*≥SPEC-NOTE-DESCRIPTION: Covers Amvic Amdeck Insulated Concrete Forms (ICF) for stay in place formwork*

**TIPS:**

To view non-printing **Editor's Notes** that provide guidance for editing, click on the ‘¶’ character located in the Paragraph section of the ‘Home’ Tab in the Microsoft Word ribbon above.

*≥SPEC NOTE: Edit the following Section by deleting and inserting text to meet Project-specific requirements. This Section uses the term "Architect." Change this term to match that used to identify the design professional as defined in the General and Supplementary Conditions.*

1. GENERAL
   * + 1. RELATED DOCUMENTS

*≥SPEC NOTE: Retain or delete this article in all Sections of Project Manual.*

* + - * 1. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
      1. SUMMARY
         1. Section Includes:

Insulating concrete forms.

* + - * 1. Related Requirements:

*≥SPEC NOTE: Edit the following paragraphs to list documents or sections with specific information that the reader might expect to find in this Section, but is specified elsewhere. Do not include Division 00 or Division 01 Sections in this listing.*

Section 32-13-13 "Concrete Paving" for formwork related to concrete pavement and walks.

Section 32-13-16 "Decorative Concrete Paving" for formwork related to decorative concrete pavement and walks.

* + - 1. DEFINITIONS
         1. Formwork: The total system of support of freshly placed concrete, including the mold or sheathing that contacts the concrete, as well as supporting members, hardware, and necessary bracing.
      2. PREINSTALLATION MEETINGS

*≥SPEC NOTE: Edit the paragraph below to include or exclude it if Work of this Section is extensive or complex enough to justify a conference.*

* + - * 1. Preinstallation Conference: Conduct conference at [**Project site**] <**Insert location**>.

Review the following:

Special inspection and testing and inspecting agency procedures for field quality control.

Construction, movement, contraction, and isolation joints

Shoring and reshoring procedures.

Anchor rod and anchorage device installation tolerances.

* + - 1. SUBMITTALS
         1. Provide submittals in accordance with section [01-33-00 Submittal Procedures]
         2. Product Data:

*≥SPEC NOTE; Include requests for relevant data to be furnished by the contractor, before, during or after construction*

Provide most recent technical Insulating concrete forms components data sheets describing materials physical properties and include product characteristics, performance criteria, physical size and limitations.

* + - * 1. Shop Drawings: Prepared by, and signed and sealed by, a qualified professional engineer responsible for their preparation, detailing fabrication, assembly, and support of forms.

Indicate layout of insulating concrete forms, dimensions, course heights, form types, and details.

*≥SPEC NOTE; “Manufacturer’s Certificate” paragraph below with qualification requirements in section 01-40-00 “Quality Requirements” and as supplemented in “Quality Assurance” Article*

* + - * 1. Manufacturer’s Certificate: Certify that Insulating Concrete form meets or exceed [**ASTM E2634**] [**CAN/ULC S717**]
        2. Test and Evaluation Report: Submit laboratory test reports certifying that the Insulating Concrete Form is in compliance with ICC-ES Acceptance Criteria AC353.
        3. Manufacturers Installation Instructions: Indicate any special instructions.

*≥SPEC NOTE: Retain "Field quality-control reports" Paragraph below if Contractor is responsible for field quality-control inspections.*

* + - * 1. Field quality-control reports.

*≥SPEC NOTE: Retain paragraph below if preinstallation conference is held.*

* + - * 1. Minutes of preinstallation conference.
      1. QUALITY ASSURANCE

*≥SPEC NOTE: Retain "Testing and Inspection Agency Qualifications" Paragraph below if Contractor retains testing and inspection agency for field quality control. Retain option if field quality-control testing and inspection agency employed by Contractor must be approved by authorities having jurisdiction.*

* + - * 1. Testing and Inspection Agency Qualifications: An independent agency, [**acceptable to authorities having jurisdiction**] qualified in accordance with ASTM C1077 and ASTM E329 for testing indicated.

*≥SPEC NOTE: Retain "Mockups" Paragraph below if required. If retaining, indicate location and other details of mockups on Drawings or by inserts. Revise paragraph if only one mockup is required or if mockup of concrete in another location in the building is required.*

* + - * 1. Mockups: Formed surfaces to demonstrate typical joints, surface finish, texture, tolerances, and standard of workmanship.

*≥SPEC NOTE: Revise size of panel in first subparagraph below if required. Panel for slab-on-ground may need to be enlarged if powered riding trowels are used and if it is a portion of the permanent floor slab.*

Build panel approximately [**100 ft2 (9.3 m2)**] <**Insert area**> in the location indicated or, if not indicated, as directed by Architect.

*≥SPEC NOTE: Retain subparagraph below if the intention is to make an exception to the default requirement in Section 01-40-00 "Quality Requirements" for demolishing and removing mockups.*

Subject to compliance with requirements, approved mockups may become part of the completed Work.

