

ACCREDITATION CRITERIA FOR INSPECTION PRACTICES OF METAL BUILDING ASSEMBLERS

AC478

**September 2018
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PREFACE

The attached accreditation criteria have been issued to provide all interested parties with guidelines on implementing performance features of the applicable standards referenced herein. The criteria were developed and adopted following public hearings conducted by the International Accreditation Service, Inc. (IAS), Accreditation Committee and are effective on the date shown above. All accreditations issued or reissued on or after the effective date must comply with these criteria. If the criteria are an updated version from a previous edition, solid vertical lines (|) in the outer margin within the criteria indicate a technical change or addition from the previous edition. Deletion indicators (→) are provided in the outer margins where a paragraph or item has been deleted if the deletion resulted from a technical change. These criteria may be further revised as the need dictates.

IAS may consider alternate criteria provided the proponent submits substantiating data demonstrating that the alternate criteria are at least equivalent to the attached criteria and otherwise meet applicable accreditation requirements.

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ACCREDITATION CRITERIA FOR INSPECTION PRACTICES OF METAL BUILDING ASSEMBLERS

1. INTRODUCTION

- 1.1. **Scope:** These criteria set forth the requirements for obtaining and maintaining International Accreditation Service, Inc. (IAS), Inspection Practices for Metal Building Assemblers accreditation. These criteria supplement the IAS Rules of Procedure for Accreditation of Inspection Practices of Metal Building Assemblers.
- 1.2. **Overview:** Accredited entities complying with these criteria will have demonstrated that they have the personnel, organization, experience, knowledge, management procedures and commitment to assemble metal building systems in accordance with specified requirements. IAS-accredited inspection practices for metal building assembly operate under a documented safety and training program. An IAS-accredited inspection or special inspection agency conducts jobsite inspections to verify continued compliance with these criteria.
- 1.3. **Normative and Reference Documents:** Publications listed below refer to current editions (unless otherwise stated).
 - 1.3.1. AWS D1.1 and AWS D1.3, Structural Welding Code, published by the American Welding Society.
 - 1.3.2. International Building Code®, published by the International Code Council.
 - 1.3.3. Ironworker Quality Construction Practices, Metal Building Systems Reference Manual.
 - 1.3.4. ISO/IEC Standard 17020, Conformity assessment – Requirements for the operation of various types of bodies performing inspection.
 - 1.3.5. Metal Buildings Institute, Quality and Craftsmanship Training Series, available through <http://www.mbcea.org/store/dvd-craftsmen-series>.
 - 1.3.6. OSHA Regulations (Standard 29 CFR), Part 1926 Safety and Health Regulations for Construction.

2. DEFINITIONS

For the purposes of these accreditation criteria, the definitions given in ISO/IEC Standard 17020, and the definitions that follow, apply:

- 2.1. **Approved Fabricator:** An established and qualified person, firm or corporation approved by the building official pursuant to the approved fabricator designation in Section 1702 of the International Building Code.
- 2.2. **Assembler of Metal Building Systems:** Erectors and contractors who are substantially engaged in the assembly of metal buildings under DOT Code: 801.381-010 AIMS Code: 0877.

Further described as companies that erect metal building systems according to blueprint specifications and engineering drawings, using hand tools, power tools, and hoisting equipment; erect frames of buildings using a hoist; bolt steel frame members together; attach bracing and insulating materials to framework; screw sheet metal roof and siding panels to framework; read blueprints to determine location of items such as doors, windows, ventilators, and skylights and install items using, wrenches and power drill; trim excess sheet metal using power saws, power shears and tin snips; install corner, gable, rake, door and window trims; install gutters and downs; and are responsible for related clean-up and waste management.

- 2.3. **Bid Documents:** Documents produced for the assembler's use to support the implementation of the project. These documents include architectural drawings, site plan, manufacturer's engineered drawings and manufacturer's erection drawings and blueprints.
- 2.4. **Competent Person [29 CFR 1926.32(f)]:** One who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.
- 2.5. **Contract Documents:** Documents that describe the metal building system to be supplied in its entirety for a given project. These documents include work orders, drawings, specifications, and buyer sketches.
- 2.6. **Corrective Action:** Implemented action necessary to eliminate or reduce the root cause of an identified problem.
- 2.7. **Daily Jobsite Checklist:** A checklist to be used as part of a routine to ensure items which are identified as relevant are performed. The checklist(s) are a means of documenting relevant items are covered each day (sometimes these are performed as part of a tool box meeting at the start of each day); these checklists may also indicate the status of work being performed and can be used for comparison to the schedule and/or to determine if inspections are required to be performed.
- 2.8. **Erection Tolerances:** As set forth in "AISC Code of Standard Practice." Variations are to be expected in the finished overall dimensions of structural steel frames. Such variations are deemed to be within the limits of good practice when they do not exceed the cumulative effect of rolling, fabricating and erection tolerances.
- 2.9. **General Manager:** The person occupying the highest position of authority within a facility's organization.
- 2.10. **Job Safety Analysis (JSA):** One of the risk assessment tools used to identify and control workplace hazards. A JSA is a second tier risk assessment with the aim of preventing personal injury to a person, or their colleagues, and any other person passing or working adjacent,

