Certificate of shape stability

1. Ref. transp. packaging unit:	Wienerberger 1140x1140 POT Tile301 1152pcs	
2. Ref. measuring report:	Wienerberger nv	- 20190228007
3. Company:	Wienerberger nv	
4. Performed test:	Acceleration test according to: Be RD of April 27th 2007, EUMOS 40509,	
5. Date:	28/02/2019	EN12195-1:2010

6. Description of the tested transport packaging unit

Description:

A wooden 1140x1140 pallet containing 4 layers of tiles. Every layer contains 4 rows of 72 tiles. Each row is divided in 4 bundles of 18 tiles. The 18 tiles are bundled with one vertical strap. PS interlayers are used in between the layers.

Primary packaging: / Secundary packaging: /

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

Add transport packaging: PE interlayers, 9mm straps

Anti slip up the pallet: ☐

Anti slip up on layer(s):

Stacking pattern: Columnar

Pallet_type: 1140x1140 # Layers: 4

Height [mm]: 835 Weight[kg]: 1230

Length - LP [mm]: 1140

Width - BP [mm]: 1140

7. Name and signature responsible of the packaging:

8. Test conditions: Relative humidity: 50% - 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 1140x1140 POT Tile301 1152pcs		
Ref. measuring report:	Wienerberger nv	-	20190228007

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.:	Kristof Decroos
Tel. nr.:	+32 (0) 56 43 93 29
Fax nr.:	
Mob. nr.:	+32 (0) 477 75 57 39
E-mail:	Kristof.Decroos@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:	28/02/2019
People attending:	Jelle Dendauw (ESTL), Kristof Decroos (Wienerberger)

Temperature [°C]:	20
Rel. humidity [%]:	50
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 20190228/007 **Author** Dendauw Jelle **Contact:** Kristof Decroos **Date:** 28/02/2019
Company: Wienerberger nv **Pallet name:** Wienerberger 1140x1140 POT Tile301 1152pcs

Conclusions

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

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

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

Before	After	Result
-5	-5	**0**

Deformation: ☐ ☐ ☐ ☐ ☐

The pallet is behaving shape stable at 0,5g in the LP-direction.

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

Before	After	Result
0	2	**2**

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

Before	After	Result
-3	-4	**1**

Deformation: ☐ ☐ ☐ ☐ ☐

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

Reference 20190228/007 **Author** Dendauw Jelle **Contact:** Kristof Decroos **Date:** 28/02/2019

Company: Wienerberger nv **Pallet name:** Wienerberger 1140x1140 POT Tile301 1152pcs

General remarks and conclusions

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

Remark:
- The pallet has been wrapped with stretch film. 19 revolutions of a 17µm, resulting in a total consumption of 225 gram have been applied prior to stretch hooding.

