



# Diaphragm energy storage installation location requirements

Do energy storage systems need a 3 foot gap?

From a practical point of view, one of the most relevant issues with energy storage systems is whether there is enough room to store the required energy. NFPA 855 requires a three foot gap between the 50 kWh energy storage system group and between the 50 kWh group and the wall.

Can energy storage systems be installed in certain areas?

Energy storage systems can pose a potential fire risk and therefore shouldn't be installed in certain areas of the home. NFPA 855 only permits residential ESS to be installed in the following areas:

What is the minimum density of an energy storage system?

The minimum density of the system is 0.3 gpm/ft<sup>2</sup> (fluid speed 0.3 gallons per minute square foot) or more than room area or 2500 ft<sup>2</sup> (square feet), whichever is the smallest. Some energy storage systems may enter a state of thermal runaway, producing toxic and flammable gases, posing an explosion hazard.

Should a battery energy storage system be installed on an external wall?

If a battery energy storage system (BESS) is installed on the external wall of a building, it should not compromise the fire performance of the external wall. Service penetrations should be adequately fire-stopped, and internal combustible substrates should not be exposed by the installation.

Should energy storage systems be protected by NFPA 13?

According to the Fire Protection Research Foundation of the US National Fire Department in June 2019, the first energy storage system nozzle research based on UL-based tests was released. Currently, the energy storage system needs to be protected by the NFPA 13 sprinkler system as required.

How should a storage battery enclosure be ventilated?

All indoor locations containing storage batteries should have fresh-air ventilation to the outdoors. The ventilation system should not compromise the fire resistance of the enclosure. The edges of the outdoor port for such ventilation should be at least 1 m from the edges of doors, windows, or ventilation ports for other locations.



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