

	Test method	Requirements	Average test results from running production				
			norament®		noraplan®		
			928 grano ed	927 grano ec	senitca ed 2.0 mm signa ed 2.0 mm stone ed 2.0 mm	senitca ed 3.0 mm signa ed 3.0 mm	astro ec
CE conformity	EN 14041		← Manufacturer: nora systems GmbH, D-69469 Weinheim →				
DoP-No.	EN 14041		0005	0022	0001	0001	0036
Thermal conductivity	EN 10456	$\lambda = 0.17 \text{ W/(m·K)}$	← Fulfilled →				
Dynamic coefficient of friction	EN 13893	DS	← Fulfilled →				
Electrical behaviour	EN 1081	ed = $\leq 10^9 \text{ Ohm}$	Fulfilled		← Fulfilled →		
		ec = $\leq 10^6 \text{ Ohm}$		Fulfilled			Fulfilled
Reaction to fire	EN 13501-1	Not bonded	C _{ir} -s1, bonded	C _{ir} -s2	← C _{ir} -s1 →		
Reaction to fire	EN 13501-1	Bonded on mineral subfloor	C _{ir} -s1	C _{ir} -s1	B _{ir} -s1	← C _{ir} -s1 →	

Properties acc. to EN 1817

Thickness	EN ISO 24346	Mean value $\pm 0.15 \text{ mm}$ according to EN 1817	3.5 mm	3.5 mm	2.0 mm	3.0 mm	2.0 mm
Dimensional stability	EN ISO 23999	$\pm 0.4 \%$	← $\pm 0.2\%$ →		← $\pm 0.3\%$ →		
Tear strength	ISO 34-1, method B, procedure A	Mean value $\geq 20 \text{ kN/m}$	45 kN/m	35 kN/m	-		
Cigarette-burn resistance	EN 1399	Procedure A (stubbed out) \geq level 4 Procedure B (burning) \geq level 3	← Fulfilled →				
Flexibility	EN ISO 24344, procedure A	Mandrel diameter 20 mm, no fissuring	← Fulfilled →			-	Fulfilled
Hardness	ISO 48-4	$\geq 75 \text{ Shore A (EN 1817)}$	84 Shore A	90 Shore A	← 95 Shore A →		
Residual indentation	EN ISO 24343	Mean value $\leq 0.15 \text{ mm}$ at thickness $< 2.5 \text{ mm}$ Mean value $\leq 0.20 \text{ mm}$ at thickness $\geq 2.5 \text{ mm}$	-		0.03 mm		
		Mean value $\leq 0.25 \text{ mm}$ at thickness $\geq 3.0 \text{ mm}$ Mean value $\leq 0.20 \text{ mm}$ at thickness $< 3.0 \text{ mm}$	0.05 mm			-	
Abrasion resistance at 5 N load	ISO 4649, procedure A	$\leq 250 \text{ mm}^3$	90 mm ³	90 mm ³	130 mm ³		150 mm ³
Colour fastness to artificial light	ISO 105-B02, procedure 3, test conditions 6.1 a)	At least level 6 on the blue scale; \geq level 3 on the grey scale	← Grey scale \geq level 3 acc. to ISO 105-A02 →				
Classification	EN ISO 10874	Commercial/Industrial	34/43		34/42	34/43	34/42

Additional technical properties

Toxicity of fire gases	DIN 53436		Carbonisation gases are non-toxic	-	Carbonisation gases are non-toxic		
Anti-slip properties	DIN 51130	According to DGUV 108-003	R 9		stone ed: R 10 Others: R 9		R 9
Improvement in footfall sound absorption	ISO 10140-3		10 dB	10 dB	6 dB	8 dB	6 dB
Effect of chemicals	EN ISO 26987		← Resistant depending on concentration and time of exposure* →				
Effect of a castor chair	EN ISO 4918		← Suitable if castor wheels, type W, according to EN 12529 are used →				
Underfloor heating	EN 1264-2		← Suitable, max. 35° C →				

Electrical behaviour**

Resistance to EPA ground	ESD STM 7.1/ IEC 61340-4-1	Measuring the installed floor at 23 °C ($\pm 2 \text{ °C}$) and $\geq 25 \%$ r.h.	$10^6 - 9 \times 10^7 \text{ Ohm}$	$< 10^6 \text{ Ohm}$	$10^6 - 9 \times 10^7 \text{ Ohm}$	$< 10^6 \text{ Ohm}$
		Measuring the installed floor at 23 °C ($\pm 2 \text{ °C}$) and $< 25 \%$ r.h., installed on an appropriate subfloor build up	$10^6 - 10^9 \text{ Ohm}^{***}$	$< 10^6 \text{ Ohm}$	$10^6 - 10^9 \text{ Ohm}^{***}$	$< 10^6 \text{ Ohm}$
Operator system – Resistance to ground	ESD STM 97.1/ IEC 61340-4-5	For the system floor/conductive footwear ($R < 5 \times 10^6 \text{ Ohm}$) measuring the installed floor at 23 °C ($\pm 2 \text{ °C}$) and $\geq 25 \%$ r.h.	$\leq 3.5 \times 10^7 \text{ Ohm}$	$\leq 3.5 \times 10^7 \text{ Ohm}$	$\leq 3.5 \times 10^7 \text{ Ohm}$	$\leq 3.5 \times 10^7 \text{ Ohm}$
Body voltage generation	ESD STM 97.2 IEC 61340-4-5	Tested with defined conductive footwear at 23 °C and 12 % r.h.	← $< 10\text{V}$ →			
Resistance to earth	EN 1081		$10^6 - 9 \times 10^7 \text{ Ohm}$	$< 10^6 \text{ Ohm}$	$10^6 - 9 \times 10^7 \text{ Ohm}$	$< 10^6 \text{ Ohm}$
Insulation resistance	VDE 0100-600		$\geq 1 \times 10^5 \text{ Ohm}$	-	$\geq 5 \times 10^4 \text{ Ohm}$	$\geq 1 \times 10^5 \text{ Ohm}$

* In case of increased impact of oils, greases, 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 $R < 3 \times 10^5 \text{ Ohm}$ according to EN ISO 22637.

*** 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 floor coverings

Colour variations due to different production batches as well as technical alterations to improve the product have to be accepted.