Certificate of shape stability

1. Ref. transp. packaging unit:	Wienerberger 1160x850 RUM 500x188x249 48pcs	
2. Ref. measuring report:	Wienerberger nv	- 20190131017
3. Company:	Wienerberger nv	
4. Performed test:	Acceleration test according to: Be RD of April 27th 2007, EUMOS 40509,	
5. Date:	31/01/2019	EN12195-1:2010

6. Description of the tested transport packaging unit

Description:

A wooden 1160x850 pallet containing 6 layers. In total there are 48 bricks RUM 500X188X249 on the pallet.

Primary packaging: /

Secundary packaging: /

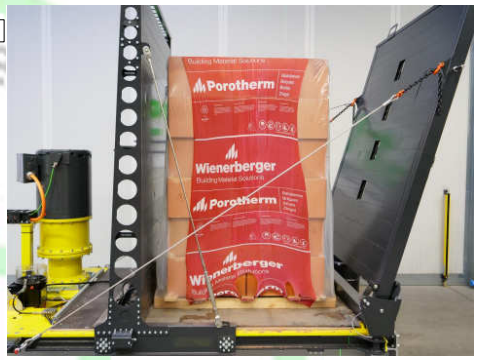
Tertiary packaging: Stretch film: ☐ Stretch hood: ☐ Shrink hood: ☑ Straps: ☐

Add transport packaging:

Anti slip up the pallet: ☐

Anti slip up on layer(s):

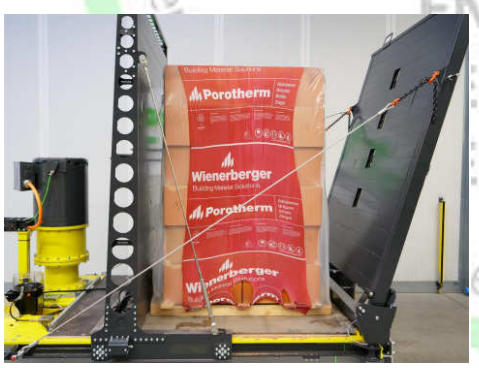
Stacking pattern:	Interlocked		
Pallet_type:	1160x850	# Layers:	6
Height [mm]:	1580	Weight[kg]:	973
Length - LP [mm]:	1160		
Width - BP [mm]:	850		



7. Name and signature responsible of the packaging:

8. Test conditions: Relative humidity: 48% - Temperature: 20°C - Sliding of the pallet is prevented mechanically.

9. Picture in the BP-direction after the test.



Picture in the LP-direction after the test.

10. Conclusions:

The tested load unit is shape stable in the BP-direction at 0.5g under the specified test conditions.

The tested load unit is shape stable in the LP-direction at 0.5g under the specified test conditions.

ESTL nv
Wafelstraat 46
8540 Deerlijk
België

11. Name and signature responsable of the test: Ing. J. Dendauw

TEST REPORT of the ACCELERATION TEST based on RD of April 27th 2007, EN12195:2010, EUMOS 40509

Ref. transp. packaging unit:	Wienerberger 1160x850 RUM 500x188x249 48pcs		
Ref. measuring report:	Wienerberger nv	-	20190131017

ESTL nv - Wafelstraat 46 -8540 Deerlijk - Belgium - T: +32 477/620 614 - F: +32 56/77 86 00
info@estl.be - http://www.estl.be - BE0818.634.666 - RPR Kortrijk

Specifications of the test

Client

Company:	Wienerberger nv
Address:	Kapel Ter Bede 121
	8500 Kortrijk
	België
Contact pers.:	Danny Wallaert
Tel. nr.:	+32 (0) 56 24 96 27
Fax nr.:	-
Mob. nr.:	-
E-mail:	Danny.Wallaert@wienerberger.com

Test details:

Test facility:	ESTL nv, wafelstraat 45, 8540 Deerlijk, België
Test responsible:	Ing. Jelle Dendauw
Test equipment:	MJ1500 acceleration bench
Test date:	31/01/2019
People attending:	Jelle Dendauw (ESTL), Danny Wallaert (Wienerberger nv)

Temperature [°C]:	20
Rel. humidity [%]:	48
Load conditions:	Sliding of the load unit is prevented mechanically.

