

Produkte
Products



Prüfbericht - Nr.: 12560 001 <i>Test Report No.:</i>		Seite 1 von 8 <i>Page 1 of 8</i>	
Gegenstand der Prüfung: PVC Laminated Floor Tile <i>Test item:</i>			
Bezeichnung: <i>Identification:</i>	Tile (0.3/3T), Click & Lock (0.5/5T)	Serien-Nr.: <i>Serial No.:</i>	n.a. (prototype)
Wareneingangs-Nr.: <i>Receipt No.:</i>	133030082	Eingangsdatum: <i>Date of receipt:</i>	10. 07. 2012
Zustand des Prüfgegenstandes bei Anlieferung: <i>Condition of test item at delivery:</i>		Appearance is good.	
Prüfort: <i>Testing location:</i>	Refer to next page		
Prüfgrundlage: <i>Test specification:</i>	EN 649 : 2011 EN 14041 : 2004+AC, partly		
Prüfergebnis: <i>Test Result:</i>	Der Prüfgegenstand entspricht oben genannter Prüfgrundlage(n). The test item passed the test specification(s).		
Prüflaboratorium: <i>Testing Laboratory:</i>	TÜV Rheinland Korea Ltd. E&C Venture Dream Tower 6 197-28, Guro-dong, Guro-gu, Seoul, 152-719, Republic of Korea		
geprüft/ tested by:		kontrolliert/ reviewed by:	
02.0.2012	S.Y. Lee / Project Engineer	03.01.2012	S.H. Yang / Manager
<i>Datum</i> <i>Date</i>	<i>Name/Stellung</i> <i>Name/Position</i>	<i>Datum</i> <i>Date</i>	<i>Name/Stellung</i> <i>Name/Position</i>
	<i>Unterschrift</i> <i>Signature</i>		<i>Unterschrift</i> <i>Signature</i>
Sonstiges/ Other Aspects:			
Abkürzungen: P(ass) = entspricht Prüfgrundlage F(ail) = entspricht nicht Prüfgrundlage N/A = nicht anwendbar N/T = nicht getestet		Abbreviations: P(ass) = passed F(ail) = failed 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 relates to the a. m. test item. 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 safety mark on this or similar products.</i>			

Applied for TÜV Rheinland Safety Inspection

Company / Test Institute : TÜV Rheinland Nederland B.V. /
 TÜV Rheinland (Shenzhen) Co., Ltd. /
 CSI(CENTRUM STAVEBNIHO INZENYRSTVI) at Praha, Czech Republic /
 TÜV Rheinland Korea

EN 649 : 2011			
(No.1 : Tile, No.2 : Click & Lock)			
Characteristic	Requirement	Test method	Test results
Side length : mm Squareness and straightness for side length : mm ≤ 400 mm > 400 mm > 400 mm (intended for welding)	Deviation ≤ 0.13 % of nominal length up to 0.5 mm maximum Deviation allowed at any point ≤ 0.25 ≤ 0.35 ≤ 0.50	EN 427	Sample size : 1 : 950mm x 184mm 2 : 941mm x 176mm Deviation 1: 0.15 2: 0.14
Overall thickness : mm Average Individual results	Nominal value $^{+0.13}_{-0.10}$ Average value ± 0.15	EN 428	1 : 2.94 2 : 4.94
Total mass per unit area(average) : g/m ²	Nominal value $^{+0.13}_{-0.10}$	EN 430	1 : 4,967.4 2 : 8,623.6
Density (average) : kg/m ³ For homogeneous and wear layer of heterogeneous	Nominal value ± 50	EN 436	1 : 1,659 2 : 1,690

Dimensional stability after exposure to heat : Sheets and tiles (intended for welding) Tiles (indentation for dry-joint laying)	< 0.4 < 0.25	EN 434	Length	Width
			1.-0.08 2.-0.04	-0.09 -0.10
Curling after exposure to heat : Sheets and tiles (intended for welding) Tiles (indentation for dry-joint laying)	≤ 8 ≤ 2		1.0.5	2.0.5
Flexibility :	Test using a 30 mm mandrel.	EN 435 Method A	1 & 2 :	No crack was found
Color fastness to artificial light	Up to grade 6	ISO 105- B02 Method 3)	1 & 2 :	Above 6
Wear layer thickness : mm	Nominal value ^{+0.13} _{-0.10} Individual value > -0.15	EN 429	1.0.28 2.0.47	

Classification requirement for wear group

Characteristic	Requirements for wear group				Test method
	T	P	M	F	
Volume loss F_v mm^3	$F_v \leq 2.0$ ¹⁾	$2.0 < F_v \leq 4.0$	$4.0 < F_v \leq 7.5$	$7.5 < F_v \leq 15.0$	EN 660-2

Abrasion Resistance	Requirement : See above table	EN 660-2	1 : 5.3 (wear group : M) 2 : 4.0 (wear group : P)
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Wear layer thickness

Requirement	# 1 Wear layer :0.3	# 2 Wear layer :0.5	EN 429
Nominal value ^{+0.13} _{-0.10}	0.28	0.47	
Individual value > -0.15			

