Technical data

noraplan®

	Test method	Requirements	Average test results from running production								
			uni 2.0 mm **logic** 2.0 mm **signa** 2.0 mm **stone** 2.0 mm **mega** 2.0 mm **plus** 2.0 mm **classic** 2.0 mm **grip** 2.0 mm	**ultra grip** 2.0 mm	**eco** 2.0 mm	**signa** 3.0 mm	**mega** 3.0 mm	**stone acoustic** **mega acoustic** **signa acoustic**	**stone al** 2.0 mm **mega al** 2.0 mm **plus al** 2.0 mm **signa al** 2.0 mm	**plus al** 3.5 mm **signa al** 3.5 mm	**duo el**
CE conformity	**EN 14 041**		◄ **Manufacturer: nora systems GmbH, D-69469 Weinheim** ►								
Dynamic coefficient of friction	EN 13 893		◄ DS ►								
Electrical behaviour	EN 1081		-	-	-	-	-	-	≤ 10^9		≤ 10^6
Reaction to fire	EN 13 501-1	not bonded	◄ C_{fl}-s1 ►								B_{fl}-s1
Reaction to fire	EN 13 501-1	bonded on mineral subfloor	B_{fl}-s1	C_{fl}-s1	C_{fl}-s1	C_{fl}-s1	B_{fl}-s1	-	-		-
Properties acc. to EN 1817/EN 14 521											
Thickness	EN 428	Mean of nominal value without foam backing ± 0.15 mm with foam backing ± 0.20 mm	2.0 mm -	2.0 mm -	2.0 mm -	3.0 mm -	3.0 mm -	- 4.0 mm	2.0 mm -	3.5 mm -	2.5 mm -
Dimensional stability	EN 434	± 0.4 %	◄ ± 0.3 % ►								
Cigarette-burn resistance	EN 1399	Procedure A (stubbed out) level ≥ 4 Procedure B (burning) level ≥ 3	◄ fulfilled ►							-	fulfilled
Flexibility	EN 435, procedure A	Mandrel diameter 20 mm, no fissuring	◄ fulfilled ►			-	-	◄ fulfilled ►		-	fulfilled
Hardness	ISO 7619	≥ 75 Shore A	92 Shore A	92 Shore A	92 Shore A	92 Shore A	92 Shore A	85 Shore A	92 Shore A		92 Shore A
Residual indentation	EN 433	Mean value ≤ 0.15 mm at thickness < 2.5 mm	0.05 mm	0,05 mm	0.06 mm	-	-	-	0.05 mm	-	-
		Mean value ≤ 0.20 mm at thickness ≥ 2.5 mm	-	-	-	0.05 mm	0.05 mm	-	-	0.05 mm	0.03 mm
		acoustic: Mean value ≤ 0.25 mm	-	-	-	-	-	0.25 mm	-		-
Abrasion resistance at 5 N load	ISO 4649, procedure A	≤ 250 mm^3	200 mm^3	200 mm^3	230 mm^3	200 mm^3	200 mm^3	150 mm^3	180 mm^3		150 mm^3
Colour fastness to artificial light	EN 20 105-B02, procedure 3, test conditions 6.1 a)	at least level 6 on the blue scale level ≥ 3 on the grey scale (= 350 MJ/m^2)	◄ grey scale ≥ level 3 acc. to EN 20 105-A 02 ►								
Classification	EN 685	Residential/Commercial/Industrial	23/34/42	23/34/42	23/34/42	23/34/43	23/34/43	23/33/-	23/34/42	23/34/43	23/34/43
Additional technical properties											
Fire behaviour	DIN 4102		◄ B1 ►								
Toxicity of fire gases	DIN 53 436		◄ carbonisation gases are non-toxic ►								
Anti-slip properties	DIN 51 130	according BGR 181	stone: R 10 grip: R 10 other: R 9	R 11	R 9	R 9	R 9	R 9	stone al: R 10 other: R 9		R 9
	DIN 51 097		-	A; B; C	-	-	-	-	-		-
	BS 7976 TRRL Pendulum		-	36+ wet & dry	-	-	-	-	-		-
	SATRA TM 144		-	wet: > 0,6 dry: > 0,45	-	-	-	-	-		-
Improvement in footfall sound absorption	ISO 140-8		6 dB	7 dB	5 dB	8 dB	8 dB	20 dB	6 dB	10 dB	6 dB
Effect of chemicals	EN 423		◄ resistant depending on concentration and time of exposure* ►								
Thermal conductivity	DIN 52 612		0.61 W/mK	0.61 W/mK	0.61 W/mK	0.61 W/mK	0.61 W/mK	0.12 W/mK	0.54 W/mK		0.45 W/mK
			◄ suitable for underfloor heating systems ►								
Electrical insulation properties	IEC 60093. VDE 0303 T.30		◄ > 10^{10} Ohm ►						electrical behaviour see below		
Electrical propensity when walked upon	EN 1815		◄ antistatic, charging in case of rubber soles < 2 kV ►						electrical behaviour see below		
Effect of a castor chair	EN 425		◄ suitable if castor wheels, type W, according to EN 12 529 are used ►								
Electrical behaviour**											
Resistance to EPA ground	ESD STM 7.1/ IEC 61340-4-1	measuring the installed floor at 23 °C (± 2 °C) and ≥ 25 % r.h.	-	-	-	-	-	-	10^6 - 9 x 10^7 Ohm		< 10^6 Ohm
		measuring the installed floor at 23 °C (± 2 °C) and < 25 % r.h., installed on an appropriate subfloor build up	-	-	-	-	-	-	10^6 - 10^9 Ohm***		< 10^6 Ohm
Operator system – Resistance to ground	ESD STM 97.1/ IEC 61340-4-5	for the system floor/ conductive footwear (R < 5 x 10^6 Ohm) measuring the installed floor at 23 °C (± 2 °C) and ≥ 25 % r.h.	-	-	-	-	-	-	≤ 3.5 x 10^7 Ohm		< 3.5 x 10^7 Ohm
Body voltage generation	ESD STM 97.2 IEC 61340-4-5	tested with defined conductive footwear with 21 °C and 20 % r.h.	-	-	-	-	-	-	< 10 V		< 10 V
Resistance to earth	EN 1081		-	-	-	-	-	-	10^6 - 9 x 10^7 Ohm		< 10^6 Ohm
Insulation resistance	VDE 0100 / T.610 / CENELEC HD 384.6.61 S2:2003		-	-	-	-	-	-	≥ 5 x 10^4 Ohm		-

* In case of increased impact of oils, grease, acids, alkalis and other aggressive chemicals- please contact us.

** If installed electrically dissipative and conductive in conformity with our installation instruction and according to the recommendations of the adhesive manufacturer.
The used adhesive has to have a permanent resistance of R < 3 x 10^5 Ohm according to EN 13 415.

*** If extremely low humidity values (< 25 % relative air humidity (= r.h.)) are expected for a longer period, please contact **nora systems GmbH**, Technical Service, for advice.

EN 1817: Specification for homogeneous and heterogeneous smooth elastomer floorcoverings
EN 14 521: Specification for smooth rubber floorcoverings with or without foam backing with a decorative layer.
Colour variations due to different production batches as well as technical alterations to improve the product have to be accepted.

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