

Industrialized Buildings Advisory Committee
Thursday April 25th, 2024

Minutes

MEETING BEGINS - 10:00 AM

WELCOME

- Ted Miltiades, Chairman, welcomed everyone
- Committee members and DCA staff introduced themselves
- The Committee reviewed the minutes from the last meeting. Joel Rodriguez made a motion and Mike Delaigle made a 2nd to approve the minutes. The motion passed unanimously

CODES / IB UPDATE

- Stephen Jones, ICC, gave a presentation regarding the ICC/MBI Offsite Construction Standards 1200 & 1205 to the committee (See attached PowerPoint Presentation)
- Jimmy Reynolds provided a PowerPoint presentation of the adopted amendments and the future plans for the code editions (See attached PowerPoint Presentation)
- Christian Poulos gave a presentation detailing the overview of the IB program (See attached PowerPoint Presentation)
- Christian showed the committee the Georgia and US IB maps that detail the approved manufacturers through the program. Then displayed the Business reports for 2023 and YTD 2024 for the IB program

CONCLUSION OF MEETING

- There was no Old Business
- New Business
 - Ted Miltiades informed the committee on a new email system that the agency will be enrolled in, MailChimp
 - Christian Poulos informed the Committee on next year's Modular Building Institute conference next year in April, as well as their offsite construction conference in Atlanta, GA
- The next meeting will be held tentatively on October 17th, at a modular building factory
- Joe Walter made a motion to adjourn and Bob Qurnell made a 2nd. Meeting Adjourned at 11:54AM

MEETING
ATTENDEES

COMMITTEE MEMBERS: Ted Miltiades, Matthew McConnell, Joel Rodriguez, Mike Delaigle, Monica Fenderson, Mayor Joe Walter, Travis Paul, Ryan Knowles, Bob Qurnell

EXCUSED ABSENSE: Commissioner Chris Dockery

DCA STAFF: Ted Miltiades, Christian Poulos, Jimmy Reynolds, Donna Brown, Craig Messina and Emerence Poiraud

GUESTS: Stephen Jones, ICC



Introduction to Off-Site Construction Standards: ICC/MBI 1200 and 1205

Presented to the Georgia Industrialized Buildings Advisory Committee

April 25, 2024

Stephen D. Jones, CBO, MCP, MS

Agenda

- Why Off-Site Construction?
- Current Challenges
- Types of Off-site Construction
- Standard 1200: Planning, Design, Fabrication & Assembly
- Standard 1205: Inspection & Regulatory Compliance
- Guideline 5: Shipping Containers
- Additional Resources

Fixing the Construction Industry's Skilled Labor Shortage

Fayola Powell | Aug 16, 2018 | Share: [in](#) [f](#) [t](#) [e](#)

Price increases signal costly construction

By: Nate Beck, nbeck@dailysreporter.com | April 10, 2018
Construction materials prices continued to rise in March, and other goods could send construction costs higher, the U.S. Bureau of Labor Statistics said.

Construction Labor Shortage: Where Did All the Skilled Labor Go?

A recently released survey by the Associated General Contractors of America revealed that nearly 80 percent of construction businesses are having a hard time finding skilled labor. Beginning first in small isolated pockets when home construction bottomed out in 2011, the shortage is now in full bloom, with the reality is that while the building growth could be even faster if there were more workers. "With Bloomberg Business, an economic shortage issue wasn't present."

Construction Materials Costs Increases Fastest Pace Since 2008

Kathleen Hedmond



Where Are All the Builders?

Construction costs are climbing and production is lagging, in part because there aren't enough workers to go around.
Andrew Soergel Senior Reporter | June 15, 2018, at 6:00 a.m.

Your Business

Material and Construction Costs Up; Tariffs Likely to Spur More Increases



Did All the Skilled Labor Go?

On the surface, the numbers indicate plenty of workers looking for jobs. In 2016, there were about 1 million unemployed workers. When looking at the numbers to fill the openings, right? The problem is that if there is an economic recovery, the Bureau of Labor Statistics estimates that there will be 145,000 vacant construction positions by 2020, with the industry experiencing a labor shortage.

Workforce

Construction Worker Shortage Continues To Grow

In Autodesk-AGC study, four of five contractors report tough time finding qualified workers

September 4, 2018
Alisa Zevin

KEYWORDS: AGC / Construction Workforce / Workforce

The U.S. construction industry's labor shortage continues to worsen in 2018, according to the recent Autodesk-Associated General Contractors of America (AGC) survey. Four out of five contractors report a tough time finding qualified workers.

Why Off-Site Construction?



QUALITY



WORKFORCE



SUSTAINABILITY



SPEED TO MARKET



AFFORDABILITY



JOBSITE SAFETY



Builder Anticipation for Coming 5 Years (September 2020, n=265)

	Didn't use and don't plan to use	Plan to use it less often	Plan to use it about the same	Plan to use it more often
Roof Trusses	7%	4%	66%	23%
Open-Wall Panels	51%	4%	28%	16%
Turnkey Framing	37%	7%	41%	16%
Pre-Cut Framing Package	50%	7%	28%	16%
Pre-assembled Floors	60%	4%	23%	13%
Modular	62%	4%	22%	11%
Closed Wall Panels	64%	4%	23%	10%
Precast Concrete	61%	6%	25%	8%
Manufactured Homes	79%	5%	13%	4%

Source: Home Innovation Research Labs

Homebuilders see
Off-Site Construction
Growth

Country-wise Insights

Players in the United States Paving the Way for Modular Construction Innovation

With a projected market share of 35% by 2033, the modular construction industry in the United States is anticipated to expand steadily over the next decade. One key trend expected to shape the industry is the increasing demand for sustainable and energy-efficient modular buildings.

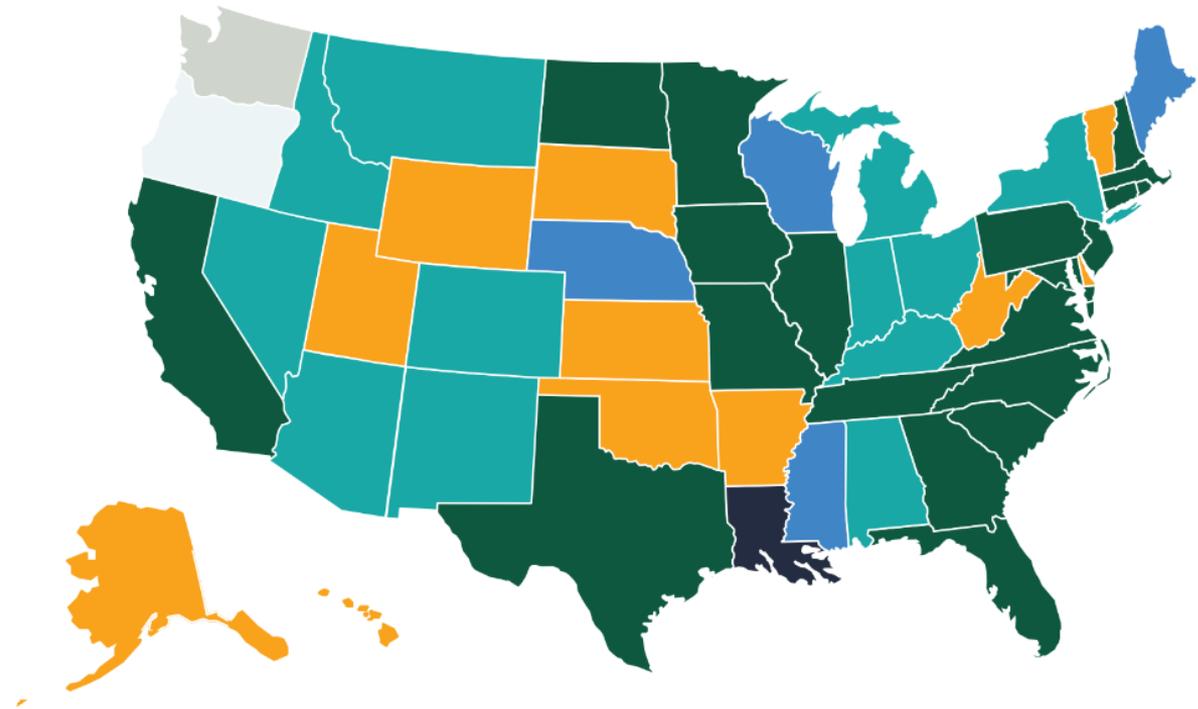
[Modular Construction Size, Share & Growth Analysis 2033 | FMI
\(futuremarketinsights.com\)](https://www.futuremarketinsights.com/reports/modular-construction-size-share-growth-analysis-2033)

