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# Design of generator exhaust and sound absorption structure

How do you muffle noise from a generator?
The most common device used to muffle noise from generators is acoustical enclosures. Typical sound attenuated generator enclosures consist of panels that are multi-layered composite treatments comprising of an impervious exterior layer as well as a layer of porous sound absorption material facing towards the inside of the equipment.

How does sound attenuation affect a generator?
Any amount of sound attenuation applied to a generator set will alter the noise produced by the engineand yield a more tolerable deadened sound characterized by a rush of air rather than a mechanical or fan noise of a high-speed diesel or gas engine.

How do you reduce reflected sound in a generator?
Installing an absorption surface over hard surfacesin most generators can reduce some of the reflected sound. In a room with hard surfaces,soft materials such as absorbent ceiling panels,floor rugs or carpeting,and blinds or special absorbent wall coverings,will reduce noise by reflecting sound.

Will a sound attenuated enclosure work with multiple generator sets?
When sizing multiple enclosures for more than one generator set,whether it is a sound attenuated or weatherproof enclosure,it is advisable to make a decision based upon the worst case data so that the sound attenuated enclosures will work with all generator sets considered for the project.

How to reduce acoustic noise in an internal combustion engine?
The exhaust noise of the internal combustion engine reflecting the acoustic energy is reduced by the use of a silencer and damping paths. Acoustic properties of absorption material and the geometric dimensions of its parameters are taken into account in the design of the muffler.

How loud is a generator enclosure?
When looking at generator enclosure designs it is best to insist the enclosure structure is engineered in such a way that there are no points at which noise measured is more than 3-5 db (A)higher than the promised average.

This paper aims to study the sound characteristics of generator sets and also aims to reduce the sound by means of a well-modified muffle silencer. This paper focuses on design and tests silencers, particularly absorption silencers for ...

In this section, we investigate the modulation mechanism of the PMSBH and propose design guidelines to maximize the wave retarding effect and sound absorption of the structure. ...

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An exhaust silencer can effectively reduce noise and exhaust emissions produced during combustion. Read on and learn about different types of diesel generator exhaust silencers and the silencer sound ratings. What is a ...

In this paper, an absorbance silencer is modified for reduced noise of a generator set. It is constructed using a combination of baffle or perforated duct with sheet metal. The maximum generator has a simple silencer for reduction of the ...

Open-cell foam is the kind you see in acoustic tiles, such as those in a recording studio. It provides sound absorption. Sound waves enter the open-cell structure and get trapped because of all the angled surfaces. The ...

Sound-absorbing structures have a wide range of applications in architectural design and are an important part of noise treatment in buildings [1].As shown in Fig. 1 (a), the ...

In order to meet the requirement of continuous and perfect sound absorption in the low-frequency range, scholars have also used structural optimization to improve the sound ...

In order to solve the problems of traditional exhaust silencers with poor characteristics of noise reduction in low-frequency range and high exhaust resistance, a new theory of exhaust ...

The need to meet design limits on machinery noise installed in buildings means that there is a requirement for reliable prediction methods to optimize engineering designs and achieve the ...

There are three main mechanisms for sound absorption. First, and also the most dominant mechanism, is dissipation at the viscous boundary layer. [] For any volume of air flowing over ...

The sound absorption performance of HMPP can be controlled and adjusted by adding a screw which controls the position of the inner MPP. When the sound absorber structures" parameters ...

The generator muffler is enclosed with 3mm thick wool-felt for better sound absorption and thermal resistant. ... .The diesel engine is the main noise sources of sound power also the ...

Acoustic materials are an effective means for controlling noise and are extensively applied in architectural design [1], transportation [2], and everyday life [3].Research on acoustic materials ...

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