above or below. JSAs are also known as Activity Hazard Analysis (AHA), Job Hazard Analysis (JHA) and Task Hazard Analysis (THA).

- 2.11. **Jobsite-Specific Plan:** As a minimum, such a plan should consider the following elements:
 - 2.11.1. The sequence of erection activity, developed in coordination with the controlling contractor which includes the following: material deliveries, material staging and storage, and coordination with other trades and construction activities.
 - 2.11.2. A description of the crane and derrick selection and placement procedures, if required, including the following: site preparation; path for overhead loads; and critical lifts, including rigging supplies and equipment.
 - 2.11.3. A description of steel erection activities and procedures, including the following: stability considerations requiring temporary bracing and guying; erection bridging terminus point; anchor rod (anchor bolt) notifications regarding repair, replacement and modifications; columns and beams (including joists and purlins); connections; decking; and ornamental and miscellaneous iron,
 - 2.11.4. A description of the fall protection procedures that will be used to comply with OSHA 29 CFR § 1926.760.
 - 2.11.5. A description of the procedures that will be used to comply with OSHA 29 CFR § 1926.758, Systems-engineered metal buildings.
 - 2.11.6. A description of the special procedures required for hazardous nonroutine tasks.
 - 2.11.7. A certification for each employee who has received training for performing steel erection operations as required by OSHA 29 CFR § 1926.761.
 - 2.11.8. A list of the qualified and competent persons which also includes their credentials.
 - 2.11.9. A description of the procedures that will be utilized in the event of rescue or emergency response.
 - 2.11.10. The identification of the site and project signed and dated by the qualified person(s) responsible for its preparation and modification.
 - 2.11.11. A site-specific plan may also be called a jobsite-specific plan, a site-specific safety plan and a site-specific project plan.
- 2.12. **Journeyworker - Assembler of Metal Building Systems:** A worker who has completed a registered apprenticeship program for Assembler, Metal Building Systems or who can give demonstrable proof of a minimum of four years' experience in metal building assembly, satisfactory completion of the MBI Quality and Craftsmanship Training Series and training/certification in the following:
 - 2.12.1. OSHA 10
 - 2.12.2. Rigging 1
 - 2.12.3. Hot Work Training

- 2.12.4. Rough Terrain Forklift Safety
- 2.12.5. Equipment Qualified Operator
- 2.12.6. Aerial Work Platform Safety
- 2.13. **Management System:** A set of interrelated or interacting elements that metal building assemblers use to direct, control and coordinate how policies are implemented and objectives are achieved.
- 2.14. **MBCEA:** Metal Building Contractors and Erectors Association.
- 2.15. **MBI:** Metal Buildings Institute.
- 2.16. **MBMA:** Metal Building Manufacturers Association.
- 2.17. **Metal Building Systems Manufacturer:** An entity that may be a company, division, subsidiary or similar organization that designs and manufactures a metal building system which consists of an integrated set of components and assemblies, including, but not limited to, frames that are primary structural steel members, secondary members that are cold-formed steel and steel joists, and roof and wall cladding components, specifically designed to support and transfer loads and provide a complete or partial building shell.
- 2.18. **On-the-job Training:** Training that allows employees to learn by performing a specific job or task. The employee will perform the job while working under the supervision of an experienced employee who has been properly trained to perform the task; this can be structured by using hands-on application supported by classroom-type instruction. The employee uses the regular or existing tools, machines, documents, equipment, knowledge, and skills necessary to learn to effectively perform the task at hand.
- 2.19. **OSHA:** Occupational Safety and Health Administration, a federal agency of the United States that regulates workplace safety and health to assure safe and healthful working conditions for working men and women by setting and enforcing standards and by providing training, outreach, education and assistance.
- 2.20. **Procedure:** An implemented and written document that describes who does what, when, where, why and how.
- 2.21. **Product:** Result of activities or processes.
- 2.22. **Project:** A process consisting of a set of coordinated and controlled activities undertaken to achieve customer requirements.
- 2.23. **Qualified Person [29 CFR 1926.32(m)]:** One who, by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training, and experience, has successfully demonstrated his ability to solve or resolve problems relating to the subject matter, the work, or the project.