Attached documents to the report: /

Goal of the acceleration test

According to the Belgian RD* of April 27th 2007, EUMOS 40509 and the EN12195:2010, a load securing layout has to be capable of withstanding certain forces of inertia. These forces amount to 0,8g in forward direction, 0,5g in rearward direction and 0,5g in the sideward directions. The acceleration test allows for an unambiguous assessment of a certain load unit, secured in a specified manner, with the rules and regulations of the Belgian RD.

A load unit is placed on a platform and is secured in the correct orientation and according to a specified securing layout. The platform is then accelerated at 0,8g or 0,5g to imitate the influence of the forces of inertia originating from the forward deceleration as prescribed in abovementioned RD. The stability of the load unit is then assessed. If the load unit is deemed stable, it is rotated 90 degrees, together with the securing layout. Next, the platform is accelerated at 0,5g to imitate the influence of the forces of inertia originating from the sideward acceleration prescribed in abovementioned RD. After this test the stability of the load unit is assessed once again.

Reference 20190131/017 **Author** Dendauw Jelle **Contact** Danny Wallaert **Date:** 31/01/2019

Company: Wienerberger nv **Pallet name** Wienerberger 1160x850 RUM 500x188x249 48pcs

Conclusions

Acceleration: 0,5 Direction: LP **The pallet is shape stable?** ☑

Before	After	Result
-0,5	-2	**1,5**

Before	After	Result
-5,5	-6	**0,5**

Before	After	Result
-3,5	-4	**0,5**

Deformation: ☐ ☐ ☐ ☐ ☐

The pallet is behaving shape stable following EUMOS 40509 in the LP-direction.

Acceleration: 0,5 Direction: BP **The pallet is shape stable?** ☑

Before	After	Result
-7	-6	**1**

Before	After	Result
-8,5	-8,5	**0**

Before	After	Result
-8	-8	**0**

Deformation: ☐ ☐ ☐ ☐ ☐

The pallet is behaving shape stable at 0,5g in the BP-direction following EUMOS 40509.

Reference 20190131/017 **Author** Dendauw Jelle **Contact** Danny Wallaert **Date:** 31/01/2019
Company: Wienerberger nv **Pallet name** Wienerberger 1160x850 RUM 500x188x249 48pcs

General remarks and conclusions

Conclusions:
- The pallet is behaving shape stable in the LP- and BP-direction at 0,5g following EUMOS 40509.

