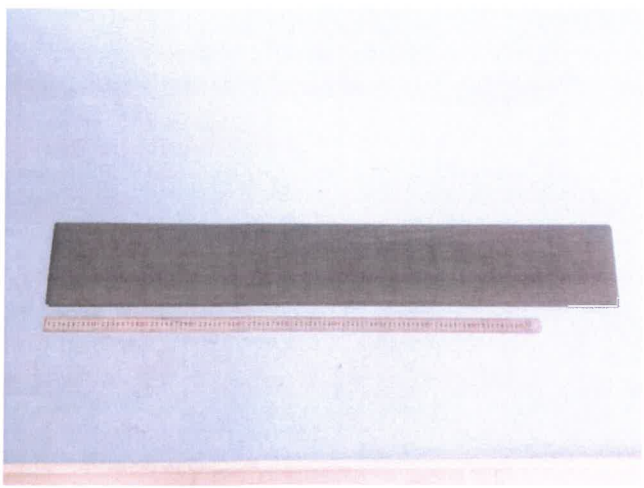
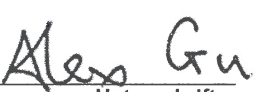


Prüfbericht-Nr.: Test Report No.:	15101655 001	Auftrags-Nr.: Order No.:	154196770	Seite 1 von 9 Page 1 of 9
Kunden-Referenz-Nr.: Client Reference No.:	N/A	Auftragsdatum: Order date:	22.03.2016	
Auftraggeber: Client:	HEXIM Zur Alten Werre 7, 32584 Lohne, Germany			
Prüfgegenstand: Test item:	Vinyl flooring			
Bezeichnung / Typ-Nr.: Identification / Type No.:	Length 1210 mm x Width 175 mm x Thickness 4.0 mm Total mass per unit area (6.5 ± 0.4) kg/m ²			
Auftrags-Inhalt: Order content:	Testing report			
Prüfgrundlage: Test specification:	EN ISO 10582:2012 Resilient floor coverings - Heterogeneous poly(vinyl chloride) floor coverings - Specification			
Wareneingangsdatum: Date of receipt:	31.05.2016			
Prüfmuster-Nr.: Test sample No.:	20160531001			
Prüfzeitraum: Testing period:	31.05.2016 - 28.09.2016			
Ort der Prüfung: Place of testing:	TÜV Rheinland (Shanghai) Co., Ltd.			
Prüflaboratorium: Testing laboratory:	TÜV Rheinland (Shanghai) Co., Ltd.			
Prüfergebnis*: Test result*:	Pass			
geprüft von / tested by:		kontrolliert von / reviewed by:		
14.10.2016	Daniel Chen / PM		14.10.2016	Alex Gu / Reviewer
Datum Date	Name / Stellung Name / Position	Unterschrift Signature	Datum Date	Name / Stellung Name / Position
14.10.2016	Alex Gu / Reviewer		14.10.2016	Alex Gu / Reviewer
Datum Date	Name / Stellung Name / Position	Unterschrift Signature	Datum Date	Name / Stellung Name / Position
Sonstiges / Other:				
Test samples are prepared by client.				
Zustand des Prüfgegenstandes bei Anlieferung: Condition of the test item at delivery:		Prüfmuster vollständig und unbeschädigt Test item complete and undamaged		
* Legende: 1 = sehr gut 2 = gut 3 = befriedigend 4 = ausreichend 5 = mangelhaft P(ass) = entspricht o.g. Prüfgrundlage(n) F(ail) = entspricht nicht o.g. Prüfgrundlage(n) N/A = nicht anwendbar N/T = nicht getestet Legend: 1 = very good 2 = good 3 = satisfactory 4 = sufficient 5 = poor P(ass) = passed a.m. test specification(s) F(ail) = failed a.m. test specification(s) N/A = not applicable N/T = not tested				
Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. <i>This test report only relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.</i>				

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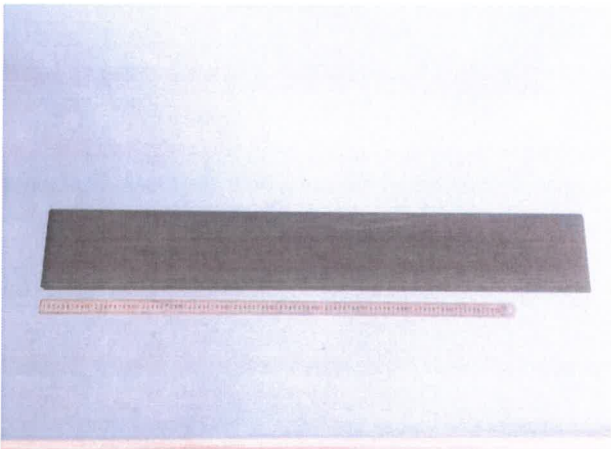
Liste der verwendeten Prüfmittel
List of used test equipment

