Certificate of shape stability

1.	Ref. transp. packaging unit:	Wienerberger 1100x850 PER HV 215x102x65 680pcs - 4 vert straps
2.	Ref. measuring report:	Wienerberger nv - 20200908001
3.	Company:	Wienerberger nv
4.	Performed test:	Acceleration test following EUMOS40509:2020
5.	Test date:	8/09/2020
6.	Test institute and responsible:	ESTL nv, Wafelstraat 46, 8540 Deerlijk, Belgium - Dendauw Jelle

7. Description of the tested load unit:

A wooden 1100x850 pallet containing 11 layers. In total there are 680 bricks PER HV 215x102x65 on the pallet. There are 4 vertical straps in LP-direction going around the stack.

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: 1100x850 # Layers: 11

Height [mm]: 1220 Weight[kg]: 1660

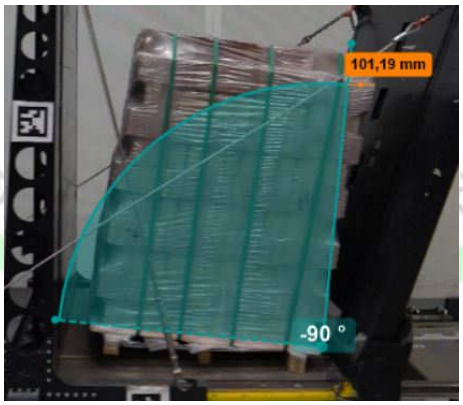
Length - LP [mm]: 1100

Width - BP [mm]: 850

8. Name and signature responsible of the packaging: Danny Wallaert

9. Test conditions: Relative humidity: 50% - Temperature: 20°C - Sliding of the pallet is prevented mechanically.

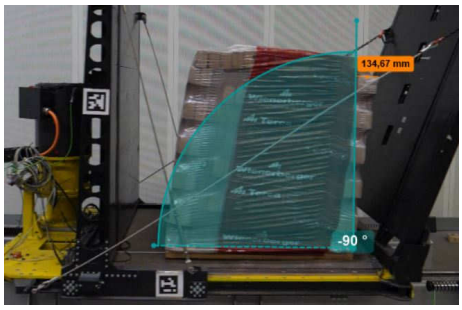
10a. Picture before - durig - after the acceleration test in the BP-direction



10b. Conclusion BP-direction:

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

11a. Picture before - durig - after the acceleration test in the LP-direction

10b. Conclusion BP-direction:

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

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

ESTL nv
Wafelstraat 46
8540 Deerlijk
België

Specifications of the test

Contact information 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 46, 8540 Deerlijk, Belgium
Test responsible: Dendauw Jelle
Test equipment: MJ1500 acceleration bench
Test date: 8/09/2020
People attending: Jelle Dendauw (ESTL), Danny Wallaert (Wienerberger)

Temperature [°C]: 20
Rel. humidity [%]: 65
Load conditions: Sliding of the load unit is prevented mechanically.

Attached documents to the report: /

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

estl

Packaging | Type Approval | Load Securing | Engineering

Reference 20200908/001 **Author** Dendauw Jelle **Contact:** Danny Wallaert **Date:** 8/09/2020

Company: Wienerberger nv **LU name:** Wienerberger 1100x850 PER HV 215x102x65 680pcs - 4 vert strap

Test specifications

Customer:	Wienerberger nv	Contact:	Danny Wallaert
Test facility:	ESTL nv, Wafelstraat 46, 8540 Deerlijk, Belgium	Date	8/09/2020
Test engineer:	Dendauw Jelle	Temperature [°C]:	20 Rel. humidity [%]: 50
Load unit:	Wienerberger 1100x850 PER HV 215x102x65 680pcs - 4 vert straps		

Conclusions and remarks

Conclusion LP-direction: The load unit behaves shape stable following EUMOS40509 at an acceleration of 0,5g.

Conclusion BP-direction: The load unit behaves shape stable following EUMOS40509 at an acceleration of 0,5g.

Remarks:
- 1 sleeve + 1 hood
- 4 vertical straps
- The hood should not have any tears at the bottom

Pallet specifications

Name of the pallet: Wienerberger 1100x850 PER HV 215x102x65 680pcs - 4 vert straps

A wooden 1100x850 pallet containing 11 layers. In total there are 680 bricks PER HV 215x102x65 on the pallet. There are 4 vertical straps in LP-direction going around the stack.