Regulation of Off-Site Construction

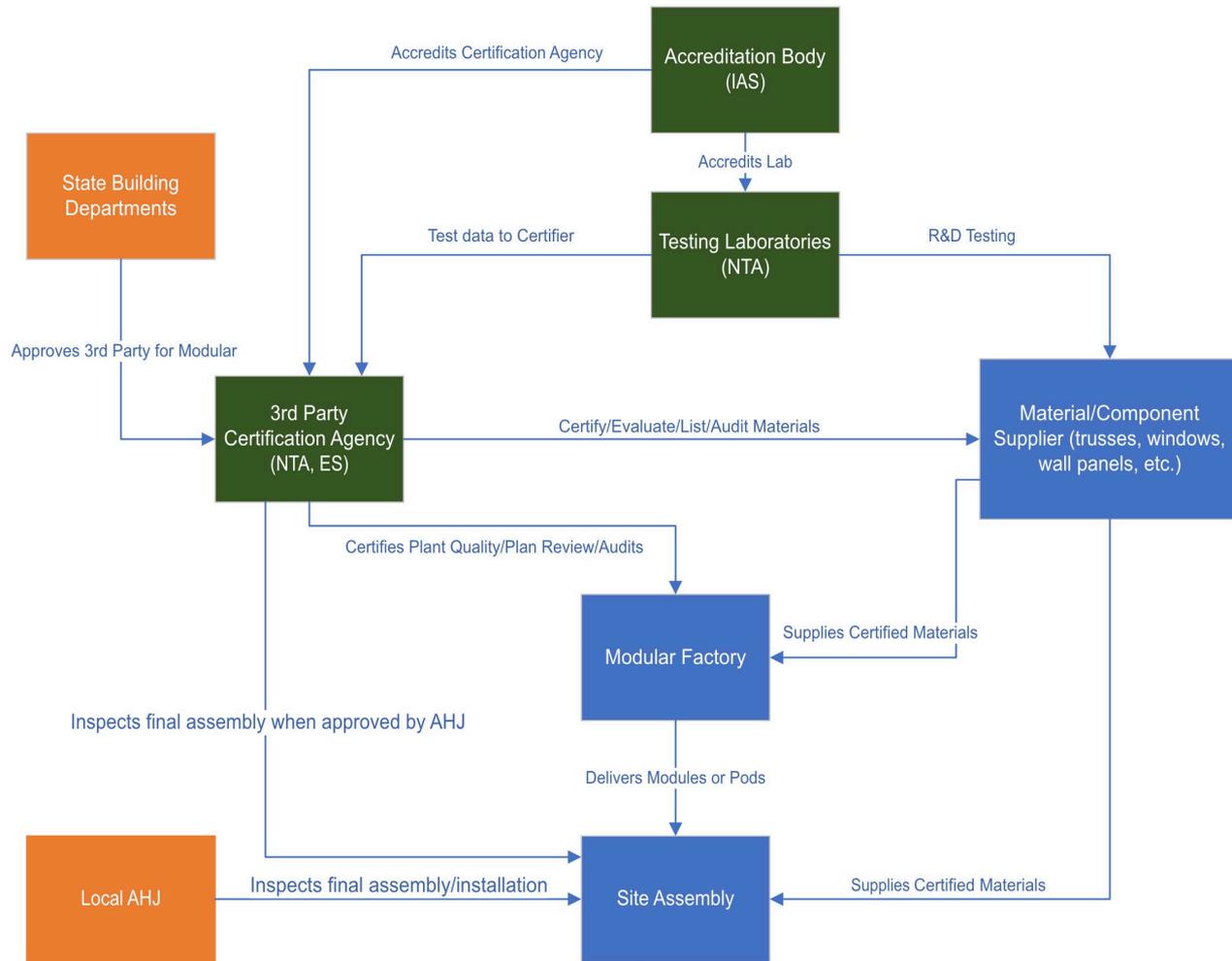


INTERNATIONAL
CODE
COUNCIL®

Plan Review & Inspection Jurisdiction Map



- Dark Green: Third Party Plan Review & Third Party Inspection
- Dark Blue: Third Party Plan Review & Third Party Inspection - Commercial only
- Blue: Third Party Plan Review & Third Party Inspection- Residential only
- Teal: State Plan Review & Third Part Inspection
- Orange: Local Plan Review & Local Inspection
- Light Gray: State Plan Review & State Inspection
- Dark Gray: Third Party Plan Review & State Inspection



Off-Site Construction Regulatory Process

What is Off-Site Construction?

OFF-SITE CONSTRUCTION. A modular building, modular component or panelized system which is designed and constructed in compliance with this standard and is wholly or in substantial part fabricated or assembled in manufacturing plants for installation - or assembly and installation - on a separate building site and has been manufactured in such a manner that all parts or processes cannot be inspected at the installation site without disassembly, damage to, or destruction thereof.

