

Laminated beams

Laminated beams made of end-jointed lamellas – very large and strong beams can be created (very large spans.)

Types of laminated beams:

- Glulam beams
- 2- and 3-layer beams (duo and triobalken)
- “kreuzbalken”

Glued-laminated beams

Beams made of 3 or more lamainates.

Types:

- various cross sections
- vertically or horizontally laminated
- prismatic or non-prismatic
- straight or curved

Requirements: (EN 386:2001),

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- Based on exposure classes
- Lamella cross-sections
- Lateral and end-jointing of lamellas
- Grooving
- Ring orientation
- Curvature (radius)

Technology:

- Design and preparation (only in non-prismatic and curved beams)
- Pre-sorting

- Stacking for drying
- Drying
- De-stacking
- Planing (optional)
- Strength classification
- Moisture measurement
- Cross-cutting
- Jointing
- Planing
- Glue-application
 - Roller
 - Curtain coater
 - Nozzle coater
- Stacking and feeding into the press
- Pressing (clamping/cramping)
 - Using separate clamps
 - Vertical / Horizontal / Rotating clamps
Horizontal clamps: various positioning methods!
 - Open and closed frames
 - Pressure application: hydraulic, pneumatic, mechanical
 - Lateral adjustment of the lamella faces
 - The importance of open, closed and pressing times.

- Removal from the press
- Storage and final shaping (planing, contouring, surface improvement and treatment, etc.)
- Installing the connectors (optional)
- Shipping

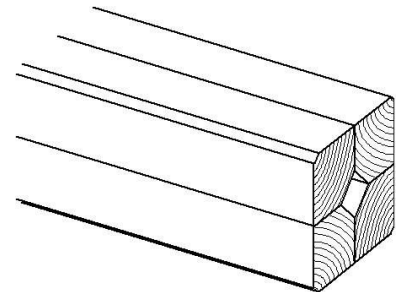
Two and three layer beams

Smaller beams, typically for residential applications.

Requirements and manufacturing similar to glulam.

Kreuzbalken

Made of small cross section logs, and includes a hole in the middle of the cross section!



Advantages:

- Good performance in bending, with less material
- Pith side out
- Dimensional stability
- Cavity allows special connectors to be installed (e.g. induo)

Requirements:

- Cavity located centrally,
- Cavity width and height not to exceed 40% of the width and depth, respectively.

Manufacturing:

- Beam sawing (with round corners)
- Quarter sawing
- Drying
- Planing (+ moulding)
- Gluing – may be two-step or one-step (special press)
- Final shaping and storage