* + - 1. DELIVERY, STORAGE, AND HANDLING
         1. Insulating Concrete Forms: Store forms off ground and under cover to protect from moisture, sunlight, dirt, oil, and other contaminants.

1. PRODUCTS
   * + 1. PERFORMANCE REQUIREMENTS
          1. Insulating Concrete Forms (ICF): Design, engineer, erect, shore, brace, and maintain insulating concrete forms in accordance with ACI 301 (ACI 301M), to support vertical, lateral, static, and dynamic loads, and construction loads that might be applied, until structure can support such loads, so that resulting concrete conforms to the required shapes, lines, and dimensions.
       2. INSULATING CONCRETE FORMS
          1. Insulating Concrete Floor and Roof Forms: Modular concrete-forming system.

*≥SPEC Note: Used for Type V-B construction, completed Amvic ICF floor/roof system offers a sustainable and resilient building structure with R-Value of 19, FIIC rating of 30, and ASTC rating of 47 or greater.*

Alleguard; Amdeck **[Pro] [Eco]**

*≥SPEC NOTE: Retain first option in "Insulation" Subparagraph below for United States projects; retain second option for Canadian projects.*

Insulation: [**ASTM C578, Type II**] [**CAN/ULC S701, Type 2**] expanded polystyrene.

Unit Overall Dimensions (Height by Width by Length):

Pro [**12 by 32 by 24 inches (305 by 813 by 610 mm)**]

Eco 8 [**8 by 24 by 96 inches (203 by 610 by 2438 mm)**]

Eco 10 [**10 by 24 by 96 inches (254 by 610 by 2438 mm)**]

Eco 12 [**12 by 24 by 96 inches (305 by 610 by 2438 mm)**]

*≥SPEC Note: Retain first option in "Surface Burning Characteristics" Subparagraph below for United States projects; retain second option for Canadian projects.*

Surface-Burning Characteristics: Comply with [**ASTM E84**] [**CAN/ULC S102**]; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

*≥SPEC NOTE: Retain first option in "Flame Spread" Subparagraph below for United States projects; retain second option for Canadian projects.*

Flame Spread: [**25**] [**250**] or less.

*≥SPEC NOTE: Retain first option in "Smoke Developed Index" Subparagraph below for United States projects; retain second option for Canadian projects.*

Smoke Developed Index: [**450 or less**] [**greater than** **500**].

Gypsum Board Ceiling Thermal Barrier: Minimum 1/2 inch (13 mm) ASTM C36 or ASTM C1396.

1. EXECUTION
   * + 1. INSTALLATION OF INSULATING CONCRETE FORMS
          1. Comply with ACI 301 (ACI 301M) and manufacturer's instructions.
          2. Construct formwork, so concrete members and structures are of size, shape, alignment, elevation, and position indicated, within tolerance limits of ACI 117 (ACI 117M).
          3. Install forms in running bond pattern.

Align joints.

Align furring strips.

Install cross ties in accordance with manufacturer's written requirements to suit Project.

* + - * 1. Construct forms tight to prevent loss of concrete mortar.
        2. Form openings, chases, offsets, sinkages, keyways, reglets, blocking, screeds, and bulkheads required in the Work.

Determine sizes and locations from trades providing such items.

Obtain written approval of Architect prior to forming openings not indicated on Drawings.

* + - * 1. Provide temporary ports or openings in formwork where required to facilitate cleaning and inspection.

Locate ports and openings in bottom of vertical forms, in inconspicuous location, to allow flushing water to drain.

Close temporary ports and openings with tight fitting panels, flush with inside face of form, and neatly fitted, so joints will not be apparent in exposed concrete surfaces.

* + - * 1. Clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt, and other debris just before placing concrete.
        2. Retighten forms and bracing before placing concrete, as required, to prevent mortar leaks and maintain proper alignment.
        3. Shore insulating concrete forms to ensure stability and to resist stressing imposed by construction loads.
      1. FIELD QUALITY CONTROL
         1. Special Inspections: Owner will engage a [**special inspector**] [**and**] [**qualified testing and inspecting agency**] to perform field tests and inspections and prepare test reports.

*≥SPEC NOTE: Retain "Testing Agency" Paragraph below if Contractor engages testing agency.*

* + - * 1. Testing Agency: Engage a qualified testing and inspecting agency to perform tests and inspections and to submit reports.
        2. Inspections:

*≥SPEC NOTE: Retain first subparagraph below if special inspections are required. Items below are examples of special inspections and are based on IBC requirements; revise to insert other inspections or to suit requirements of other building codes.*

Inspect formwork for shape, location, and dimensions of the concrete member being formed.

Inspect insulating concrete forms for shape, location, and dimensions of the concrete member being formed.

END OF SECTION 03-10-00