



## AMERICAN WOOD COUNCIL

August 4, 2022

*City of Kalamazoo Board of Appeals*  
Community Planning & Economic Development  
245 N. Rose St. Ste 100  
Kalamazoo, MI 49007

*Re: Use of Wood Roofs, August 18 City of Kalamazoo Board of Appeals Hearing*

To: Board of Appeals Members

We are providing comment in support of the appeal to allow a wood roof that complies with the requirements for heavy timber at the Career and Technical Education (CTE) Facility for Kalamazoo Regional Educational Service Agency (KRESA), located at 3500 Van Rick Drive. The core issue is whether the heavy timber wood roof (incorporating cross-laminated timber panels) used in the CTE facility roof construction, is restricted based on the Michigan PA 306, 388.851 Sec. 1 (b) requirement for materials to be "fire-resisting."

Please consider the following:

- The provisions of Michigan PA 306, 388.851 Sec. 1 (b) state that "All walls, floors, partitions, and roofs shall be constructed of fire-resisting materials such as stone, brick, tile, concrete, gypsum, steel, or similar fire-resisting material. All steel members shall be protected by at least 3/4 of an inch of fire-resisting material." These provisions list examples of building materials considered acceptable for the construction of roofs in school buildings. Inclusion of "such as..." makes it clear that the list is not exhaustive and not intended to exclude "fire-resisting" materials that are not listed therein. Rather, the provision requires the use of building materials and assemblies which can be classified as "fire-resisting" which we interpret to be synonymous with the term "fire-resistant", as used in modern building codes. The requirement for the protection of steel by a "fire-resisting material" reinforces the intent of this provision to require building elements that can be classified as fire-resistant.
- The 2015 International Building Code (IBC), which forms the basis of the Michigan State Building Code, recognizes several methods for determining fire resistance in Sections 703.2 and 703.3. These include testing in accordance with ASTM E119, fire-resistance designs documented in approved sources, designs prescribed in IBC Section 721, calculations in accordance with IBC Section 722, engineering analysis based on data from other ASTM E119 tests, and designs

certified by an approved agency. Fire-resistance ratings of wood members and assemblies may be determined through any one of these methods. Under the calculation option, IBC Section 722 references Chapter 16 of the ANSI/AWC National Design Specification for Wood Construction (NDS) as a means of calculating the fire-resistance rating of exposed wood members, including cross-laminated timber panels.

- Modern building codes, such as the IBC, as adopted by the State of Michigan, include far more provisions to provide improved fire-safety than did the building codes in use at the time when the language of Michigan PA 306, 388.851 Sec. 1(b) was adopted in 1937. For example, modern building codes include extensive provisions regarding automatic fire sprinklers, means of egress, and fire containment, which did not exist in 1937.
- Examples of schools in Michigan that have been built using heavy timber roofs include:
  - Spring Lake High School, completed 2008, glue-laminated roof structure on aquatic center, group E occupancy
  - Belleville High School, completed 2012, glue-laminated roof structure on aquatic center, group E occupancy

AWC's interpretation of Michigan PA 306, 388.851 Sec. 1(b) is that it does not prohibit the use of fire-resistive heavy timber wood members, which includes cross-laminated timber, in the roof of the CTE facility that is the subject of the appeal. The fire-resistive qualities of such roof construction are recognized in the building code and examples of heavy timber roof construction in the state point to its acceptable use. The American Wood Council (AWC) appreciates the opportunity to comment will be present at the meeting to discuss and address any concerns you may have.

Sincerely,

Ed Lisinski  
Midwest Regional Manager