



Generator room exhaust temperature requirements

What temperature should a generator exhaust be recirculated?

Under fully loaded conditions, the temperature of flue exhaust from generator sets can be in excess of 900 F and the radiator (engine-driven or remote) discharge air temperature can be in excess of 160 F. Any recirculation of these high-temperature airstreams can cause the ventilation air temperature to exceed the ambient temperature.

Does a generator need a ventilation system?

For generators located indoors, ventilation must be considered, heat from engine radiator, alternator, and exhaust system must be vented to atmosphere to obtain proper room temperature. The room in which the generator is located must have a two-hour fire rating addressed by the ventilation system.

What temperature does a generator exhaust system emit?

Generator exhaust systems must also be engineered and properly installed to accommodate thermal expansion. Generator exhaust systems emit exhaust at temperatures anywhere from 500°F up to 1300°F depending on the unit size, manufacturer, and type of fuel burned.

What temperature should a field fabricated generator exhaust be insulated?

To protect potential personal contact with the system, the outer shell temperature must be below 140°F. These temperature calculations can and should be performed by the UL listed manufacturer based on specific product design criteria. Field-fabricated generator exhaust also requires insulation.

Do generator exhaust systems need to be insulated?

Generator exhaust systems are insulated to reduce the amount of heat radiated to the mechanical space, chase, and chimney. Based on the system routing, a risk of direct contact to the system by maintenance or repair personnel must also be considered. The maximum exhaust gas temperature determines the amount of insulation required.

What if the engine room temperature exceeds 40°C?

If the engine room temperature exceeds 40°C (104°F), the generator must be derated per the generator derate schedule and cool outside air must be ducted directly to the generator air intake. Alternatively, custom generators can be sized to handle specific ambient conditions.

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