[illegible]

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Produktbeschreibung
Product description

1	Produktdetails <i>Product details</i>	Vinyl flooring
2	Maße / Gewicht <i>Dimensions / Weight</i>	Length 1210 mm x Width 175 mm x Thickness 4.0 mm Total mass per unit area (6.5 ± 0.4) kg/m ²
3	Bedienelemente <i>Operating elements</i>	N/A
4	Ausstattung / Zubehör <i>Equipment / Accessories</i>	N/A
5	Verwendete Materialien <i>Used materials</i>	N/A
6	Sonstiges <i>Other</i>	N/A
		Blanket
		Blanket
		Blanket

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Absatz	EN ISO 10582:2012	Messergebnisse - Bemerkungen	Bewertung
Clause	Anforderungen - Prüfungen / Requirements - Tests	Measuring results - Remarks	Evaluation

0. Testing Item

	Test item	Test standard	Requirement	Verdict
1	Side length, edge straightness and squareness of tiles	ISO 24342: 2007	ISO 10582:2012	Pass
2	Overall thickness	ISO 24346: 2006	ISO 10582:2012	Pass
3	Thickness of layers	ISO 24340:2006	N/A	N/A
4	Total mass per unit area	ISO 23997: 2007	ISO 10582:2012	Pass
5	Dimensional stability and curing after exposure to heat	ISO 23999: 2012	ISO 10582:2012	Pass
6	Flexibility	ISO 23444: 2008	ISO 10582:2012	Pass
7	Residual Indentation	ISO 24343-1: 2007	ISO 10582:2012	Pass
8	Effect of castor chair	ISO 4918:2009 (Refer to EN 425:2002)	ISO 10582:2012	Pass
9	Color fastness to light	ISO 105 B02:2014, Method 3	ISO 10582:2012	Pass
10	Classification and labeling	ISO 10874:2009 (Refer to EN 685:2007)	ISO 10582:2012	Pass

1. Side length, edge straightness and squareness of tiles

Test Standard	ISO 24342:2007
Preconditioning	At temperature of (23±2)°C and relative humidity (50±5)% for minimum of 24 h.
Test Conditioning	23°C, 55%RH
Nominal value	1210 mm x 175 mm

Result:

Test Sample	1#	2#	3#	Unit
Length	1209.66	1210.03	1209.92	mm
Width	175.12	175.12	175.14	mm
Straightness	0.02	0.02	0.03	mm
Squareness	0.02	0.05	0.04	mm
Average**	Length: 1209.9 mm Width: 175.1 mm Straightness: 0.02 mm Squareness: 0.04 mm			
Requirement	Side length: Deviation ≤ 0.15 % of nominal length up to 0.5 mm maximum Squareness and straightness for side length: ≤ 0.35 mm >400 mm			
Verdict	Pass			

Remark:

* Nominal value with the click system is claimed by client

** Measurement is the actual dimension without the click system.

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Absatz	EN ISO 10582:2012	Messergebnisse - Bemerkungen	Bewertung
Clause	Anforderungen - Prüfungen / Requirements - Tests	Measuring results - Remarks	Evaluation

2. Overall thickness

Test Standard	ISO 24346: 2006
Preconditioning	At temperature of (23±2)°C and relative humidity (50±5)% for minimum of 24 h.
Test Conditioning	23°C, 55%RH
Nominal value	Overall thickness: 4.0 mm

Result:

Test Sample	1#	2#	3#	4#	5#	Unit
Overall thickness	4.064	4.065	4.096	4.094	4.062	mm
Average	Overall thickness: 4.08 mm Maximum deviation of Individual results: 0.10 mm					
Requirement	ISO 10582 : 2010 Average value: Nominal thickness (+0.13 / -0.10) mm (3.90 mm - 4.13 mm) Individual results: Average value ±0.15 mm (3.85 mm - 4.15 mm)					
Verdict	Pass					

