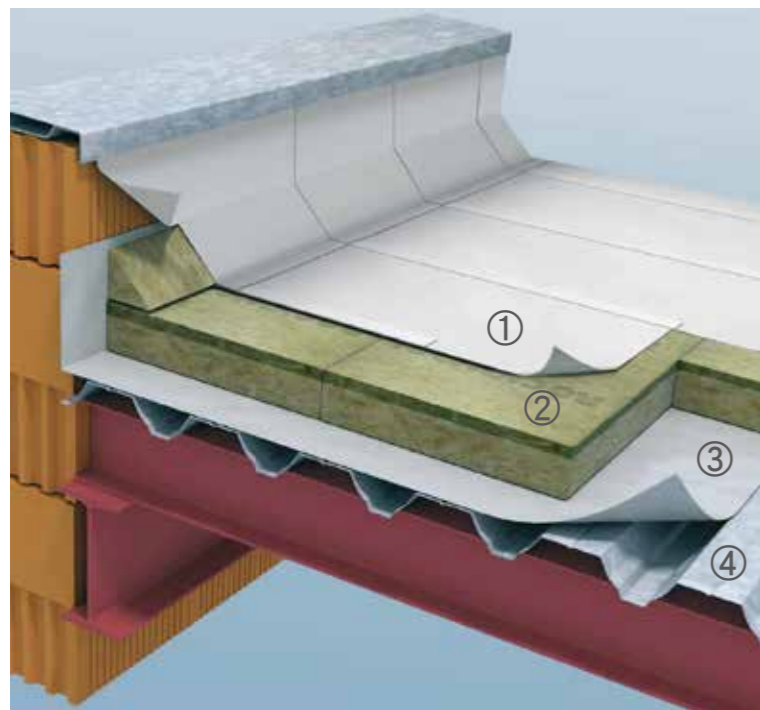


ROCKWOOL Roofing System

The system consists of high polymer flexible waterproofing membrane, stone wool roofing insulation boards, vapor barrier materials and other necessary components.

ROCKWOOL has years of experience in the roofing industry in China and beyond. We built on expertise and developed a flexible roofing system mainly for flat roofs. The system consists of high polymer flexible waterproofing membrane, stone wool roofing insulation boards, vapor barrier materials and other necessary components. The installation methods would mainly be mechanically fastened, bonding or ballasted. The waterproofing membrane and the stone wool insulation would be fixed on the roof substrate to resist wind loads. The design enables a water and sound-proof system with fire protection and thermal insulation when the building is in use, reducing the risk of condensation. ROCKWOOL roofing system has excellent wind resistance and durability.

System built up



- ① ROCKWOOL TopCover Series Membrane
- ② ROCKWOOL TopRock DD Series stone wool board
- ③ Vapor barrier material
- ④ Steel /concrete base roof substrate

Applications

ROCKWOOL roofing system can be widely applied to steel/concrete-base roofs, for both new build and maintenance.

- For steel structure industrial buildings, warehouses, convention centers, stadiums, airports and light-weight steel roofing in other forms.
- For traffic roofs (including roofs of platforms, pedestrian crossings and heavy equipment) and green roofs, with load-bearing capacity.



Features

High Polymer waterproofing membrane used in the system has outstanding resistance to weathering, combined with ROCKWOOL TPR-DD/DD Plus of its excellent roof insulation. ROCKWOOL roofing system takes a concise approach to structure, with professional design and flexible touch to node details. The roof has advantages in the following aspects:

