

# Building a Roof to Endure A Super Typhoon

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SAIPAN, MP -- The Federal Emergency Management Agency's (FEMA) Permanent Housing Construction (PHC) Repair Program is committed to repairing the homes of eligible survivors and helping the community build more resilient homes. Concrete roofs provide the ultimate protection for a home and Permanent Housing New Construction homes will be equipped with as such, but not all homes are structurally designed to support them. PHC repaired homes are evaluated and then have engineered roofs designed specifically for each home to withstand winds up to 195 mph. There are also many protective steps all home owners can easily incorporate in their own repairs.

When you begin rebuilding your home, consider these basic strategies to make your home more resilient against typhoons. First and foremost are typhoon/hurricane straps. These straps help ensure that the roof has additional anchor points to the main structure and lessens the likelihood of the roof lifting off during high wind. It is recommended that there be a hurricane tie from every rafter to every purlin and nails in every hole of that tie.

Next and perhaps the easiest thing that all homeowners can do is to ensure that metal roofs are installed with screws instead of nails. The most commonly recommended screw is a #9HH self-tapping screw with a sealing washer. These screws should be placed no more than 18" to 24 inches apart and installed as recommended by the manufacture on either the rib or the flat of the roofing tin into the purlin.



The sheer force of typhoon strength winds can destroy buildings, topple trees, bring down powerlines, and blow vehicles off roads. When flying debris, such as signs, roofing material, building siding, and items left outside or similar, the potential for building damage is even greater. Threats to human safety from flying debris are equally severe. Typhoon winds impact homes and other buildings in several ways. Ensuring your roof is properly secured is the first step in ensuring that not only your home is protected, but that also neither your neighbor's home nor exposed power lines are not damaged by flying debris either.

Shutters on windows is a great protection from flying debris. Using some type of bracket to the wall above and below the windows with plywood may be the most cost-effective way to provide some protection from the elements. There are also manufactured shutters available that add a higher degree of protection but are more costly.

These are just a few things to consider and discuss when working with a contractor or doing the repairs yourself. While all homes are different and needs may vary from house to house, we urge you to consider these helpful tips when making the repairs yourself or working with a contractor. Typhoon-proofing a house is a lot of work, from design to construction, but FEMA is committed with CNMI to help build a more resilient homes and an even stronger community.

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