3. Thickness of layers

Test Standard	ISO 24340: 2006
Preconditioning	At temperature of (23±2)°C and relative humidity (50±5)% for minimum of 24 h.
Test Conditioning	23°C, 55%RH
Nominal value	Wear layer thickness: 0.3 mm

Result:

Test Sample	1#	2#	3#	4#	5#	Unit
Wear layer	0.299	0.310	0.285	0.314	0.294	mm
Average	Wear layer: 0.300 mm					
Requirement	No requirement.					
Verdict	N/A					

4. Total mass per unit area

Test Standard	ISO 23997: 2007
Preconditioning	At temperature of (23±2)°C and relative humidity (50±5)% for minimum of 24 h.
Test Conditioning	23°C, 55%RH
Nominal value	N/A

Result:

Test Sample	1#	2#	3#	4#	5#	Unit
Total mass per unit area	6.63×10^3	6.69×10^3	6.72×10^3	6.92×10^3	6.85×10^3	g/m ²
Average	Total mass per unit area: 6.76×10^3 g/m² Deviation to Nominal value: (6.5 ± 0.4) kg/m²					
Requirement	ISO 10582 : 2010 Average value: Nominal value -10%~+13%					
Verdict	Pass					

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Absatz	EN ISO 10582:2012	Messergebnisse - Bemerkungen	Bewertung
Clause	Anforderungen - Prüfungen / Requirements - Tests	Measuring results - Remarks	Evaluation

5. Dimensional stability and curing after exposure to heat

Test Standard	ISO 23999:2012
Preconditioning	At temperature of $(23 \pm 2)^\circ\text{C}$ and relative humidity $(50 \pm 5)\%$ for minimum of 24 h.
Test Conditioning	23°C, 55%RH
Test principle	Store the test pieces for 360(+15/-0) min in the oven, which had previously been stabilized at $(80 \pm 2)^\circ\text{C}^*$. Remove the metal plates bearing the test pieces from the oven. Allow these to cool and recondition at a temperature of $(23 \pm 2)^\circ\text{C}$ and relative humidity $(50 \pm 5)\%$ for a further 24 h. Measure the dimensional change and curling.

Result:

Test Sample	1#	2#	3#	Unit
Dimensional change and curling	MD*: +0.14 CD*: -0.002 Curling: 0	MD*: +0.13 CD*: -0.32 Curling: 0	MD*: +0.09 CD*: -0.01 Curling: 0	%
Average	MD: +0.1% CD: -0.1% Curling: 0 mm			
Requirement	ISO 10582 : 2010 For Sheets and tiles (intended for welding): The relative dimensional change rate: $\leq 0.4\%$ Curling: ≤ 8 mm			
Verdict	Pass			

Remark:

*: MD: Machine direction
*: CD: Cross direction

6. Flexibility

Test Standard	ISO 24344:2008, Method A
Test Conditioning	23°C, 55%RH
Test principle	Test using a 20 mm mandrel. For products which show signs of cracking, perform a further test using a 50 mm mandrel. If results show no further cracking, record the use of a 50 mm mandrel

Result:

Test Sample	1#	2#	3#
mandrel: 20 mm	no crack	no crack	no crack
Requirement	20 mm mandrel: no crack		
Verdict	20 mm mandrel: no crack Pass		

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Absatz	EN ISO 10582:2012	Messergebnisse - Bemerkungen	Bewertung
Clause	Anforderungen - Prüfungen / Requirements - Tests	Measuring results - Remarks	Evaluation

7. Residual indentation

Test Standard	ISO 24343-1: 2007
Preconditioning	At temperature of (23±2)°C and relative humidity (50±5)% for minimum of 24 h.
Test Conditioning	23°C, 55%RH
Test principle	Mark the place of measurement and measure the initial thickness of the test piece, t_0 , at its centre to 0.01 mm. Place the test piece on the platform, smoothly apply the appropriate total force 500 N for 150 min. Remove the force and the test piece from the platform. After further 150 min, measure the final thickness at the same position, t_1 .

