



AMERICAN INSTITUTE OF TIMBER CONSTRUCTION

Tech Note 10

AITC Quality Control Program

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AITC offers inspection and certification services incorporating the AITC Quality Control program for several wood products, including their fabrication. The AITC Quality Control program blends the skills and professional expertise of people who understand the importance of consumer confidence in the product certification process. The AITC Inspection Bureau staff is able to enhance the efforts of production personnel engaged in the manufacture and fabrication of wood products through use of a disciplined monitoring system of process control procedures. Predictable structural performance as well as accurate fabrication of wood products manufactured or fabricated under the AITC Quality Control program is assured through daily physical testing, manufacturing check points, and visual inspection during the production process, all audited by and verified by the AITC Inspection Bureau.

Structural Glued Laminated Timber (Glulam)

Glulam manufacturing plants are initially “qualified” as licensees following a series of in-plant evaluations of production machinery, processes, and personnel. These evaluations include physical tests to verify the structural adequacy of end joint and face joint bonding procedures, review of lumber grading procedures, independent load verification of selected equipment and machinery, and other process verification testing to ensure that the manufacturing facility can consistently produce a structurally adequate product.

Required daily physical tests are designed to evaluate the strength and durability of face and end joint bonds. Representative test samples are selected at random from production members and evaluated before that portion of production is shipped. In addition, production equipment is monitored continuously. Machine settings established under plant qualification conditions are maintained during routine production. Prior to application of any of the AITC certification marks, each glulam member is carefully inspected by personnel specially trained for that purpose.

All AITC Qualified Licensee plants manufacture glulam in conformance with American National Standard ANSI A190.1. This Standard was developed and is maintained by a consensus process. Practicing engineers, representatives from the academic community, construction personnel, and code agencies from outside the glulam industry are included in the development and review process. In this way, resulting manufacturing standards and quality control requirements reflect the product performance experience of a broad range of experts

Questions regarding interpretation of ANSI A190.1 are addressed by the industry Technical Review Board. The AITC Arbitration Review Board handles any necessary arbitration between the AITC Inspection Bureau staff and plant personnel. The Technical Review Board and the Arbitration Review Board are made up of independent individuals who are knowledgeable in the use and manufacture of structural glued laminated timber.

Qualified licensees must maintain strict conformance to AITC standards in order to use the AITC quality marks and Certificates of Conformance. The AITC Inspection Bureau staff provides rigorous training through on-going in-plant and regional programs. Key personnel involved in the quality control program are properly trained before they are given on-line responsibilities in the manufacturing process. The AITC Inspection Bureau staff monitors the operation of member plants through unannounced audits that require checks of all records and all phases of production.



AITC personnel involved in the AITC Quality Control Program are the most knowledgeable and highly qualified personnel in the industry in all phases of the system. AITC’s program is designed to keep pace with the latest in technology and to upgrade manufacturing procedures to reflect improvements in methodology. Structural glued laminated timber manufactured under the AITC Quality Control Program is the best quality available.

Glulam members are stamped with one of the following types of quality mark. Each qualified plant has an individual qualification designation. The designation “P-143” shown on the typical quality marks below is not assigned to any plant and is used only for the purpose of illustration.

A Typical Custom* Product Quality Mark

P-143 — AITC designation of qualified licensee plant

ANSI A190.1-xxxx — Indicates conformance to ANSI A190.1-xxxx, Structural Glued Laminated Timber

Indicates that the designated licensed plant has met all requirements for qualification and maintains an acceptable quality control system, which is periodically audited by AITC.

A Typical Non-Custom Product Quality Mark**

APPEARANCE — Designates appearance grade. FRAM, FRAM-L – Framing. IND, IND-L – Industrial. ARCH – Architectural. PREM – Premium.

P-143 — AITC designation of qualified licensee plant

SPECIES — Name of wood species group used

117-xx LAYUP — Designates applicable AITC lamination specification and combination symbol; for example: "117-20 24F-V8"

ANSI A190.1-xxxx — Indicates conformance to ANSI A190.1-xxxx, Structural Glued Laminated Timber

Indicates that the designated licensed plant has met all requirements for qualification and maintains an acceptable quality control system, which is periodically audited by AITC.

* For custom products, details covering the product are included in applicable documents.

** For non-custom products, essential details are included on the stamp.



AITC Certified Fabricator Program

AITC offers a program to timber fabricators to help ensure conformance to the International Building Code (IBC). Section 1704.2 of the IBC requires that special inspectors be present during the fabrication of structural load-bearing members and assemblies, including wood fabrications (section 1705.5). Section 1704.2.5.1 offers an exception when a fabricator has a recognized certification program in place. AITC's program fulfills this requirement, allowing an AITC Certified Fabricator to comply with section 1704.2.5.1 without requiring the presence of special inspectors during fabrication.

The purposes of the program are to establish nationally recognized requirements for the fabrication of structural timber components and assemblies and to provide a common basis of understanding with respect to what constitutes sound requirements for the fabrication of timber components and assemblies. AITC 115-2009, *Standard for Fabricated Structural Timber Components and Assemblies*, was developed as the guiding standard for this program.

Certified Fabricator Mark

CERTIFIED
FABRICATOR



AITC 115-23[®]

P-143

