

Design Safety Conformance (part 2)

In most indoor location of large generator sets, custom-built Powercity generator with aluminum-encased high density Fiber Glass Sound Absorber or FGSA is recommended. FGSA offers excellent sound absorption within a wide frequency range and better heat tolerance property because of its fire retardant thermosetting resin. The use of FGSA in generator sets are based on several U.S. Patents including –



An example of Powercity generator set with aluminum encased fiberglass sound absorber fitted in NEMA enclosure.

Industrial Noise Abatement Enclosure – Patent No. US4258511A

Sound Suppression of Engine Noise – Patent No. US4516657A

Acoustically Isolated Enclosure for Dynamoelectric Machine – Patent No. US4007388A

Overloading a generator set in prolonged period of time will subject the machine in high thermal stress. Picture on the right shows an overloaded generator set running for more than two hours making its turbo and exhaust manifold into a smoldering red hot metal almost reaching its melting point. In case of fuel or oil leaks that will reach this part can cause a fire. FGSA enclosure acoustics are used to mitigate generator fires.

There are also areas with local codes requiring fire ratings of rooms and equipment in order to mitigate the spread of fire.



An overloaded generator set with smoldering turbo and exhaust manifold.