Result:

Test Sample	1#	2#	3#	Unit
Residual indentation ($t_1 - t_0$)	0.105	0.07	0.03	mm
Average	Residual indentation: 0.05 mm			
Requirement	ISO 10582 : 2010 Residual indentation: ≤ 0.1 mm			
Verdict	Pass			

8. Castor chair test

Test Standard	ISO 4918:2009 (Refer to EN 425:2002)
Preconditioning	At temperature of (23±2)°C and relative humidity (50±5)% for minimum of 24 h.
Test Conditioning	23°C, 55%RH
Test principle	After 25,000 revolutions of the plate with the suction device being operated continuously, examine the test piece for appearance change from a distance of approximately 800 mm at from all directions by slowly rotating the viewing table. Record any damage caused by detachment of layers, opening of joints, or crazing. Ignore any flattening or change in appearance, e.g. change in gloss.

Result:

Test result	No damage was found after the test.
Requirement	ISO 10582:2010 No delamination shall occur. No disturbance to the surface other than a slight change in appearance
Verdict	Pass

9. Color fastness to artificial light

Test Standard	ISO 105 B02:2014, Method 3
Preconditioning	At temperature of (23±2)°C and relative humidity (50±5)% for minimum of 24 h.
Test Conditioning	23°C, 55%RH

Result:

Test result	Grade 6 or better
Requirement	ISO 10582:2010 6 minimum
Verdict	Pass

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Absatz	EN ISO 10582:2012	Messergebnisse - Bemerkungen	Bewertung
Clause	Anforderungen - Prüfungen / Requirements - Tests	Measuring results - Remarks	Evaluation

10. Classification and labeling

Standard	ISO 10874:2009 (Refer to EN 685:2007)
Claimed class	Class 21, Class 22, Class 22+, Class 23 and Class 31
Type of product	Heterogeneous

Result:

Class			21	22	22+
Symbol		Referral of test result			
Evaluation	Type of wear layer *		Declared binder content: $\geq 90\%^*$ (Type I)	Declared binder content: $\geq 90\%^*$ (Type I)	Declared binder content: $\geq 90\%^*$ (Type I)
	Overall thickness	Clause 2	Satisfied	Satisfied	Satisfied
	Thickness of wear layer	Clause 3	Satisfied	Satisfied	Satisfied
	Welding strength	EN 685	N/A	N/A	N/A
Verdict			Pass	Pass	Pass

Class			23	31
Symbol		Referral of test result		
Evaluation	Type of wear layer *		Declared binder content: $\geq 90\%^*$ (Type I)	Declared binder content: $\geq 90\%^*$ (Type I)
	Overall thickness	Clause 2	Satisfied	Satisfied
	Thickness of wear layer	Clause 3	Satisfied	Satisfied
	Welding strength	EN 685	N/A	N/A
Verdict			Pass	Pass

Remark (1):

* The type of wear layer was declared by manufacturer, which was not verified due to the protection of recipe.
The classification of the wear layer according to below table.

Type	Wear-layer binder content
I	Minimum 80%
II	Minimum 30%

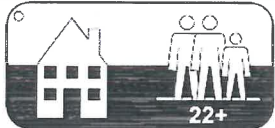
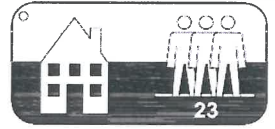
Classification requirements for level of use

Class	Symbol	Level of use	Thickness of wear layer, nominal value	Nominal overall thickness	Seam strength N/50 mm
		Domestic	Type I	All types	
21		Moderate/light	0.15 mm	1.0 mm	No requirement

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Absatz	EN ISO 10582:2012	Messergebnisse - Bemerkungen	Bewertung
Clause	Anforderungen - Prüfungen / Requirements - Tests	Measuring results - Remarks	Evaluation

22		General/medium	0.20 mm	1.5 mm	No requirement
22+		General	0.20 mm	1.5 mm	
23		Heavy	0.30 mm	1.5 mm	
		Commercial			
31		General	0.30 mm	2.0 mm	When welded in accordance with the manufacturer's instructions: Average value ≥ 240 Individual values ≥ 180

Remark (2):

Classes and example of areas of use, (Refer to EN 685: 2007)

Class	Level of use	Level of use
21	Home use	Bedrooms
22		living rooms, entrance halls
22+		living rooms, entrance halls, dining rooms and corridors
23		living rooms, entrance halls, dining rooms and corridors
31	Commercial use	hotels, bedrooms, conference rooms, small offices
32		classrooms, small offices, hotels, boutiques
33		corridors, department stores, lobbies, schools, open plan offices
34		multi-purpose halls, counter halls, department stores
41	Industrial use	electronic assembly, precision engineering
42		storage rooms, electronic assembly
43		storage rooms, production halls

End of Report