

MFPA Leipzig GmbH – Postfach 74 11 06 – 04323 Leipzig

Scan Underlay ApS
FAO Mr. Hansen
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Denmark

Leipzig, 12.01.2023

Your contact person	phone	Email
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Test Report no. PB 1.5/22-070-3

Dear Mr. Hansen,

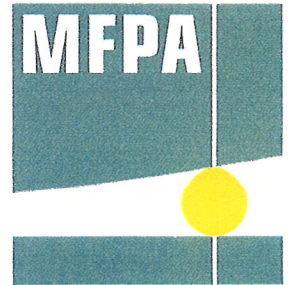
enclosed you will find the test report no. PB 1.5/22-070-3 at your further disposal.

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The data protection statutory information can be viewed on our website under <https://www.mfpa-leipzig.de/contact/statutory-information/> eingesehen werden.

Kind regards


Heike Auerbach
secretary



MFPA Leipzig GmbH

Gesellschaft für Materialforschung
und Prüfungsanstalt für
das Bauwesen Leipzig mbH

Prüf-, Überwachungs- und Zerti-
fizierungsstelle für Baustoffe, Bau-
produkte und Bausysteme

Anerkannt nach Landesbauord-
nung (SAC02), notifiziert nach
Bauprodukten-
verordnung (NB 0800)

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- Bauchemie und
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- Bauwerksinstandsetzung
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- Bauphysik und Mauerwerk

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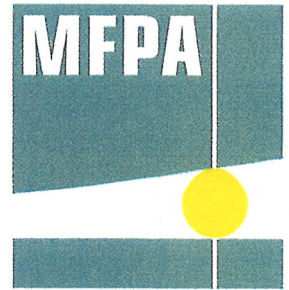
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Testing laboratory accredited by DAkkS
GmbH according to DIN EN ISO/IEC
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(in this document marked with *) which
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Test Report No. PB 1.5/22-070-3

11 January 2023

No. Copy 1

Contracting body: Scan Underlay
Ursusvej 16
8464 Galten
Denmark

Task: Determination of compressive creep
according to DIN EN 1606

Product: Acoustic Silence 825

Samples delivery: 11/07/2022

Persons in charge: Dr.-Ing. Stephan Reichel
M.Sc. Till Müller

This report consists of 7 pages.

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1 Objective and material delivery

MFPA Leipzig GmbH was commissioned by co. Scan Underlay to test the compressive creep deformation of the acoustic under screed isolation material "Acoustic Silence 825" according to DIN EN ISO 16534, A.3.8 in connection with DIN EN 1606*.

On 11 July 2022, four rolls of the material were delivered to MFPA Leipzig GmbH. Further information on the material is not available.

For the test five samples with dimensions of 200 mm x 200 mm were cut out of the roll.