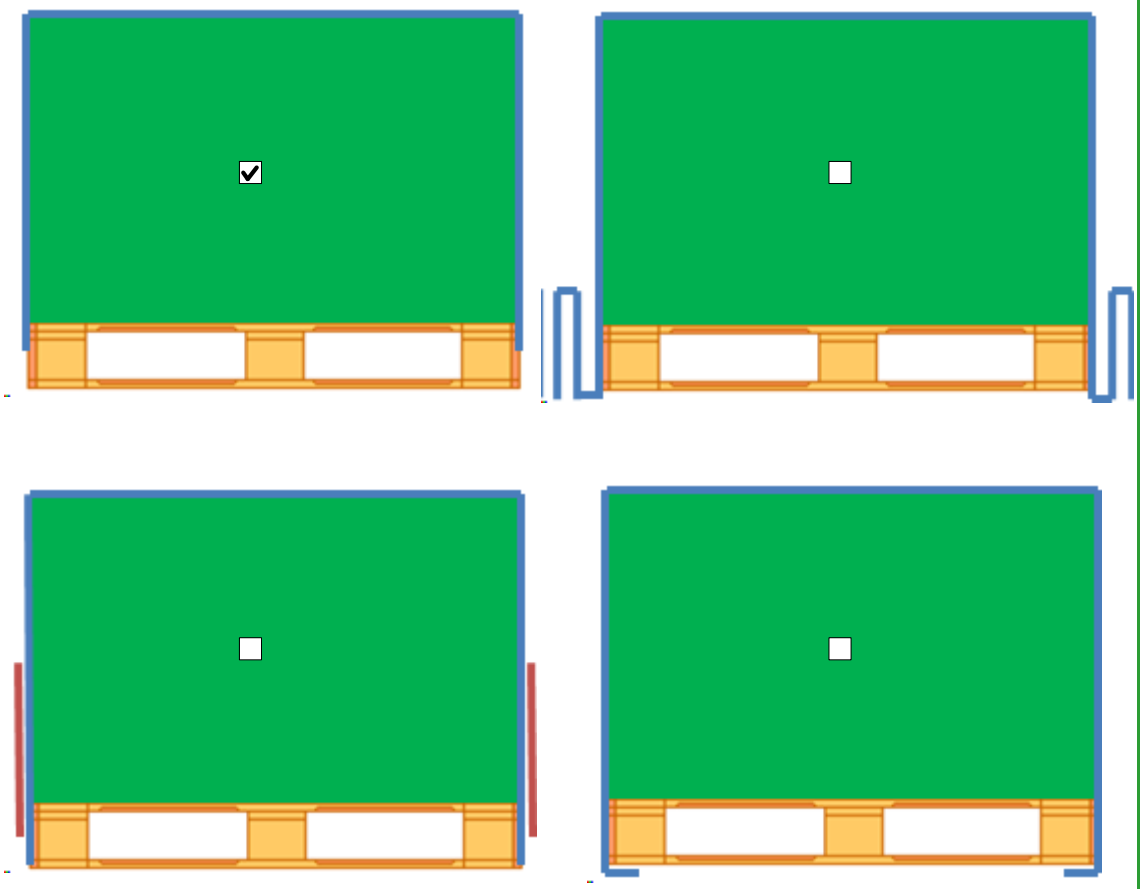
Hood specifications

Hood reference: Techno Sales Thickness [µm]: 120

Hood Type: Shrink hood Initial dimensions [mm]x[mm]: 1370 x 1350

Vertical stretch [%]: Hor. stretch long side [%]: Hor. stetch short side [%]:

Configuration of the hood:



Packaging | Type Approval | Load Securing | Engineering

Reference 20190131/017 **Author** Dendauw Jelle **Contact** Danny Wallaert **Date:** 31/01/2019

Company: Wienerberger nv **Pallet name** Wienerberger 1160x850 RUM 500x188x249 48pcs

Pallet specifications

Name of the pallet: Wienerberger 1160x850 RUM 500x188x249 48pcs

A wooden 1160x850 pallet containing 6 layers. In total there are 48 bricks RUM 500X188X249 on the pallet.

Pallet type: 1160x850

Stacking pattern: Interlocked

Layers: 6 Cases per layer: 8

Tie sheet between load and pallet: ☐

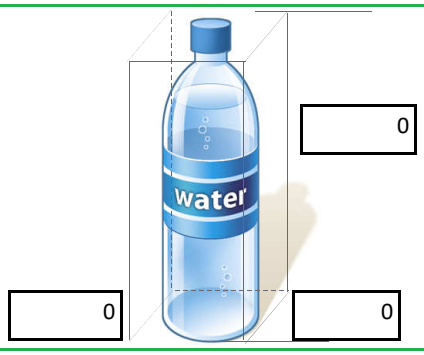
Tie sheet on top of layer(s):

LP [mm]: 1160 BP[mm]: 850 Weight [kg]: 973 Height [mm]: 1580

Primary packaging

Name.: /

Type:



Secondary packaging

Name: /

Theor. head space [mm]: 0

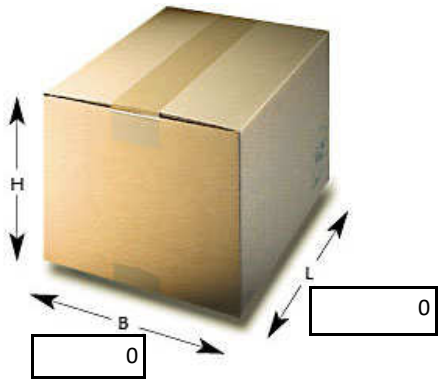
Gross weight [kg]: 0

Compression force [N]: 0

Fluting type:

Prim units per sec. unit: 0

0



Additional packaging