- 2.24. **Quality Assurance:** Measurable systematic actions to assure confidence that the implementation of planned activities results in meeting objectives, goals and contract documents.
- 2.25. **Quality Control:** The act of examination, testing or measurement which verifies processes and services or verifies documents conform to specified criteria.
- 2.26. **Repair:** Action taken to render a member or component acceptable for the intended use.
- 2.27. **Safety Manager:** A safety professional, designated by management, who has demonstrated competence in establishing, maintaining and implementing a safety program with consistent results. The safety manager shall have direct access to the highest executive level and shall report on the performance of the safety program to the metal building assembler's management for use as a basis for improvement of the safety program.
- 2.28. **Safety Plan:** A written document that describes the procedures and policies implemented to ensure the safety of all persons and things.
- 2.29. **Senior Contractor Supervisor:** The individual designated by the contractor who has overall authority and responsibility for work performed by that contractor, including the Contractor Safety and Health Program.
- 2.30. **Senior Project Supervisor:** The individual designated by the project constructor with final authority and overall responsibility for all construction and related activities, including the Project Safety and Health Program.
- 2.31. **Subcontractor:** An individual or in many cases a business that signs a contract to perform part or all of the obligations of another's contract; a subcontractor is a person who is hired by a general contractor (or prime contractor, or main contractor) to perform a specific task as part of the overall project and is normally paid for services provided to the project by the originating general contractor.
- 2.32. **WPS:** Welding Procedure Specification in accordance with AWS D1.1 or AWS D1.3 is required, as applicable.

3. ELIGIBILITY

Accreditation services are available to metal building assemblers, erectors and contractors who are substantially engaged in the assembly of metal buildings under DOT Code: 801.381-010; AIMS Code: 0877.

4. REQUIRED BASIC INFORMATION

- 4.1. Metal building assemblers must demonstrate compliance with the following requirements:
- 4.1.1. The requirements of these accreditation criteria;

4.1.2. IAS Rules of Procedure for Accreditation of Inspection Practices of Metal Building Assemblers.

4.2. **General Requirements**

- 4.2.1. Metal building assemblers accredited under these criteria must obtain the services of an IAS-accredited inspection or special inspection agency, which is accredited for the specified discipline, to conduct, at a minimum, an annual inspection at a selected jobsite
- 4.2.2. The assembler of metal building systems shall establish and implement a management system that is fully documented. This documented management system must describe the assembly procedures and quality assurance activities for ensuring that the assembly meets the specified requirements.
- 4.2.3. The assembler of metal building systems shall submit to IAS for initial review, followed up biennially, a documented management system, including a cross reference matrix ensuring that the requirements in Section 4.3 of these accreditation criteria have been included in the management system. The cross reference matrix must be signed by the Quality Manager.
- 4.2.4. The submitted management system document must be signed and dated by the highest level of authority within the metal building assembler.
- 4.2.5. Metal building assemblers applying for accreditation are subject to an initial on-site joint assessment by IAS and the IAS-accredited inspection or special inspection agency (jobsite that is approximately 75% complete, scheduled at a mutually convenient time/location to ensure these criteria are being followed). The purpose of this assessment is to determine efficacy of safety plans, training programs, and compliance with eligibility for requirements and evaluation of the inspection or special inspection agency's method of determining compliance prior to accreditation.
- 4.2.6. Metal building assemblers accredited under these criteria will adhere to metal building systems manufacturer's drawings, specifications and installation manuals.
- 4.2.7. Metal building assemblers accredited under these criteria, that rely on subcontracted or temporary labor must have documented procedures to show how they ensure compliance of subcontracted and temporary labor with the relevant requirements of these criteria.
- 4.2.8. Metal building assemblers accredited under these criteria that subcontract all or a significant portion of an assembly shall advise the contracting entity whether or not work will be performed by an accredited entity.
- 4.2.9. The accredited metal building assembler must maintain the following insurance coverage:

- 4.2.9.1. Workmen's Compensation,
 - 4.2.9.2. Comprehensive General Liability,
 - 4.2.9.3. Comprehensive Automobile Liability,
 - 4.2.9.4. Umbrella Excess Comprehensive General and Comprehensive Automobile.
- 4.2.10. The following key personnel must be identified in the organization and their responsibilities must be documented. The designated personnel must have clear understanding of their assignments.
- 4.2.10.1. **Quality Manager:** Metal building assemblers accredited under these criteria shall designate a quality manager who has the necessary training and experience to complete the tasks listed below:
- 4.2.10.1.1. Develop and implement the management system, including generation of appropriate documentation in accordance with these criteria;
 - 4.2.10.1.2. Ensure that periodic (at a minimum, annually) internal audits are conducted and documented, and that corrective actions are implemented.