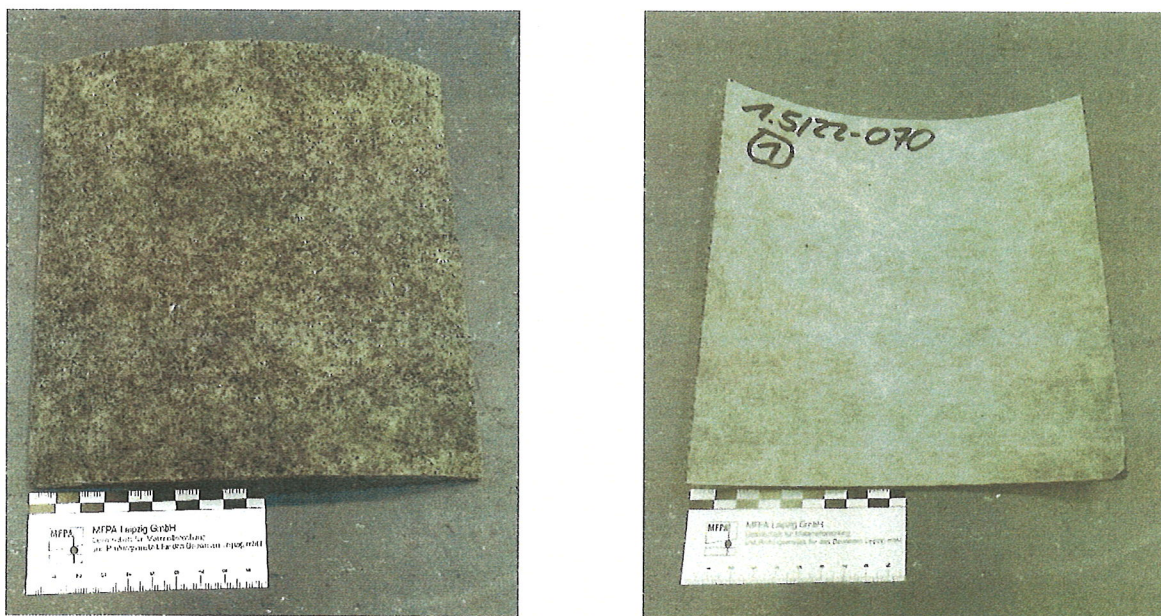


Figure 1: Material samples (front and back side)

2 Testing procedure and results

DIN EN 16354 2019-01	Laminate floor coverings – Underlays – Specification, requirements and test methods; German version EN 16354:2018
DIN EN 1606 2013-05	Thermal insulating products for building applications – Determination of compressive creep; German version EN 1606:2013

Specimen:	5 samples with dimensions of 200 x 200 mm ²
Pretreatment:	min. 24 hours storing at 23 °C and 50 % r.h.
Testing device:	Determination of dimensions with a digital dial gauge Loading device to compress the specimen in a vertical direction Measuring of deformation with displacement transducers
Level of stress:	$\sigma_c = 2.1 \text{ kPa}$
Procedure:	The creep behaviour under compressive load is determined by measuring the increase in deformation of a specimen under a constant compressive load and defined conditions in terms of temperature, humidity and time.

Table 1: Initial values

Date of testing: 28/07/2022				
No.	Specimen dimensions		Thickness	
	Lenght l [-] [mm]	Width w [mm]	Under preload ¹⁾ d _L [mm]	Under load ²⁾ d ₀ [mm]
1	198.9	199.7	5.87	4.73
2	199.3	198.2	5.60	4.62
3	199.2	200.2	5.49	4.20
4	199.6	198.3	5.97	4.72
5	198.9	199.6	5.99	5.04

¹⁾ 250 Pa

²⁾ Measured value 60 seconds after loading

The measurement results are summarised in Table 2. Figure 2 shows the deformation diagram.

Table 2: Deformation at time t

Test period: 28/07/2022 – 27/11/2022						
Time t	Deformation X_t					Mean value
	1 [mm]	2 [mm]	3 [mm]	4 [mm]	5 [mm]	
1 min	1.14	0.98	1.29	1.25	0.95	1.12
6 min	1.19	1.03	1.31	1.28	1.00	1.16
1 h	1.25	1.09	1.37	1.36	1.06	1.22
5 h	1.29	1.13	1.43	1.39	1.11	1.27
1 day	1.34	1.18	1.48	1.45	1.16	1.32
2 days	1.35	1.21	1.48	1.47	1.18	1.34
4 days	1.38	1.23	1.48	1.49	1.21	1.36
7 days	1.41	1.24	1.55	1.51	1.23	1.39
9 days	1.42	1.25	1.56	1.52	1.24	1.40
11 days	1.43	1.25	1.56	1.53	1.24	1.40
14 days	1.43	1.26	1.58	1.54	1.26	1.41
18 days	1.44	1.27	1.59	1.54	1.27	1.42
24 days	1.45	1.30	1.60	1.56	1.28	1.44
32 days	1.46	1.31	1.61	1.58	1.29	1.45
42 days	1.47	1.32	1.62	1.59	1.29	1.46
53 days	1.48	1.33	1.62	1.60	1.30	1.46
65 days	1.49	1.33	1.62	1.60	1.31	1.47
80 days	1.50	1.34	1.64	1.61	1.31	1.48
90 days	1.50	1.35	1.64	1.61	1.32	1.48
122 days	1.53	1.36	1.65	1.62	1.34	1.50

