

A very important area of application for TMT is decking (external flooring). There are no special standards for this so far. Relevant regulations and sources of information are listed at the end. The Leaflet provides information on special features of TMT as well as relevant rules and provides information and recommendations on wood selection, processing, installation and care. In principle, all usual rules for construction and structural-constructive wood protection must be observed when using TMT; furthermore, the manufacturer's instructions must be observed.

Information specifically on TMT with regard to its use in outdoor coverings can be found in the ThermoWood® Handbook of the International ThermoWood Association (ITWA). Extensive information on TMT in German language can also be found in the „Anwenderleitfaden für Holzbeläge im Außenbereich“ (compiled by IHD and Holzforschung Austria), the contents of which are also available under www.dataholz.eu; the brochure „Terrassen- und Balkonbeläge aus Holz und Holzwerkstoffen“ from the German Timber Trade Association is also recommended.

Special features compared to untreated wood

Wood property	Explanation
Biological durability	increased compared to wood-destroying fungi, durability class depending on the wood species and treatment intensity; infestation by wood-discolouring organisms possible (see TMT-Leaflet 02)
Swelling/shrinkage	usually reduced by approx. 50 %
Dimensional stability	remaining swelling potential (width) and low installation moisture should be considered
Stability in shape	significantly improved; advantageous e.g. with slim-shaped profiles
Cracking	possible in principle; may be favoured by increased brittleness
Shades	greying similar to untreated wood, possibly faster; see TMT-Leaflet 02
pH	reduced; discolouration possible in contact with ferrous metals
Ingredients	Degradation products from the modification can be washed out by precipitation

Durability, use class

Terrace and balcony coverings are generally to be assigned to use class (UC) 3.2 according to EN 335. In the case of unfavourable conditions, e.g. heavy shading or accumulation of leaves or dirt, conditions of UC 4 (ground contact) may occur. Basic

information on durability can be found in TMT-Leaflet 02. Recommendations on the durability of non-load-bearing components can be found in DIN 68800-1, Table E.1. The following table contains information (excerpt) from this

Component/exposure (examples)	Use class according to EN 335	Recommended minimum durability of wood with an expected service life (normal protection level)	
		up to 10 years	up to 30 years
Gardening and landscaping timber, horizontally installed, above ground	UC 3.1	3-4	3
Gardening and landscaping timber, horizontally installed, above ground, subject to heavy exposure	UC 3.2	3-4	2
	UC 4*	2	1

*) in the case of strong shading or deposition of e.g. soil, leaves or dirt

Wood quality

The following wood quality is recommended for TMT decking:

- Oblique tree ring orientation (semi-quarter sawn)
- No pith or juvenile wood
- No or little fiber deviation

- Only sound knots, no coarse or dead or knots
- Even, moderate annual ring width
- No red heart in beech TMT; brown heart in ash TMT is acceptable

Modification, profiling, delivery quality

- Modification according to use class 3.2
- Board thickness at least 25 mm, board width maximum 120 mm
- Avoid deep grooves on the top or narrow side for fastening (material weakening),

Installation

- Substructure: without direct contact with the ground on a capillary-breaking layer; durability class as high as possible; if necessary, use impregnated wood (UC 4 quality) or aluminium profiles
- Support spacing depending on the board cross-section; less than with untreated wood (max. 50 cm)
- Mind the low wood moisture content of the boards (commercially available wood moisture meters are suitable)
- Select the lateral joint width so that 4 mm of gap remains when fully swollen

- Smooth-edged profiles preferred; corrugation has no technical or rather optical advantages
- Rounded edges (radius ≥ 2 mm) to prevent edge breaks and chipping

- Pre-drill holes (screw $\varnothing + 1$ mm) and pre-countersink; distance laterally ≥ 25 mm, from the end of the board ≥ 50 mm
- Waterproof finger joints possible for fixed lengths, but not recommended
- Use corrosion-resistant fasteners

NOTE: Decking boards may be considered as wear components. TMT is not intended for load-bearing components in decking; a proof of usability would be required.

Surface treatment

- Treatment with non-layering agents, preferably terrace oils, recommended, but not absolutely necessary
- Agents should be dyed/pigmented according to the initial

- shade (UV protection, preservation of appearance)
- Treatment as far as possible on all sides; if on site, if possible before installation

Use, care, disposal

- Avoid contact with ferrous metal (metal dust, cement, furniture feet) (black discolouration possible)
- Cleaning at least 1x a year, depending on local conditions and stress, preferably 2x (spring/autumn); after cleaning and

- drying, follow up if necessary (same remedy as for initial treatment)
- Disposal via the usual channels (e.g. recycling centre); waste TMT corresponds to waste wood category A II

Bibliography

International Thermowood Association: ThermoWood® Handbook (www.thermowood.fi)

Anwenderleitfaden für Holzbeläge im Außenbereich. IHD and Holzforschung Austria, 2022 (BMWK/AiF, FKZ 272 EBR)

Terrassen- und Balkonbeläge aus Holz und Holzwerkstoffen. Regeln für Produkte und Anwendungen. Gesamtverband Deutscher Holzhandel e. V., 6. Auflage 2026

EN 335:2013, Durability of wood and wood-based products - Use classes: definitions, application to solid wood and wood-based products

DIN 68800-1:2019-06, Holzschutz - Teil 1: Allgemeines



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M.TMT03/26