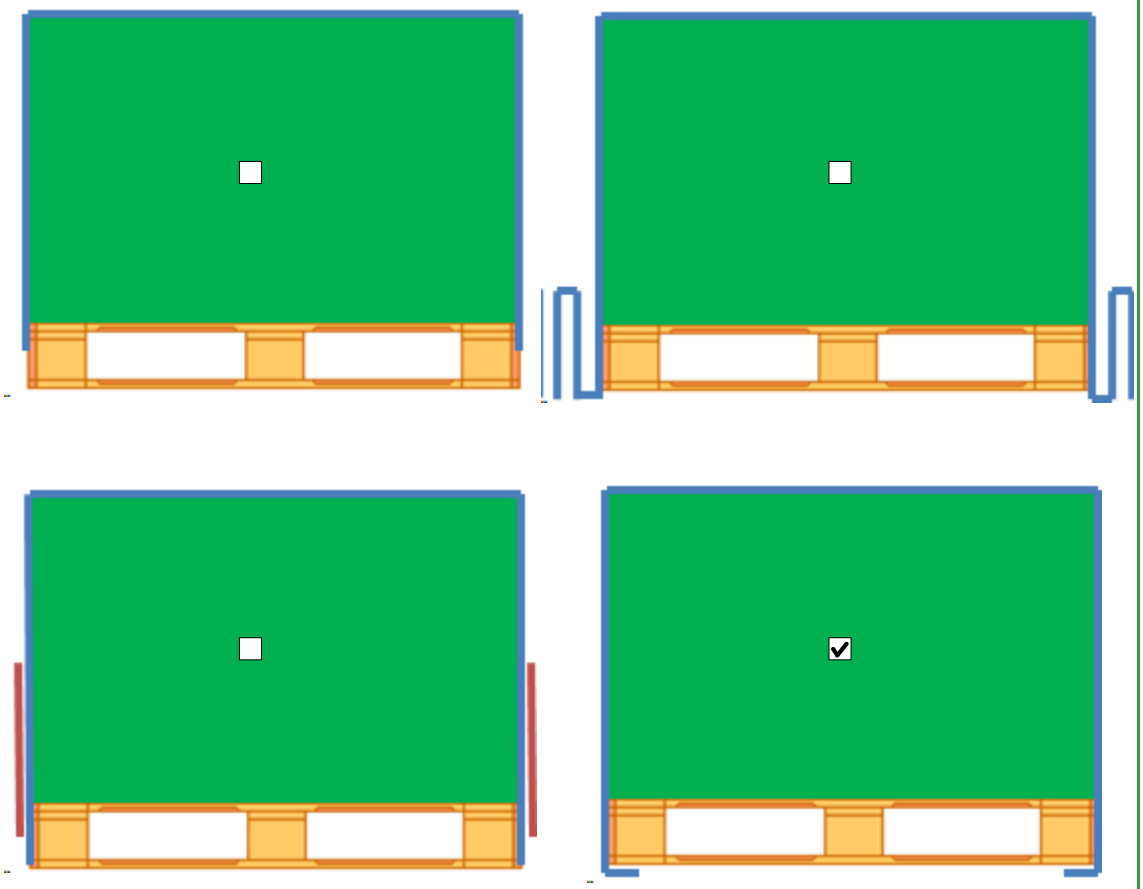
Hood specifications

Hood reference: Barbier Stretch hood Thickness [µm]: 120

Hood_Type: Stretch hood Initial dimensions [mm]x[mm]: 880x 750

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

Configuration of the hood:



Packaging | Type Approval | Load Securing | Engineering

Reference 20190228/007 **Author** Dendauw Jelle **Contact:** Kristof Decroos **Date:** 28/02/2019

Company: Wienerberger nv **Pallet name:** Wienerberger 1140x1140 POT Tile301 1152pcs

Pallet specifications

Name of the pallet: Wienerberger 1140x1140 POT Tile301 1152pcs

A wooden 1140x1140 pallet containing 4 layers of tiles. Every layer contains 4 rows of 72 tiles. Each row is divided in 4 bundles of 18 tiles. The 18 tiles are bundled with one vertical strap. PS interlayers are used in between the layers.

Pallet type: 1140x1140

Stacking pattern: Columnar

Layers: 4 Cases per layer:

Tie sheet between load and pallet: ☐

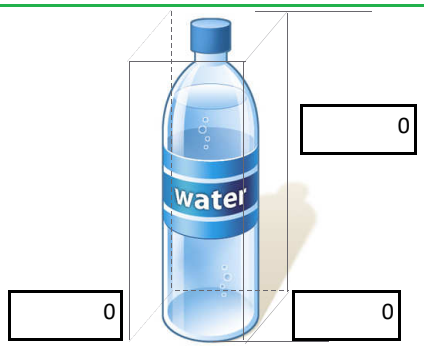
Tie sheet on top of layer(s):

LP [mm]: 1140 BP[mm]: 1140 Weight [kg]: 1230 Height [mm]: 835

Primary packaging

Name.: /

Type:



Secondary packaging

Name: /

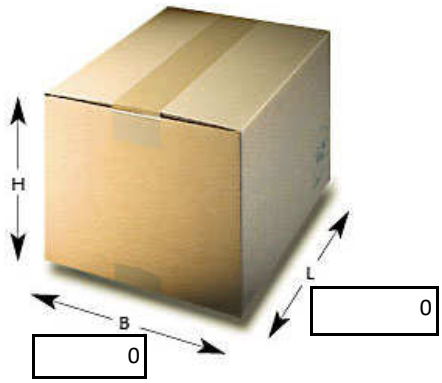
Theor. head space [mm]: 0

Gross weight [kg]: 0 0

Compression force [N]: 0

Fluting type:

Prim units per sec. unit: 0



Additional packaging

PE interlayers, 9mm straps