

LITE-FORM TECHNOLOGIES
SECTION 03 11 19
FLEXX-BLOCK®
INSULATED CONCRETE FORMING (ICF)

PART 1 GENERAL

1.01 SUMMARY

- Comply with the requirements for Division 1.
- Supply & installation of insulated concrete forms, installation of reinforcing steel and placement of concrete within formwork.
- Adequate bracing and falsework shall be provided by the Installing Contractor to comply with all applicable Codes.

1.02 SCOPE OF WORK

- Furnish all labor, materials, tools and equipment to perform the installation of Lite-Form Insulated Concrete Form Wall System as manufactured by Lite-Form Technologies, 1950 West 29th Street, South Sioux City, NE. 68776. (800) 551-3313.
- Furnish all labor to include placement of reinforcing steel within forms, placement of concrete into forms, and final cleanup.

1.03 PRODUCTS SUPPLIED BUT NOT SPECIFIED OR INSTALLED UNDER THIS SECTION

- EPS compatible modified bituminous sheet waterproofing membrane.
- EPS compatible parge coat.

1.04 PRODUCTS INSTALLED BUT NOT SPECIFIED OR SUPPLIED UNDER THIS SECTION

- Sleeves
- Inserts
- Anchors
- Bolts
- Reinforcing Steel
- Window & Door Opening Bucks
- Concrete

1.05 RELATED SECTIONS

- Section 03 20 00 - Concrete Reinforcing
- Section 03 30 00 - Cast-In-Place Concrete
- Section 03 40 00 - Precast Concrete
- Division 04 00 00 - Masonry
- Division 05 00 00 - Metals
- Division 06 00 00 - Wood, Plastics and Composites
- Section 07 13 00 - Sheet Waterproofing
- Section 07 24 00 - Exterior Insulation and Finishing Systems
- Section 07 46 00 - Siding
- Division 08 00 00 - Openings
- Section 09 20 00 - Plaster & Gypsum Board

1.06 ALTERNATES

- Materials shall be only as specified in Paragraphs 1.02 & 2.02 as per Manufacturer specified in Paragraph 2.01. No alternate materials shall be accepted for this Section.

1.07 REFERENCES

- ACI 318 Building Code Requirements for Reinforced Concrete
- ACI 332 Guide to Residential Cast-in-Place Concrete Construction
- ASTM C236 Steady State Thermal Performance of Building Assemblies

- ASTM C473 Physical Testing of Gypsum Board Products & Gypsum Lath
- ASTM D1761 Mechanical Fasteners in Wood
- ASTM E84 Surface Burning Characteristics of Building Materials
- UBC 26-3 Uniform Building Code Standard Room Fire Test

1.08 DEFINITIONS

- Wall Alignment System - a form alignment & scaffold system designed for use with ICF wall systems.
- Contractor Installer- An installation contractor, who has received instructional training in the installation of Lite-Form wall systems.
- Technical Advisor- A technical representative, usually an employee of Lite-Form or a Lite-Form Distributor, who has received instructional training in the installation of Lite-Form Wall Systems and is in the capacity of supervising an installation crew on site.
- EPS- Acronym for “Expandable Polystyrene” when referencing the insulating foam component of the Lite-Form ICF Wall System.
- ICF- Acronym for “Insulated Concrete Form”.
- Window or Door Opening Buck- a pre-manufactured or site constructed frame assembly consisting of wood or plastic material used to frame a rough opening within the forming system that will retain concrete around the opening. The frame can also provide for subsequent anchorage of doors and windows within the wall assembly.

1.09 SYSTEM DESCRIPTION / PERFORMANCE REQUIREMENTS

- Insulated concrete wall form system shall consist of 2 flame resistant panels of Expandable Polystyrene (EPS) connected by high-density polypropylene ties.
- Wall system to provide min. 4”, 6”, 8”, 10”, or 12” wall section (as required) at all locations throughout wall area.
- Wall system ties to provide min. 1” (25mm) wide fastening strips @6” (200mm) o/c recessed approximately 1/2” beneath the surface and clearly marked to facilitate finish fastening both interior and exterior.
- Wall system to provide accurate positioning of steel within form cavity to conform to reinforcing requirements of ACI 318.
- EPS foam panels with concrete to provide min. insulation levels as noted:
- 4” (100 mm) Cavity Form Unit: R 21 (RSI 3.01)
- 6” (160 mm) Cavity Form Unit: R 24 (RSI 3.89)
- 8” (200 mm) Cavity Form Unit: R 24 (RSI 3.82)
- 10” (200 mm) Cavity Form Unit: R 24 (RSI 3.82)
- 12” (300 mm) Cavity Form Unit: R 24 (RSI 3.83)
- EPS foam to provide maximum vapor permeation of 3.5 Perm-in. (200 ng/Pa.s.m2)
- Finished wall assembly to provide min. rating of STC 53 sound attenuation performance.

1.10 SUBMITTALS

- Submit relevant laboratory tests or data that validate product compliance with performance criteria specified prior to commencement of work under this Section.
- Submit copy of Manufacturer’s Product Manual

1.11 QUALITY ASSURANCE

- Contractor shall engage a Lite-Form trained Contractor Installer or Technical Advisor for the duration of the work under this Section.
- Site Mock-up: If required, construct sample wall mock-up panel to include full wall system and details, located where directed by Consultant. Panel may form part of finished work if approved by Consultant.
- Contractor Installer/Technical Advisor to meet with Contractor prior to material delivery on site to coordinate provision of access, storage area, and protection of Lite-Form ICF product and spatial requirements for form alignment placement steel storage & forming.

