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Wrinkling & Ridging of Modified Bitumen Membranes

Can roofs be "perfectly" constructed? Under most circumstances, the answer to that question would be no. Minor aesthetic imperfections, that have no bearing on performance, will always develop due to the materials used and the conditions under which they are installed.

Modified bitumen membranes, with their relatively thin protective surfacing (primarily ceramic granules or metal foils), can be particularly susceptible to the occurrence of these blemishes. Unlike traditional built-up roofs, these membranes are not "hidden from view" by a heavy top pour of asphalt and gravel. The reflective properties of their protective surfacing will allow many minor anomalies, such as deck or insulation unevenness, to readily telescope through to the roof surface. Over time, due to natural weathering and aging, these aesthetic imperfections will become increasingly visible. There are, however, distinct benefits to this aspect of modified bitumen membranes. Some manufacturing defects, such as poor surfacing embedment and uneven or insufficient backside coating, may be detected through an inspection of the rolls prior to installation. Serious errors in application will be apparent almost immediately allowing timely remedial action to take place.

The decision to repair a modified bitumen roof should, as with every type of roofing system, be made only after careful thought and should be based primarily on performance consequences. Open seams, fishmouths at laps, large unbonded areas of the membrane and areas where overheating has resulted in distortion to the reinforcing should be corrected as soon as possible. Trivial anomalies, on the other hand, such as minor wrinkling and ridging are to be expected as a function of the physical characteristics of these materials and their required application methods. Patching a minor blister or a small wrinkle because of visual impact alone is not justified and, in most cases, the repairs will look far worse than the blemish they were intended to correct.

As contractors have become more experienced with modified bitumen membrane installation, application techniques have evolved that have proven to reduce the occurrence and severity of these "blemishes". These techniques, however, will not eliminate these minor anomalies entirely. In addition, it should be realized that they may significantly increase the cost of a roofing project due to added labour costs and lengthened construction schedules, with only marginal benefits for the owner and no meaningful increase in performance value.

Modified bitumen membranes have proven to provide satisfactory performance in most regions of our country. As with any product, however, they have their limitations. One should not forget that their primary purpose is to be a barrier to moisture. Although they are available in a variety of coloured surfaces and textures, their inherent physical properties make an absolute flawless appearance impossible under most circumstances. A reasonable level of expectation is required by those who specify these membranes together with a reasonable level of care and skill in their application.

2430 Don Reid Drive, Suite 100, Ottawa, ON K1H 1E1
1-800-461-2722 | Tel: (613) 232-6724 | Fax: (613) 232-2893
Email: crca@roofingcanada.com | www.roofingcanada.com

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