Internal Audits: Metal building assemblers shall identify the frequency, method of documentation, and content of internal audits to determine the effectiveness of the management system, safety, and training programs. Internal audits must be conducted, at a minimum, annually. Audits shall include a summary that compares the most recent audit to the previous audit and shall include the elements of these criteria.

- 4.2.10.1.3. Ensure that management reviews (at a minimum, annually) are conducted and documented to assure the adequacy and the effectiveness of the management system. Management reviews must produce a summary and a documented plan of action for improvement.

Management Reviews: Reviews must be conducted and recorded to ensure the adequacy and effectiveness of the quality, safety, and training programs. Management reviews must produce a summary and a documented plan of action for improvement. Documents to be considered during the management review must include, but are not limited to, customer complaints, back charges, OSHA violations, internal audit results, and corrective actions.

- 4.2.10.2. **Safety Manager:** Metal building assemblers accredited under these criteria shall designate a safety manager who has the necessary training and experience to complete the tasks listed below. The safety manager shall report directly to the

highest level of authority within the organization. The safety manager shall (at a minimum) have the following responsibilities:

4.2.10.2.1. Follow a documented procedure of maintaining the safety program in accordance with these criteria.

4.2.10.2.2. Follow a documented procedure of monitoring the effective implementation of the safety program.

4.2.10.2.3. Follow a documented procedure for developing jobsite-specific safety plans and having knowledge of and access to the appropriate documents to meet this requirement.

4.2.10.3. **Training Manager:** Metal building assemblers accredited under these criteria shall designate a training manager who has the necessary training and experience to complete the tasks listed below. The training manager shall report to the highest level of authority within the organization. The training manager shall (at a minimum) have the following responsibilities:

4.2.10.3.1. Follow a documented procedure of maintaining the training program in accordance with these criteria.

4.2.10.3.2. Follow a documented procedure of monitoring the effective implementation of the training program.

4.2.10.3.3. Follow a documented procedure for developing training plans that meet all OSHA requirements, building manufacturer requirements, and equipment use requirements for the assigned tasks. Have knowledge of and access to the appropriate resources to meet this requirement.

NOTE: In some cases, the quality manager, training manager, and safety manager may be the same individual.

4.3. **Documented Management System Requirements**

A documented management system must be provided which includes the following details:

4.3.1. **Basic Information**

4.3.1.1. The name of the metal building assembler and its legal identity (company registration details),

4.3.1.2. The physical address of the metal building assembler,

4.3.1.3. The mailing address (if different),

4.3.1.4. Name and title of the person serving as the IAS contact, including the telephone number and e-mail address.

4.3.2. **Required Statements:** The following statements must be provided:

- 4.3.2.1. All activities of the metal building assembler shall be directed in such a manner as to ensure that the safety and training requirements of these criteria will be met.
 - 4.3.2.2. The elements of the safety and training programs will be disseminated to all personnel assigned activities that are involved with the assembly of metal buildings.
 - 4.3.2.3. IAS will be notified, in writing, prior to any cancellation of the inspection agreement with the accredited inspection agency or special inspection agency.
 - 4.3.2.4. IAS will be notified, in writing, by the accredited metal building assembler and the inspection agency if follow-up inspections have not been conducted by the inspection agency or special inspection agency.
 - 4.3.2.5. IAS and the accredited inspection agency or special inspection agency must be notified within 30 days of any changes in management personnel. As a minimum, this would include the president, general manager, quality manager, safety manager and training manager.
- 4.3.3. **Control of Documents:** Procedures for control of documents and data relating to safety and training programs must be provided. This control shall include the following:
- 4.3.3.1. A document approval procedure,
 - 4.3.3.2. A procedure to ensure that only current, approved documents are used,
 - 4.3.3.3. A procedure to ensure that documents are available at all locations where necessary for the proper functioning of the management system.
- 4.3.4. **Training Program Documentation**
- 4.3.4.1. Metal building assemblers accredited under these criteria shall establish, document and implement a training program that ensures a qualified labor force competent in techniques necessary to ensure the quality and integrity of assembled metal buildings. There must be a procedure ensuring the training of personnel who influence the quality of the finished assembly. The procedure must include provisions for maintaining current personnel qualifications.
 - 4.3.4.2. Metal building assemblers accredited under these criteria must have a procedure in place for new hires to ensure they are trained adequately for assigned tasks.
 - 4.3.4.3. The metal building assembler shall have procedures for storing, maintaining and accessing training records and maintaining current personnel qualifications.
 - 4.3.4.4. As a minimum, there must be training requirements established for foremen, journeymen and apprentices regardless of whether or not there is a formal apprenticeship program in place.
 - 4.3.4.5. Training records must include the following:
 - 4.3.4.5.1. Completed and dated training attendance records.
 - 4.3.4.5.2. Documentation proving comprehension of training (e.g., test results).

