

SECTION 03 13 13
INSULATED CONCRETE FORM ACCESSORIES, INTEGRATED FRAMING ASSEMBLIES (IFA's)

PART 1: GENERAL

1.01 SUMMARY

- A. Comply with the requirements for Division 1.
- B. The work required under this Section shall consist of furnishing integrated framing assemblies for use in Insulated Concrete Forms as shown on the Architect's drawings and herein specified.

1.02 WORK NOT INCLUDED

- A. Installation of Framing Assemblies
- B. Doors
- C. Hardware
- D. Glass & Glazing
- E. Structural Steel Framing or Bracing
- F. Field Painting
- G. Field Assembly of Spliced Frames
- H. Wood Bucking

1.03 RELATED SECTIONS

- A. Division 3: Permanent Forms – Insulated Concrete Forms
- B. Division 3: Cast-In-Place Concrete
- C. Division 4: Masonry
- D. Division 5: Metals
- E. Division 6: Rough Carpentry
- F. Division 7: Thermal and Moisture Protection
- G. Division 8: Doors & Windows
- H. Division 9: Finishes
- I. Division 16: Electrical
- J. Division 28: Access Control

1.04 SUBMITTALS

- A. General: Submit the following in accordance with Conditions of Contract and Division 1 Specification Sections.
- B. Product Data: For each type of product specified, include details of construction, material descriptions, hardware preparations, internal components, profiles, and finishes.
- C. Include details of each assembly type, elevations of assemblies, conditions at openings, location and installation requirements of assembly hardware and reinforcements.
- D. Shop Drawings: Include the following:
 - 1. Provide schedule of assemblies using same reference numbers for details and openings as those on contract documents.
 - 2. Indicate coordination of glazing and stops with glass and glazing requirements.
 - 3. Assembly details for each type, including dimensioned profiles, metal types, and metal thicknesses.

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1.05 QUALITY ASSURANCE

- A. Qualification: Obtain IFA units from a single source manufacturer. Manufacturer should have (5) years experience providing metal frame assemblies specifically for commercial ICF projects of similar size and scope. All evidence and documentation set forth is required a minimum of (10) days prior to bidding.
 - a. Evidence of a minimum of (10) commercial ICF projects of equivalent size and scope. Include job name, address and contact with the prime GC or CM.
 - b. Statement letter of product lead times signed by the single source manufacturer to determine manufacturers ability to meet construction schedule.
 - c. Independent analysis of products ability to withstand hydrodynamic pressures involved in ICF construction, (To including bracing recommendations) signed and stamped by a licensed structural engineer that said product meets or exceeds specification.
 - d. Independent analysis of IFA (including engineering calculations) documenting how product improves the overall strength of an ICF wall, signed and stamped by a licensed structural engineer.
 - e. A product sample is to be delivered in person at the same time as supporting documentation. This will enable the manufacturer representative to address any questions the architect may have to consider product as equal to the basis of design IFA product, which is Stala Integrated Assemblies, LLC.
- B. Engage the services of an ICF Manufacturer designated Trained Installer or Technical Associate for the duration of the work under this Section.
- C. Site Mockup: If required, provide a wall mockup assembly to include exterior façade and interior drywall channels or as directed.
- D. Prior to assembly delivery conduct an onsite pre-installation meeting of the job superintendent or general works contractor, ICF wall contractor, mason, and other necessary trades to coordinate proper installation, form product, and spatial requirements for form assembly, alignment, forming, and bracing.
- E. Installer Qualifications: An employer of workers trained and approved by manufacturer.

1.06 DELIVERY, STORAGE, HANDLING

- A. Deliver assembly work palletized, wrapped, or crated to provide protection during transit and project-site storage.
- B. Deliver assemblies with two removable spreader bars across the bottom of assemblies, tack welded to jambs and mullions.
- C. Inspect assemblies upon delivery for damage. Remove and replace damaged items as directed.

PART 2 – PRODUCTS

2.01 HARDWARE LOCATIONS

- A. The location of hardware on assemblies shall be as follows:

Hinges:

- 1. Top - 5" from head of assembly to top of hinge.
- 2. Middle - 10" from finished floor* to bottom of hinge.
- 3. Intermediate – centered between top and bottom hinges.

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*finished floor is defined as the top surface of the floor, except when resilient tile or carpet is used, when it is on top of the concrete slab.

1. Locks and Latches - 40 5/16" to centerline of strike from finished floor.
2. Deadlocks – 48" to centerline of strike from finished floor.

2.02 MANUFACTURERS

- A. Stala Integrated Assemblies, LLC - Thermally Broken IFA Units (Basis-of-Design)
Ph: 888-779-2118, www.stalaframing.com

Manufacturers in addition to those stated above requesting bidding approval must meet all requirements set forth in section 1.05 - Quality Assurance.