Durability

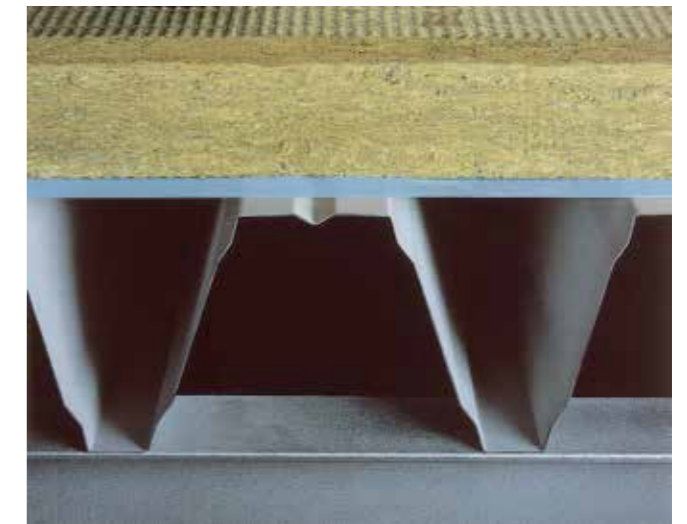
- All roofing materials meet the requirements for long term use under various climate conditions.
- The system meets the standards for roofing materials and systems in China.
- Waterproofing membrane has excellent performance in durability, resistance to puncture and tear, anti-oxidation, anti-UV, resistance to corrosion, etc.
- Our perfect solution guarantees a longer life.

Adaptability

- Great flexibility, no restriction to the slope, shape or direction of the roof, easy to install.
- Membrane and stone wool's excellent performance can meet strict requirements of design and severe weather conditions. The installation can start at any time.
- Maintenance can be scheduled throughout the roof's lifetime during which changes to its functions can also be conducted.

Economy

- Longer lifetime, lower maintenance cost. Life cycle costs can be controlled effectively.
- A wide range of products to select from upon your budget.

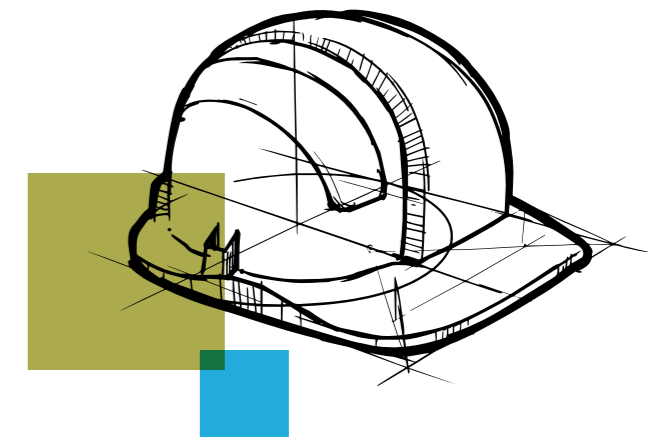


Safety

- Our roofing system provides fire protection which reduces the risk of fire and guarantees the safety of people and buildings, with no smoke or toxic produced.
- Safe and environmentally-friendly installation methods lessen impact on the environment.
- Our roofing system has no undesirable effect on the building and its use.

Comfort

- Improved insulation performance, higher level of indoor comfort, less building energy consumption.
- ROCKWOOL roofing system can reduce the impact of noise inside the building, especially rain noise.
- No cold bridge, good resistance to condensation, more comfort inside the building.



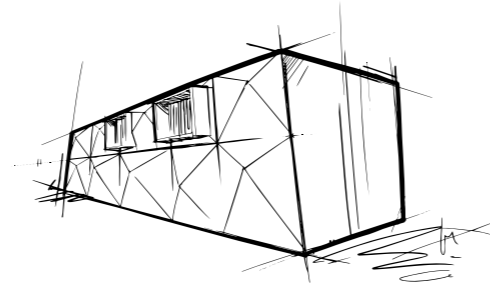
ROCKWOOL TPR-DD/DD Plus

Tailored innovation for roof application

ROCKWOOL TPR-DD/DD Plus is an innovation insulation solution provided by ROCKWOOL. The product 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 fibres are bonded together using a thermosetting resin to form the final product which is cut into suitable size for easy handling and installation. Comparing with common stone wool roof slab, ROCKWOOL TPR-DD/DD Plus features lower density, higher mechanical strength, and easier installation. It is an ideal combination of good thermal performance, fire resistance, acoustic, durability and sustainability.