- 4.3.4.5.3. Evaluations of employees and subcontractors.
- 4.3.4.5.4. Jobsite-specific plans training, as appropriate for the corresponding site-specific project. These records should be available (either hard copy or electronically) at the site-specific project for all employees who are part of the workforce at the site-specific location:
 - 4.3.4.5.4.1. Jobsite safety and fall protection,
 - 4.3.4.5.4.2. Safety and emergency services,
 - 4.3.4.5.4.3. Reading job plans and specifications.
 - 4.3.4.5.4.4. Understanding manufacturer's standards and details.
 - 4.3.4.5.4.5. Materials identification.
 - 4.3.4.5.4.6. Commonly-used tools and their proper use,
 - 4.3.4.5.4.7. Proper care of equipment,
 - 4.3.4.5.4.8. Construction cranes.
 - 4.3.4.5.4.9. Forklifts, man-lifts, and scissor lifts,
 - 4.3.4.5.4.10. Pre-assembled concrete and anchor rods,
 - 4.3.4.5.4.11. Conditions at work site prior to assembly,
 - 4.3.4.5.4.12. Hoisting,
 - 4.3.4.5.4.13. Rigging,
 - 4.3.4.5.4.14. Signal person,
 - 4.3.4.5.4.15. Materials staging:
 - 4.3.4.5.4.15.1. Materials planning and scheduling,
 - 4.3.4.5.4.15.2. Materials handling and inventory,
 - 4.3.4.5.4.15.3. Materials storage and protection,
 - 4.3.4.5.4.15.4. Materials unloading and shake-out,
 - 4.3.4.5.4.16. Structural:
 - 4.3.4.5.4.16.1. Primary framing, including any special bolting requirements identified within the contract documents.
 - 4.3.4.5.4.16.2. Secondary framing,
 - 4.3.4.5.4.16.3. Bracing (temporary and permanent),
 - 4.3.4.5.4.16.4. Plumbing and squareness,
 - 4.3.4.5.4.16.5. Detailing,
 - 4.3.4.5.4.17. Wall Covering, including any special training requirements defined as necessary by the Metal Building Manufacturer:
 - 4.3.4.5.4.17.1. Wall panels,
 - 4.3.4.5.4.17.2. Insulated metal panels,
 - 4.3.4.5.4.17.3. Layout,

- 4.3.4.5.4.17.4. Insulation,
- 4.3.4.5.4.17.5. Standard ribbing panels,
- 4.3.4.5.4.17.6. Composite panels,
- 4.3.4.5.4.18. Roof panels, including any special training requirements defined as necessary by the Metal Building Manufacturer:
 - 4.3.4.5.4.18.1. Layout,
 - 4.3.4.5.4.18.2. Insulated metal panels,
 - 4.3.4.5.4.18.3. Insulation,
 - 4.3.4.5.4.18.4. Standard ribbing panels,
 - 4.3.4.5.4.18.5. Standing seam panels,
 - 4.3.4.5.4.18.6. Composite panels,
 - 4.3.4.5.4.18.7. Built-up roof panel system,
- 4.3.4.5.4.19. Trim and flashing, including any special training requirements defined as necessary by the Metal Building Manufacturer:
 - 4.3.4.5.4.19.1. Wall trims,
 - 4.3.4.5.4.19.2. Wall accessories,
 - 4.3.4.5.4.19.3. Roof trims,
 - 4.3.4.5.4.19.4. Roof accessories,
- 4.3.4.5.4.20. Job completion,
- 4.3.4.5.4.21. Final clean-up,
- 4.3.4.5.5. OSHA 10 for all employees with more than one year of service, These records should be available (either hard copy or electronically) at the site-specific project for all employees that are part of the workforce at the site-specific location;
- 4.3.4.5.6. Metal Buildings Institute Quality and Craftsmanship Training Series or Ironworker Quality Construction Practices Metal Building Systems Training;
- 4.3.4.5.7. Any other required certifications and formal training necessary to perform the required tasks, including but not limited to:
 - 4.3.4.5.7.1. Welding,
 - 4.3.4.5.7.2. Aerial lift operator,
 - 4.3.4.5.7.3. Forklift operator,
 - 4.3.4.5.7.4. Crane operator.
 - 4.3.4.5.7.5. Specialty items, such as scaffolding, tools, products and/or equipment that require documented training prior to use.

