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Bureau of Construction Codes
Technical Bulletin

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Ice Shields on Steep-Sloped Roofs

"Providing for Michigan's Safety in the Built Environment"

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ICE SHIELDS ON SLOPED ROOFS

Issue

The Michigan Building Code provides for the installation of ice shields on roofs when the mean daily temperature is less than 25 degrees F. (-4 degrees C). The question is whether the mean temperature in Michigan is below the threshold requirement for the installation of ice shields.

Code

Section 1507 of the Michigan Building Code sets forth provisions for ice shields in all applications, with the exception of metal roof panels, clay and cement tiles, that sloped roof covering materials shall be installed with ice shields when the average daily temperature in January is 25 degrees F. (-4 degrees C) or less, or where there is a possibility of ice forming along the eaves causing a backup of water.

Section 1506.3 of the code provides that all materials used for roofs and roof covering conform to the applicable standards for the material or when the material is of questionable suitability, a test by an approved testing agency shall be conducted to determine the character, quality, and limitation of application of the material.

Discussion

The Climatic Atlas of Michigan, provided by the Michigan Department of Agriculture, indicates that the State of Michigan has an average daily mean temperature less than 25 degrees F. (-4 degrees C). The Climatic Atlas of Michigan is based on a 30-year study of climatological conditions in Michigan.

The Michigan Building Code prescribes ice shield protection consisting of two layers of underlayment cemented together or a waterproofing membrane extending at least 24 inches from a point inside the exterior wall line of the building.

This protection is intended to prevent the water held in place by an ice dam along the roof eave from penetrating under the covering.

Conclusion

Based on the provisions of the Michigan Building Code and information from the Climatic Atlas of Michigan ice shield protection is required throughout the entire State of Michigan for sloped roof coverings.

Questions regarding this technical bulletin may be directed to the Michigan Department of Energy, Labor & Economic Growth, Bureau of Construction Codes, Building Division, P.O. Box 30254, Lansing, MI 48909 or by calling (517) 241-9317.