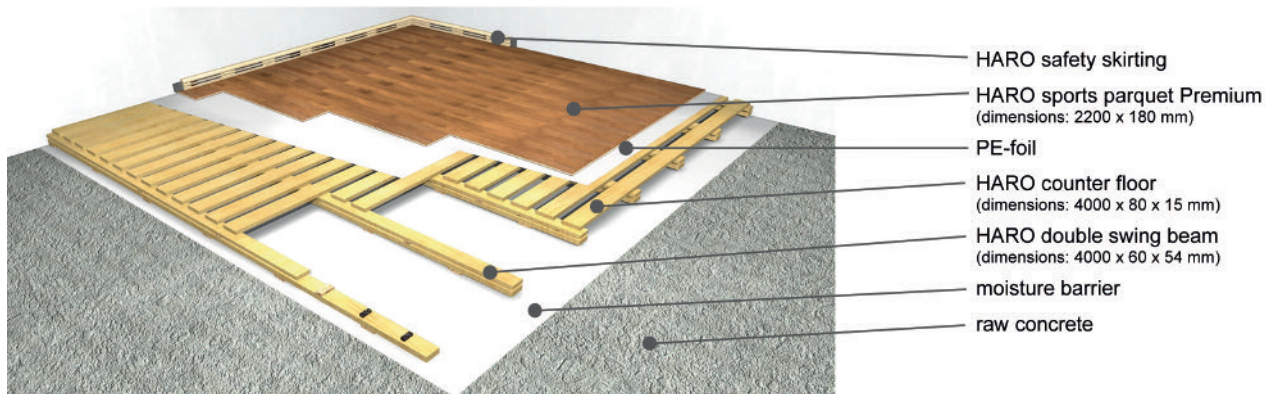


HARO Sports Floors

Dominating the game.

BERLIN 12 F/13 F/21

Type: Area-elastic sports floor
Usage: sports and multi purpose facilities



Installation from the top edge of raw concrete	Model Berlin 12 F	Modell Berlin 13 F	Model Berlin 21
HARO double swing beam , pre-fabricated, laid out in longitudinal direction Spacing centre to centre: 444 mm		54 mm Foam Pads	54 mm Regupol Pads
HARO Counter floor nailed crosswise onto the double swing beam The timber is: • parallel edged • planed all-over • kiln dried Spacing centre to centre: 122 mm		15 mm	
PE-foil , 10% overlapped, loosely laid out		0,03 mm	
HARO sports parquet Premium is an engineered hardwood flooring, nailed (Berlin 12+21) or stapled (Berlin 13) onto the counter floor. Solid wood top layer Berlin 12 F: 5,6 mm Solid wood top layer Berlin 13 F: 3,6 mm Solid wood top layer Berlin 21: 8 mm Factory-finished with the highly wear resistant PERMADUR® sealing	18,3 mm	12,6 mm	20,7 mm
Overall height of construction	87,3 mm	81,6 mm	89,7 mm
Performance Values acc. DIN 18032 Part II	Berlin 12 F	Berlin 13 F	Berlin 21
Shock absorption , % ≥ 53 (min. value)	61 %	57 %	62 %
Vertical deformation , mm ≥ 2,3 (min. value)	2,7 mm	2,5 mm	2,8 mm
Behavior under rolling load , 1500 N	✓	✓	✓
Ball reflection , % ≥ 90 (min. value)	97 %	99 %	92 %
Sliding characteristics , 0,4 – 0,6 (min./max.)	0,46/0,52	0,46/0,52	0,43/0,49
Area deflection , % ≤ 15 (av. value)	6,7 %	9,6 %	11,1 %
Concrete slab tolerances according to DIN 18202:1997-04, figure 3	3 mm (1/8") in a radius of 1 meter (3' 3") 9 mm (3/8") in a radius of 4 meter (13' 1") 12 mm (1/2") in a radius of 10 meter (39' 4") 15 mm (5/8") in a radius of 15 meter (49' 2")		

Models BERLIN 12 F, 13 F and 21 meet and exceed the EN 14904, FIBA rules, DIN V 18032-2; April 2001 and are subject to the annual quality control RAL GZ 942. Model BERLIN 12 F is also subject to the Austrian standard ÖISS directive 08/2005.

