

# ACOUSTICAL PERFORMANCE OF ROXUL CORE SOLUTIONS (OEM) PRODUCTS

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## Abstract

ROXUL® Core Solutions (OEM) is committed to making other manufacturers' products better, safer and quieter. As a key business unit of ROXUL Inc., North America's largest manufacturer of stone wool insulation, ROXUL Core Solutions (OEM) offers custom solutions and two versatile product lines to meet the demands and requirements of a variety of OEM applications. ROXUL OEM products are engineered to stand up to the rigors of fabrication and can be used to meet the production requirements of various acoustic applications, such as acoustical panels, acoustical partition walls, roadside walls, speakers, mufflers and more. All products can be split, cut, faced and fitted while maintaining unique benefits exclusive to stone wool.

**Keywords:** acoustics, acoustical, solutions, sound proof, OEM

## Résumé

L'équipe de Solutions de base ROXUL® (en anglais, ROXUL® Core Solutions) (OEM) s'est engagée à améliorer les produits d'autres fabricants, et à les rendre plus sécuritaires et plus silencieux. En tant qu'unité opérationnelle clé de ROXUL Inc., le plus grand fabricant de produits isolants de laine de roche en Amérique du Nord, les Solutions de base ROXUL® (OEM) offrent des solutions sur mesure et deux gammes de produits versatiles qui répondent aux demandes et aux exigences de nombreuses applications OEM. Les produits OEM de ROXUL sont conçus pour résister aux rigueurs de la fabrication et peuvent être utilisés pour satisfaire aux exigences de production de diverses applications acoustiques, tels les panneaux acoustiques, les cloisons acoustiques, les murs longeant les routes, les haut-parleurs, les silencieux, entre autres. Tous les produits peuvent être fractionnés, coupés, revêtus et ajustés tout en conservant leurs avantages uniques exclusifs à la laine de roche.

**Mots-clés :** acoustique, solutions, insonore, FEO (fabricant d'équipement d'origine – en anglais, OEM ou Original Equipment Manufacturer)

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## 1 Introduction

Through resources centred on research, development, standardized testing and certifications, ROXUL® Core Solutions is focused on growing its OEM business to address the unique requirements of the acoustics industry.

Offering custom solutions and two product lines—CONROCK® and FABROCK™—products range in density and dimension to meet many production requirements, whether it be for speakers, acoustical panels, acoustical partition walls, roadside walls or other acoustical applications [1]. A ROXUL Core Solutions (OEM) video gives an overview of how its products are used around the home and in everyday life [2].

## 2 Products

Several ROXUL stone wool insulation products are fabricated to fit a variety of acoustic applications. CONROCK® 60 is a board insulation designed specifically for application in sandwich panel systems where acoustic properties are required. This rigid board has excellent

acoustical dampening properties and features a non-directional fibre structure that dissipates sound waves for a quieter environment.

FABROCK™ DD is a dual-density board insulation that is designed to be fabricated while maintaining its integrity. A higher density upper layer and a lower density bottom layer work together to give the product compressive resistance and excellent sound absorbency. It's ideal for use in acoustic panels, but is not limited to this OEM application.

In addition, FABROCK™ Batt is a light density batt insulation engineered to be fabricated and used in various OEM applications. Historically used in spas and transportation applications, it has excellent sound and thermal properties. All ROXUL products are dimensionally stable, vapor permeable and naturally resistant to rot, mold, mildew and bacterial growth. A full list of products and applications is available on ROXUL's website [1].

ROXUL Core Solutions (OEM) makes other manufacturers' products better, safer and quieter. It offers a variety of high-quality insulation products well suited for acoustical OEM applications, which are manufactured to stand up to the rigors of fabrication, ranging in density and dimension to meet customer requirements. Appreciating that the acoustical industry is unique, ROXUL offers customized

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solutions, backed by superior quality, innovation, reliability and service to ensure its customers' long-term success. This is evident throughout the process, from research and development, prototype and testing, production, monitoring and support.

ROXUL Technical Innovations department and Core Solutions (OEM) Sales work with customers to create custom solutions for many acoustical OEM applications and offer expertise to assist with complex specifications, design and implementation. ROXUL has a comprehensive understanding of industry standards, protocols and certification requirements and is committed to ongoing quality reviews and technical support.

### 3 Case Study

The Core Solutions (OEM) segment at ROXUL works closely with customers like Perdue Acoustics to ensure ROXUL products and tailored solutions meet specialized needs, provide benefits and add both quality and value to the finished product. ROXUL Core Solutions aims for a technically flawless integration in every application with a comprehensive support through all levels of the process.

Perdue Acoustics specializes in controlling sound—churches, schools, athletic facilities and commercial buildings use Perdue to create more comfortable spaces that embrace sound and music or control unwanted noise for quiet environments. ROXUL insulation is incorporated into Perdue's patented acoustical wall and ceiling products and was chosen due to its sound dampening qualities across a wide range of frequencies. ROXUL insulation is seamlessly integrated into Perdue's patented systems to create sound panels, Baffles, Wedges™, Drum Booths and other diffusing or reflecting sound technology. The unique non-directional structure of ROXUL stone wool insulation is more dense than other insulation products, effectively reducing airflow and, as a result, reducing sound transmissions. Higher air flow resistivity means better sound attenuation. ROXUL was the only company with the manufacturing process and expertise capable of meeting Perdue's stringent technical requirements.



**Figure 1:** ROXUL insulation is used in Perdue's products; the treatments are then wrapped in fabric or vinyl to meet the acoustic and aesthetic needs of any facility.



**Figure 2:** Perdue's acoustical wall treatments are made out of ROXUL Stone Wool Core, high-impact random strand mat and 100% recycled fabric.

### 4 Conclusion

ROXUL Core Solutions (OEM) products are engineered specifically for OEM applications. They can be split, cut, faced and fitted while maintaining performance and integrity. ROXUL's tailored solutions and exclusive CONROCK® and FABROCK™ series of products provide a wide range of unique benefits exclusive to stone wool. Non-combustible stone wool insulation has a high melting point of approximately 1,177°C (2,150°F) and doesn't promote smoke or flame spread in the event of a fire. All products have outstanding thermal resistance and sound control, due to their denser composition and non-directional fibre structure. They are also dimensionally stable, water resistant and do not promote mold or mildew growth. Visit ROXUL's website for more information [1].

### References

- [1] [www.roxul.com/oem](http://www.roxul.com/oem)
- [2] <https://www.youtube.com/watch?v=mHJJPWgB8zA>