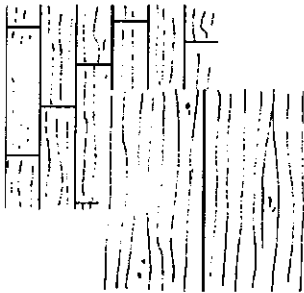


# HAMBERGER

Production Engineering/Laboratory

## Technical Data Sheet for HARO HARDWOOD FLOOR

4000 Lock Connect 13mm



# HARO®

## HARDWOOD FLOOR



**bioTec**  
OIL/WAX FINISH

**PERMADUR®**

HIGH FINISH

NATURAL MATT

**PERMADUR®**

HIGH FINISH

### Laboratory tests

Test criteria	Internal target values HARO <sup>1)</sup>	Description
Abrasion resistance (EN 438-2, 6) Falling Sand	IP ≥ 300 rev.	Only PERMADUR high finish Evaluation of the abrasion resistance of the surface finish by means of the IP value determined in the so-called Taber Abraser Test
	IP ≥ 2000 rev.	
Scratch resistance (EN 438-2, 14) ("Planing" test)	2.0 N	Only PERMADUR high finish: Greatest weight force under which an edged tip (diamond) which is drawn across the surface leaves an only just visible marking. Conventional UV finishes achieve values of < 1.5 N
	> 20 N	HARO factory procedure; conventional UV finishes achieve values of < 20 N
Impact test (EN 438-2, 12)	> 1200 mm	Evaluation of the behaviour when subjected to impact from a large steel ball dropped on the surface (falling-ball test)
Slip resistance	μ = 0.5 - 0.7	Evaluation by means of the μ-value under field conditions; HARO HARDWOOD FLOOR is even used for sports flooring!
Resistance to staining (DIN 68861, group A)	resistant	No visible changes, even after prolonged exposure, from staining liquids commonly found in households (only with surface finish)
Resistance to soiling	resistant	Dirt-repellent due to closed-pore surface (only with surface finish)
Hardness (EN 1534) (EN 433)	25 - 35 N/mm <sup>2</sup>	Brinell hardness; the results achieved depend on the wood species and range from 25 to 35 N/mm <sup>2</sup>
	< 0.01 mm	Residual indentation after constant load
Formaldehyde and VOC emission (EN 717)	harmless	HARO HARDWOOD FLOOR is - in some cases even considerably - below the applicable limit values in all material variants and meets the requirements for the "Blue Angel" eco label
Heat transfer resistance (DIN 4108)	0.11 m <sup>2</sup> /k/W	Thermal conductivity value; good conductivity recommended for underfloor heating (limit value max. 0.15 m <sup>2</sup> /k/W), low conductivity (insulation) for "foot-cold" floors.
Dimensional stability, longitudinal and transverse	dimensionally stable	Under normal climatic indoor conditions no negative deformations are to be expected; complies with the requirements for multi-layer hardwood flooring.
Electrical resistance	10 <sup>10</sup> - 10 <sup>7</sup> Ω	Resistance of wood and wood-based material with a moisture content of 5% to 20%; wood and wood-based materials are considered to be materials with derivation ability
Bonding quality (EN 204)	D3	D3 = Stress group for indoor areas

<sup>1)</sup> Values apply internally as target values; in external communication, the values apply according to standard, if defined!

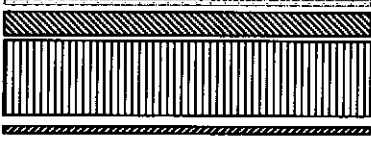
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## Technical Data Sheet for HARO HARDWOOD FLOOR

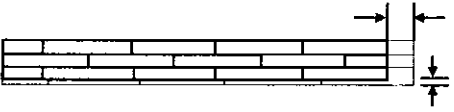

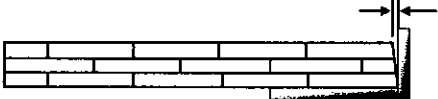
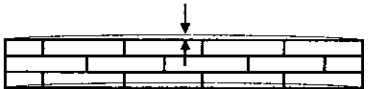
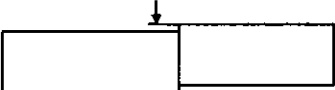
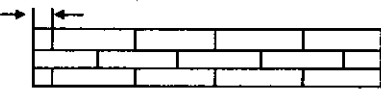
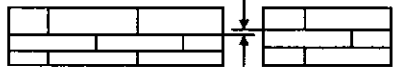
### 4000 Lock Connect 13mm

#### Construction

PERMADUR high finish Precious-wood top layer		approx. 40 - 50 µm
Fingerstrip middle layer		3.6 mm
Balance backing veneer		8.6 mm
Total thickness		2.0 mm
Total thickness		13.4 +/- 0.2 mm
Surface layer dim.		180 mm x 2200 mm

#### Ready-to-install plank

Quality criteria	EN 13489	Internal target values HARO <sup>1)</sup>	Symbol
Top layer thickness	min. 2.5 mm	3.6 mm	
Equilibrium wood moisture content	5 - 9 %	5 - 9 %	Corresponds to the average Middle European annual climatic indoor conditions

Tolerance criteria <sup>2)</sup>				Symbol
Length	—	+/- 1.0 mm		
Width	+/- 0.2 mm	+/- 0.1 mm		
Deviation from flatness	long.	—	+ 20 mm - 10 mm	
	trans.	+/- 0.36 mm	+/- 0.36 mm	
Deviation from squareness	max. 0.36 mm	max. 0.1 mm		
Straightness of surface layer (sickle-shaped warping)	max. 2.2 mm	max. 1.5 mm		
Height difference between planks (raised edges)	max. 0.2 mm	max. 0.1 mm		
Pattern offset with longstrip, longitudinal (original-size planks)	—	min. 140 mm		
Pattern offset with longstrip, transverse	—	+/- 2 mm		

<sup>1)</sup> Values apply internally as target values; in external communication, the values apply according to standard, if defined!

<sup>2)</sup> Manufacturing tolerances; apply to the condition at the time of dispatch and relate to a wood moisture content of 7%