- ICC/MBI Standard 1200/1205

Open vs. Closed Construction

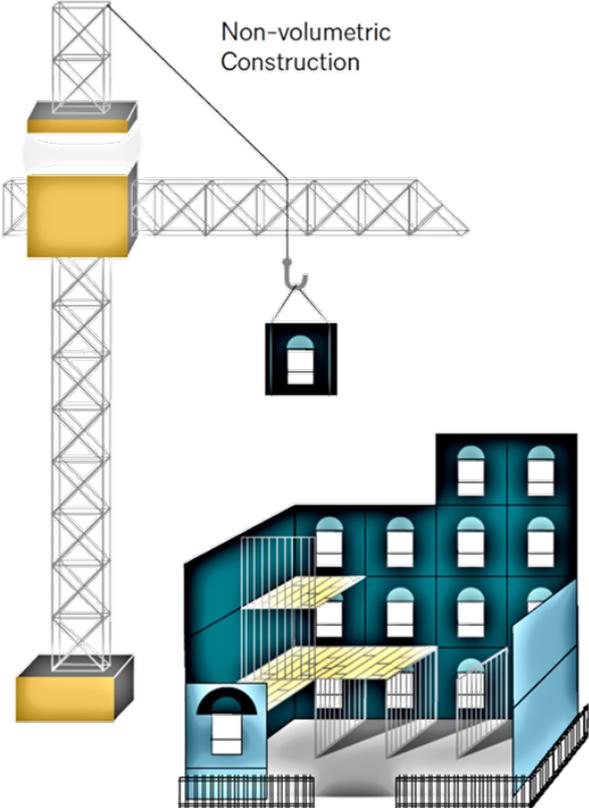
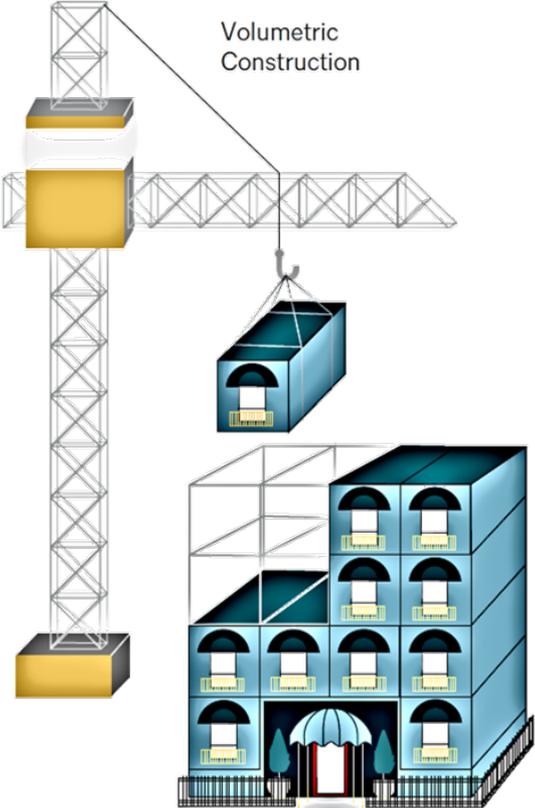
OPEN CONSTRUCTION. A modular building, modular component or panelized system manufactured in such a manner that all portions can be readily inspected at the building site without disassembly, damage or destruction thereof.



CLOSED CONSTRUCTION. A modular building, modular component, or assembly manufactured in such a manner that all portions cannot be readily inspected at the installation site without disassembly, damage or destruction thereof.

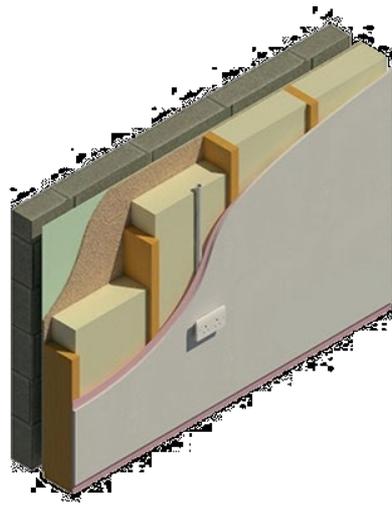


Volumetric vs. Non-Volumetric



Non-Volumetric/Panelized

Closed Panel Systems



Volumetric

Shipping Containers



Guideline 5; 2024 IBC Section 3114
ICC-ES AC462, IAS AC786



Manufactured Housing

HUD Manufactured Home
Construction and Safety Standards;
Local Codes (Foundation, Site,
Utilities, Accessories)



Tiny Houses



IRC, Appendix AQ

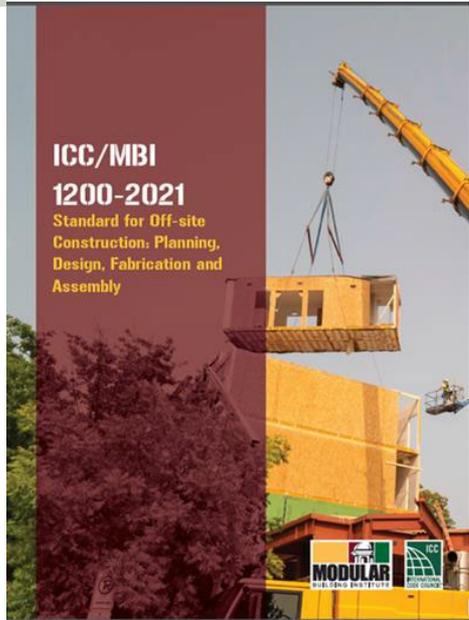
Modular Housing



Modular Commercial Buildings



New Off-Site Construction Standards



Developed by the ICC/MBI Off-Site and Modular Construction Standard Consensus Committee (IS-OSMC)

ICC/MBI Standard 1210 (upcoming)
Mechanical, Electrical, Plumbing Systems,
Energy Efficiency and Water Conservation

<https://www.iccsafe.org/offsite>

ICC/MBI 1200 – Standard for Off-Site Construction

Planning, Design, Fabrication and Assembly

“...provide minimum requirements to safeguard the public health, safety, general welfare and address societal and industry challenges in multiple facets of the off-site construction process including: planning, designing, fabricating, transporting and assembling...”

This Standard includes componentized, panelized and modularized elements and will not apply to HUD Manufactured Housing.

ICC/MBI 1200 – Standard for Off-Site Construction

- Provides planning and preparation requirements for:
 - The role of the architect/modular manufacturer/construction manager/general contractor;
 - Location of plant vs. construction site;
 - A controlled manufacturing environment;
 - Supply chain integration;
 - The fabrication process and on-site assembly.

ICC/MBI 1200 – Standard for Off-Site Construction

- Table of Contents
 - Chapter 1: Application & Administration
 - Chapter 2: Definitions
 - Chapter 3: Design
 - Chapter 4: Special Requirements Based on Product Type
 - Chapter 5: Manufacturing Plant
 - Chapter 6: Fabrication
 - Chapter 7: Transportation and Storage
 - Chapter 8: On-site Installation
 - Chapter 9: Referenced Standards

ICC/MBI 1200 – Standard for Off-Site Construction

- Chapter 1: Application & Administration
 - Administrative Provisions
 - Purpose
 - Scope
 - Provisions for Compliance
 - Compliance Alternative
 - Referenced Standards
 - General Requirements
 - Planning Considerations
 - AHJ, Manufacturing process, transportation, installation sequencing, cranes, responsibilities
 - AHJ Requirements (state programs where exist)
 - Responsible Parties Identification
 - Qualifications

ICC/MBI 1200 – Standard for Off-Site Construction

- Chapter 1: Application & Administration
 - Submittal Documents
 - General requirements
 - Delineation of off-site/on-site elements
 - Key plan
 - Mate lines
 - Component specifications
 - Non-site-specific buildings
 - Panelized systems
 - Inspections
 - In-plant
 - On-site
 - Inter-connections

ICC/MBI 1200 – Standard for Off-Site Construction

- Chapter 2: Definitions
 - Acronyms/Abbreviations
 - Definitions
 - **ASSEMBLY.** A collection of modular components assembled into a whole or partial module or modular building.
 - **AUTHORITY HAVING JURISDICTION (AHJ).** Organization, political subdivision, office or individual charged with the responsibility of administering and enforcing the provisions of the applicable building code. The authority having jurisdiction shall include a state agency or local building department.