Pallet type: 1100x850

Stacking pattern: Interlocked

Layers: 11 Cases per layer:

Tie sheet between load and pallet: ☐

Tie sheet on top of layer(s):

LP [mm]: 1100 BP[mm]: 850 Weight [kg]: 1660 Height [mm]: 1220

Packaging | Type Approval | Load Securing | Engineering

Reference 20200908/001 **Author** Dendauw Jelle **Contact:** Danny Wallaert **Date:** 8/09/2020

Company: Wienerberger nv **LU name:** Wienerberger 1100x850 PER HV 215x102x65 680pcs - 4 vert strap

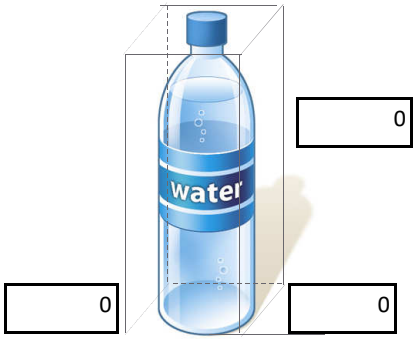
Primary packaging

Name.: /

Type:

Description:

/



Secondary packaging

Name: /

Theor. head space [mm]: 0

Gross weight [kg]: 0

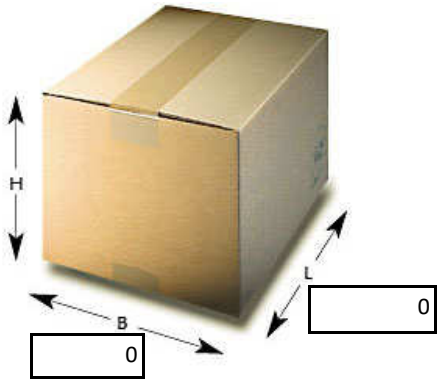
Compression force [N]: 0

Fluting type:

Prim units per sec. unit: 0

Description:

/



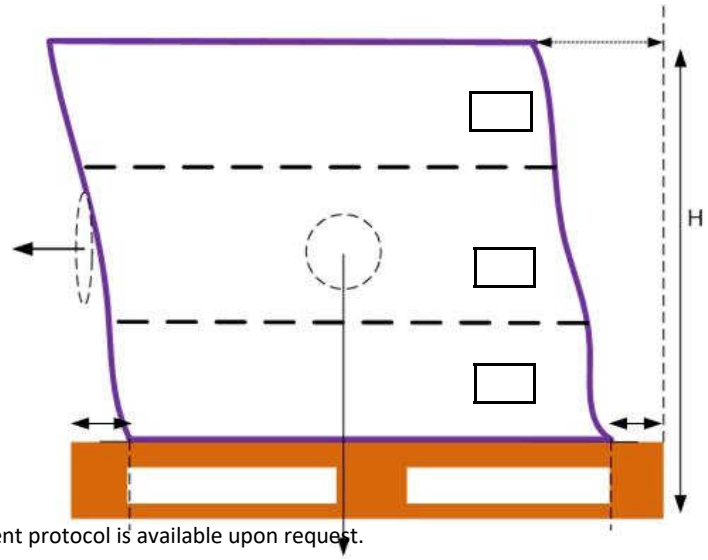
Additional packaging

/

Tertiary packaging - stretch wrap

Containment force short side [kg]:

Top:	
Mid:	
Bottom:	



Containment force long side [kg]:

Top:	
Mid:	
Bottom:	

The measurement protocol is available upon request.

Packaging Type Approval Load Securing Engineering

Reference 20200908/001 **Author** Dendauw Jelle **Contact:** Danny Wallaert **Date:** 8/09/2020

Company: Wienerberger nv **LU name:** Wienerberger 1100x850 PER HV 215x102x65 680pcs - 4 vert strap

Stretch film: / Thickness [µm]: 0 Producer: /

Pre-stretch[%]: 2nd Stretch[%]: Stretch wrapper:

Weight (g): Practical stretch [%]: Pallet roping: # Wrappings:

Overlap when going up [%]: Overlap when going down [%]:

Position of the roping [mm]: Foil overlap at the top [mm]:

Type of cycle:

Packaging | Type Approval | Load Securing | Engineering

Reference 20200908/001 **Author** Dendauw Jelle **Contact:** Danny Wallaert **Date:** 8/09/2020

Company: Wienerberger nv **LU name:** Wienerberger 1100x850 PER HV 215x102x65 680pcs - 4 vert strap

