

TECHNICAL BULLETIN

EFFECTS ON ASPHALT SHINGLES WHEN ONE ROOF DRAINS ONTO ANOTHER

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How effectively a steep slope, asphalt shingle roof sheds rainwater is primarily a matter of roof slope and effective use of flashing, including downspouts and gutters. As part of this system, *Malarkey recommends against the drainage of one roof directly onto another*, especially because the lower roof often has less slope than the upper. The Asphalt Roofing Manufacturers Association (ARMA) says, “Proper consideration of roof drainage can make the difference between a water-tight roof and one that leaks.”¹

What Can Happen? The Negative Effects

It may lower costs up front to exclude some drainage elements, but over time, there are several possible, negative aspects to such a system:

1. **Appearance:** Dirt, grime, and debris coming off the upper roof will combine with the same on the lower roof and make it doubly hard for roof drainage to work effectively. This process will leave the lower roof darkened and marked with drainage channels in comparison to the upper, diminishing the aesthetic appearance. The difference will be quite noticeable and can mask the true color of the shingles.
2. **Algae Growth:** The presence of water concentrated in any area, e.g., under downspouts, or lingering elsewhere on the roof can lead to moss and algae growth (blue-green and green algae). Algae can cause unsightly black streaks and moss can work its way under shingles, aging them prematurely, and allowing leaks. Moss can also harbor debris and slow the free flow of water off the roof.
3. **Increased Chance of Leaks:** The hampered flow of water off a roof, no matter the cause, can allow runoff to seek its way under shingles, much like ice dams do. Often traveling sideways under shingles, the leak may not be evident for some time, increasing the likelihood of damage to other components of the roofing system, including insulation and interior ceilings. Moisture in the walls can also lead to mold growth.
4. **Granule Loss:** Shingles closest to, or underneath direct drainage, will suffer degradation in another form, the loss of granules. Granules protect shingles from adverse weather and UV rays so losing granules means exposing the underlying asphalt to forces that can increase weathering, decrease performance, and shorten shingle life. Loss of granules also affects curb appeal as shingles lose their distinctive color.



¹ Asphalt Roofing Manufacturers Association, *Residential Asphalt Roofing Manual*, p.17, 2022 Edition.

5. **Sidewall Damage:** Sidewalls close to drainage discharge points can be subject to increased moisture as more runoff is channeled their way or splashed when runoff contacts the lower roof. Increased flow will test the installation of flashing at the transition and elements of the wall cladding. Deficiencies will be exposed and can lead to leaks.



Will Allowing This Condition Affect My Warranty?

Malarkey’s warranty against manufacturing defects will remain in effect but does not cover other products such as flashing and metal work or damage to shingles attributable to:

- Building design or construction
- Defects in, or failure of, flashing or metal work
- Damage to shingles, roof deck, or structure due to water backup
- Deterioration or distortion caused by mold, mildew, or other vegetation

Remedy

Installing a splash block under downspouts is recommended, but the optimal solution is to install a *trough* that channels runoff down to a gutter. The troughs shown below are *open*, but an *enclosed* trough or downspout are also acceptable (see photos next page).

ARMA advises, “Never allow water from a downspout to discharge directly onto a roof below. Connect an upper story downspout to a lower level gutter with drains installed on the lower roof.”² Examples of this concept are illustrated below but with “drains” being troughs on the lower roof.



Examples of *Open* Drainage Troughs

² Asphalt Roofing Manufacturers Association, *Residential Asphalt Roofing Manual*, p.106, 2022 Edition.



Examples of *Enclosed Drainage Troughs*: Connected to a Downspout (right); and Emptying into a Gutter Below (left)

Contact Malarkey Technical Services with questions at (800) 545-1191 or (503) 283-1191, 7:00 am to 5:00 pm, Pacific Time, or email us at malarkey.technicalinquiries@holcim.com.