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

**CAN/ULC-S101/ASTM E119 - 1 Hour Restricted-Load Bearing Fire-Resistance-Rated Wall Assembly**

![Wall Assembly Diagram](image-url)

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<th>No.</th>
<th>COMPONENT</th>
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| 1   | MgO Board | Manufacturer: MBP-IP  
Product Name: MEGCRETe™ MBP-IP MgO (Listed and Labeled by Underwriters Laboratories (UL))  
Minimum Thickness: 1 layer of 1/2 inch (12 mm)  
Application: Board is adhered to the EPS (Item 3) and Wood Studs (Item 2)  
Fasteners: #8 - 1 3/4 inch (44 mm) screws were placed two every 6 inches (150 mm) on center, holes were pre-drilled with a 9/64 inch (3.6 mm) bit  
Joints: Polyurethane sealant |
| 2   | Studs     | Minimum Stud Size: 2 - 2 inch x 6 inch (38 mm x 140 mm) studs laminated with glue the entire length and nailed every 8 inches (203 mm) with 2 1/2" (64 mm) nails spaced at 24 inches (610 mm) on center  
Grade: No.2 or Better  
Species: SPF  
Plates: Single bottom plate and double top plate  
Maximum Wood Stud Spaced: 24 inch (610 mm) on center |
| 3   | Insulation | Product: Approved and Labeled Expanded Polystyrene (EPS) Insulation Board – Type 1 per CAN/ULC-S701  
Maximum Density: 18 kg/m³ (1.15 lb/ft³)  
Maximum Thickness: 5-1/5 inch (140 mm) |
| 4   | MgO Board | Manufacturer: MBP-IP  
Product Name: MEGCRETe™ MBP-IP MgO (Listed and Labeled by Underwriters Laboratories (UL))  
Minimum Thickness: 1 layer of 1/2 inch (12 mm)  
Application: Board is adhered to the EPS (Item 3) and Wood Studs (Item 2)  
Fasteners: #8 - 1 3/4 inch (44 mm) screws were placed two every 6 inches (150 mm) on center, holes were pre-drilled with a 9/64 inch (3.6 mm) bit  
Joints: Polyurethane sealant |
| 5   | Gypsum Board | Type: Type X gypsum wallboard complying with ASTM C1396, listed by approved agency  
Minimum Thickness: 1 layer of 5/8 inch (16 mm)  
Application: Fasten to studs with 2 inch (50 mm) length #6 Type S screws spaced at 6 inches (150 mm) on center around the perimeter, and 12 inch (305 mm) on center spacing in the field. Joints to be taped and mudded, and fastener heads to be mudded as per CSA A82.31-M |

* Maximum allowable load of 3700 pounds per linear foot

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