This section includes editing notes to assist the user in editing the section to suit project requirements. These notes are included as hidden text, and can be revealed or hidden by the following method in Microsoft Word:

 Display the FILE tab on the ribbon, click OPTIONS, then DISPLAY. Select or deselect HIDDEN TEXT.

This specification has been prepared by Atlas Roofing Corporation for use in preparing a project specification covering polyisocyanurate board insulation in exterior wall assemblies.

The following should be noted in using this specification:

Hypertext links to specific websites are included after manufacturer names and names of organizations whose standards are referenced within the text, to assist in product selection and further research. Hypertext links are contained in parenthesis and shown in blue, e.g.:

 [(www.astm.org](http://(www.astm.org))

Optional text requiring a selection by the user is enclosed within brackets and as red text, e.g.: “Color: [Red.] [Black.]"

Items requiring user input are enclosed within brackets and as red text, e.g.: "Section [\_\_\_\_\_ - \_\_\_\_\_\_\_\_]."

Optional paragraphs are separated by an "OR" statement included as red text, e.g.:

\*\*\*\* OR \*\*\*\*

For assistance on the use of the products in this section, contact Atlas Roofing Corporation by calling (800) 388-6134, or by email at lance.williams@atlasroofing.com, or visit their website at [www.atlasrwi.com](http://www.atlasrwi.com).

*SimpleSpecs*™, a master guide specification system offered by ZeroDocs.com, includes a complete library of specifications that can be used to specify glazing as well as other project requirements. *SimpleSpecs*™ may be obtained online at [www.zerodocs.com](http://www.zerodocs.com)

**SECTION 03 47 13 - TILT-UP CONCRETE**

1. **GENERAL**
	1. SUBMITTALS
		1. Action Submittals:
			1. Shop Drawings.
	2. SYSTEM DESCRIPTION
		1. Design Requirements:
			1. Design in accordance with ACI 301and 318.
			2. Design system to withstand:
				1. Movement of panels caused by an ambient temperature range of [120] [\_\_] degrees F and a surface temperature range of [160] [\_\_] degrees F without damage or deformation.
				2. Loads in accordance with Building Code.
			3. Design to be performed by a Professional Structural Engineer licensed in State in which project is located.
	3. QUALITY ASSURANCE
		1. Mockup: [4 x 8] [\_\_ x \_\_] feet.
2. **PRODUCTS**
	1. MANUFACTURERS
		1. Acceptable Manufacturers – Polyisocyanurate Rigid Insulation:
			1. Atlas Roofing. [www.atlasroofing.com](http://www.atlasroofing.com)
		2. Substitutions: Refer to Division 01.
	2. MATERIALS
		1. Concrete: As specified in Section 03 30 00, except:
			1. Portland cement: [Gray] [White] [\_\_\_\_] color.
			2. Exposed aggregate:
				1. Type: [Granite.] [Limestone.] [\_\_\_\_.]
				2. Color: [\_\_\_\_.]
				3. Size: [\_\_\_\_.]
		2. Formwork and Reinforcement: As specified in Section 03 30 00.
	3. ACCESSORIES
		1. Rigid Insulation:

Polyisocyanurate provides a typical R-value 6.0 per inch.

* + - 1. Type: ASTM C1289, rigid polyisocyanurate faced both sides with glass fiber facings.

 \*\*\*\* OR \*\*\*\*

Extruded polystyrene provides a typical R-value of 5.0 per inch.

* + - 1. Type: ASTM C578, closed cell extruded polystyrene foam, minimum [15] [25] [40] [60] [\_\_] PSI compressive strength, maximum water vapor permeance of 1.5 perms for 1 inch thickness, tested to ASTM E96/E96M.

 \*\*\*\* OR \*\*\*\*

Expanded polystyrene provides a typical R-value of 3.85 per inch at 1 inch thickness and 70 degrees F.

* + - 1. Type: ASTM C788, rigid expanded polystyrene, [0.70] [1.0] [1.25] [1.5] [2.0] [2.5] [3.0] [\_\_] PCF density.

Insulation should be specified by thickness or R-value, but not both since the R-value per inch can vary between manufacturers.

* + - 1. Thickness: [\_\_] inches.

 \*\*\*\* OR \*\*\*\*

* + - 1. Thermal resistance: Minimum [R] [LTTR] value of [\_\_].
		1. Cast-In Anchors:

G90 is the most widely used galvanized coating class. Higher numbers represent thicker zinc coatings.

* + - 1. Steel: ASTM A36/A36M steel shapes, [hot dip galvanized after fabrication to ASTM A123/A123M, [G60] [G90] [G185] coating class.] [prime painted finish.]
			2. Iron castings: ASTM A47/A47M.
			3. Other: Plastic or plastic tipped, cold drawn wire, hot dip galvanized after fabrication.
		1. Mixes: As specified in Section 03 30 00.
	1. FABRICATION
		1. Refer to Sections 03 30 00 for additional requirements.
		2. Finish for Exterior Faces: [Exposed aggregate finish.] [Smooth as-cast finish.] [\_\_\_\_.]
1. **EXECUTION**
	1. INSTALLATION
		1. Install in accordance with approved Shop Drawings.
		2. Fasten units by bolting or welding. Welding to conform to AWS D1.1/D1.1M.
		3. Clean welds and abrasions; apply touch up with same coating as originally applied.

 END OF SECTION