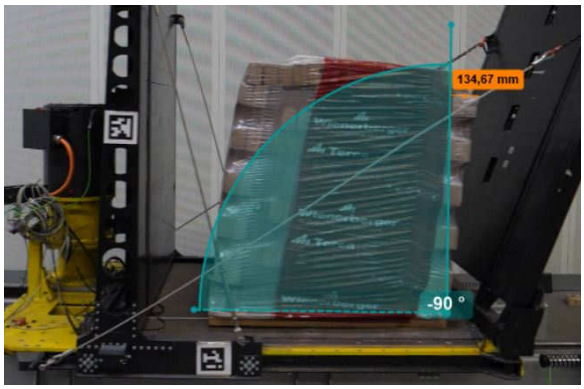
-1

Individual tests

Acceleration: 0,5 Direction: LP **EUMOS40509 compliant?** ☑

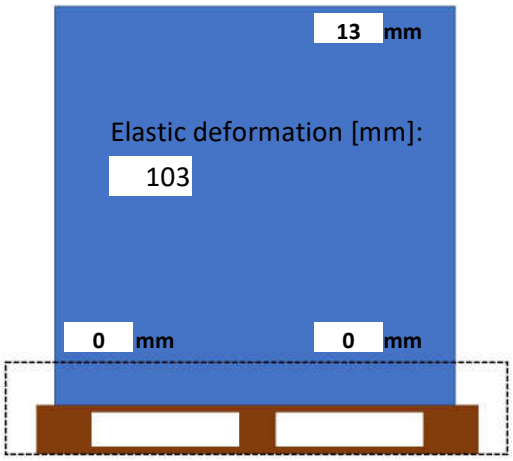
BEFORE THE TEST

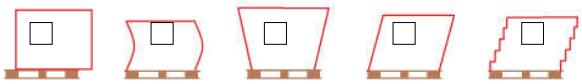
DURING THE TEST (max deformation)



AFTER THE TEST

DEFORMATIONS





Testing history sample:

Ambient condition
Load unit used for the BP-trials.

Comment:

The pallet is behaving shape stable at 0,5g in the LP-direction.
Start dynamic deflection: 31mm.

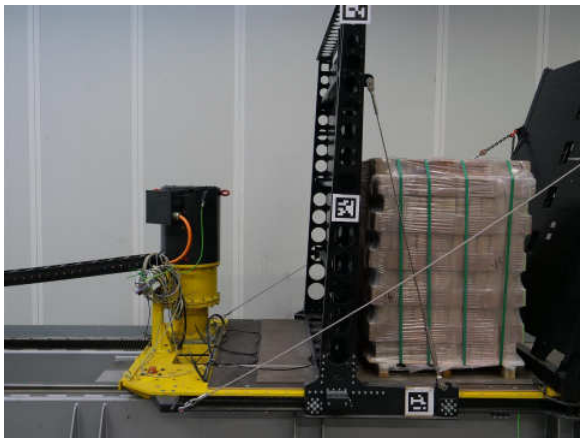
Packaging | Type Approval | Load Securing | Engineering

Reference 20200908/001 **Author** Dendauw Jelle **Contact:** Danny Wallaert **Date:** 8/09/2020

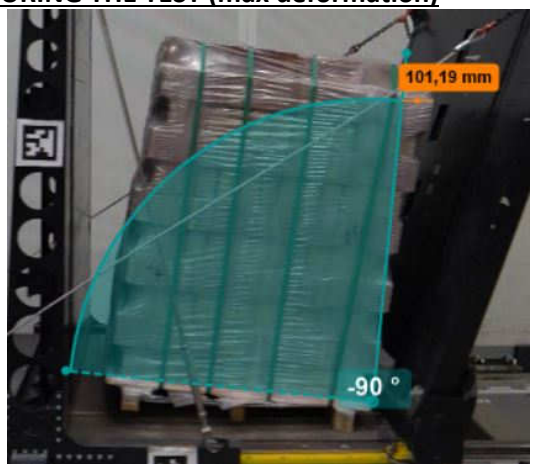
Company: Wienerberger nv **LU name:** Wienerberger 1100x850 PER HV 215x102x65 680pcs - 4 vert strap

Acceleration: 0,5 Direction: BP **EUMOS40509 compliant?** ☑

BEFORE THE TEST

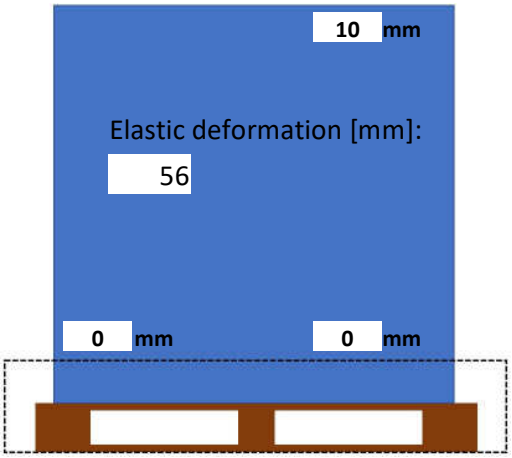


DURING THE TEST (max deformation)



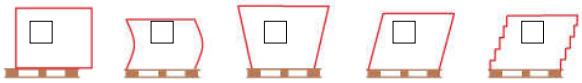
AFTER THE TEST

DEFORMATIONS



Testing history sample:

Ambient conditions.



Comment:

The pallet is behaving shape stable at 0,5g in the BP-direction.
Start dynamic deflection: 45mm.