



Assembly Guide Manual

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SECTION ONE – Fullerton Company Values



We Value

People - and the development of strong, lasting relationships built on trust and collaboration,

Profits - as a key ingredient in providing opportunities for ourselves, our customers, and our vendors,

Honesty & Integrity - as the core of how we build partnerships,

Our Communities and the Environment - as a demonstration of our responsibility and accountability to each other,

Teamwork - as a way of working together and communication in order to develop and maintain the highest standards of individual accountability,

Diversity - to recognize the uniqueness in each of us and the creativity that comes from valuing our differences, and

Our History - which provides a sense of stability for all and a basis for our growth.





SECTION TWO – Assembler Requirements

Priorities:

- Crew Safety**
- Crew Productivity**

Crew requirements:

A typical crew would consist of 5 – 8 people. **(Absolutely no less than 5 at any time)**

- A “Lead Person” as the responsible person for the entire crew’s production.
- A “True Second Man” that takes over the leadership role when the lead man is not available.
- Two people that have a strong construction background with the ability to read prints.
- One or two general laborers.

SECTION THREE – Planning

Project Pre-planning: (preferably takes place 1 to 2 weeks prior to start date)

- Review prints, material list, contract, including “Scope of Work”, project information and site information.
- Review project time-table, crane & equipment.
- In case of questions, call and discuss with On Site Services Manager, or FBS office.
- Discuss project “Scope of Work” and weekly plan with crew members.

On Site Pre - Planning:

- Plan product placement for ease of assembly, when unloading trucks.
- Plan for the crane placement to avoid unnecessary movement.
- Measure concrete foundation to insure correct dimension, confirm the dimensions correspond to the FBS prints. If dimensions do not conform, document the known discrepancy and discuss with the site superintendent or project manager. Evaluate the discrepancy to insure that the effect to the construction process is minimal.
- Mark out the footprint of exterior walls on the foundation. If steel is utilized in the building, the dimensions need to originate from the steel locations. In cases where steel is utilized thru the center as a bearing system, the grid should be marked and the wall locations should originate from center grid line.
- Concrete needs to be evaluated to insure appropriate strength necessary to support diagonal wind bracing during the assembly of the FBS building.
- Review electrical needs and the central location for the construction main feed.
- Review the placement and/or the disposal of packing material and trash.
- Plan for the placement of panels in accordance to the panel plan. FBS requires that all walls shall be measured and located with chalk lines.

Building Arrival & Assembly:

- Visually inspect materials for damage upon arrival. If damage has occurred a photo is required for documentation. Promptly inform FBS of any replacements needed.
- Evaluate the need for materials or any product shortage. Promptly inform FBS of the needed materials to insure prompt shipment of materials in order to satisfy the assembly schedule.
- Insure the accuracy of each building corner. Each corner **MUST** be level and square.
- Extra attention needs to be taken to line-up exterior finishes as accurately as possible (v-grooves, grout joints, etc.)
- Interior walls need to be located on the floor. These walls are set in place and connected to the trusses or the roof deck per specifications. Corners and openings need to be checked to insure they are level and square.
- Prior to setting trusses a mason’s line shall be pulled each corner of the building and the walls will be straightened and braced.
- All hold downs and anchors need to be placed at the proper locations.
- At the end of each day, the crew leader and/or second man will assess what was accomplished and what needs to be completed the next day.
- Throughout the assembly process all drawings need to be compared for accuracy (FBS drawings, Architectural drawings) and any differences need to be addressed with qualified FBS personnel.
- Perform daily huddle with crew to discuss daily expectations

SECTION FOUR – Factory Technician Responsibilities



The FBS Factory Tech. must be capable of leading a typical crew of 5-8 people in the assembly of the FBS panelized building, with the ability to supervise and perform professional and skilled construction work, as required. This is a skilled position that requires the ability to perform building assembly and any required repairs, if and when needed. The Factory Tech. must be able to communicate and coordinate with the General Contractor's representative and other trade persons on the job site.