Photo credit: Volumetric Building Companies, Philadelphia, PA

ICC/MBI 1200 – Standard for Off-Site Construction

- Chapter 2: Definitions

- Definitions

- **COMPLIANCE ASSURANCE PROGRAM.** Procedures that state the guiding principles and define the framework for ensuring that construction documents approved by a design review agency, or that modular buildings inspected by a third-party inspection agency, comply with the applicable building codes.
 - **DATA PLATE.** A plate attached by the manufacturer or installer, to a modular building, or modular component that contains identifying information allowing code officials or end users to determine if the structure is suitable for installation in their jurisdiction, location, or project.

ICC/MBI 1200 – Standard for Off-Site Construction

- Chapter 2: Definitions
 - Definitions
 - **DECAL.** The approved form of certification issued by the authority having jurisdiction, to be permanently attached to the modular building, modular component or panelized system indicating that it has been constructed to meet or exceed the applicable building code requirements.
 - **THIRD PARTY REVIEW AGENCY.** An organization, private or public, determined by the authority having jurisdiction to be qualified by reason of facilities, personnel, experience, and demonstrated reliability to review the design package and certify compliance to the applicable building codes.

ICC/MBI 1200 – Standard for Off-Site Construction

- Chapter 2: Definitions

- Definitions

- **INSIGNIA.** The approved form of certification issued by the authority having jurisdiction to the manufacturer to be attached to the modular building, modular component or panelized system indicating that it has been constructed to meet or exceed the applicable building code requirements.
- **INSTALLATION.** The assembly of a modular building, modular component or panelized system on site and the process of affixing the modular building, modular component or panelized system to land, a foundation, footings or an existing building.

ICC/MBI 1200 – Standard for Off-Site Construction

- Chapter 2: Definitions

- Definitions

- **MODULAR COMPONENT.** A sub-assembly, subsystem, or combination of elements, including panelized systems, building shells or bathroom pods, for use as a part of a modular building that is not structurally independent, but is a part of structural, plumbing, mechanical, electrical, fire protection, or other systems affecting life safety.
- **MODULE.** A three-dimensional, volumetric section of a modular building designed and approved to be transported as a single section independent of other sections, to a site for on-site construction.

ICC/MBI 1200 – Standard for Off-Site Construction

- Chapter 2: Definitions

- Definitions

- **PANELIZED SYSTEM.** Wall, roof or floor components that are constructed at a location other than the building site in a manner that prevents the construction from being inspected at the building site without disassembly, damage or destruction thereof.
- **THIRD-PARTY INSPECTION AGENCY.** An approved person or entity determined by this standard or applicable states statutory requirements to be qualified by reason of facilities, personnel, experience, demonstrated reliability, and independence of judgment to inspect industrialized housing, buildings, and portions thereof for compliance with the construction documents, compliance control program, and applicable codes.

ICC/MBI 1200 – Standard for Off-Site Construction

- Chapter 3: Design
 - Fire and Smoke Protection Features
 - Construction Documents
 - Inspections
 - Secondary Attachments to Structural Members
 - Mechanical/Electrical/Plumbing/Fire Protection Systems
 - Application
 - Construction Documents

ICC/MBI 1200 – Standard for Off-Site Construction

- Chapter 3: Design
 - Exterior Walls
 - System continuity
 - Control layers
 - Insulation
 - Structural Design
 - Tolerances in Panelized



Photo credit: Volumetric Building Companies, Philadelphia, PA

ICC/MBI 1200 – Standard for Off-Site Construction

- Chapter 4: Special Requirements Based on Product Type
 - Modules
 - Structural (stiffness, interconnections, diaphragm and shear walls)



Photo credit: Volumetric Building Companies, Philadelphia, PA

ICC/MBI 1200 – Standard for Off-Site Construction

- Chapter 5: Manufacturing Plant
 - Location (not on-site)
 - QA/QC Plan → 1205, availability
 - QA/QC Process
 - Personnel
 - Frequency
 - Records
 - Inspection
 - Availability
 - Notification
 - Sustainability
 - Materials Protection



Photo Credit: Durabuilt Homes and Modular Mobilization Coalition by Heather Wallace

ICC/MBI 1200 – Standard for Off-Site Construction

- Chapter 6: Fabrication
 - Volumetric Construction
 - Structural identification
 - Deformation Compatibility
 - ASCE 7
 - Temporary Supports and Shoring
 - Off-site storage
 - Stacking
 - Weather Protection

ICC/MBI 1200 – Standard for Off-Site Construction

- Chapter 7: Transportation and Storage
 - Transportation Permitting/Route/Weight
 - Methods of Transport
 - Integrated chassis/trailer/other
 - Loading and Unloading
 - On-site storage
 - Stacking
 - Weather and Mechanical Protection
 - Staging

ICC/MBI 1200 – Standard for Off-Site Construction

- Chapter 8: On-Site Installation
 - Foundation (loads)
 - Installation Tolerances (ISO 6707-1)
 - Connections
 - Manufacturer's Instructions
 - Structural strength & rigidity
 - Envelope (air barrier, vapor barrier, insulation, sheathing. . .)
 - Ducts, pipes, wires
 - Fire separations, blocking
 - Foundation loads and anchorage
 - Foundation support
 - Services
 - Other

ICC/MBI 1200 – Standard for Off-Site Construction

- Chapter 9: Referenced Standards
 - ASCE 7
 - IBC
 - IRC
 - ICC Guideline 5
 - ICC/MBI 1205
 - ISO 6707-1
 - NFPA 221



Photo credit: Volumetric Building Companies, Philadelphia, PA

ICC/MBI 1205 - Standard for Off-Site Construction

Inspection and Regulatory Compliance

“...provide minimum requirements to safeguard the public health, safety, general welfare and address societal and industry challenges for the inspection and regulatory compliance of off-site and modular construction.”

This Standard includes componentized, panelized and modularized elements and will not apply to HUD Manufactured Housing.

ICC/MBI 1205 - Standard for Off-Site Construction

- Inspection and Regulatory Compliance
- Includes compliances requirements for:
 - Permitting;
 - In-plant and on-site final inspections;
 - Third party inspections;
 - The role of Industrialized Building Departments, state modular programs and the Authority Having Jurisdiction.

ICC/MBI 1205 – Standard for Off-Site Construction

- Table of Contents
 - Chapter 1: Application & Administration
 - Chapter 2: Definitions
 - Chapter 3: Plan Approvals and Inspection Procedures
 - Chapter 4: Third Party Review and Inspection Agencies
 - Chapter 5: Requirements for Compliance Assurance Programs
 - Chapter 6: Authority Having Jurisdiction
 - Chapter 7: Insignia and Data Plates
 - Chapter 8: Referenced Standards

ICC/MBI 1205 – Standard for Off-Site Construction

- Chapter 1: Application & Administration
 - General Requirements
 - Planning Considerations
 - Duties and responsibilities of building officials
 - Display Proper Labels
 - Undamaged
 - Installation
 - Certificate of Occupancy
 - Report violations to state (if applicable)

ICC/MBI 1205 – Standard for Off-Site Construction

- Chapter 1: Application & Administration
 - General Requirements
 - Responsible Parties
 - Registered Design Professional
 - Manufacturer
 - Assembly
 - Constructor of On-Site Elements
 - Submittal Documents

ICC/MBI 1205 – Standard for Off-Site Construction

- Chapter 1: Application & Administration
 - General Requirements
 - Inspections
 - In-plant
 - On-site
 - Manufacturer's installation instructions and construction documents
- Chapter 2: Definitions



