Treatment of cedar shakes and shingles

by **Dave Flickinger, RRO**

Q: *What types of treatments are available that protect cedar roof systems from wood decay and fire exposure?*

A: Protective treatments available for cedar shingles and shakes generally are used for one of two purposes: to preserve wood from decay or enhance its fire resistance. For new products, these treatments typically are applied through a pressure-treatment process. Topical treatments, which are applied manually by spray or brush, also are available for existing, nontreated cedar shakes and shingles.

There are two types of pressure treatments available for cedar shakes and shingles—wood-preservative impregnation and fire-retardant impregnation. These processes consist of forcing chemical treatments under pressure into shakes or shingles. Both processes generally are considered to be permanent.

For wood-preservative impregnation of cedar shakes and shingles, the preservative commonly used is the biocide chromated copper arsenate (CCA). CCA treatment is a waterborne preservative that is effective against fungal decay and insect attack.

The Cedar Shake & Shingle Bureau (CSSB) recommends the use of preservative-treated cedar products in locations having decay potential levels, as measured by climate indexes, of more than 65. Climate indexes were developed by the Forest Products Laboratory (FPL), a part of the U.S. Department of Agriculture's Forest Service. Based on a region's mean monthly temperature and number of rain days, FPL's climate index map of the United States indicates the decay hazard (low, moderate or high) of wood exposed to weather (see Figure 1). FPL's climate index map can be used when selecting wood for use or determining the need for preservative treatments in a particular region.

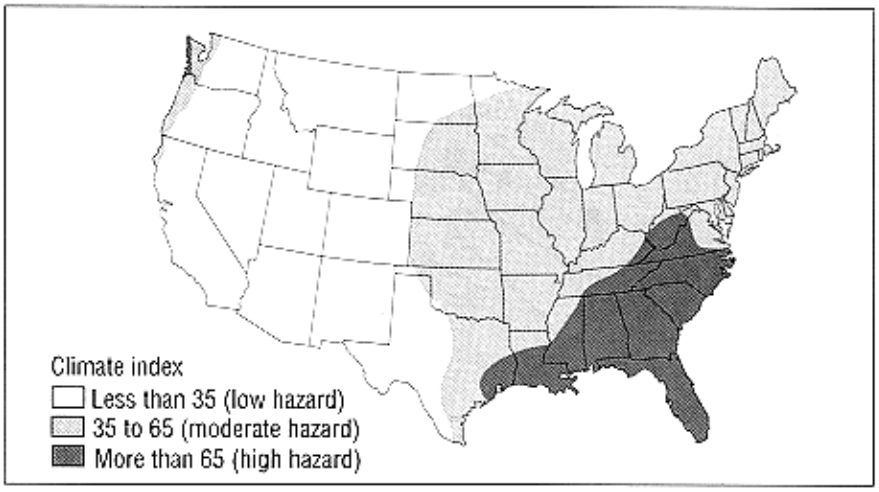

Figure 1: *A climate index map of the United States.*

For more information about FPL's climate index map, roofing professionals should refer to "A Climate Index for Estimating Potential for Decay in Wood Structures Above Ground." The paper, published in the *Forest Product Journal, Volume 21,* provides a detailed contour map of the United States. Roofing professionals can use the map as a general guide, as well as to estimate the decay potential for a given location.

Fire-retardant impregnation involves saturating wood with fire-retardant chemicals. After pressure treatment, products are heated for specified time periods to complete the impregnation process and dry the materials to acceptable moisture contents. CSSB has information about specific roof assemblies and product requirements for fire-retardant cedar shake or shingle roof assemblies that achieve A, B or C fire ratings in accordance with ASTM E 108, "Test Methods for Fire Tests of Roof Coverings."

For existing, nontreated cedar shingles and shakes, topical treatments can be applied to help preserve the wood. Topical treatments generally are spray- or brush-applied and must be reapplied periodically to maintain optimum protection. The time between treatments varies depending on a product, environment, and the age and condition of an existing roof system. CSSB suggests that, as a general rule, building owners treat cedar roof systems every three to five years.

Before applying a topical treatment to pressure-treated wood, the shake or shingle supplier should be contacted to determine compatibility, performance and potential warranty limitations. If a shake or shingle has been pressure treated with a fire retardant, applying a topical treatment may decrease a roof assembly's fire resistance significantly.

Because many treatments are available for cedar shakes and shingles, roofing professionals should exercise caution when choosing a product.

For more information about the treatments, roofing professionals should call CSSB at (604) 462-8961. FPL can be contacted at (608) 231-9200. PR

Each month in this column, one of NRCA's technical services staff members will answer readers' technical questions. If you have a specific question you would like answered in this column, send it to Professional Roofing *magazine, 10255 W. Higgins Road, Suite 600, Rosemont, IL 60018-5607; or fax (847) 299-1183.*