Priorities:

- **Crew Safety**
- **Crew Productivity**
- **Quality of Product**
- **Customer Satisfaction**
- **Product Performance Feedback**

The factory technician is on site to aid in the assembly by offering guidance and direction in the assembly of the FBS product and to insure that the assembly is in accordance to the FBS and/or architectural specifications.

The factory technician will answer any questions related to the assembly process and the building construction. If the factory technician is not able to answer any specific questions concerning the product the FBS office is notified. Any answers or solutions will be produced in a timely and efficient manner.

The factory technician is required to immediately coordinate any repair of defects that may have occurred in the shipping or handling of the product.

The factory technician is required to prepare a **"Change Order"**, for any extra work to be completed. This is to be approved by an appropriate supervisor or project manager before the work is started.

The factory technician will perform the final walk-thru prior to leaving the site. The factory technician will document and receive the proper sign-off paperwork required to complete the project. If extra work is required, the repair shall to be described, detailed and a list of material will be forwarded to the FBS construction department for purchasing and delivery if needed.



SECTION FIVE – Assembly Documentation

ASSEMBLY COMPLETION AGREEMENT

At the completion of the project, the FBS Factory Tech and/or the crew leader is required to arrange and perform a walk-thru of the project. The walk-thru is preferred to be completed with the owner, site-superintendent or the project manager. Any punch-list items or incomplete items will need to be completed prior to leaving the site. If an item needs completion at a later date, it should be noted and scheduled. It is the goal of FBS to have a completed package free from damage or additional work prior to leaving the construction site.

WORK AUTHORIZATION FORM

A work authorization form needs to be developed prior to any change to in assembly. The building is to be built in accordance to the signed architectural/structural prints. Changes implied by the owner, site superintendent, project manager, etc. need to be documented in order for the change to be implemented. All changes need to be documented, even if no cost will be incurred. The person requesting the change is required to sign the authorization form before proceeding.

FBS COMPLETED PROJECT CHECKLIST

A checklist used to inspect particular areas of the building, including all of the exterior and interior of the assembled building. This document will should serve as the final “Punch-list”. The items that need attention should be taken care of immediately, then reviewed and the checklist sign by the proper person.

JOB SITE REPORT

An ongoing job report that is provided daily and at the end of each project which describes the General Conditions of the site, exterior wall assembly, miscellaneous assembly, roof system assembly, mansard/fascia system, interior wall assembly, special items, visual inspections, description and status of the assembly upon departure from the site, general Comments, and actual times involved in the assembly process.

NOTICE OF DEFECTIVE OR INCOMPLETE WORK

This form will be sent to the assembler informing them of work needing to be addressed with-in 5 days.



SECTION SIX – Assembly Specifications

GENERAL CONDITIONS AND QUALIFICATIONS:

General Assembly Procedure:

- Our assembly process will generally following the listed procedures.
 - On arrival the Assembly Crew Chief and/or Factory Technician will introduce themselves to the Job Site Supervisor and review the site, slab, FBS drawings and this assembly specification. Our general assembly procedure, timing and any specifics of the site will be discussed.
 - Un-tarpping, staging and/or unloading of the delivery units and assembly will begin.
 - As the assembly procedure progresses, the Assembly Crew Chief and/or Factory Technician will review the process and any variables which.
 - As the assembly process winds down the Assembly Crew Chief and/or Factory Technician will review with the Site Supervisor the list of components and materials (shipping list) supplied by FBS with its delivery units. Items which are part of the FBS package but not utilized by the assembly crew will be identified and the site supervisor will be requested to acknowledge and sign denoting receipt.
 - Upon completion of the assembly process the Assembly Crew Chief and/or the Factory Technician will request a review of the structure by the Site Supervisor. Acceptance will need to be noted on the forms supplied by FBS.
 - Any dissatisfaction should be noted on these same forms, and reported immediately to the Worthington office and/or a representative of Fullerton Building Systems. Failure to review the structure by the Site Supervisor will constitute full acceptance.

