### QAI Design B1073-1d – ReThinking Construction - MEGCRETe™ Prefabricated Wall Assembly

#### Load Bearing Firewall Assembly per NBC 2010 - Section 4.1.5.17

2 Hour Restricted* - CAN/ULC-S101/ASTM E119

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**No.** | **COMPONENT** | **DESCRIPTION**
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1 | Exterior Sheathing | **Manufacturer:** MBP-IP  
**Product Name:** MEGCRETe™ MBP-IP MgO (Listed and Labeled by Underwriters Laboratories (UL))  
**Minimum Thickness:** 2 layers of 1/2 inch (12 mm)  
**Applications:** The two sheets are bonded to each other  
**Fasteners:** #9 x 1-3/4 inch (45 mm) GRK R4 screws fastened around the spaced 6 inches on center, holes were pre-drilled with a 9/64 inch (3.6 mm) bit. Fasteners at the back-to-back studs in the center of the panel alternate studs every 6 inches.  
**Panel Joints:** Polyurethane sealant

2 | Spline | **Type:** Steel Stud  
**Yield Strength:** 50 ksi  
**Size:** 800S162-54 (16ga. Stud with 8 inch web and 1-5/8” flange)  
**Laminated Spline:** Two steel studs are laminated together back-to-back with a 1/8” beads of RTV silicone sealant conforming to CGSB 19-GP-9M at the edges of the stud and 2 - #10 – ¾” self-drilling screws 1 inch in from each edge spaced every 8 inches (3 inches from ends).  
**Installation:** Steel stud cavities were filled with 1-5/8 inch x 8-1/4 inch wide strips of insulation (See component 3).

3 | Insulation | **Manufacturer:** ROXUL Inc.  
**Product:** COMFORTBATT  
**Thickness:** 3-1/2 inch and 5-1/2 inch  
**Minimum Density:** 32 kg/m3 (2.0 lb/ft³) complying with CAN/ULC S702  
**Installation:** Friction fit into the stud cavity

4 | Interior Sheathing | **Manufacturer:** MBP-IP  
**Product Name:** MEGCRETe™ MBP-IP MgO (Listed and Labeled by Underwriters Laboratories (UL))  
**Minimum Thickness:** 2 layers of 1/2 inch (12 mm)  
**Applications:** The two sheets are bonded to each other  
**Fasteners:** #9 x 1-3/4 inch (45 mm) GRK R4 screws fastened around the spaced 6 inches on center, holes were pre-drilled with a 9/64 inch (3.6 mm) bit. Fasteners at the back-to-back studs in the center of the panel alternate studs every 6 inches.

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* Maximum allowable axial load of 1800 pounds per linear foot and a uniform transverse load equal to 0.5 kPa per NBC 2010 - Section 4.1.5.17. Design of firewall to resist damage should be determined by a registered design professional or the authority having jurisdiction in accordance with applicable codes.

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