Table 3. Classification requirements for level of use

Class	Level of use	Overall thickness ¹⁾				Thickness of wear layer ²⁾			
		T	P	M	F	T	P	M	F
21	Domestic moderate	1.0	1.0	1.0	1.0	0.15	0.25	0.40	0.60
22	Domestic general	1.5	1.5	1.5	1.5	0.2	0.35	0.5	0.8
23	Domestic heavy	1.5	1.5	1.5	1.5	0.3	0.45	0.65	1.0
31	Commercial moderate								
32	Commercial general	1.5	1.5	1.5	2.0	0.4	0.55	0.8	1.2
41	Light industrial moderate								
33	Commercial heavy	2.0	2.0	2.0	2.0	0.55	0.7	1.0	1.5
42	Light industrial general								
34	Commercial very heavy	2.0	2.0	2.0	2.5	0.7	1.0	1.5	2.0
43	Light industrial heavy								
Test method		EN 428				EN 429			
<p>1) The average shall be the nominal value $^{+0.13}_{-0.10}$ mm. No individual value shall vary more than ± 0.15 mm from the average value.</p> <p>2) The average value shall be nominal value with a tolerance of $^{+0.13\%}_{-0.10\%}$ but not more than 0.1 mm. Individual values shall not vary more than 0.05 mm or 15% below the average, whichever is the greater. Where this requirement is not met by only one individual value, however, the test shall be replaced once more.</p> <p>3) The average shall be the nominal value $^{+0.13}_{-0.10}$ mm. No individual value shall vary more than ± 0.15 mm from the average value.</p> <p>4) The average value shall be nominal value with a tolerance of $^{+0.13\%}_{-0.10\%}$ but not more than 0.1 mm. Individual values shall not vary more than 0.05 mm or 15% below the average, whichever is the greater. Where this requirement is not met by only one individual value, however, the test shall be replaced once more.</p>									

- Classification :

Model (thickness of wear layer)	Wear group (EN 660-2)	Classification	
		Classification by overall thickness (EN 428)	Classification by wear layer (EN 429)
Tile (0.3mm)	M	34/43	-
Click & Lock (0.5mm)	P	34/43	23/31

EN 14041 : 2004 + AC

Reaction to fire

1.Tile (0.3/3.0T)

Measured vlaue

Test method	Parameter	Number of test	Results	
			Continuous parameter mean(m)	Compliance parameters
EN ISO 11925-2	$F_s \leq 150$ mm	6	(-)	yes
EN ISO 9239-1	CHF (Kw/m^2)	3	8.4	(-)
	Smoke (% x min)	3	555.8	(-)

(-) : not applicible

Test results

Test method	Parameter	Mean value	Results
			Continuous parameter mean(m)
EN ISO 11925-2	$F_s \leq 150$ mm	yes	yes(B_{fl} to D_{fl})
EN ISO 9239-1	CHF (Kw/m^2)	8.4	≥ 8.0 (B_{fl})
	Smoke (% x min)	555.8	≤ 750 (s_1)

Classification

In accrodance with the clause 12.6 and 12.9.2 of EN 13501-1

Reaction to fire behaviour is classified : B_{fl}

The additional classification in relation to smoke production is : s_1

The format of the reaction to fire classification is : $B_{fl}-s_1$

Fire behaviour		Smoke production	
B_{fl}	-	s	1

Field of application

This classification is valid for the following end-user conditions:

- Substrate : products of reaction to fire class A_{1fl} or A_{2fl}
- Fixing method: glued with polyurethane or dispersion adhesives

2.Click & Locl (0.5/5.0T)

Measured vlaue

Test method	Parameter	Number of test	Results	
			Continuous parameter mean(m)	Compliance parameters
EN ISO 11925-2	$F_s \leq 150$ mm	6	(-)	yes
EN ISO 9239-1	CHF (Kw/m ²)	3	8.8	(-)
	Smoke (% x min)	3	604.9	(-)

(-) : not applicble

Test results

Test method	Parameter	Mean value	Results
			Continuous parameter mean(m)
EN ISO 11925-2	$F_s \leq 150$ mm	yes	yes(B _{f1} to D _{f1})
EN ISO 9239-1	CHF (Kw/m ²)	8.8	≥ 8.0 (B _{f1})
	Smoke (% x min)	604.9	≤ 750 (s1)

Classification

In accrodance with the clause 12.6 and 12.9.2 of EN 13501-1

Reaction to fire behaviour is classified : **B_{f1}**

The additional classification in relation to smoke production is : **s1**

The format of the reaction to fire classification is : **B_{f1}- s1**

Fire behaviour		Smoke production	
B_{f1}	-	s	1

Field of application

This classication is valid for the following end-user conditions:

- Substrate : products of reaction to fire class A1_{f1} or A2_{f1}

Emission of formaldehyde

Model	Test Parameter	Unit	Limit	Test Results	
Tile (0.3/3.0T)	Formaldehyde	mg/m ² h	0.1	Not detected	EN 717-2
	Moisture	%	-	0.4	EN 322
Click & Lock (0.5/5.0T)	Formaldehyde	mg/m ² h	0.1	Not detected	EN 717-2
	Moisture	%	-	0.4	EN 322

Slip resistance

Model	Direction	Dynamic coefficient of friction (μ)	
Tile (0.3/3.0T)	Longitudinal	0.52	EN 13893
	Width	0.53	
Click & Lock (0.5/5.0T)	Longitudinal	0.53	
	Width	0.53	

Contents of pentachlorophenol

Model	Requirement	Test Results	
Tile (0.3/3.0T)	Less than 0.1% by mass	Not detected.	BS 5666 Part6
Click & Lock (0.5/5.0T)		Not detected.	

- End of report