

Consultant's Corner: Gen Set Enclosures

consultants corner



Gen set enclosures: more than buildings

There's increasing pressure on every designer to squeeze more usable space out of building in the design phase as well as those already in place and undergoing renovation.

That often puts gen sets in an awkward position. In new buildings, architects vie for gen set space for other uses. In renovation projects, the power upgrade also means that additional standby power is needed. Often this means the larger gen sets and switchgear won't fit in the original space.

That's led to the development of outside enclosures for gen sets. Designers are finding that moving gen sets outside requires more than pouring a slab and putting a steel sided housing over the structure. It involves many factors that affect gen set operation, including local codes for safety, sound, sight and air quality.

Toromont Engine Power Systems has addressed site, sound and code requirements for thousands of gen set installations across its territory. This experience has led us to develop some innovative practices to enclose gen sets so they do not greatly affect the surrounding area. The following criteria must be considered with all gen set enclosures.

Space and system requirements

The enclosure should offer as much or more space as required by the gen set in a building. In fact, because enclosure square foot cost are lower than in a finished building, you will likely have more funds available for enlarging the enclosure space. EPG Designer as well as autoCAD drawings available from Toromont cite minimum clearances needed. The enclosure should offer expandable construction, withstand excessive winds, allow full service access to gen set, including the ability to lift the enclosure off the installation.

When selecting a site for the enclosure, consider cfm air requirements for the gen set(s) as well as how exhaust fumes may travel. Pay particular attention to building ventilation inlet locations. Finally, consider the system's needs for fuel storage, cooling, monitoring and maintenance. Fuel tanks can be built into enclosure bases, and is an option on the drop over enclosure available from Toromont.

Enclosure security is another concern. The enclosure must be lockable and tamper and vandal resistant.

Sound attenuation

Controlling noise emissions is the greatest challenge for enclosure designers. Tougher local codes are cracking down on high sound levels. Several methods can be employed to minimize sound transmission. Toromont offers sound attenuation packages that can reduce sound levels to 72dB(A) or 85 dB(A) at 50 feet. If you have even lower dB(A) level requirements, we can develop special enclosures that can meet your needs.

Appearance

Because enclosures often are in the public eye, they should blend in with the surrounding environment. The enclosure should look clean, neat and be maintenance free. For example, Toromont's Drop over Enclosure are built with 12 gauge coated steel and painted with a 2 mil thick baked polyester powder. All parts are painted before assembly, assuring good coverage and years of corrosion free service.

Code requirements

Various city, state and federal codes affect gen set enclosure. Enclosures may be considered temporary to permanent buildings, depending on your zoning code.

Consider sound, sight, and earthquake tolerance requirements. Food and health codes may also impact enclosure location and design.

Proven technology

Toromont Engine Power Systems has developed several types of enclosures for various gen set installations. This experience has helped us find out the most efficient, economical way to supply enclosures that meet engineering design and sound attenuation requirements most often requested by customers.

Call us for a complete overview of our enclosure capability.



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