CASMA
CANADIAN ASPHALT SHINGLE MANUFACTURERS' ASSOCIATION

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COLOUR SHADING OF ASPHALT SHINGLE ROOFS

As a roof is viewed from different angles, and/or different lighting conditions, certain areas may appear darker or lighter. This inconsistency in colour is commonly called "shading". Shading can be caused several different ways.

Texture

Shading can result from slight variations in surface texture which normally occur during shingle production. The variations necessary to cause shading are so slight that they cannot be detected during the manufacturing process. When light is reflected from a given roof, its appearance will vary as the viewer walks past the building. The impact will depend on the position of the sun and the overall light intensity. When the sun is directly overhead, the shading may disappear. The perception of shade differences may also vary under cloudy skies or if the shingles are wet. Shading is more noticeable with black and other dark coloured shingles. Since only a small amount of light is reflected from a dark surface, even the slightest differences in shingle texture may cause this problem. Manufacturers will often design their shingle colours using blends of a variety of different coloured roofing granules. This technique will help camouflage this effect, and make observable differences even less noticeable. Lighter blends will reduce shading more effectively than darker blends.

Backsurfacing Transfer

The backing material, used to keep the shingles from sticking together in the bundle, can rub off onto the coloured granule surface of the shingle packaged beneath it. This may also result in an apparent shade difference once the shingles are on the roof. This type of shading is temporary and will wash away with natural weathering and rainfall.

Staining

Shingles can develop minor staining when stacked too high and/or when stored for extended periods. Under these conditions, the lighter oils contained in the asphalt coating may migrate between shingles and stain neighbouring surface granules. This can create a temporary visual shade difference between lots of shingles, but it will be eliminated by natural weathering over time.

Excessive Surface Asphalt

The shingle manufacturing process includes the steps of pressing the surface granules into hot asphalt coating. This can occasionally result in small amounts of asphalt rising between the surface granules and affecting the appearance in a

manner similar to colour shading. Natural weathering may reduce the variability depending on the amount of over pressed asphalt left on the surface.

Deviation from Installation Instructions

Deviations from the manufacturer's application instructions may also result in unexpected visual patterns. CASMA recommends following the manufacturer's application instructions to optimize the roof's appearance.

To reduce the potential for staining, shingles are generally packaged with a date/production code on each bundle. Avoid mixing shingles with different production codes and dates on the same roof. If this cannot be avoided, the different codes should be segregated onto different roof areas (i.e. front and back) to the greatest possible extent.

- Manufacturers recommend that shingles be applied starting from the bottom of the roof, then working across and up. This will blend shingles from one bundle to the next and minimize any shade variations. Always follow the application instructions printed on the shingle bundle wrappers.
- Use blends rather than solid colours to reduce observable shading.
- Allow sufficient time for any transferred backing materials or oil stains to weather out.
- Never stack bundles of shingles higher than the manufacturer's recommendations. Rotate shingle inventories to ensure material is not stored for unnecessarily long periods.

Shading is an optical problem, and in no way affects the durability of asphalt roofing systems. Despite the best efforts of the shingle manufacturer and the shingle installer, some slight shading is normal and simply unavoidable.