

Guidelines for Cutting ROCKWOOL Stone Wool Insulation

Proper cutting techniques for stone wool insulation are essential for ensuring an accurate fit and preserving the material's structural integrity and insulation properties. Cutting insulation requires careful handling by the installer to ensure optimal results; improper handling and installation can compromise not only the safety of the installer but also the thermal, acoustic, and fire performance of the assembly in which it is installed.

Preparation

To prepare for cutting the insulation, the installation area should be measured using a measuring tape, and these dimensions should be transferred onto the stone wool using a straight edge and a marker, or chalk. Alternatively, score marks can be made on the insulation to indicate where cuts should be made. These marking methods will help achieve a clean and effective installation, ensuring that the insulation fits snugly and performs optimally.

The cutting surface should be prepared by placing the insulation on a flat, stable surface. It is advisable to use a cutting table or a workbench for optimal stability.



Recommended Hand Tools

For manual cutting of stone wool insulation, it is recommended to use a serrated insulation knife, such as those provided by ROCKWOOL, or comparable alternatives like the Grip-Rite Stone Wool Insulation Knife. These tools are specifically engineered to deliver clean and precise cuts, effectively minimizing tearing of the material.



Although utility knives and blades may be used, they are considered less suitable as they are prone to rapid dulling. This not only increases the probability of tearing the batts or boards, impairing the overall quality of the cuts and potentially decreasing the efficacy of the insulation, but also heightens the risk of injuries.

During the cutting process, compressing the insulation slightly by pressing it down can greatly facilitate a straight and smooth cut. This can be done using a straight edge, like a ruler, or a piece of wood such as a spare piece of lumber, as a guide.

When cutting faced insulation boards, such as ROCKWOOL Cavityrock® Black, it is recommended to use a serrated insulation knife in order to achieve a sharp and even cut. The insulation should be laid down on a rigid surface with the faced side upward. A minimum 1/2" distance should be maintained between the hilt of the knife and the facing of the insulation to avoid puncturing the black mat facing. It is advised to use extra care and a slow and steady motion when cutting using a saw-like motion.



Recommended Power Tools

For larger scale cutting tasks, power tools such as circular saws, miter saws, and table saws are recommended for their efficiency and precision.

To enhance performance and durability, it is advisable to use carbide-tipped or metal cutting blades instead of standard wood blades. These blades maintain their sharpness for extended periods and require fewer changes. Furthermore, opting for blades with a greater number of teeth can achieve cleaner cuts, minimize tearing, and ensure a smoother finish on insulation materials.

For optimal results, a sacrificial layer, such as Medium-Density Fiberboard (MDF) or Oriented Strand Board (OSB), should be used to support the insulation during the cutting process, and protects the underlying surface by absorbing damage. When using a circular saw, the blade should be set slightly deeper than the thickness of the insulation to improve accuracy. The sacrificial layer will take on any cut marks and can be discarded after use.



Appendix A (Normative) Inspection Procedures for Insulation Grading and Assessment of the 2022 ANSI/RESNET/ICC 301* offers comprehensive guidelines for assessing insulation installation grades in residential units, providing valuable insights for the effective installation of fibrous insulations such as stone wool.

Understanding the Importance of High Installation Grade in Insulation

The insulation installation grade, ranging from 1 to 3 with 1 representing the highest quality and 3 the lowest, reflects the accuracy and excellence of insulation placement within a building. A high-quality installation grade, which demands that the insulation completely fills the cavity, fits snugly around obstacles to prevent gaps or compression, requires meticulous attention to detail to achieve. It is essential for optimizing the insulation's thermal and soundproofing effectiveness.



* 2022 ANSI/RESNET/ICC 301 Standard for the Calculation and Labeling of the Energy Performance of Dwelling and Sleeping Units using an Energy Rating Index

Post-Cutting Inspection and Cleanup

After completing the cutting process, it is essential to conduct a thorough inspection of the insulation's edges to ensure they are straight and clean.

Subsequently, it is advisable to vacuum any residual fibers or particles to maintain a clean workspace. Proper disposal of all waste materials should also be executed to adhere to environmental safety and cleanliness standards.

Safety Guidelines for Cutting and Handling Insulation Materials

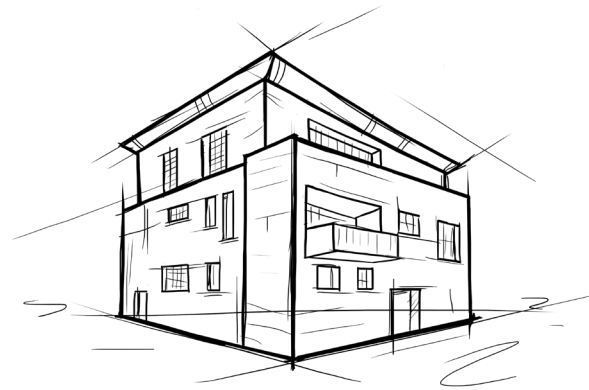
It is recommended that installers wear safety glasses with side shields, protective gloves, long-sleeve shirts, pants, and a dust mask to protect skin and body, and to avoid irritation and inhalation of fibers during the cutting and installation process.

Operators using powered equipment must ensure that the equipment is well-maintained has adequate guarding, and they should wear ear protection, to prevent injuries.

Maintaining proper ventilation is advised, particularly in confined spaces where the use of a NIOSH-certified N95 respirator or better is recommended when airborne particulates exceed exposure limits. For operations that generate a higher level of dust, implementing local exhaust or general ventilation systems is recommended to keep exposure below limits, with vacuum or wet cleaning methods advised for effective dust control.

After cutting and handling, it is advised that hands be washed with cold water and that work clothes be removed and laundered to ensure personal cleanliness and safety.

ROCKWOOL stone wool insulation materials stand out from other fibrous insulations due to their non-directional fibre structure, which enhances robustness and maintains dimensional stability during cutting and installation. This unique structure ensures that the stone wool insulation is engineered for an optimal fit and finish, leading to high-quality installations. By adhering to the recommended cutting guidelines for both hand and power tools, installers can achieve precise, clean cuts that enhance the overall performance of the insulation.



For more information about storage and exposure of ROCKWOOL exterior insulation, access **ROCKWOOL's Technical Bulletin**[®] at rockwool.com.



To get in touch with the ROCKWOOL Technical Services team, visit rockwool.com/north-america/contact/[®] or call at 1-877-823-9790

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