Extent of Rough Carpentry

FBS assembly is not to be construed as to consist of the total rough carpentry labor required to complete this structure. The scope of work is restricted to the assembly of the FBS package only. To complete all rough carpentry it may require an additional 1 man hour per 100sf of building area depending on the specific design of the structure after the assembly function is completed.

Service Doors:

FBS will supply a Service Style door either as part of its Base Package or as an option. Should this item be included with FBS package, hardware will be supplied while detex or other alarm systems might be supplied as an option with installation/activation to be by others.

Nailing of Roof Sheathing:

As part of FBS standard assembly specifications is the installation of all Roof, Parapet and/or Mansard sheathings. FBS standard application will consist of nailing the outer perimeter of each sheet, 4" on center, and 6" on center within the field of each sheet.

Job Site Supervisor Availability

During the assembly process, it is requested that the assigned Site Supervisor be in communication at all times as during the construction process a situation may develop which may require decisions which are not within the area of responsibility of FBS or its subcontractor. Should such a situation develop, and the Site Supervisor is not available to give direction and guidance the subcontractors will be instructed to perform their assembly per the established guidelines.

Site Electrical Service

Site electrical service will need to be available at all times during assembly and within 50' of the slab.

If not available it will become the responsibility of the purchaser or representative to supply our site team with the necessary alternative at no cost to Fullerton or its subcontractor.

Site Conditions

The site must be in such a condition as to allow both the movement of our delivery units, (semi-trucks) and the placement of the required crane on site. The site is required to be graded so as to accept the crane within four (4) feet of the slab. A clear and unobstructed area is also required to allow for the unloading of panels onto the site prior to beginning the assembly process.

Crane Specifications

A crane with the minimum specifications of 30 to 35 tons and lift capacity of 15,000 lbs will be required to unload the delivery vehicles and allow placement of all wall panels onto the slab without requiring movement of the delivery vehicles or the crane. To unload and assemble the structure the crane should be capable of lifting 1,500 lbs. and placing the lifted load a minimum of 75 feet away. An experienced operator is required.

Trash Container

A trash container will need to be available within reasonable access to the assembly point. To protect the structure and its exterior finish, Fullerton has developed a well-defined shipping package. This will generate a volume of materials which we agree is our responsibility to cleanup. Failure to have this container, on site, (minimum of 8' x 12') will relieve FBS the subcontractor from this obligation.

Purchaser Supplied Items:

All purchaser supplied items must be on site at the time assembly begins. Should these items not be available, FBS and its subcontractor and/or its site team can eliminate this function from its agreement without penalty or reduction in the assembly value quoted.

WINTER CONDITIONS - SETTING WITHOUT A SLAB:

Placement of our structure on site without a slab (Winter Conditions) is possible but not encouraged. However, this specification is not covered as a standard assembly. Should this condition be considered, our Winter Condition assembly spec must be requested, reviewed and additional cost accepted prior to proceeding.

NOT INCLUDED IN FULLERTON'S ASSEMBLY SCOPE OF WORK ARE:

- Fullerton Building System's assembly is not to be construed to consist of the total rough carpentry labor required to complete this structure. Our scope of work is restricted to the assembly only of the FBS package.
- Required crane services, unless specifically noted as INCLUDED in order documents.
- Installation into the foundation, of Hold Down (Anchor Down) Bracket foundation bolts. In most commercial designs there are generally two means used to attach the structure to the foundation: ANCHOR BOLTS, and/or HOLD DOWN BOLTS.
- Blocking and installation of interior sheathings are not included in the FBS assembly scope of work. (Shelving, grab bars, kitchen area, etc.)
- Installation of any plumbing fixture blocking
- Installation of any fire blocking, other than that is known to FBS at the time of order.
- Installation of any interior wall sheathings.

