Portage Prepares

Helping Portage County Citizens prepare for emergencies and disasters.

Building a Tornado Safety Room

Extreme windstorms in many parts of the country pose a serious threat to buildings and their occupants. Your residence may be built "to code" but that does not mean it can withstand winds from extreme events such as tornadoes.

The purpose of a safe room or a wind shelter is to provide a space where you and your family can seek refuge that provides a high level of protection. You can build a safe room in one of several places in your home: your basement, a top a concrete slab-on-grade foundation or garage floor, an interior room on the first floor.
Did You Know… Almost every state in the United States is subject to tornadoes, hurricanes, or both.

These extreme windstorms can cause extensive damage to buildings, and they threaten the lives of building occupants. These safe rooms are designed to provide near-absolute protection from the forces of extreme winds as high as 250 mph, and from the impacts from associated windborne debris.

Office of Homeland Security & Emergency Management

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Safe rooms built below ground level provide the greatest protection, but a safe room built in a first-floor interior room also can provide the necessary protection.
Belowground safe rooms must be designed to avoid accumulating water during the heavy rains that often accompany severe windstorms.

To protect its occupants, a safe room must be built to withstand high winds and flying debris, even if the rest of the residence is severely damaged or destroyed.

Consider the following when building a safe room:

- The safe room must be adequately anchored to resist overturning and uplift.
- The walls, ceiling and door of the shelter must withstand wind pressure and resist penetration by windborne objects and falling debris.
- The connections between all parts of the safe room must be strong enough to resist the wind.
- Sections of either interior or exterior residence walls that are used as walls of the safe room must be separated from the structure of the residence so that damage to the residence will not cause damage to the safe room.

Having a safe room built for your home or small business can help provide "near-absolute protection" for you and your family or employees from injury or death caused by the dangerous forces of extreme winds such as tornadoes.

FEMA, in cooperation with the Wind Engineering Research Center of Texas Tech University, has developed designs for wind safe rooms that can be built inside homes or small businesses.

Additional information about Safe Rooms available from FEMA:

- *Taking Shelter from the Storm: Building a Safe Room Inside Your House.* FEMA L-233. Brochure providing details about obtaining information about how to build a wind-safe room to withstand tornado, and other high winds.