QAI Design B1073-1b – ReThinking Construction - MEGCRETe™ Prefabricated Wall Assembly
CAN/ULC-S101/ASTM E119 - 1.5 Hour Restricted-Load Bearing Fire-Resistance-Rated Wall Assembly

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<th>No.</th>
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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:** First sheet adhered to the EPS Insulation/ LVL Splines. Second sheet is bonded to the first sheet  
      **Adhesive:** Dow Chemical Model MOR-AD M-657, one-part urethane adhesive (ICC-ES AC05 approved)  
      **Fasteners:** GRK #9 x 3-1/8 inch (80 mm) screws fastened around the spaced 6 inch (150 mm) on center, holes were pre-drilled with a 9/64 inch (3.6 mm) bit  
      **Panel Joints:** Polyurethane sealant  
      **Size:** 2 inch by 7-1/4 inch (50 mm x 184 mm)  
      **Type:** Laminated Veneer Lumber (LVL)  
      **Spacing:** Maximum 24 inch (610 mm)  
      **Grade:** 2900fb Grade: 2.0e MR  
      **Laminated Spline:** Two LVL studs are laminated together with polyurethane adhesive and 3 spiral shanked nails every 6 inches down the LVL  
      **Installation:** A single LVL is installed at the factory while panels are being adhered together in between the EPS boards. A laminated LVL is installed at each panel connection.  |
| 2   | Spline             | **Size:** Maximum 24 inch (610 mm)  
      **Type:** Laminated Veneer Lumber (LVL)  
      **Spacing:** Maximum 24 inch (610 mm)  
      **Grade:** 2900fb Grade: 2.0e MR  
      **Laminated Spline:** Two LVL studs are laminated together with polyurethane adhesive and 3 spiral shanked nails every 6 inches down the LVL  
      **Installation:** A single LVL is installed at the factory while panels are being adhered together in between the EPS boards. A laminated LVL is installed at each panel connection.  |
| 3   | Insulation         | **Product:** Approved and Labeled Expanded Polystyrene (EPS) Insulation Board – Type 1 per CAN/ULC-S701  
      **Thickness:** 7-1/4 inch maximum  
      **Maximum Density:** 18 kg/m3 (1.15 lb/ft³)  
      **Installation:** Adhered in between the sheathing on either side of the middle LVL spline.  |
| 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:** First sheet adhered to the EPS Insulation/ LVL Splines. Second sheet is bonded to the first sheet  
      **Adhesive:** Dow Chemical Model MOR-AD M-657, one-part urethane adhesive (ICC-ES AC05 approved)  
      **Fasteners:** GRK #9 x 3-1/8 inch (80 mm) screws fastened around the spaced 6 inch OC, holes were pre-drilled with a 9/64 inch (3.6 mm) bit  
      **Type:** Double Layer – 2 inch x 8 inch (38 mm x 184 mm) lumber  |
| 5   | Top Plate          | **Type:** Single Layer – 2 inch x 8 inch (38 mm x 184 mm) lumber  |
| 6   | Bottom Plate       | **Type:** Single Layer – 2 inch x 8 inch (38 mm x 184 mm) lumber  |

* Maximum allowable load of 3700 pounds per linear foot

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