

## TEST REPORT

No. : XMIN2410002094CM02\_EN

Date : 2024-12-03

Page: 1 of 4



CUSTOMER NAME: Belgotex do Brasil  
ADDRESS: Av José Carlos Gomes 355, Ponta Grossa, Paraná, Brasil

Sample Name : Newcast  
Product Specification : 2.0mm  
Material : PVC

Above information and sample(s) was/were submitted and confirmed by the client. SGS, however, assumes no responsibility to verify the accuracy, adequacy and completeness of the sample information provided by client.

\*\*\*\*\*

SGS Ref. No. : AJFS2411013753FF  
Date of Receipt : 2024-10-30  
Testing Period : 2024-10-30 ~ 2024-11-21  
Test result(s) : For further details, please refer to the following page(s)  
(Unless otherwise stated the results shown in this test report refer only to the sample(s) tested)

Signed for  
SGS-CSTC Standards Technical  
Services Co.,Ltd. Xiamen Branch.

Bryan Hong  
Authorized signatory



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Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

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### Test conducted

This test was conducted according to ASTM E662-2021a<sup>e1</sup> Standard Test Method for Specific Optical Density of Smoke Generated by Solid Materials.

### Sample details

Sample description	PVC
Color	Wood
Thickness	About 2.0mm
Specimen size	76mm×76mm
Exposed surface	Wood surface

### Conditioning:

Pre-dry specimens for 24 h at 60±3°C and then condition to equilibrium (constant weight) at an ambient temperature of 23±3°C and a relative humidity of 50±5%.

### Test results

Irradiance Exposure: 2.5±0.05 W/cm<sup>2</sup>

#### 1) Flaming mode

	Test Specimen			Average
	1	2	3	
Temperature of chamber wall (°C)	35	35	35	
Initial weight (g)	23.8	23.1	23.2	
$D_{S1.5}$	64.0	53.2	50.8	56.0
$D_{S4.0}$	149.8	162.5	172.7	161.7
$D_m$	174.9	171.8	192.4	179.7
$t_{D_m}$ (min)	10.7	6.6	6.1	
$Dm$ (corr)	151.4	148.4	166.9	155.6
Unusual behavior	No	No	No	--
Observations	Color of the smoke: Grey			



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### 2) Non - Flaming mode

	Test Specimen			Average
	1	2	3	
Temperature of chamber wall (°C)	35	35	35	
Initial weight (g)	22.9	23.2	23.2	
$D_{S1.5}$	5.0	4.2	3.2	4.1
$D_{S4.0}$	65.1	55.1	57.5	59.2
$D_m$	151.6	188.5	208.7	182.9
$t_{D_m}$ (min)	18.8	16.7	14.1	
$D_m(\text{corr})$	125.3	155.4	184.8	155.2
Unusual behavior	No	No	No	--
Observations	Color of the smoke: Grey			

#### Note:

$D_{S1.5}$  — Specific optical density at 1.5 minutes.

$D_{S4.0}$  — Specific optical density at 4.0 minutes.

$D_m$  — Maximum Specific optical density at any time during the 20 minutes.

$t_{D_m}$  — The time in minutes for the smoke to accumulate to the maximum specific optical density.

$D_m(\text{corr})$  —  $D_m$  corrected for incidental deposits on the optical surface.

If during the test of one or more of the three replicate samples there occurs such unusual behavior as

- (1) The specimen falling out of the specimen holder,
- (2) Melted material overflowing the sample holder trough,
- (3) Self-ignition in the pyrolysis mode,
- (4) Extinguishment of the flame triplets (even for a short period of time), or
- (5) A specimen being displaced from the zone of controlled irradiance,

then an additional three samples of the identical preconditioned materials shall be tested in the test mode in which the unusual behavior occurred. The test method is not suitable if more than three of the six replicates tested show above characteristics.