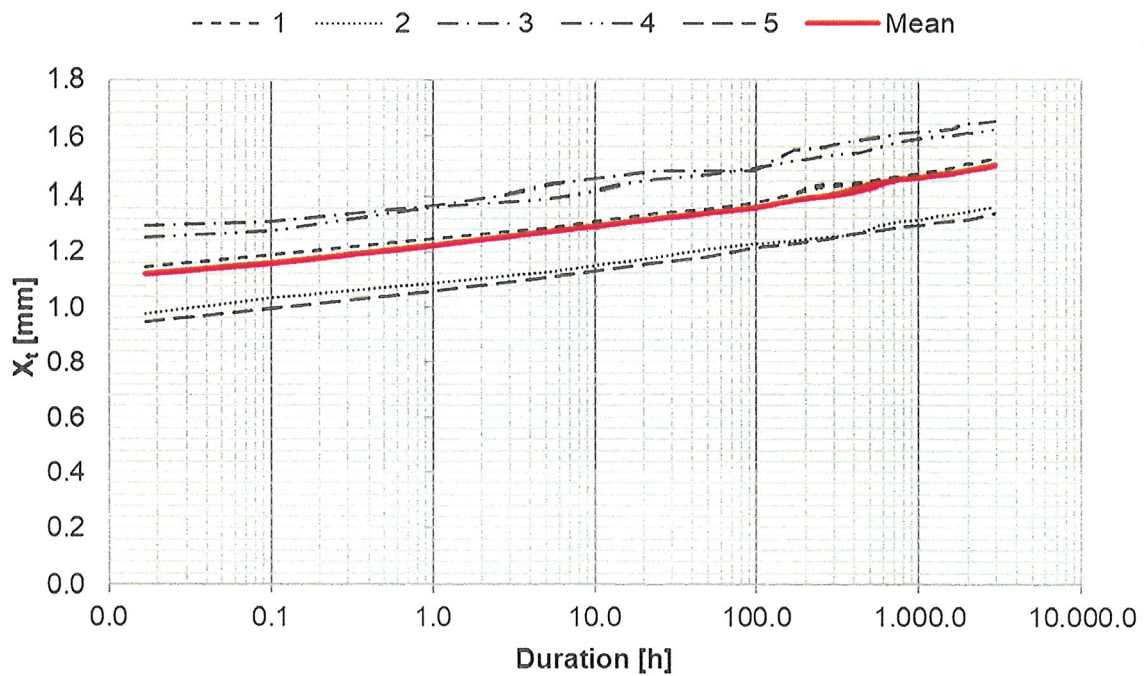


Figure 2: Deformation at time t

The linear regression analysis for “Acoustic Silence 825” is carried out according to DIN EN 1606, Annex A, and results in the values summarised in Table 3 below for a compressive stress of 2.1 kPa. The statistical terms for the linear regression analysis were determined beginning from the 7th day (= 168 h).

Table 3: Linear regression analysis

	Formula symbol	Calculated value
Coefficient of determination	r^2	0.995
Intercept of the ordinate	a	-0.8448
Factors of the Findley Formula	m	0.1429
	b	0.122
Findley Formula	$X_t = 1.12 + 0.1429 \cdot t^{0.122}$	

Figure 3 shows the creep deformation X_{ct} together with the linear regression analysis versus the time in a log/log diagram.

