

# Acoustic Absorption Case Study

## Noise-Controlling Solutions for the Power Generation Industry

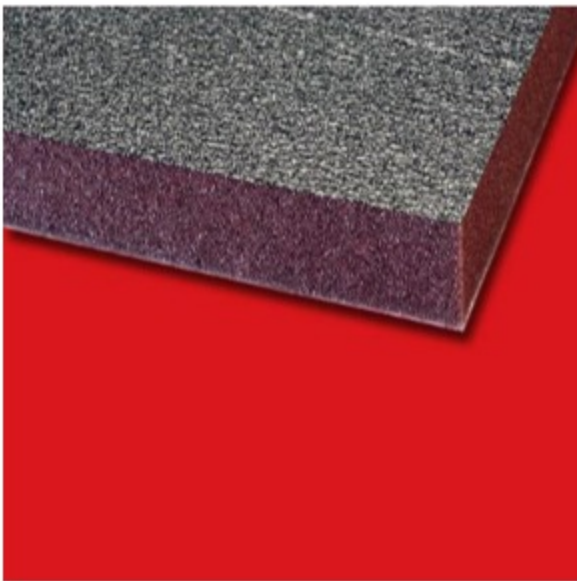
### The Problem: Reducing Noise Emitted from Generators



Generators are powerful pieces of equipment that have become nearly indispensable. Many industries rely on generators as a vital part of their business to supply power when other sources of electricity fail or are otherwise unattainable. While generators can be a lifesaver, most do produce a noticeable amount of noise during operation.

A manufacturer in the power generation industry came to us with a dilemma. They were trying to design a new electric generator from scratch. Before taking their project from its base design to the next phase, they wanted the expertise of energy management engineers to help point them in the best direction.

### The Solution: POLYDAMP® Acoustical Foam (PAF)



Our acoustic experts reviewed the manufacturer's base design of the generator. Since the manufacturer came to us at the inception of their design, we were better able to assess their product and provide recommendations to improve its performance. While it is possible to retrofit equipment with noise-controlling materials, designing a solution for acoustic absorption at the start helps create a more effective design. Our engineering manager tested the manufacturer's base design at the company's facility to understand the precise location where the noise was being emitted.

Depending on the application, **vibration isolation mounts**, **acoustic absorbers**, **acoustic barriers**, and **molded polyurethane solutions**, or a combination of materials can help prevent loud noises emitting from equipment. To help the generator operate quietly, our team recommended installing **POLYDAMP® Acoustical Foam (PAF)** around the engine compartment. We helped the manufacturer create a materials kit to implement the foam effectively inside the generator. To further improve the durability and acoustic properties of the foam, we formulated it to have a black urethane coating.

Like most of our foam materials, PAF can be easily installed to surfaces with pressure-sensitive adhesive.

### Final Result: Improved Acoustic Absorption

The PAF foam provided by Polymer helped the manufacturer create a quieter generator that meets and exceeds workplace and residential noise restrictions. The inclusion of PAF foam also provided additional thermal insulation as well as acoustic absorption properties. By calling on the energy management experts early in their design phase, we were able to help the manufacturer create an ideal generator with excellent acoustical properties.