

INSTALLATION & HANDDLING MANUAL FOR ULTRA PANEL

A. Installation of Rockwool panel

A-1. General

- A-1-1. All materials which are used for installation shall be pay attention to prevent any damage, scratches happening.
- A-1-2. The installation of Rockwool panel shall be carried out by panel installation specialist who has enough skills.
- A-1-3. Supporting frames shall be used as galvanized materials or anti-rust painted materials.
- A-1-4. The flashings shall be used after folding for the cutting part which do not covered with paint or it shall be painted for nati-rust.
- A-1-5. In case of small scratches, it shall be covered with spray touch up paint.

A-2. Installation of Rockwool Roof panel(MRS Type)

- A-2-1. The panel shall be 1,000mm W, 40mm Crest height and the length shall be followed by the length described on shop drawings.
- A-2-2. The connection between panel and purlin
With Self Drilling Screw(high density PVC bolt cap), the panel and purlin shall be fixed at 1,000mm distance in width direction.
The materials of Roof Bolt :
 - Material : Galvanized Steel
 - Size : Dia 6 Self Screw
- A-2-3. The joint part between panels in width direction shall be pressed and attached with PU Sponge in order to prevent outer air penetration, heat loss and dewdrops.

A-2-4. In case Panels are overlapped between the crest, Seal tapes shall be paved with press for preventing rain penetration which can be happened in a rainy season with strong winds, rains' flowing backward or capillary phenomenon.

A-2-5. Ridge

It shall be installed as described in shop drawings, but the bolts shall not be revealed and it shall be covered with ridge flashing colored with panel skin color. Also, Rubber pad shall be inserted between crest and ridge flashing.

A-2-6. Gutter and gable shall be generally finished with flashing with roof panel color, but the insulation layer shall be revealed.

A-2-7. Supporting of Roof Panel

The distance of purlin which support Rockwool Roof panel shall be decided as the data shown on Rockwool panel's structural properties according to the site location and design conditions.

A-2-8. The length of panel

The length of Rockwool panel shall be decided according to the site conditions and when it considered the workability and installation condition, it is recommended under 12 meter.

A-3. Installation of Rockwool Exterior Wall panel(MDS type)

A-3-1. Exterior wall panel shall be installed when the concrete operation complete and the bottom level must be flat. The tolerance of bottom level is +/-3mm per 3 meter(1/1000) and shall not be exceed 10mm height totally.

A-3-2. Before installation, Base Channel shown on shop drawings shall be fixed with Dia 9 Set Anchoring or Dia 4 Hilti pin on foundation layer.

A-3-3. Base flashing shall be fixed with Dia 4 blind rivet in a distance 400mm on base channel and end of panel before panel installation.

A-3-4. Wall panels' width is 1,000mm and the corrugation depth shall be over 8mm. The length of panel shall be decided after consideration of outlook, wave, building height shown on shop drawings.

A-3.5. The joint part between panels in width direction shall be pressed and attached with PU Sponge in order to prevent outer air penetration, heat loss and dewdrops.

A-3-6. Dia 6 C-Bolt shall be used for fixing between panel and supporting frame(See Standard detail)

A-3-7. For the corner part, inner and exterior corner flashing shall be finished with riveting(@400mm, see Standard detail) after tight installation of each panel.

B. Materials Management

B-1. Transportation

B-1-1. In order to prevent damage, it requires pallets under each materials and delivering of the material requires steel band to avoiding damages movement on the products.

B-1-2. In case of Rockwool panel, the wood pallet is one-body and the weight of panel is quite heavy. Also, if the length is very long, therefore, please take care of your unloading work and transportation for protection of products.

B-1-3. You are recommended to use Crane or three Fork Lift Cars with long legs or put in multi-legs additionally on lift leg when you unload the panels. Especially, if you use only one folk lift at the center of panel, there will be possibility of bending due to long and heavy weight.

B-2. Unloading

B-2-1. To unload material, it shall be follow one of these direction.

- a. Unloading by pallet jack
- b. Using men power (time by time)
- c. Unloading straight to roof (In this case, order to prevent purlins deflection the panel has to be stack directly on the truss).

B-2-2. Unloading Method

- a. To Lift up the pallet with Folk Lift having long legs under the height limitation which can prevent any squeezing or damages occur
- b. Or in case of Crane, the chain shall be connected on the proper point of pallet bottom as far from the end of pallet as possible for panel's safety. (then lift up the pallet as phase a)
- c. Do not pull out the pallet and just hold the pallet.
- d. To control the direction between container trailer and Crane (or Folk Lift) lines (if the direction is not exact, it is not avoidable to happen hit and damage between panel and container inside wall)
- e. Container car shall move forward in exact direction and low speed. One folk lift shall still hold the ending part of pallet.
- f. In case of panel length is longer, when the panels come out around 3-4 meter long from the container, the other folk lift should hold up the pallet on the point of 3 meter.
- g. When the panels come out another 3-4 meter more, the 3rd folk lift car should hold up the pallet.
- h. The container trailer car (head) should continue to move forward till all panel fully come out.
- i. All transportation for each pallet or bundle shall be under smooth load or yard condition without any uneven obstacles such as broken brick, cement, wasted steel straps which may affect on shaky moving of folk lift car in order to prevent any bending possibility on middle part of panel.

B-3. Storage

B-3-1. The storing of materials shall be on certain storage place, as planned and in order to prevent materials from bending or damaging it has be placed on a flat place. Also, it requires the wooden bases before restoring. However, the distance between wooden bases shall be at least 1 meter.

B-3-2. In case of Glassfiber board or Rockwool Insulated panel, it shall be stored on safety field from rains or snows. If there is no proper places, some proper covering such as plastic film covering for prevent water absorption even though the panels are already rapped with plastic film when we load the panel.