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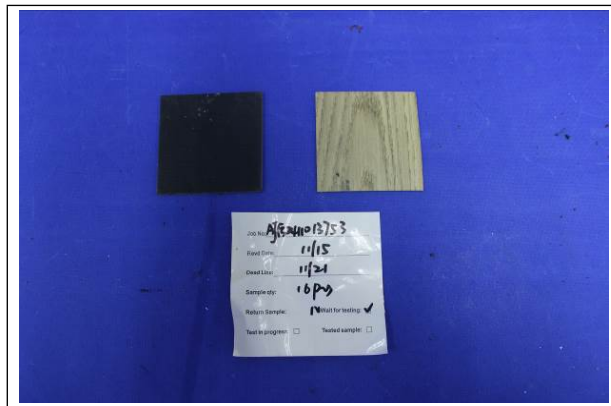
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### Photo Appendix:



\*\*\*\*\*End of report\*\*\*\*\*



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Textilní zkušební ústav, s.p.

**TEXTILNÍ ZKUŠEBNÍ ÚSTAV, s.p.**  
**(Textile Testing Institute)**

**Notified Body No. 1021**

Cejl 480/12, Zábřdovice, 602 00 Brno, Czech Republic

issues

## REPORT ON THE ASSESSMENT OF PERFORMANCE

In compliance with the Regulation (EU) No. 305/2011 of the European Parliament and of the Council of 9 March 2011 laying down harmonised conditions for the marketing of construction products, in the valid wording (Construction Products Regulation – CPR) – Annex V, art. 1.4 (system 3 of AVCP)

**No.: 1021 – CPR – 24/0625-1**  
(1021/24/171-1)



**Product:** **LVT PANELS**  
**Type: LVT**  
Composition: PVC resin 20 - 25 %, Stone powder 60 - 65 %, Stabilizer 2 - 3 %, Plasticizer 7 - 9 %; Thickness: 2.0 – 5.0 mm

**Manufacturer:** **HONGKONG RUOTIAN INTERNATIONAL COMPANY LIMITED**  
UNIT 1101, 11TH FLOOR, CHAO'S BUILDING, 143-145 BONHAM STRAND EAST, SHEUNG WAN, HONG KONG

**Technical specification:** **EN 14041:2004/ AC:2006 Resilient, textile and laminate floor coverings – Essential characteristics** (art. 4.1 Reaction to fire, art. 4.3 Formaldehyde emission, art. 4.5 Slip resistance)

**Test method:**

- EN 13501-1:2018 Fire classification of construction products and building elements – Part 1: Classification using test data from reaction to fire tests (EN ISO 11925-2, EN ISO 9239-1)
- EN 717-1:2004 Wood-based panels – Determination of formaldehyde release – Part 1: Formaldehyde release by the chamber method
- EN 13893:2002 Resilient, laminate and textile floor coverings – Measurement of dynamic coefficient of friction on dry floor surfaces

**Classification:**

<b>Reaction to fire</b>	<b>class B<sub>fl</sub> – s1</b>
<b>Formaldehyde emission</b>	<b>class E1</b>
<b>Slip resistance</b>	<b>class DS</b>

**Terms of protocol application:** This report applies to the product mentioned above and can be used only for this product. The report must only be published in unshortened form. The Manufacturer can publish a part of the report only if approved by the Notified Body 1021. The report remains in force as long as the conditions remain the same. This document does not replace type approval or certificate.

Contract No. of Inspection Activity: 1021/24/35

Number of pages: 5

Brno, 24.06.2024

Validity till: 23.06.2029



  
RNDr. Pavel Malčík  
Managing Director



Textilní zkušební ústav, s.p.

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## 1. Information about the manufacturer and about the assessed product

**Placed on the market under the name or trade mark of:**

**HONGKONG RUOTIAN INTERNATIONAL COMPANY LIMITED**

UNIT 1101, 11TH FLOOR, CHAO'S BUILDING, 143-145 BONHAM STRAND EAST,  
SHEUNG WAN, HONG KONG

Manufacturer plant: Changzhou Bemate Home Technology CO., LTD.

