

	Test method	Requirements	Average test results from running production	
			928 grano ed	927 grano ec
			norament®	
			Manufacturer: nora systems GmbH, D-69469 Weinheim	
DoP-No.	EN 14041		0005a	0022
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	
		$ec = \leq 10^9 \text{ Ohm}$	Fulfilled	
Reaction to fire	EN 13501-1	Not bonded	C _{ir} -s1, bonded	C _{ir} -s2
Reaction to fire	EN 13501-1	Bonded on mineral subfloor	C _{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
Dimensional stability	EN ISO 23999	$\pm 0.4 \%$	$\pm 0.2 \%$	
Cigarette-burn resistance	EN 1399	Procedure A (stubbled out) \geq level 4 Procedure B (burning) \geq level 3	Fulfilled	
Flexibility	EN ISO 24344, procedure A	Mandrel diameter 20 mm, no fissuring	Fulfilled	
Hardness	ISO 48-4	$\geq 75 \text{ Shore A (EN 1817)}$	84 Shore A	86 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 $\geq 2.5 \text{ mm}$	-	
		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
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	
Additional technical properties				
Toxicity of fire gases	DIN 53436		Carbonisation gases are non-toxic	-
Anti-slip properties	DIN EN 16165	According to DGVU 108-003	R 10	
	AS 4586-2013 AppA		P1	
Improvement in footfall sound absorption	ISO 10140-3		10 dB	10 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	
Critical Radiant Flux	AS ISO 9239.1	$\geq 4.5 \text{ kW/m}^2$	$\geq 4.5 \text{ kW/m}^2$	
Smoke Development Rate	AS ISO 9239.1	$< 750\% \cdot \text{min}$	$< 750\% \cdot \text{min}$	
Electrical behaviour**				
Resistance to EPA ground	ESD STM 7.1/ IEC 61340-4-1	Measuring the installed floor at 23 °C (± 2 °C) and $\geq 25 \%$ r.h.	$10^6 - 9 \times 10^7 \text{ Ohm}$	$< 10^6 \text{ Ohm}$
		Measuring the installed floor at 23 °C (± 2 °C) and $< 25 \%$ r.h., installed on an appropriate subfloor build up	$10^6 - 10^9 \text{ Ohm}^{***}$	$< 10^6 \text{ Ohm}$
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 (± 2 °C) and $\geq 25 \%$ r.h.	$\leq 3.5 \times 10^7 \text{ Ohm}$	$\leq 3.5 \times 10^7 \text{ Ohm}$
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		$10^6 - 9 \times 10^7 \text{ Ohm}$	$< 10^6 \text{ Ohm}$
Insulation resistance	VDE 0100-600		$\geq 1 \times 10^9 \text{ Ohm}$	-

* 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 $R < 3 \times 10^9 \text{ Ohm}$ 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.