Photo Credit: Arris Manufacturing by Heather Wallace

ICC/MBI 1205 – Standard for Off-Site Construction

- Chapter 3: Plan Approvals and Inspection Procedures
 - Document requirements
 - Plans, specs, test results, evaluations, manufacturer instruction. . .
 - Signature and Seal
 - Structural Calculations
 - Manufacturer Info
 - Cover Sheet
 - Layout and Sequencing
 - Remote Virtual Inspections

ICC/MBI 1205 – Standard for Off-Site Construction

- Chapter 3: Plan Approvals and Inspection Procedures
 - General Building and Architectural
 - Table (use and occupancy, type of construction, area, occupants, height, fire rating, structural design loads)
 - Floor Plans, Elevations, Cross Sections
 - Attic Access, Ventilation
 - Envelope and Interior Wall Information
 - Window and Door Schedule

ICC/MBI 1205 – Standard for Off-Site Construction

- Chapter 3: Plan Approvals and Inspection Procedures
 - Accessibility
 - Fire Safety
 - Protection Features
 - Rated Assemblies
 - Life Safety Plan
 - Flame Spread, Draft Stops, Opening Protectives
 - Fire Protection Systems

ICC/MBI 1205 – Standard for Off-Site Construction

- Chapter 3: Plan Approvals and Inspection Procedures
 - Mechanical Systems
 - Plumbing and Gas Systems
 - Drawings & Details
 - Electrical Systems
 - Load Calculations
 - Disconnects
 - Locations
 - Lighting Plan



Photo credit: Volumetric Building Companies, Philadelphia, PA

ICC/MBI 1205 – Standard for Off-Site Construction

- Chapter 3: Plan Approvals and Inspection Procedures
 - Energy Conservation
 - Structure
 - Load Listings
 - Engineering Analysis, Design Calculations
 - Material Specs
 - Details of Structural Elements
 - Blocking Plan
 - Foundation Plan

ICC/MBI 1205 – Standard for Off-Site Construction

- Chapter 3: Plan Approvals and Inspection Procedures
 - Connections
 - On-site Details
 - Manufacturer’s Instructions
 - Inspection Procedures
 - In-plant (third party requirements)
 - Each module/panel in a phase of construction

ICC/MBI 1205 – Standard for Off-Site Construction

- Chapter 4: Third Party Review and Inspection Agencies
 - AHJ approval
 - Name, Address
 - Disciplines
 - Key Personnel
 - Experience
 - Inspection Reports
 - Label Control
 - Insurance

ICC/MBI 1205 – Standard for Off-Site Construction

- Chapter 4: Third Party Review and Inspection Agencies
 - AHJ approval
 - Statements
 - Independence
 - Plan Review
 - Plant Certification
 - Inspection Conduct/Frequency
 - Accreditation (ISO 17065 or 17020 by 17011 body)
 - Registered Design Professional Certifications/Professional License/Certification

ICC/MBI 1205 – Standard for Off-Site Construction

- Chapter 4: Third Party Review and Inspection Agencies
 - Performance Evaluation of Evaluation Agencies
 - Quality Assurance Personnel
 - Administrator
 - Supervisor



Photo Credit: Durabuilt Homes and Modular Mobilization Coalition by Heather Wallace

ICC/MBI 1205 – Standard for Off-Site Construction

- Chapter 5: Requirements for Compliance Assurance Program
 - Quality Assurance Manual
 - Permission for Inspection
 - Org Chart and Key Personnel
 - Plant Layout (Station by Station)
 - Inspection Procedures
 - Testing and Inspection Equipment
 - Checklists/Training/Auditing

ICC/MBI 1205 – Standard for Off-Site Construction

- Chapter 5: Requirements for Compliance Assurance Program
 - Quality Assurance Manual
 - Construction Document Approval Process
 - Manufacturing Records
 - Serial Numbering
 - Module Storage
 - Packing for Shipping
 - Forms

ICC/MBI 1205 – Standard for Off-Site Construction

- Chapter 5: Requirements for Compliance Assurance Program
 - Material Control
 - Inspection Procedure
 - Protection of Materials
 - Rejected Materials
 - Certification Labels

ICC/MBI 1205 – Standard for Off-Site Construction

- Chapter 6: Authority Having Jurisdiction
 - Manufacturer Registration
 - Each Facility
 - Report Changes
 - List of Approved Third-Party Inspection Agencies
 - Right of Entry

ICC/MBI 1205 – Standard for Off-Site Construction

- Chapter 7: Third Party Insignia, Identification and Data Plates
 - Insignia
 - Third Party + Certification Label Number
 - Permanently Affixed
 - Agency Controlled
 - Data Plate
 - Manufacturer Information
 - Codes/Loads/Special Conditions/Special Instructions
 - Records Retention

ICC/MBI 1205 – Standard for Off-Site Construction

- Chapter 8: Referenced Standards
 - IBC
 - IRC
 - ISO 17011
 - ISO 17020
 - ISO 17065



Photo credit: Volumetric Building Companies, Philadelphia, PA

Adopting ICC/MBI 1200 & 1205

- Jurisdictions can adopt now as stand-alone effort or part of code adoption.
- Incorporate into Building Code & Residential Code:
 - IBC Section 429 (new)
 - IRC Section 301.1.5 (new)
- Salt Lake City, UT adopted March 2021

Recycling Shipping Containers



1170713473

ICC G5-2019

ICC G5-2019

Guideline for the Safe Use of ISO Intermodal Shipping
Containers Repurposed as Buildings and Building Components



- Guideline for Safe Use of ISO Intermodal Shipping Containers Repurposed as Buildings and Building Components

Guideline 5 – Shipping Containers

- Table of Contents
 - Introduction
 - Scope
 - Current Regulatory Environment
 - Industry Segments
 - Current Code Requirements
 - Referenced Standards
 - CSC Safety Approval Placard
 - ICC-ES Acceptance Criteria
 - Appendix 1 State Modular Programs
 - Appendix 2: FAQs and Best Practices
 - Appendix 3: New Provisions in 2021 IBC
 - Appendix 4: Resources

IBC Standards

Current Code Requirements

Under the current code (2018 edition) shipping containers may be used as building components subject to the alternative building material requirements of the IBC (Section 104.11). Because approval procedures vary from location to location, developers and builders should consult local government authorities to gain an understanding of the state and local laws and regulations as well the required technical submissions for development review and approval.

The 2021 International Building Code includes provisions for the use of shipping containers as a building materials.

3115.1 General

The provisions of Section 3115 and other applicable sections of this code shall apply to intermodal shipping containers that are repurposed for use as buildings or structures, or as a part of buildings or structures.

2021 IBC

- New definition (Chapter 2):
 - **INTERMODAL SHIPPING CONTAINER.** A six-sided steel unit originally constructed as a general cargo container used for the transport of goods and materials.
- New section 3115 in Chapter 31
 - Construction Documents
 - Container information
 - Manufacturer name & ID
 - Date of manufacture
 - Safety approval number
 - Identification number
 - Max operating gross weight or mass
 - Transverse racking test force
 - Maintenance examination date

- New section 3115 in Chapter 31
 - Protection against decay and termites (Section 2304)
 - Under-floor ventilation (Section 1202)
 - Roof assemblies (Chapter 15)
 - Joints and voids – fire resistance (Section 715)
 - Structural/Anchorage (Chapter 16)
 - Welds (equal or greater than original)
 - Structural design
 - Detailed design procedure (material, seismic design parameters, allowable shear value)
 - Simplified structural design (assumptions)
 - Allowable shear (table/figures)

Convention for Safe Containers (CSC) sets International Standards in two areas:

- Design type approval to ensure that new containers are designed and built to meet the dimensional and strength requirements established by the International Standards Organization (ISO).
- Safety inspections to ensure that containers are maintained in safe condition during their operating lives.