Specifications

| Unit code | Thickness (mm) | Size (mm) |
|--------------------|----------------|-----------|
| Toprock-DD/DD Plus | 50~150 | 1200*600 |



ROCKWOOL TPR-DD/DD Plus technical parameters

| Project | Unit | TPR-DD | TPR-DD Plus | Standard |
|--|-------------------|----------|-------------|------------|
| Nominal density | kg/m ³ | ≤150 | ≤170 | GB/T 5480 |
| Fire classification | - | A (A1) 级 | A (A1) 级 | GB 8624 |
| Thermal conductivity | W/ (m.k) | ≤0.040 | ≤0.040 | GB/T 10295 |
| Compressive strength (at 10% deformation) | kPa | ≥60 | ≥80 | EN826 |
| Tensile strength of the surface | kPa | ≥20 | ≥20 | GB/T 25975 |
| Tensile strength (perpendicular to the surface) | kPa | ≥10 | ≥10 | EN1607 |
| Point load (at 5mm deformation) | N | ≥700 | ≥900 | EN12430 |
| Acidity coefficient | - | ≥1.8 | ≥1.8 | GB/T 1549 |
| Hydrophobic rate | % | ≥99.5 | ≥99.5 | GB/T 19686 |
| Short-term water absorption (partial immersion, 24h) | kg/m ² | ≤0.25 | ≤0.25 | GB/T 19686 |
| Long-term water absorption (partial immersion, 28d) | kg/m ² | ≤0.5 | ≤0.5 | GB/T 19686 |
| Moisture absorption rate by weight | % | ≤0.5 | ≤0.5 | GB/T 19686 |



ROCKWOOL Topcover waterproofing membrane

High-quality, high-durability waterproofing membrane

ROCKWOOL TopCover RP Series PVC waterproofing membrane production line uses advanced techniques, embedded with a reinforced polyester mesh for better mechanical performance. ROCKWOOL TopCover RP Series PVC waterproofing membrane is 2-meter wide, with options of 1.2mm, 1.5mm or 2.0mm in thickness.

Topcover RP technical parameters

| Main performances | Testing methods | RP 120 | RP 150 | RP 200 |
|---|-----------------|-------------------|-------------------|-------------------|
| Thickness(mm) | GB/T 328.5 | 1.2 | 1.5 | 2.0 |
| Thickness of surface (mm)≥ | GB/T 328.5 | 0.4 | 0.4 | 0.4 |
| Expansion under maximum tensile stress /% ≥ | GB/T 328.9 | 15 | 15 | 15 |
| Maximum tensile stress/(N/cm) ≥ | GB/T 328.9 | 250 | 250 | 250 |
| Coefficient of thermal expansion/%≤ | GB/T 328.13 | 0.5 | 0.5 | 0.5 |
| Bending at low temperature °C ≤ | GB/T 328.15 | -25 | -25 | -25 |
| Water resistance | GB/T 328.10 | Water resistant | Water resistant | Water resistant |
| Impact resistance | GB 12592-2011 | Water impermeable | Water impermeable | Water impermeable |
| Seam resistance to peeling/ (N/mm) ≥ | GB/T 328.21 | 3 | 3 | 3 |
| Trapezoidal tear strength / N ≥ | GB/T 328.19 | 250 | 250 | 250 |
| Water absorption rate (70°C, 168h) %≤ | GB 12592-2011 | 4 | 4 | 4 |
| Thermal ageing (80°C) | GB/T 18244 | Requirement met | Requirement met | Requirement met |
| Resistance to chemical substances | GB 12592-2011 | Requirement met | Requirement met | Requirement met |







Integrated roofing system with waterproof and thermal insulation

- A whole set of roofing system as a complete solution
- A roofing system design to customize each project,
- high-quality and reliable products and components
- Improved system design and installation training, safety guaranteed by technical support
- Improved product quality assurance system



Accessory

ROCKWOOL can provide a complete set of accessories, such as fasteners, strips, prefabricated parts, etc. Please contact your local sales representative for more details.

| Fixing screws | Tube | Strength bar | Terminal bar | Corners | Lightning rod base |
|---|---|---|---|---|---|
|  |  |  |  |  |  |