No. 10 Changhong East Road, Henglin Town, Wujin District, Changzhou, JS213101, CHINA

### 1.1 Product description (according to the manufacturer declaration)

**Product Name: LVT PANELS**

**Type: LVT**

**Composition:** PVC resin 20 - 25, Stone powder 60 - 65 %, Stabilizer 2 - 3 %, Plasticizer 7 - 9 %

**Thickness:** 2.0 – 5.0 mm, **Mass per unit:** 3.7 – 9.5 kg.m<sup>-2</sup>

Tested samples: A) 2.0 mm/ 3.7 kg.m<sup>-2</sup>

B) 5.0 mm/ 9.5 kg.m<sup>-2</sup>

Sampling was carried out by manufacturer. Manufacturer declares no fire retardants or a limiting organic material were used.

### 1.2 End use application of the product

The classification applies to the following end use application of the product:

- product for full-area covering of floor,
- declared for installation without use of adhesive,
- declared for non-combustible standard substrate represented by fibre cement board.

Testing was performed on sample without use of adhesive, with use of non-combustible standard substrate.

## 2. Information about the initial testing

### 2.1 Technical specification

Testing and the assessment of the product are performed to show conformity assessment with the harmonized standard requirements (*system 3 of assessment and verification of constancy of performance – Regulation No. 305/2011, Annex V, Art. 1.4*).

EN 14041:2004/AC Resilient, textile and laminate floor coverings – Essential characteristics (art. 4.1 Reaction to fire, art. 4.3 Formaldehyde emission, art. 4.5 Slip resistance, art. 5.2 Type testing, Annex ZA).

### 2.2 Testing methods

Testing of the product was performed according to test methods:

- EN 13501-1: - EN ISO 11925-2 Reaction to fire tests – Ignitability of building products subjected to direct impingement of flame – Part 2: Single-flame source test  
- EN ISO 9239-1 Reaction to fire tests for floorings – Part 1: Determination of the burning behaviour using a radiant heat source
- EN 717-1, EN 13893





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## 2.3 Testing results

Testing and assessment of slip resistance was performed on a voluntary basis, by a request of the manufacturer.

### 2.3.1 Reaction to fire – results

Table No.1a - testing results - reaction to fire (art. 4.1) sample A) 2.0 mm

Testing method	Characteristic	Value identified (transverse direction)	Value identified (longitudinal direction)			Results	
						Average continual parameter (m)	Parameter of fulfilment
EN ISO 11925-2 exposure – 15 s	Flame spread: $F_s \leq 150$ mm	yes	yes	yes	yes	(-)	yes
EN ISO 9239-1	Critical heat flux CF ( $\text{kW.m}^{-2}$ )	10.6	10.4	-	-	-	(-)
	Smoke (% .minute)	591.4	281.2	-	-	-	

Table No.1b - testing results - reaction to fire (art. 4.1) sample B) 5.0 mm

Testing method	Characteristic	Value identified (transverse direction)	Value identified (longitudinal direction)			Results	
						Average continual parameter (m)	Parameter of fulfilment
EN ISO 9239-1	Critical heat flux CF ( $\text{kW.m}^{-2}$ )	$\geq 11$	9.8	10.2	10.4	<b>10.1</b>	(-)
	Smoke (% .minute)	514.4	539.8	564.7	233.5	<b>446.0</b>	

Notice: Notice: If a floor covering is produced with a range of different nominal thickness this needs to be considered when testing. The minimum and maximum thickness (one test each) is tested and complete set of tests for the worst case is carried out. The worst case determines the classification.

For tested scope – sample B) is considered as the worst case. Result is valid for whole scope.