4.3.5. Safety Program Documentation

- 4.3.5.1. Metal building assemblers accredited under these criteria shall establish and implement a safety program that is fully documented. This program must describe the procedures and activities for ensuring that all employees, subcontractors and processes comply with minimum OSHA standards and/or applicable regulatory requirements.
- 4.3.5.2. Metal building assemblers accredited under these criteria must have documented procedures for the development of jobsite-specific plans prior to commencement of work.
- 4.3.5.3. The safety program document must be signed and dated by the highest level of authority within the metal building assembler.
- 4.3.5.4. The safety program document must be reviewed at least annually.
- 4.3.5.5. Job Safety Analysis documents to be used.

4.4. **Inspection and Special Inspection Agency – Requirements and Responsibilities**

The following sections note the minimum requirements and responsibilities of the IAS-accredited inspection agency or special inspection agency:

- 4.4.1. Inspection agency personnel will conduct an annual jobsite inspection scheduled at a mutually convenient time/location to ensure inspection of a building that is approximately 75% complete; therefore, inspections must be announced.
- 4.4.2. IAS will be notified, in writing, prior to any cancellation of the inspection agreement with the accredited metal building assembler.
- 4.4.3. IAS will be notified, in writing, by the accredited entity and the inspection or special inspection agency if follow-up inspections have not been conducted by the inspection or special inspection agency.
- 4.4.4. **Inspection Reports:** The inspection report, at a minimum, must include the following information and reference to:
 - 4.4.4.1. **On-site inspection records shall include:**
 - 4.4.4.1.1. A site-specific project plan.
 - 4.4.4.1.2. Daily jobsite checklist.
 - 4.4.4.1.3. JSA's job safety analysis.
 - 4.4.4.1.4. Site layout plan.
 - 4.4.4.1.5. Quality control plan.
 - 4.4.4.1.6. Narrative regarding the erection plan.
 - 4.4.4.1.7. Records that demonstrate assembly proceeds only after concrete has sufficiently cured and that anchor rods, if modified, have the approval of the engineer of record.

4.4.4.2. **Receiving/Storage:** Process for unloading and inventorying.

4.4.4.3. **Training**

4.4.4.3.1. Inspector to validate at least 30% of jobsite personnel. Inspector to list personnel verified and total number of personnel on jobsite.

4.4.4.3.2. OSHA 10 training for personnel on jobsite with at least one year experience.

4.4.4.3.3. Records of craft workers' certifications and training appropriate for their assigned task.

4.4.4.4. **Welding and Bolting Requirements:** Inspector must review the welding and bolting procedures required for the project.

4.5. **Onsite Job-specific Assessment:** The minimum requirements of the IAS onsite job-specific assessment and verification of jobsite-specific documentation are as follows:

4.5.1. IAS personnel will conduct an initial onsite inspection, followed up the second year and then biennially; scheduled at a mutually convenient time/location to ensure inspection of a building that is approximately 75% complete; therefore, inspections must be announced.

4.5.2. Basic Information;

4.5.2.1. The name of the metal building assembler and its legal identity (company registration details),

4.5.2.2. The physical address of the metal building assembler,

4.5.2.3. The mailing address (if different),

4.5.2.4. Name and title of the person serving as the IAS contact, including the telephone number and e-mail address,

4.5.2.5. The physical address of the specific jobsite,

4.5.2.6. The job-specific project name used to identify the project.

4.5.2.7. A set of Final erection drawings submitted by the Metal Building Manufacturer.

4.5.3. **Required Statements:** The following statements must be provided:

4.5.3.1. All activities of the metal building assembler shall be directed in such a manner as to ensure the safety and training requirements of these criteria will be met,

4.5.3.2. The element of the safety and training program will be disseminated to all personnel assigned activities who are involved with the assembly of metal buildings,

4.5.3.3. IAS and the accredited inspection agency or special inspection agency must be notified within 30 days of any changes in management personnel. As a minimum, this would include the president, general manager, quality manager, safety manager, and training manager,

