

# Exhaust shaft and smoke exhaust shaft of generator room

Who designs and installs a generator exhaust system?

The proper design and functionality of a generator exhaust system falls on the responsibility of the engineering firm of record. If a field fabricated system is being utilized, the design and installation of the system must be a collaboration between the engineering firm and the installing contractor.

How do generator exhaust systems work?

Units located inside a building often require the exhaust to be routed up through the roof, up the side of the building, or to a free-standing stack. Generator exhaust systems for years have been fabricated from sections of schedule 40 carbon steel pipe that are field welded, then insulated to reduce surface temperatures.

Why do generator exhaust systems need to be properly designed?

Generator exhaust systems need to be properly designed to ensure correct engine performance and safe operation. System design has become more complex with the desire to keep emissions low, along with the desire to utilize the heat energy in the exhaust gas.

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 is the smoke shaft size?

The Smoke Shaft should be sized at no less than 0.6m<sup>2</sup> with an aspect ratio of no greater than 2:1 and have a maximum pressure drop of 50 Pa between highest and lowest point. The shaft should be predominately straight, vertical, fire rated to match the building requirements and well sealed against air leakage with a maximum leakage rate of 3.8m<sup>3</sup>

What is smoke shaft construction?

Smoke Shaft construction is typically formed from either a fire resistant shaft board, double thickness plaster board, blockwork or concrete. The Smoke Shaft should be sized at no less than 0.6m<sup>2</sup> with an aspect ratio of no greater than 2:1 and have a maximum pressure drop of 50 Pa between highest and lowest point.

the room. Smoke control studies [e.g. 4-10] have mainly focused on studying the stack effect in stairwell and shaft, not yet on smoke control of room fires through the stack effect. In China, ...

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Compliant to EN12101-2 : 2003, the aluminium louvre is utilised to provide 1.5 sq/m of geometric smoke exhaust ventilation at the head of a smoke shaft. Blades can be single or insulated ...

The figure on the right shows a mechanical smoke shaft system. There's a lobby, a shaft adjacent to the lobby and a stairwell. On the left-hand side there is a shaft. The shaft has closable ...

Room 1 EXP 0-0b Closed natural ventilation shaft Room 2 EXP 0-1 Open natural ventilation shaft Room 1 EXP 0-2 Open natural ventilation shaft Room 2 EXP 0-3 Outdoor wind speed 5m/s ...

A natural shaft is a prescriptive, code compliant solution aligned to Approved Document B and BS 9991. Smoke is extracted from common escape corridors via a 1.0sq/m geometric EN12101-8 ...

In 2014 the new European standards for lifts were introduced. EN81-20 and EN81-50. The requirements for lift shaft ventilation have been revised and are as follows. Shaft ventilation is now the responsibility of the ...

Multifamily buildings are often equipped with engineered smoke control systems, which may include smoke vents to expel or exhaust smoke from stairwells and elevator shafts. ...

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