2.03 MATERIALS

- A. Assemblies shall be made of commercial grade zinc coated steel thermally broken and conforming to ASTM Designation A-526, not less than 14 gauge.
 - a. All assemblies shall be custom made welded units for doors, transoms, sidelights, borrowed lights, and other openings, of types and styles as shown on drawings and schedules. Fabricate assemblies as full welded profile unless otherwise indicated.
 - b. All finished work shall be strong and rigid, neat in appearance, square, true, and free of defects, warp, or buckle.
 - c. Alignment anchor flange, jamb depths, trim, profile, and backbends, shall be provided as shown on drawings.
 - d. Jamb alignment anchor flanges shall be welded and bent at an adequate degree to establish anchorage in the concrete wall for the full height of assembly while allowing unrestricted flow of concrete between EPS wall members. Alignment anchor flanges shall assist in assembling and aligning of ICF wall and shall be constructed such that concrete shall not penetrate or fill hardware reinforcements or preps. Jamb alignment anchor flanges shall be constructed of not less than 16 gauge.
 - e. Head alignment anchor flanges shall run the entire length of the assembly head and allow unrestricted flow of concrete between the EPS wall members. Head alignment flanges shall assist in assembling and aligning of ICF wall. Head alignment anchor flanges shall be constructed of not less than 14 gauge, unless hardware preps, reinforcements, etc. are required at head in which case the alignment flange shall be of not less than 12 gauge and shall be positioned in such a way to provide adequate hardware reinforcing as required.
 - f. Exterior assembly façade shall extend to cover air space and align with exterior building façade in such a way as to eliminate the need for the returning brick.
 - g. Where so required by wall conditions, one or both interior jambs of the assemblies shall be constructed with drywall channels allowing drywall to easily be aligned and leaving a finished appearance.
 - h. Corner joints shall have all contact edges closed tight, with trim faces mitered and continuously welded.
 - i. When shipping limitations so dictate, assemblies for larger openings shall be fabricated in sections designed for splicing in the field by erector.

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- j. Assemblies for multiple or special openings shall have mullion and/or rail members which are closed tubular shapes. All joints between faces of abutting members shall be securely welded and finished smooth.
 - k. Dust Cover boxes of not thinner than 26 gauge steel shall be provided at all hardware mortises on assemblies.
 - l. Applied glazing stops shall be of cold rolled steel, not less than 18 gauge thickness, butted at corner joints and secured to the assembly with counter sunk cadmium or zinc plated screws.
 - m. All assemblies with sills greater than 24" in width shall be furnished with vibrator pockets.
- B. Hardware Reinforcements
- a. Assemblies shall be mortised, reinforced, drilled and tapped at the factory for fully templated mortised hardware only, in accord with approved hardware schedule and templates provided by the hardware contractor. Hardware contractor shall furnish physical hardware samples as requested. Where surface mounted hardware is to be applied, assemblies shall have reinforcing plates; all drilling and tapping shall be done by erector.
 - b. Minimum thicknesses of hardware reinforcing plates shall be as follows:
 - *Hinge and Pivot Reinforcing – 7 gauge
 - *Strike Reinforcement – 11 gauge
 - *Flush bolt Reinforcement – 11 gauge
 - *Closer, surface mounted hardware, hold open arms – 12 gauge
- C. Floor Anchors
- a. Floor Anchors shall be securely welded on the inside of each jamb.
 - b. Where so scheduled or required by construction methods, assemblies shall be constructed with 4" bottom extensions to the jambs or as shown on the drawings to fasten below slab.

2.04 FINISHING

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
- B. Apply manufacturer standard primer immediately after cleaning and pretreating.
 - 1. After fabrication, all tool marks and surface imperfections shall be removed, and exposed faces of all welded joints shall be dressed smooth. Assemblies shall then be chemically treated to ensure maximum paint adhesion and shall be coated on all accessible surfaces with a rust inhibitive primer which is fully cured before shipment.

PART 3 - EXECUTION

3.01 SITE PROTECTION AND PREPARATION

- A. It shall be the responsibility of the General Contractor to see that any scratches caused in shipping or handling are promptly cleaned and touched-up with rust inhibitive primer.

3.02 INSTALLATION

- A. Place assemblies accurately in position, plumbed, aligned, and braced securely to receive temporary construction loads. Place ICF wall snug and tight in position with wall pushed all the

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way against the inside of jamb. If outside floor anchors are used, attach as shown and detail below slab.

- B. Assemblies are permanent units and require to be “set” square and plum to receive final doors and hardware as specified in other sections. Assemblies must be periodically checked during wall erection and initial set-up.
- C. Avoid discharging concrete from pump (limit impact and pumping head) directly on assembly head and jambs. Concrete should be placed such that vibration and impact is limited and concrete flows along head and jambs until covered completely.
- D. Concrete placement needs to be “balanced” on both sides of the assembly jambs (with one foot maximum differential). Unbalanced loads could cause twisting and torque on assembly if not braced with enough “X-Bracing” or “Bulkhead”.
- E. Bracing should occur within the concrete area of the assembly and spread with blocking.
- F. Various bracing options and pour sequences should be discussed, determined, and addressed. Wall thickness, pour sequence, outside jamb floor anchors, concrete load above head, etc. will all determine bracing required for handling temporary construction loads.

3.03 CLEANING AND TOUCH UP

- A. Remove any concrete debris on assembly which occurred during installation.
- B. Immediately after erection, sand smooth any rusted or damaged areas of prime coat on door assemblies and apply touch-up of compatible air-drying primer. Repair with galvanizing repair paint in accordance with manufacturer’s written instructions if needed.

END OF SECTION