AC462 Introduced by ICC-ES

- February 2016
- Established criteria and protocol for evaluating the reuse of shipping containers as a source of building product/material and not the final building itself
- For any new building constructed using shipping containers as part or the whole building
- Intent is to Evaluate the quality control procedures to establish and verify:
 - Dimensions
 - Chemical/Physical properties of steel components
 - Evaluate the steel components for design in accordance with provisions of the code
- *Intended to provide information and recommendations to those involved in the use of containers as buildings or structures*

States Requiring AC For Containers

Arizona - unless tested for steel

California

Colorado

Delaware

Florida

Georgia

Idaho - AC 462 or Steel testing

Illinois - Based on Local requirements

Louisiana

Maryland – over 400 square foot otherwise local

Minnesota

Mississippi – When under the ICC 500

New Hampshire

New Jersey

New Mexico

New York – with PE Certification (alternate Steel

Testing)

North Dakota

Oregon

South Carolina

Tennessee

Texas

Washington

West Virginia – Local Requirements



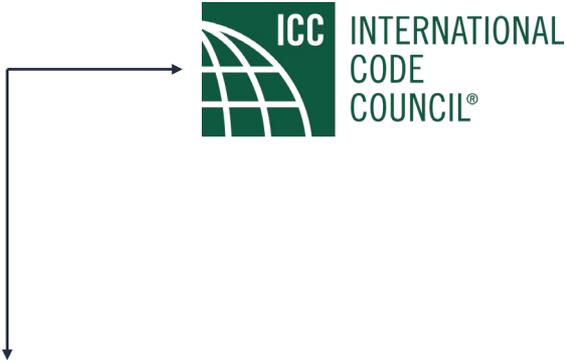
IAS AC786 Introduced by ICC-IAS

- Accreditation for Fabricators of Container-Based Structures
- Provides verification that approved fabricators meet requirements as described in Chapter 17 of the IBC
- Recognized by the National Portable Storage Association (NPSA).



Additional Code Council Resources

- Guideline 5-2019 Guideline for the Safe Use of ISO Intermodal Shipping Containers Repurposed as Buildings and Building Components
- Guideline 6 – Advanced Panelization (in development)
- ICC/MBI 1210 - Standard for Off-Site Construction: Mechanical, Electrical, Plumbing Systems, Energy Efficiency and Water Conservation (in development)
- ICC/THIA 1215 – Standard for Design, Construction and Regulation of Tiny Houses for Permanent Occupancy
- FAQs on Off-Site Construction
- Learning Center Specialty Catalog on Off-Site Construction
- Digital Codes Premium Off-Site Resources
- Conformity Assessment Services from ICC-ES, IAS, NTA



Stephen D. Jones, CBO, MCP, MS

Regional Director

International Code Council

200 Massachusetts Ave, NW, Suite 250 | Washington, DC 20001

973-296-5210

Sjones@iccsafe.org





Georgia[®] Department of



Community Affairs

Construction Codes Program Update

Contact information

- **Ted Miltiades**, Director: 404-679-3106, Ted.Miltiades@dca.ga.gov
- **Jimmy Reynolds**, Codes & IB Consultant: 404-416-8026, Jim.Reynolds@dca.ga.gov
- **Christian Poulos**, Codes & IB Consultant: 404-679-3121, Christian.Poulos@dca.ga.gov
- **Donna Brown**, Codes & IB Consultant: 404-679-3118, Donna.Brown@dca.ga.gov
- **Craig Messina**, Codes & IB Consultant: 404-416-8070, Craig.Messina@dca.ga.gov
- **Emerence Poiraud**, Codes & IB Intern: 404-679-3118, Emerence.Poiraud@dca.ga.gov

General Information Sheets

Minimum Standard Codes

Brian P. Kemp
Governor



Christopher Nunn
Commissioner

GEORGIA STATE MINIMUM STANDARD CODES

January 1, 2024

On October 1, 1991, the Uniform Codes Act became effective in Georgia. On July 1, 2004, this Act was revised to make the following construction codes mandatory as the Georgia State Minimum Standard Codes. Listed below are the code editions in effect as of January 1, 2024:

International Building Code	2018 Edition
International Residential Code	2018 Edition
International Plumbing Code	2018 Edition
International Mechanical Code	2018 Edition
International Fuel Gas Code	2018 Edition
International Energy Conservation Code	2015 Edition
International Fire Code	2018 Edition
National Electrical Code	2020 Edition
International Swimming Pool and Spa Code	2018 Edition

The Act requires local governments that elect to enforce these codes within their jurisdictions to adopt administrative procedures and penalties in order to locally enforce any of these mandatory codes. Also, any applicable appendices of these codes must be adopted locally in order to be enforceable within a specific local jurisdiction.

The Act also made the following optional codes available for local government adoption and enforcement. Local governments choosing to enforce any of the below optional codes must adopt the code(s) they wish to enforce, as well as administrative procedures and penalties.

International Property Maintenance Code	2018 Edition
International Existing Building Code	2018 Edition
National Green Building Standard	2008 Edition
Disaster Resilient Building Code IBC Appendix	2020 Edition
Disaster Resilient Building Code IRC Appendix	2020 Edition

The Georgia Amendments are available at the below web link:

<https://www.dca.ga.gov/local-government-assistance/construction-codes-industrialized-buildings/construction-codes>

The DCA Board specifically omitted the plumbing, electrical, and energy requirements of the International Residential Code for One- and Two-Family Dwellings. Therefore, the plumbing requirements of the International Plumbing Code, the electrical requirements of the National Electrical Code, and the energy requirements of the International Energy Conservation Code must be used for one- and two-family dwelling construction.

If you need assistance in establishing or updating construction codes enforcement program in your area, please contact DCA's Construction Codes Program at (404) 679-3118 or codes@dca.ga.gov

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General Information Sheets

Construction Codes Information

Brian P. Kemp
Governor



Christopher Nunn
Commissioner

JANUARY 1, 2024

GEORGIA CONSTRUCTION CODE INFORMATION

- Questions regarding licenses, tests and investigation of contractor's workmanship, contact the Construction Industry Licensing Board/Office of Secretary of State at 478-207-2440. Website: <https://sos.ga.gov/licensing-division-georgia-secretary-states-office>
- Consumer complaints should be directed to the Georgia Attorney General's Consumer Protection Division: 404-651-8600 or 1-800-869-1123. Website: <http://consumer.georgia.gov/>
- Questions regarding Manufactured (Mobile) Homes, contact the Office of the Georgia Safety Fire Commissioner, Manufactured Housing Division at 404-656-9498. Fire Safety Questions: (404) 656-3687. Website: <https://oci.georgia.gov/inspections-permits-plans/manufactured-housing>
- Questions regarding Industrialized (Factory Built) Buildings or Modular Buildings, contact the Industrialized Buildings Program of the Department of Community Affairs at 404-679-3118 or industrializedbuildings@dca.ga.gov
 - Website: <https://dca.ga.gov/local-government-assistance/construction-codes-industrialized-buildings/industrialized-building>
- Technical information regarding the Georgia State Minimum Standard (Construction) Codes, contact the Construction Codes Office of the Georgia Department of Community Affairs at 404-679-3118 or codes@dca.ga.gov.
 - Website: <https://dca.ga.gov/local-government-assistance/construction-codes-industrialized-buildings/construction-codes>