1.12 DELIVERY STORAGE & HANDLING

- Deliver products in original factory packaging, bearing identification of product, manufacturer and batch/lot number.
- Handle and store products in location to prevent damaging and soiling.
- Ensure that UV protection is provided for material, should on-site storage extend beyond 30 days.

1.13 PROJECT CONDITIONS

- Use appropriate measures for protection and supplementary heating when required to ensure proper curing conditions in accordance with manufacturer's recommendations if installation is carried out during periods of weather where temperatures are below minimum specified by governing Building Code for concrete and masonry.

1.14 COORDINATION

- Ensure those materials listed under Sub-Section 1.03 & 1.04 are provided to Contractor Installer prior to commencement of work under this Section.

1.15 WARRANTY

- Contact Manufacturer for supply of written copy of specific warranties of the product

PART 2 PRODUCTS

2.01 MANUFACTURER

Lite-Form Technologies
1950 West 29th Street
South Sioux City, NE. 68776
Phone: (800) 551-3313 | Fax: (402) 241-4435
E-Mail: general@liteform.com | Web Page: www.liteform.com

2.02 MATERIALS

- Insulated concrete forms shall be Lite-Form forms as manufactured by Lite-Form Technologies South Sioux City, NE. 68776.
- Insulated Concrete Forms to be supplied through Lite-Form or an authorized Lite-Form Distributor.
- Substitutes and alternates will not be accepted. (See Section 1.06).

2.03 COMPONENTS

Provide Lite-Form ICF Wall System Forms as listed below as may be required for proper execution of the work:

- 4", 6", 8", 10" & 12" Standard Form Unit
- 4" Core - 48"L x 8" W x 16"H
- 6" Core - 48"L x 10" W x 16"H
- 8" Core - 48"L x 12" W x 16"H
- 10" Core - 48"L x 14"W x 16"H
- 12" Core - 48"L x 16"W x 16"H
- 4", 6", 8", 10" & 12" 90 Degree Corners
- 6" & 8" Extended Brick Ledge
- Height Adjusters in 48"Lengths x 4"H

2.04 CONCRETE

- Concrete supplied under Section 03 30 00 shall be of strength as specified by the design engineer (measured at 28 days).
- Recommended aggregate size to be 3/4" (19mm).
- Recommended concrete slump is 4" to 6" +/- 1" (100 to 150mm +/- 25mm) (subject to design revision to suit application).

2.05 REINFORCING STEEL

- Reinforcing steel shall be as specified in Section 03 20 00 and shall be supplied under that Section for placement by the Lite-Form Contractor Installer.

2.06 WALL ALIGNMENT SYSTEM

- To aid in the construction of the wall system, and to provide an adjustable device for ensuring plumbness of the wall during construction, where appropriate, an approved alignment system (provided as an installation component of the Lite-Form ICF System) shall be used.

2.07 WATERPROOFING

- Where called for on drawings, Waterproofing shall be Peel & Stick Modified Bituminous Sheet Waterproofing Membrane. Material to be supplied under this Section & installed as specified under Section 07 13 00 (Sheet Waterproofing).
- Waterproofing material shall be EPS foam compatible.

2.08 PARGING

- Where called for on drawings, parging (stucco type) shall be an approved Acrylic Product. supplied under this section and installed as specified under Section 09 20 00 (Plaster & Gypsum Board)
- Alternate EIFS supplied and installed under Section 07 24 00 (Exterior Finishing Systems).

PART 3 EXECUTION

3.01 EXAMINATION

- Inspect all areas included in Scope of Work to establish extent of work and verify site access conditions.

3.02 SITE VERIFICATION OF CONDITIONS

- Verify that site conditions are as set out in Part 1- General Conditions.
- Examine footings installed under Section 03 30 00 are within +/-1/4"(6mm) of level and that steps in footings are 16" (425 mm) in height.
- If specified, ensure reinforcing steel dowels are in place at specified centers along footing lengths

3.03 PREPARATION

- Clean all debris from top of footings prior to commencing work.

3.04 INSTALLATION

- Installation of forms to be in strict accordance with Manufacturer's Product Manual as supplied in evidence to contractor under Sub Section 1.10 of this Section.
- The Installation Contractor shall ensure Manufacturer's procedures for the following work are employed on site (As outlined in the Manufacturer's Installation Manual):
 - First Course Placement
 - Horizontal Reinforcement Placement
 - Successive Course Placement
 - Door & Window Opening Construction
 - Form Alignment & Scaffolding Installation
 - Vertical Reinforcement Placement
 - Pre-Concrete Placement Inspection
 - Concrete Placement
 - Alignment Assembly Removal

3.05 SERVICE PENETRATIONS

- Service penetrations (e.g.- electrical service conduits, water service pipes, air supply and exhaust ducts etc.) shall be installed at the required locations as indicated by the appropriate trade.
- Service penetrations exceeding 16" x 16" (400mm x 400mm) in area shall be reinforced.
- Prior to concrete placement, install service penetration sleeves (supplied by others) at designated locations to create voids where services can be passed through at later date.

3.06 CLEANUP

- Clean up and properly dispose of all debris remaining on job site related to the installation of the insulated concrete forms.

3.07 PROTECTION

- Provide temporary coverage of installation to reduce exposure to Ultra Violet light should final finish application be delayed longer than 60 days.

END OF SECTION