



A TETRA TECH COMPANY

**CODE & FIRE ENGINEERING GROUP**

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Drawing Reviews  
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Life Safety, Egress, and Accessibility  
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Fire/Smoke Modeling  
Special Inspections and Commissioning  
Hazardous Materials and Process Analysis  
Smoke Control System Design  
Due Diligence and 3<sup>rd</sup> Party Reviews

April 5, 2019

Louis Hasbrouck  
Building Commissioner  
212 Main Street  
Northampton, MA 01060

**Re: Curtain Wall Wood Timber Intumescent Coatings**  
Smith Neilson Library – Northampton, MA

Dear Mr. Hasbrouck,

Cosentini Associates has reviewed the proposed wood mullions to be utilized along the exterior façade at the north and south jewel box of the Neilson Library project at Smith College. The wood mullions are made from BauBuche beechwood and will include an intumescent coating to achieve a Class A rating per ASTM E 2768. Accordingly, the timber mullions are considered acceptable for the proposed application based on the following analysis.

**TIMBER MULLION DETAILS**

Exterior walls of Type IB construction are required to be of non-combustible materials (MSBC §602.2). Fire-retardant treated wood may be used as part of a non-bearing exterior wall that does not require a fire-resistance rating (MSBC §603.1).

Fire-retardant treated wood must meet the following requirements in accordance with MSBC §2303.2:

- Tested in accordance with ASTM E84 or UL 723,
- Listed for a flame spread of 25 or less,
- Show no signs of progressive combustion when tested for an additional 20 minutes, and
- Flame front must not progress more than 10.5 feet beyond the centerline of the burner at any point.
- Impregnated with chemicals by a pressure process or other means during manufacturing.

The fire-retardant treated BauBuche beechwood mullions are 3-inches thick and provided with a FlameSafe Fire Poly FP100 intumescent coating that provides a Class A rating when applied to wood products and tested in accordance with ASTM E 2768 which is equivalent to ASTM E 84 extended for an additional 20 minutes to show there are no signs of progressive combustion. As such, the timber mullion will have a flame spread index of 25 or less and would not have a flame front that progress more than 10.5 feet during such a test as required for fire-retardant treated wood.

The intumescent paint will be factory applied on the exterior surface of the timber mullion and will not be impregnated with chemicals. However, given the proposed limited use of the timber mullions on the exterior walls, it is not anticipated to significantly contribute to the fuel load of the building. The exterior wall in the location of the wood mullions is otherwise comprised primarily of a glass façade. It is also noted that the timber mullion is 3 inches thick and in the event of a fire would develop a char layer inhibiting a rapid burn of the entire member. This provides additional protection for the proposed mullion as thinner fire-retardant treated wood products are permitted to be utilized in this condition.

**CONCLUSION**

Based on the fire-resistant qualities that the timber mullions will include and the limited use of such material on the exterior wall, it is considered an acceptable material for the proposed application. The timber mullions will not exhibit sustained flaming and will not significantly contribute to the fire load of the building. Accordingly, the use of the proposed timber mullions provides a reasonable level of safety as intended by the codes.

If you have any questions or comments, please do not hesitate to contact me.

COSENTINI ASSOCIATES, INC.  
Code Consulting and Fire Engineering Services



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**BauBuche** Beech laminated veneer lumber

Characteristic static strength values and dimensioning tables





JE-SDC 3/29/19 Note: Pollemier BauBuche  
Glue Lam with FirePoly100 coating

JL-RG 3/28/19 Note:  
Half of equivalent  
sample has been  
sent for record to  
MLS office Thu, Mar  
28th, 2019

Fire Poly = P100



zum Prüfprotokoll-Nr.: FÜ 04 Datum/ Date: Anlagen / annex  
for the check report No: FÜ 04 18.03.2019

Anlagen zum Fertigungsüberwachungsbericht / Nr. / no.: 3 Status  
*Annex for the production control report*

**Fire retardant test No.1**

product company: Flame Safe  
product name: FIRE POLY FP 100  
standard's: ASTM E84, ASTM D2898; CLASS A; UL723, TYPEI; NFPA255; UBC 8-1