Code books may be purchased from any of the following sources:

The General Bookstore
1111 Chastain Road
Kennesaw, GA 30144
Contact: Gary Gaines
Phone: (770) 425-5935
Web: www.sebookstore.com
Email: info@sebookstore.com

International Code Council
25442 Network Place
Chicago, IL 60673-125
Phone: 800-786-4452
Fax: 866-891-1695
Web: <http://shop.iccsafe.org/>
Email: order@iccsafe.org

Georgia Plumber's Trade Association
Post Office Box 555
Manchester, GA 31816
Contact: Ron Anderson
Phone: 770-573-4815 or 770-595-9887
Fax: 678-833-5871
Email: admnasst@gpta.net

National Fire Protection Association
(To purchase National Electrical Code)
1 Batterymarch Park
Quincy, MA 02169-7471
Phone: 617-770-3000
Fax 617-770-0700
Email: stds_admin@nfpa.org

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General Information Sheets

DCA Contact Information

Brian P. Kemp
Governor



Christopher Nunn
Commissioner

OFFICE OF CONSTRUCTION CODES AND INDUSTRIALIZED BUILDINGS

Our Address:
Georgia Department of Community Affairs
Office of Construction Codes and Industrialized
Buildings
60 Executive Park South, NE
Atlanta, Georgia 30329-2231

Website Address:
<https://www.dca.ga.gov/local-government-assistance/construction-codes-industrialized-buildings/construction-codes>

GEORGIA AMENDMENTS MAY BE DOWNLOADED DIRECTLY FROM THE WEBSITE!

To contact the Office of Construction Codes and Industrialized Buildings:
(404) 679-3118 (phone)
(404) 679-0646 (Fax)
Email: codes@dca.gov or ib@dca.ga.gov

Ted Miltiades, Director, Office of Construction Codes and Industrialized Buildings:
(404) 679-3106
Email: ted.miltiades@dca.ga.gov

CONSTRUCTION CODES AND INDUSTRIALIZED BUILDINGS:

- Jimmy Reynolds, Codes Consultant, (404) 679-3104, email: jim.reynolds@dca.ga.gov
- Christian Poulos, Lead IB Consultant, (404) 679-3121, email: christian.poulos@dca.ga.gov
- Craig Messina, IB & Codes Consultant, (404) 416 8070, email: craig.messina@dca.ga.gov
- Donna Brown, Codes Consultant, (404) 679-3118, email: donna.brown@dca.ga.gov
- Emerence Poiraud, Codes Consultant Intern, email: emerence.poiraud@dca.ga.gov

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UPDATES FROM DCA

- New amendments from DCA.
- National Electrical Code Task Force completed with adoption date of Jan 1st 2025
- Reviewing Mandatory Codes and Permissive Codes over next 3 years.

Jan 1st 2024 Amendments

- **18 new amendments to the 2018 versions of the Residential, Building, Plumbing, and Mechanical codes.**
 - **A2L refrigerant**
 - **Commercial reroofing changes**
 - **Hose Bibb admin update**

Current Task Forces

- IRC Task Force

- Reviewing the 2024 International Residential Code
- Next meeting May 14th, 2024
- Adoption Date of Jan 1st, 2026

<https://dca.ga.gov/node/8848>

- IBC Task Force

- Reviewing the 2024 International Building Code
- Next meeting May 16th, 2024
- Adoption Date of Jan 1st, 2026

<https://dca.ga.gov/node/8849>

- Please make sure you are on the interested parties list for both Task Forces to stay up to date with changes and amendments.

Future Updates

- IFGC, IMC, IPC, ISPSC Task Forces 2025
 - Adoption date of Jan 1st, 2026
- IECC, IEBC, IPMC Task Forces 2026
 - Adoption date of Jan 1st, 2027
- **NEED PEOPLE**
 - Serve on Task Forces (3 Task Forces 2025 and 3 Task Forces 2026)
 - Make sure you are on the interested parties list.

Contact Information

GA Department of Community Affairs
Codes and Industrialized Buildings
60 Executive Park South, NE
Atlanta, Georgia 30329-2231