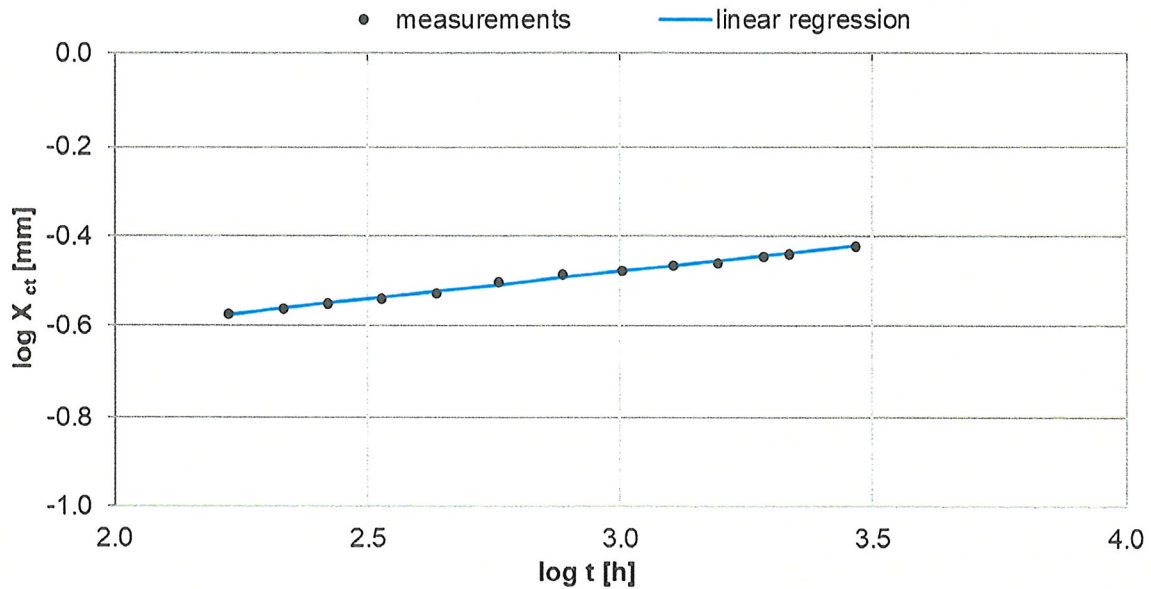


Figure 3: Creep deformation X_{ct} and linear regression analysis

Figure 4 shows relative deformation and the extrapolation curve versus the time in a semi-log diagram.

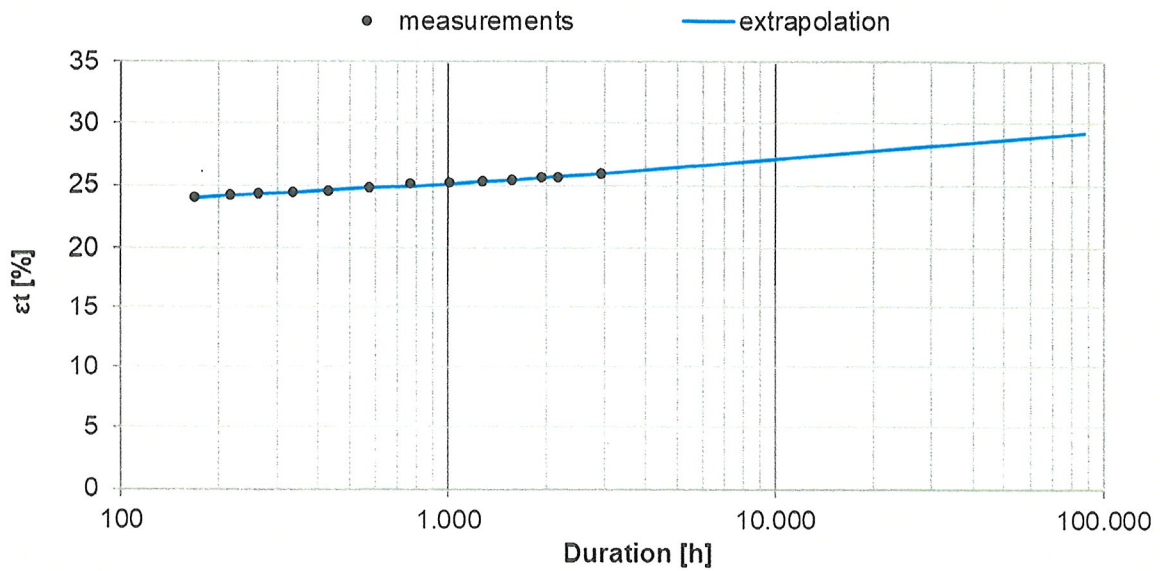


Figure 4: Relative deformation ϵ_t and extrapolation curve versus time

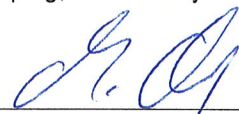
The long-term deformation for 10 years ($t \approx 86400$ h) under constant load is calculated according to the Findley Formula. The results are summarised below in Table 4.

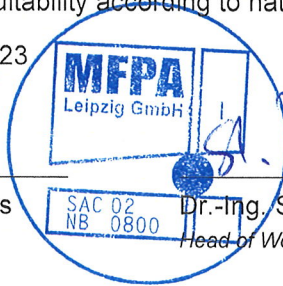
Table 4: Compressive creep deformation – extrapolated values (10 years)

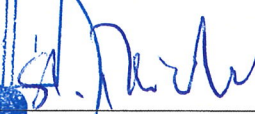
Parameters	Result
Long-term deformation value X_t	1.70 mm
Relative deformation ϵ_t	29.3 %
Creep deformation X_{ct}	0.57 mm

The results of the tests exclusively relate to the items tested. This document does not replace a certificate of conformity or suitability according to national and European building codes.

Leipzig, 11 January 2023


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