



UNSEALED TABS ON ASPHALT COMPOSITION SHINGLE ROOFS FOLLOWING HURRICANE IKE... IS IT WIND DAMAGE?

Following landfall of Hurricane Ike on or about September 13, 2008, questions arose regarding unsealed composition roof shingles. Across South Texas and Louisiana daily comments were heard that, “The tabs on my asphalt composition shingle roof have unsealed and will no longer properly reseal as a result of Hurricane Ike.”

FUNCTION DAMAGE TO ASPHALT COMPOSITION SHINGLES

First, functional damage to composition shingles is defined as a reduction in water-shedding capability or the expected long-term service life of the material. Obviously, many factors such as, but not limited to, physical location, time of year of installation, type of fasteners, number of fasteners, location of fasteners relative to shingle, ventilation, slope, and exposure play a role in the short and long-term performance of a shingled roof surface. Mechanical fasteners will typically penetrate two sets of shingles. The lower, down slope, edge of each shingle is then adhered to the roof utilizing a sealant strip (Figure 1). There are factors that have a direct effect on the adhesion of the sealant strip at the time of installation such as the ambient air temperature and the slope of the roof which the shingles are being installed. When the shingles are installed in colder temperatures, the sealant strip is brittle and may not be in a tacky state, and as

such, will be slower to, or may never, adhere to the down slope shingle. Manual sealing by the installer may be required in colder environments.

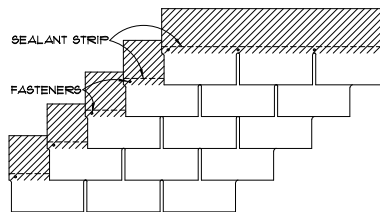


Figure 1

UNSEALED TABS ON AN ASPHALT COMPOSITION SHINGLE ROOF

The claim that the wind force on the roof during Hurricane Ike caused the shingle’s sealant strip to fail, and as such, the unsealed tabs constitute wind damage was often and will continue to be debated. In addition, another form of reported wind damage was that the sealant strip had been compromised by the introduction of wind borne debris.

Wind pressures on roof surfaces are not selective by unsealing single isolated shingles and leaving adjacent shingles fully adhered. If single isolated shingles are unsealed while the large majority of the shingles in the area are properly sealed, this is a condition that is not consistent with high wind pressures on roof surfaces.

In addition, due to the higher pressures which occur at roof rakes, eaves and ridges during a wind event, unsealed tabs in these areas would be expected prior to the evidence of unsealed tabs within the interior fields of the roof. When the unsealed tabs are located in the field of the roof with no unsealed tabs adjacent to rakes, eaves, and ridges, this reveals a condition which is not consistent with high wind pressures on roof surfaces.

The application of an external force strong enough to break a sealant strip is also expected to create some fragmentation, tearing and/or creasing of the unsealed tab. An inspection of an asphalt composition single roof which reveals unsealed tabs without any evidence of fragmentation of base mat along the sealant strip (Figures 2 and 3) or tearing/creasing of unsealed shingles is again not consistent with damaged associated with high wind pressures on roof surfaces.



Figure 2

One other common report of wind damage associated with unsealed shingle tabs is that the sealant strips have been compromised due to the exposure to wind borne debris causing the shingle to not

properly reseal.



Figure 3

Exposure of the sealant strip often reveals fine particles of sands and silts adhered to the tar-based material. Reheating of the tar-based material naturally or through external means generally allows the shingle to reseal itself with the down slope shingle with no adverse effects. Generally speaking, when sealant strips loose their bond or fail to bond with the down slope shingle, it is found to be the result of an installation defect, large accumulations of debris over the life of the shingle, or simply a naturally-occurring break-down in the sealant strip over the life of the shingle.

The answer as to whether or not the shingles were damaged by wind lies in the physical evidence associated with each particular roof. All evidence should be considered and there is no one document or technical paper that can address this issue in its entirety without being laborious. Often assessing the condition of the roof and the conditions of the roof both just prior to and during the hurricane are often overlooked. Cooler temperatures and rainfall durations have proven to have an influence on the behavior of the sealant strips. Warm, sunny days versus overcast, rainy days will reveal behavioral differences in asphalt shingles and those differences should be considered during a roof assessment.

As with any inspection, the conditions of each individual roof needs to be inspected and all existing condition should be considered. It is PT&C's experience that noting of unsealed tabs on asphalt composition shingle roofs alone following a high-wind event does not meet the definition of functional damage and as such does not compromise the water-shedding capacity of the shingle. Nor does it necessarily have a negative influence on the long-term service life of the asphalt shingle. In most cases maintenance, slope, exposure, and ventilation have more of an influence on the long-term service life of a shingle than does debris contamination of the sealant strip.

CLOSING