Phone: (404) 679-3118

Web: www.dca.ga.gov

Email: codes@dca.ga.gov

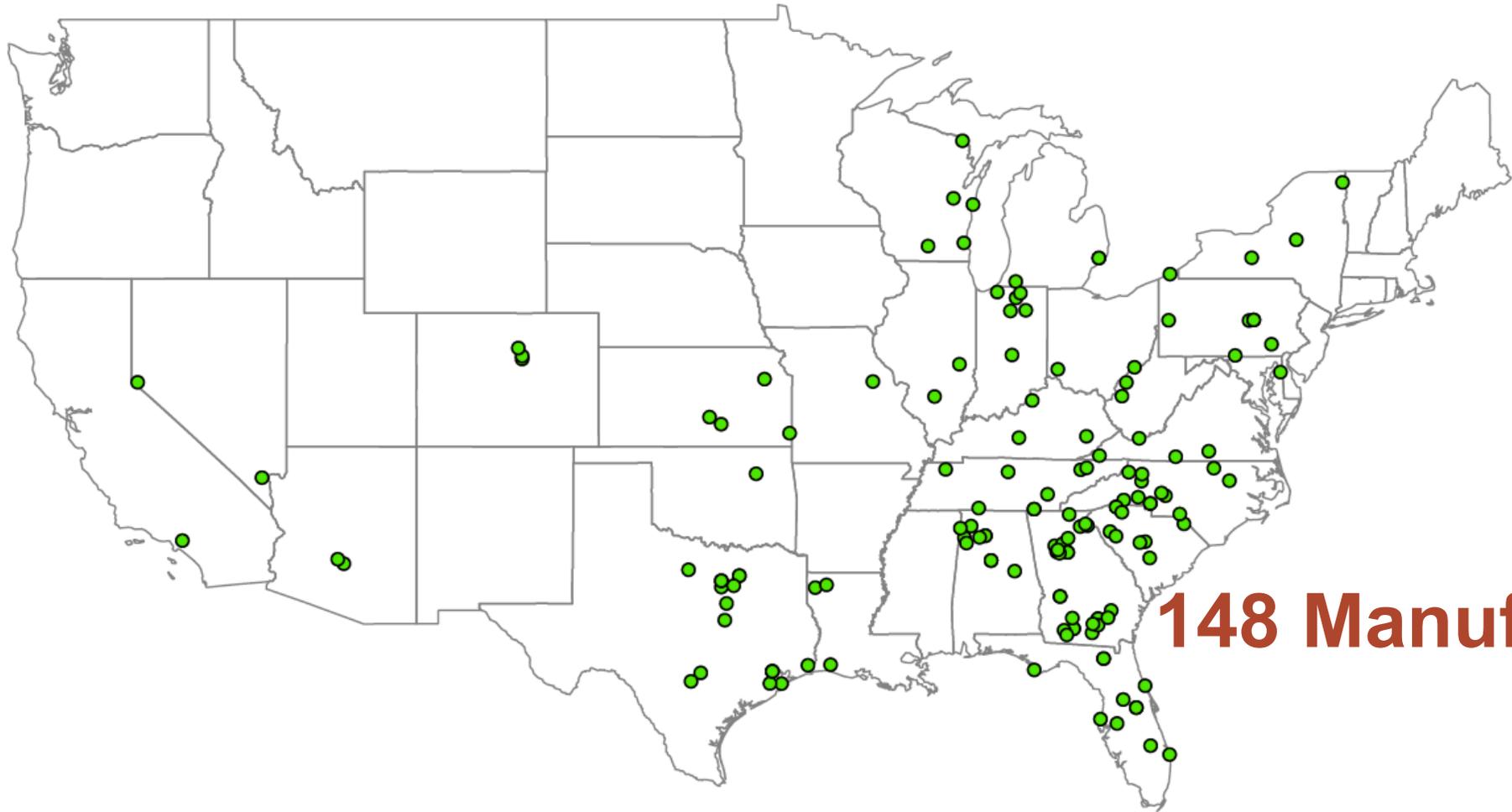
Email: ib@dca.ga.gov



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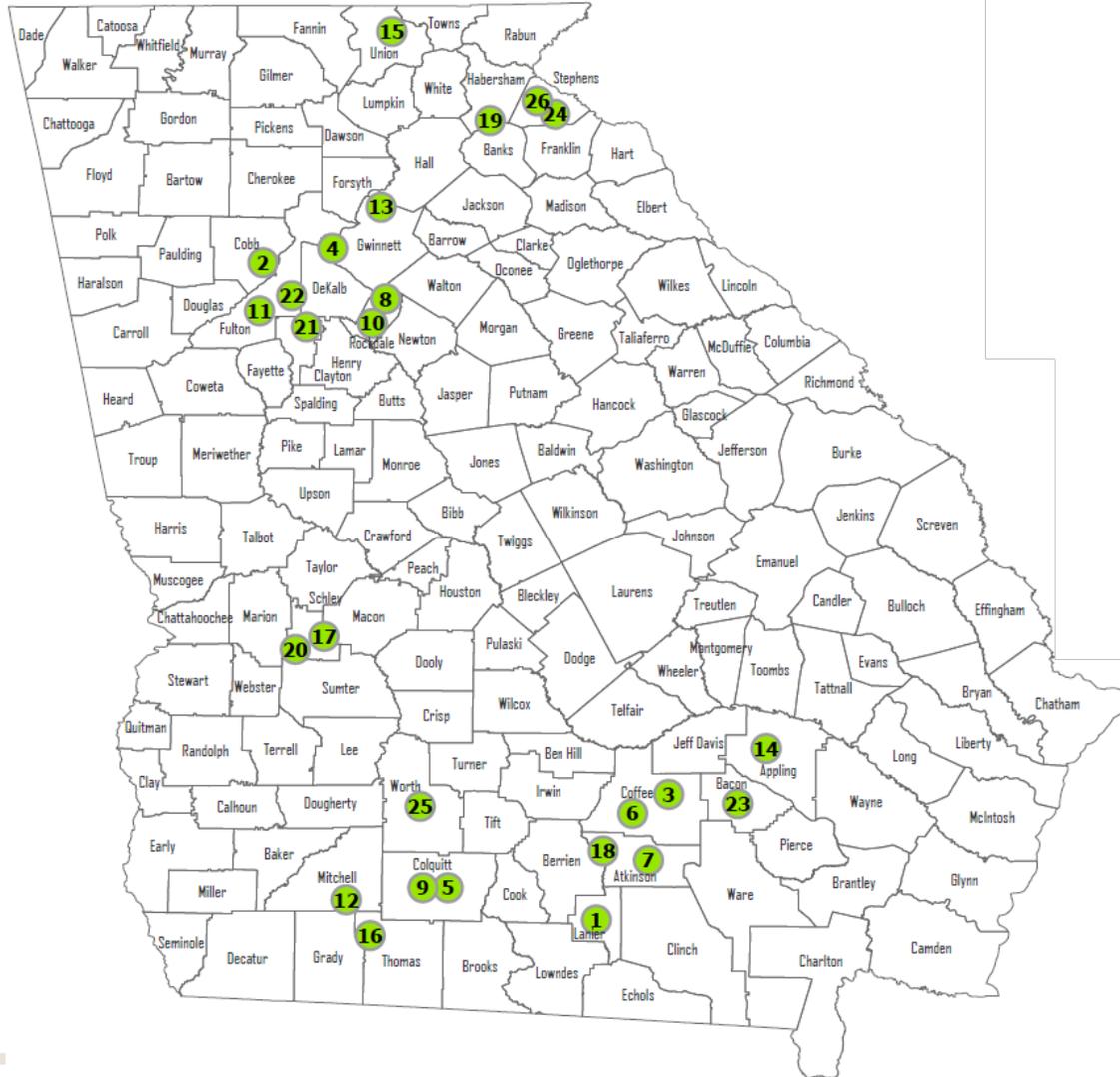
Industrialized Buildings Program Update

IB Manufacturers - USA



148 Manufacturers

IB Manufacturers - GA



ID	Org	City	State
1	Affinity Building Systems, LLC.	Lakeland	GA
2	Allison-Smith Company, LLC	Smyrna	GA
3	Apollo Modular Systems	Douglas	GA
4	BMarko Structures	Norcross	GA
5	Destiny Industries, LLC	Moultrie	GA
6	Diamond Builders, Inc.	Douglas	GA
7	First String Space, Inc.	Pearson	GA
8	Frey-Moss Structures, Inc.	Conyers	GA
9	Ice House America, LLC	Moultrie	GA
10	Madison Industries, Inc.	Conyers	GA
11	Makers Studio, LLC	East Point	GA
12	Max Manufacturing, Inc.	Pelham	GA
13	Mustard Seed Tiny Homes	Buford	GA
14	New Baxley dba Impact Housing	Baxley	GA
15	Panel Built	Blairsville	GA
16	Park Models & Modulares dba Pinnacle Park Homes	Ochlocknee	GA
17	Promod Manufacturing	Ellaville	GA
18	Specialized Structures, Inc.	Willacoochee	GA
19	SteelCell of North America, Inc.	Baldwin	GA
20	T & R Custom, Inc.	Ellaville	GA
21	Tindall Corporation	Conley	GA
22	Tiny House Container Company	Atlanta	GA
23	Titan Modular Systems, Inc.	Alma	GA
24	Trachte Southeast	Eastanollee	GA
25	Warrior Creek Cottage	Sylvester	GA
26	Yesterway Cabin Company	Toccoa	GA

	2023		2024 - YTD	
Insignia Type	Jan 01, 2023	Dec 31, 2023	Jan 01, 2024	April 17, 2024
New Buildings	4613		1404	
Commercial	4329		1361	
Residential (R-3)	99		43	
Remanufacture Buildings	62		23	
Commercial	61		21	
Residential (R-3)	1		2	
Export Buildings	5351		1038	
Commercial	5343		1024	
Residential (R-3)	8		14	
Total	10026		2465	

	2023	2024 - YTD
Plans Type	Jan 01, 2023 Dec 31, 2023	Jan 01, 2024 April 17, 2024
Model Plans - File for Record	518	191
Commercial	469	170
Residential (R-3)	49	21
Model Plans - Approvals	11	2
Commercial	10	1
Residential (R-3)	1	1
Model Plans – Revisions	27	12
Commercial	21	11
Residential (R-3)	6	1
Total	556	205