- 4.5.4. **Control of Documents:** Procedures for control of documents and data relating to safety and training programs must be provided. This control shall include the following:
- 4.5.4.1. Verify that the latest approved document is being followed,
 - 4.5.4.2. Verify that only the current, approved documents are being used,
 - 4.5.4.3. Verify that documents are available at all locations where necessary for the proper functioning of the management system,
- 4.5.5. **Field Personnel Training Program Documentation**
- 4.5.5.1. Verify that the training program implemented by the metal building assemblers accredited under these criteria to ensure a qualified labor force (including new hires) competent in techniques necessary to ensure the quality and integrity of assembled metal buildings is documented, been read by all employees working onsite, and understood by all employees working onsite,
 - 4.5.5.2. Verify that the metal building assembler is following their documented procedures for storing, maintaining, and accessing training records and maintaining personnel qualifications,
 - 4.5.5.3. Verify the training requirements established for foremen, journey workers, and apprentices have been followed, regardless of whether there is a formal apprenticeship program in place.
 - 4.5.5.4. Verify that the training program is documented to ensure at least 50% of personnel at the specific jobsite are qualified for the task at hand,
 - 4.5.5.5. Verify that the training program is documented to ensure at least 25% of the work force at the specific jobsite have achieved the journey worker status or equivalent,
 - 4.5.5.6. Verify that the training program records for personnel on the specific jobsite consist of documentation that include the following:
 - 4.5.5.6.1. Completed and dated training attendance records,
 - 4.5.5.6.2. Documentation proving comprehension of training (e.g., passing test results),
 - 4.5.5.6.3. Evaluations of employees and subcontractors,
 - 4.5.5.6.4. Site-specific plans training, as appropriate, for the corresponding site-specific project. These should be available (either hard copy or electronically) at the site-specific project for all employees that are part of the workforce at the site-specific location:
 - 4.5.5.6.4.1. Reading job plans and specifications,
 - 4.5.5.6.4.2. Understanding manufacturer's standards and details,
 - 4.5.5.6.4.3. Materials identification,
 - 4.5.5.6.4.4. Commonly used tools and their proper use,
 - 4.5.5.6.4.5. Proper care of equipment,

- 4.5.5.6.4.6. Construction cranes,
- 4.5.5.6.4.7. Forklifts, man-lifts, and scissor-lifts,
- 4.5.5.6.4.8. Pre-assembled concrete and anchor rods,
- 4.5.5.6.4.9. Conditions at work site prior to assembly,
- 4.5.5.6.4.10. Hoisting,
- 4.5.5.6.4.11. Rigging.
- 4.5.5.6.4.12. Signal person,
- 4.5.5.6.4.13. Materials staging:
 - 4.5.5.6.4.13.1. Materials planning and scheduling,
 - 4.5.5.6.4.13.2. Materials handling and inventory; any special requirements from the material supplier,
 - 4.5.5.6.4.13.3. Materials storage and protection,
 - 4.5.5.6.4.13.4. Materials unloading and shake-out; process of documenting receipt of damaged material,
- 4.5.5.6.4.14. Structural:
 - 4.5.5.6.4.14.1. Primary framing,
 - 4.5.5.6.4.14.1.1. Any special bolting requirements identified within the contract documents,
 - 4.5.5.6.4.14.1.2. Review any special welding procedures required,
 - 4.5.5.6.4.14.2. Secondary framing; review any special welding procedures required,
 - 4.5.5.6.4.14.3. Permanent and temporary bracing,
 - 4.5.5.6.4.14.4. Plumbing and squaring,
 - 4.5.5.6.4.14.5. Detailing,
- 4.5.5.6.4.15. Wall covering, including any special training requirements defined as necessary by the metal building manufacturer:
 - 4.5.5.6.4.15.1. Wall panels,
 - 4.5.5.6.4.15.2. Insulated metal panels,
 - 4.5.5.6.4.15.3. Layout,
 - 4.5.5.6.4.15.4. Insulation,
 - 4.5.5.6.4.15.5. Standard ribbing panels,
 - 4.5.5.6.4.15.6. Composite panels.
- 4.5.5.6.4.16. Roof panels, including any special training requirements defined as necessary by the metal building manufacturer:
 - 4.5.5.6.4.16.1. Roof panels,
 - 4.5.5.6.4.16.2. Insulated metal panels,

