

Part 1 General

1.1 SECTION INCLUDES

- .1 Low conductivity, structural precast concrete panel connections.

1.2 RELATED SECTIONS

- .1 [Section 03 11 00 - Concrete Forming: Formwork and accessories.]
- .2 [Section 03 20 00 - Concrete Reinforcing].
- .3 [Section 03 30 00 – Cast-In-Place Concrete: Concrete products and placement.]
- .4 [Section 03 41 00 - Structural Precast Concrete: Building structural frame.]
- .5 [Section 03 45 00 - Architectural Precast Concrete.]
- .6 [Section 03 47 13 - Site Cast Tilt-up Concrete: Building structural frame.]

1.3 REFERENCES

- .1 [CSA-A23.1-09/A23.2-09 - Concrete Materials and Methods of Concrete Construction/Test Methods and Standard Practices for Concrete.]
- .2 [CAN/CSA-A23.3-04 (R2010) - Design of Concrete Structures.]
- .3 [CSA-A23.4-09 - Precast Concrete - Materials and construction.]
- .4 ASTM C518 - 10 - Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus.
- .5 ASTM D570 - 98(2010)e1 - Standard Test Method for Water Absorption of Plastics.
- .6 ASTM D1761 - 12 - Standard Test Methods for Mechanical Fasteners in Wood.
- .7 ASTM E84-15a - Standard Test Method for Surface Burning Characteristics of Building Materials.
- .8 [ASTM E330/E330M - 14 - Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference.]

1.4 PERFORMANCE REQUIREMENTS

- .1 Design units to withstand design loads [as calculated in accordance with applicable code] and erection forces. Calculate structural properties of units in accordance with [CSA-A23.4] [CAN/CSA-A23.3].
- .2 Design units to withstand actual loads such as wind, suction, deflection, and thermal movement loads.

1.5 ADMINISTRATIVE REQUIREMENTS

- .1 Section 01 31 00: Project management and coordination procedures.
- .2 Pre-installation Meetings: Convene [one (1) week] [[____] weeks] before starting work of this section.

1.6 SUBMITTALS FOR REVIEW

- .1 Section 01 33 00: Submission procedures.
- .2 Product Data: Provide data on materials and application requirements.
- .3 Shop Drawings:
 - .1 Indicate layout, connection details, dimensions, and relationship to adjacent materials.
- .4 Samples: Submit [two (2)] samples of connectors with permanent anchors, [<[] mm><<[] inch>> in length].

1.7 SUBMITTALS FOR INFORMATION

- .1 Section 01 33 00: Submission procedures.
- .2 Test Reports: Submit copy of third party testing data supporting material performance prior to application of Work.
- .3 Installation Data: Manufacturer's special installation requirements.

1.8 QUALITY ASSURANCE

- .1 Perform Work in accordance with:
 - .1 [CSA-A23.1/A23.2] [CAN/CSA-A23.3].
 - .2 [CPCI Architectural Precast Concrete Technical Brochure].
- .2 Manufacturer Qualifications: Company specializing in manufacturing the Products specified in this section with minimum [three (3)] years [documented] experience.
- .3 Installer Qualifications: Company specializing in performing the work of this section with minimum [three (3)] years documented experience [and approved by the manufacturer].
- .4 Provide materials of this section from single manufacturer.

1.9 DELIVERY, STORAGE, AND PROTECTION

- .1 Section 01 61 00: Transport, handle, store, and protect products.
- .2 Protect materials from sunlight, water or excessive humidity and damage.
- .3 Store materials [off the ground, covered with weatherproof tarps] [indoors in dry, well-ventilated area].

Part 2 Products

2.1 MANUFACTURERS

- .1 JK Worldwide Enterprises Inc, dba JK Thermal.; Product: TigerLoc®
- .2 Other acceptable manufacturers offering functionally [and aesthetically] equivalent products.
 - .1 []; Product: [].
 - .2 []; Product: [].
 - .3 []; Product: [].

- .3 Substitutions: [Refer to Section 01 62 00] [Not permitted].

2.2 MATERIALS

- .1 Structural Thermal Break: Closed cell PVC rigid foam connectors [, UV stabilized for exposed locations]; [[_____] colour].
 - .1 Thermal Conductivity (ASTM C518): 0.06 W/(m·K) +/- 0.01.
 - .2 Thermal Resistance (R) per <25 mm><<1 inch>> thickness (ASTM C518): 2.18.
 - .3 Water Absorption (ASTM D570): <1%.
 - .4 [Uniform Load Capacity (ASTM E330/E330M): [_____] units.]
 - .5 Surface Burning Characteristics:
 - .1 Flame Spread Index (ASTM E84): 15.
 - .2 Smoke Developed Index (ASTM E84): 350.
 - .6 Screw Holding Capability (ASTM D1761): <76 N•m><<680 lbf•in>>.
 - .7 Dimensions:
 - .1 Thickness: <25 mm><<1 inch>>.
 - .2 Width: [<50 mm><<2 inch>>][<75 mm><<3 inch>>][Refer to Drawings].
- .2 Temporary Formwork Anchors: Galvanized brad nails; removable without damage to materials being fastened.

2.3 FABRICATION TOLERANCES

- .1 Fabrication Tolerances:
 - .1 Maximum Out of Square: [<3 mm in 3 m><<1/8 inch in 10 ft>>], non-cumulative.
 - .2 Variation From Dimensions Indicated on [Drawings] [Shop Drawings]: Plus or minus [<3 mm><<1/8 inch>>].

Part 3 Execution

3.1 EXAMINATION

- .1 Section 01 70 00: Verify existing conditions before starting work.
- .2 Ensure surfaces are clean, dry and free of contaminants.

3.2 PREPARATION

- .1 Clean substrate surfaces to manufacturer's written instructions.

3.3 INSTALLATION

- .1 Install in accordance with manufacturer's written instructions.
- .2 Install connectors as shown on Shop Drawings.
- .3 Secure connectors to temporary formwork using removable screws.

3.4 ERECTION TOLERANCES

- .1 Section 01 73 00: Tolerances.
- .2 Joint Tolerance: Provide [$<6\text{ mm}><<1/4\text{ inch}>>$] expansion gap between joints in thermal break.

END OF SECTION