- Installation of any equipment blocking.
- Installation of any cabinetry blocking.
- Installation of ceiling or wall insulation.
- Pre-finishing of any accessory or exterior finish items or painting on any sort.
- Installation of any cap flashing or exterior trims not specifically detailed in our accompanying assembly specifications.
- Installation of any waterproof materials at the sill area of the interior.
- Installation of any rain ware, roof drains, scuppers and downspouts.
- Cutting or any installation of scupper and overflow openings.
- Installation of any glazing items unless specifically listed in the order documents.
- Installation of any shingles, standing seam metal, or any finish roofing items or felts for the exterior walls, or mansards, or fascia, or soffits, or roof unless specifically detailed in FBS order documents.
- Sheathing for shear walls are installed by FBS one side only; if double sided, shear wall sheathing one side by others.
- Service door(s) hardware and other alarm systems, installed by Others.

EXTERIOR FINISH:

Transportation Damage

Fullerton Building Systems is known for its ability to factory apply the required exterior finish to its panelized package. With this unique feature we have developed a method of transportation which has practically eliminated transport damage. Should damage exist, FBS will repair the affected area. With any damage, our goal is to complete such repairs prior to the facility opening.

Assembly Damage

As with Transportation damage, the experience of FBS and our trained assembly crew is such that we have very little damage during the assembly process. Should such damage occur, we will handle and respond as outlined above under Transportation Damage.

Construction Damage

With the Exterior Finish applied in our factory, we present a unique and different condition for the contractors who follow the assembly of the building. We strongly suggest that the purchaser alert all sub-contractors to the potential damage of this finish. Careless use of tools and equipment used improperly on or around the finish may cause damage. While Fullerton Building Systems is not responsible for any damage caused after our assembly is complete we will respond in a concerned manner to correct any issues to the supplied building prior to opening. All damage must be reported as soon as possible and scheduled for repair.

Cleaning of the Exterior Finish

Fullerton ship's its product well protected and covered to insure that its exterior arrives on site in a clean and acceptable condition. Dust and dirt will develop on the structure due natural conditions as expected on any construction site.

- We strongly recommend that the building be cleaned, prior to occupancy. Depending on the color, texture and content of the exterior finish, water and soft brushing may be needed. Should the structure require a more intense cleaning, we suggest power washing. Should you find power washing to be desired, contact our office for maximum/minimum recommended pressure as damage may occur with improper high settings or chemical use.

SECTION SEVEN – Exterior Finish Protection



!!!CRITICAL NOTICE!!!

Fullerton Buildings Systems is providing a building with exterior finishes applied. This exterior finish is the final coat and *must be protected from damage* that may occur in the completion of the project.

At the completion of the assembly, a Fullerton representative will walk the building with a site representative and ask for a signed assembly completion sheet. The document may request some minor touch up or repairs, which will be handled by Fullerton Building Systems. Any damage that results from the mistreatment of the building, after this walk-thru, will necessitate the need for a "Work Authorization Form" and include incurred extra cost.

Certain precautions need to be taken in order to prevent exterior finish damage. The following is a partial list

When stone or thin Brick is on the exterior - special care is needed when work is performed on the inside or outside of the building during the construction process:

- *Pounding, hammering or percussions on the inside of the exterior walls may cause damage to exterior finish.*
- *Drilling holes in the wall will need to be performed from the outside toward the inside.*
- *Exterior surfaces need to be protected when pouring concrete, painting or handling material, which may cause abrasions.*

Extra care needs to be taken to protect all exterior surfaces from damage that may occur from ladders leaning on walls, roofer's materials being pulled up or thrown down from the roof, installation of equipment on the walls or the roof area, landscaping, etc.

This document is intended to help, all parties involved, to produce a quality building and keep costs to a minimum.

Please refer questions to:

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Construction Services Manager
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Thank You for your Cooperation.