- 4.5.5.6.4.16.3. Layout,
- 4.5.5.6.4.16.4. Insulation,
- 4.5.5.6.4.16.5. Standard ribbing panels,
- 4.5.5.6.4.16.6. Standing seam panels,
- 4.5.5.6.4.16.7. Composite panels,
- 4.5.5.6.4.17. Trim and flashing, including any special training requirements defined as necessary by the metal building manufacturer:
 - 4.5.5.6.4.17.1. Wall trims,
 - 4.5.5.6.4.17.2. Wall accessories,
 - 4.5.5.6.4.17.3. Roof trims,
 - 4.5.5.6.4.17.4. Roof accessories,
- 4.5.5.6.4.18. Job completion,
- 4.5.5.6.4.19. Final clean-up,
- 4.5.5.6.5. Metal Buildings Institute Quality and Craftsmanship Training Series or Ironworker Quality Construction Practices Metal Building Systems Training;
- 4.5.5.6.6. Any other certifications and formal training necessary to perform the required tasks, including but not limited to:
 - 4.5.5.6.6.1. Welding,
 - 4.5.5.6.6.2. Aerial lift operator,
 - 4.5.5.6.6.3. Forklift telehandler,
 - 4.5.5.6.6.4. Crane operator,
 - 4.5.5.6.6.5. Specialty items, such as scaffolding, tools, products, and/or equipment that require documented training prior to use,

4.5.6. Field Personnel Safety Program Documentation

- 4.5.6.1. Verify that the safety program implemented by the metal building assemblers accredited under these criteria to ensure a qualified labor force (including new hires) competent in techniques necessary to ensure the quality and integrity of assembled metal buildings is documented, been read by all employees working onsite, and understood by all employees working onsite,
- 4.5.6.2. Verify that the metal building assembler is following their documented procedures for storing, maintaining, and accessing safety records and maintaining personnel qualifications,
- 4.5.6.3. Verify that the safety program records for personnel on the specific jobsite consist of documentation that include the following:
 - 4.5.6.3.1. Jobsite safety and fall protection,
 - 4.5.6.3.2. Safety and emergency services,

- 4.5.6.3.3. Commonly used tools and their proper (safe) use,
- 4.5.6.3.4. Proper (safe) care of equipment,
- 4.5.6.3.5. Safe working conditions at construction crane site,
- 4.5.6.3.6. Safe working conditions of forklifts, man-lifts, and scissor-lifts,
- 4.5.6.3.7. Documented safe conditions at work site prior to assembly,
- 4.5.6.3.8. Safe hoisting conditions,
- 4.5.6.3.9. Safe rigging equipment conditions,
- 4.5.6.3.10. Safe conditions followed by Signal person,
- 4.5.6.3.11. Safe conditions surrounding materials staging: Safe material handling.
- 4.5.6.3.12. Safe structural conditions observed:
 - 4.5.6.3.12.1. Installation of safe permanent bracing observed,
 - 4.5.6.3.12.2. Installation of safe temporary bracing observed,
- 4.5.6.3.13. Safe wall panel installation procedures observed,
- 4.5.6.3.14. Safe roof panel installation procedures observed,
- 4.5.6.3.15. Safe trim and flashing installation procedures observed,
- 4.5.6.3.16. Safe clean-up procedures observed,
- 4.5.6.4. OSHA 10 for all employees with more than one year of service. These records should be available (either hard copy or electronically) at the site-specific project for all employees that are part of the workforce at the site-specific location.
- 4.5.6.5. Completed Job Safety Analysis (JSA) forms,

5. ADDITIONAL INFORMATION (AS APPLICABLE)

- 5.1. Minimum Design Loads for Buildings and Other Structures (ASCE/SEI 7), published by the American Society of Civil Engineers/Structural Engineering Institute.
- 5.2. Specification for Structural Steel Buildings (AISC 360), published by the American Institute of Steel Construction.
- 5.3. AISI S100 – North American Specification for the Design of Cold-Formed Steel Structural Members, published by the American Iron and Steel Institute.
- 5.4. IAS Accreditation Criteria for Inspection Agencies AC98.
- 5.5. MBMA Metal Building Systems Manual.
- 5.6. National Guidelines for Apprenticeship Standards developed by Metal Buildings Institute for the occupation of Assembler, Pre-Engineered Metal Buildings, O*NET/SOC CODE 47-2221.00, RAPIDS CODE: 0877, available at:
http://www.doleta.gov/oa/bul10/Bulletin_2010_09_Attachments.pdf.
- 5.7. Specification for Structural Joints Using High-Strength Bolts, available from the Research Council on Structural Connections (RCSC).

5.8. Structural Bolting Handbook, published by the Steel Structures Technology Center, Inc.

6. LINKS TO ADDITIONAL REFERENCES:

- 6.1. IAS – www.iasonline.org
- 6.2. MBCEA – www.mbcea.org
- 6.3. IMPACT – www.impact.org
- 6.4. ICC – www.iccsafe.org
- 6.5. MBMA – www.mbma.com

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