### 2.3.2 Formaldehyde emission - results

Table No.2 - testing results - formaldehyde emission (art. 4.3)

Testing method	Characteristic	Requirement	Value identified	Evaluation
EN 717-1	Release of formaldehyde	class E1 ... $\leq 0.124 \text{ mg/m}^3$ E2 ... $> 0.124 \text{ mg/m}^3$	<b>not detected*</b>	S (E1) -

Legend: S – satisfy; \* - limit of detection is  $< 0.050 \text{ mg/m}^3$

### 2.3.3 Slip resistance - results

Table No.3 - testing result – slip resistance (art. 4.5)

Testing method	Characteristic	Requirement	Value identified	Evaluation
EN 13893	Dynamic coefficient of friction - $\mu$	class DS ... $\geq 0.30$	<b>0.33</b>	<b>S</b>

Legend: S – satisfy





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### 3. Classification of construction product and area of direct application

#### 3.1 Reaction to fire

Classification has been performed in compliance with the following articles of EN 13501-1:

- article 12.6 (requirements - class B<sub>fl</sub>), article 12.9.2 (requirements – s1) and with articles of EN 14041: article 4.1.4 (classification), Annex ZA, article ZA.4

Classification of construction product

Testing method	Characteristic	Requirement	Value identified	Evaluation
EN ISO 11925-2 exposure – 15 s	Flame spread F <sub>s</sub>	class B <sub>fl</sub> F <sub>s</sub> ≤ 150 mm	Flame didn't spread more than 150 mm	S
EN ISO 9239-1	Critical heat flux (kW.m <sup>-2</sup> )	class B <sub>fl</sub> ≥ 8 kW.m <sup>-2</sup>	10.1	S
	Smoke (% .minute)	class s1 ≤ 750 %.minute	446.0	S

Legend: S- satisfy

Behaviour during burning	Smoke generation
B <sub>fl</sub>	s 1

**Modification of floor covering classification according to reaction to fire: B<sub>fl</sub> – s1**

#### 3.1.1 Area of application

The present classification applies only for the assessed product with the above specified parameters (see art. 1 of this protocol). The classification applies for the following end use application of the product:

- underlying layer: the type testing results can be used if the density of practical underlying layer is min. 0.75 multiple of density of standard substrate (according to EN 13238, art. 5.1)
- method of laying: laying with use of adhesive or without use of adhesive.

#### 3.2 Formaldehyde emission

The classification has been performed in compliance with the art. 4.3 of the standard EN 14041. On the basis of initial testing result the product shall be declared as formaldehyde class E1.

#### 3.3 Slip resistance

Testing and assessment has been performed by a request of the manufacturer in compliance with table ZA.1. The classification has been performed in compliance with the art. 4.5 of the standard EN 14041. The classification is applicable for floor coverings that are used in dry and non-contaminated conditions.

On the basis of initial testing result the product shall be declared as technical class DS.







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#### 4. Regulations of usability

##### 4.1 Limitation

The results of tests and performance assessment apply as long as the conditions remain the same. If the change occurs in the product, the raw material or supplier of the components, or the production process, which would change significantly one or more of the characteristics the tests shall be repeated for the appropriate characteristic.

This Performance assessment protocol is valid till 23.06.2029 provided the technical parameters of product are not changed.


##### 4.2 Usability

The manufacturer can use this protocol for drawing up a Declaration of Performance according to requirements CPR and annex ZA - art. ZA.2.2.2 of the harmonized standard EN 14041. This Declaration of Performance entitles to affix CE marking on the product (according to annex ZA - art. ZA.3 of the standard EN 14041). This protocol issued by Notified Body is only a part of the complete performance assessment.


#### 5. List of documentation for the protocol elaboration

1. Application for testing and classification of the product No. 0625/24 of 27.05.2024.
2. Technical documentation of manufacturer (product description).
3. Test protocol No. AZL 24/0625 (of 13.06.2024), issued by the accredited testing laboratory of TZÚ Brno.
4. Test report No. XMIN2404000757CM01\_EN (of 22.05.2024), issued by the accredited testing laboratory of SGS-CSTC Xiamen Branch Testing Center, China.

Protocol issued by:

  
Lenka Tomková  
Notified Body

Protocol checked by:

  
Svatava Horáčková  
Notified Body

