

# ISO 16696-1:2019 (E)

## Timber structures — Cross laminated timber — Part 1: Component performance, production requirements and certification scheme

---

### Contents

	Foreword
	Introduction
1	Scope
2	Normative references
3	Terms and definitions
4	Symbols and subscripts
4.1	Symbols
4.2	Subscripts
5	CLT panel dimensional tolerances
5.1	Dimensional tolerances at time of manufacture
5.1.1	General
5.1.2	Panel thickness
5.1.3	Layer thickness
5.1.4	Panel width
5.1.5	Panel length
5.1.6	Grooves and edge bonds
5.2	Squareness
5.3	Straightness
6	Component requirements
6.1	Solid sawn timber
6.1.1	Solid sawn timber species
6.1.2	Solid sawn timber sizes
6.1.3	Moisture content
6.1.4	Solid sawn timber face-bonding surface
6.1.5	Face-bonding dimensional tolerances
6.2	Wood based panels
6.2.1	General
6.2.2	Moisture content
6.2.3	Wood based panels face-bonding surface
6.2.4	Face-bonding dimensional tolerances
6.3	Adhesive requirements
6.3.1	General
6.3.2	Testing for minor changes of adhesive systems
6.3.3	Finger joints in laminations when used
6.3.4	Edge joints in laminations when used
6.3.5	Glue line integrity for glue lines between layers (face joints)
6.3.6	Shear strength of edge bonds in solid sawn timber layers
6.4	Large finger joints of panels
6.4.1	General
6.4.2	Bending strength
7	Cross laminated timber performance criteria
7.1	Layup requirements
7.2	Mechanical resistance of cross laminated timber products
7.3	Durability against biological attack
7.3.1	General

7.3.2	Solid sawn timber layers without preservative treatment
7.3.3	Solid sawn timber layers with preservative treatment
7.3.4	CLT treated with preservative treatment
7.4	Formaldehyde emission
7.5	Dimensional stability
7.5.1	General
7.5.2	Maximum deviations
7.5.3	Corrected sizes and moisture deformation factor
7.6	Appearance classification
8	Production, testing, and trade marking
Annex A	(normative) Panel layup (construction)
Annex B	(normative) Examples of CLT appearance classification
B.1	General
B.2	Architectural appearance classification
B.3	Industrial appearance classification
Annex C	(normative) Ply grading
Annex D	(normative) Production assessment, trade marking and factory production control
D.1	Product assessment
D.1.1	Qualification testing
D.1.2	Sample conditioning
D.1.3	Bending test methods
D.1.4	Bending test requirements
D.1.5	Shear test methods
D.1.6	Shear test requirements
D.1.7	Test reports
D.1.8	Declaration of Performance
D.2	Trade marking and labelling
D.2.1	Conformance
D.2.2	Product marking
D.2.3	Product marking for CLT with large finger joints
D.2.4	Frequency of marking
D.2.5	Custom products
D.2.6	Voiding marks
D.3	Factory production control (FPC)
D.3.1	General
D.3.2	Finished production inspection
D.3.3	Minor variations
D.3.4	Manufacturer-specific FPC system
D.3.5	Traceability and marking
D.3.6	Controls during manufacturing process
D.3.7	Product testing and evaluation
D.3.8	Non-complying products
D.3.9	Corrective action
D.3.10	Handling, storage and packaging
D.3.11	Initial inspection of factory and of FPC
D.3.12	Continuous surveillance of FPC
D.3.13	Procedure for modifications
D.3.14	Supplementary properties gathered during FPC programme
Annex E	(informative) Supplementary properties