

EFFECTS OF HAIL ON ASPHALT ROOFING SHINGLES

Asphalt roofing shingles have historically demonstrated excellent performance in a variety of weather conditions; rain, sun, ice, snow, and sleet. Hail storms, however, may produce hail of sufficient size to cause visible damage to the shingles. Concerned homeowners and insurance adjusters are left with numerous questions about hail and how it may have affected the roof performance and/or shingle manufacturer's limited warranty. Limited asphalt shingle warranties generally exclude damage to shingles due to hail (check with the specific manufacturer for details).

Some manufacturers offer shingles which have been tested for impact resistance, and are promoted as more impact resistant than regular shingles. In areas with frequent hail, homeowners should seriously consider these products, given they may be entitled to significant insurance cost reductions.

Hail damage can be divided into two categories: aesthetic and functional.

AESTHETIC

By far the most common type of damage caused by hail: small localised areas with minor loss of granules. This type of damage generally has little impact on the expected life of the roof.

FUNCTIONAL

Functional damage is where there is sufficient damage to the shingles to either cause a short term leak or to reduce the life of the roof. This type of damage is recognized by a significant granule loss (easily visible from the ground, large areas of asphalt becoming exposed) or shingle fracture/penetration which can be seen by fractures through the back of the shingle. Generally, shingle replacement is only required in severe cases of damage. Remember that asphalt shingle applications provide at least two layers of shingle material over the entire roof.

There are many factors which affect the ability of the roof to withstand hail impact:

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| - Size and density of the hail stones | Large heavy stones will cause more severe damage. |
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(Over)

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- Age of the shingles
Newer shingles are more resistant than older shingles, as the asphalt is less brittle and better able to absorb the impact energy.

- Angle of the hail impact
Hail which strikes the roof at a 90° angle is more likely to cause shingle fractures, while hail that strikes the roof obliquely is more likely to result in spots of granule loss.

- Temperature
Colder temperature will be more likely to cause fractures than in warmer weather.

- Roof deck conditions
Solid roof decks on moderately spaced trusses offer better support to the shingle surface in resisting hail damage. Shingles on rotted or flimsy decking can be more easily fractured.

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