

BLISTERING OF ORGANIC ASPHALT SHINGLES

In studying the causes of various types of blistering with a view to minimize the blister potential, much has been learned about the behaviour of blistering shingles. Typically organic asphalt shingles only blister where the exposure conditions on the roof include one or more of the following:

- Poor or inefficient ventilation causing the shingles to reach excessive temperatures (over 60°C)
- Wet shingles – organic shingle not properly protected prior to application, causing moisture to be entrapped within it, leading to blisters
- Wet roof boards - sudden moisture release into shingle felt
- Resin dripping from trees - softens the asphalt, allowing blister to form
- Too much solvent-based asphalt adhesive - applies particularly to low slope roofs covered with shingles - when manually sealing shingles. Hand sealing is usually done with a 1 inch (25 mm) diameter spot of asphalt plastic cement under each shingle tab (refer to shingle manufacturer's instructions for specific details)
- Use of an incompatible adhesive or use of an adhesive mixed with gasoline, turpentine or other solvents (some caulking materials contain 20 – 50% xylene and benzene, which can soften the asphalt in the shingles very rapidly)
- Shaded areas suddenly exposed to hot sun each day
- Roof areas receiving both direct and reflected heat from the sun

Regardless of cause, blistering can be of two basic types: small rash type blisters, ¼ inch (6 mm) or less in size, growing out of the coating layer, and the larger tent type in which the entire thickness of the coating layer is raised from the base reinforcement. Authorities agree that while these larger tent type blisters may cause premature failure of the material, the small rash type will rarely do.

Blistering would normally apply to organic felt asphalt shingles and is not considered an issue since the introduction of fibreglass asphalt shingles.

For more information on this subject or other asphalt shingle technical issues, you may contact CASMA by e-mail at casma@casma.ca, or visit our website: www.casma.ca. The information contained in this bulletin is for general education and is not intended to replace advice from a qualified contractor or direction on usage/installation from the manufacturer. Consumers should be aware of the safety hazards associated with work on roofs and, before doing so themselves, should consider following CASMA's advice of using qualified contractors. This bulletin may be reproduced with permission on condition that it be reproduced in whole, unedited, with attribution of copyright to CASMA.