

Unit 3 Cockerell Close
Gunnels Wood Road
Stevenage
Hertfordshire
SG1 2NB

T: +44(0) 1438 777 700
info@fira-international.com

www.fira-international.com

GRATNELLS INTERNATIONAL, UNIPESSOAL, LDA

Estrada do Vale da Rosa
Blue Bizz Business Park – Edifício VI
1º Andar Dto.
2910-845 Setúbal
Portugal

Our Ref: CA-123358-S1/B*
Date: 06 October 2026
Delivery Date: 12 August 2026
Test Dates: 09 September - 11 September 2026

For the attention of Hugo Baptista

SAMPLE(S) SUBMITTED FOR TEST AND IDENTIFIED BY CUSTOMER AS:

One, Gratnells LEGO® Education Trolley

TEST(S) AS REQUESTED BY CUSTOMER:

RESULT:

BS EN 16121: 2023 Test Level 2

Pass[^]

[^]Excluding Clauses 5.8.1.12 & 5.7.7 Castor Testing.

Technical report references marked * indicate this report is supplementary to the previous report with the same reference.

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When a statement of conformity to a test standard is reported the test result(s) are unlikely to be the "true" result(s) due to measurement uncertainty. When the sample is tested under the criteria and conditions as defined in the method and the measured result is outside of the upper/lower acceptance limit and corrected for uncertainty at 95% probability, the risk of a false accept/reject is ≤2.5%. These results will be reported as Pass/Fail. If the test result(s) obtained under the same conditions is close to the upper/lower acceptance limit and could be either side of the accept/reject threshold these results will be reported with a conformance probability.



TECHNICAL REPORT

DESCRIPTION

Item: Gratnells LEGO® Education Trolley
Supplied by: **GRATNELLS INTERNATIONAL, UNIPESSOAL, LDA**
Assembled by: Customer
Number of Photos: Six
Overall Dimensions: 780mm High x 538mm Wide x 420mm Deep

ITEM	DESCRIPTION
Material/Thickness	25mm Thick Metal 1mm Thick Metal
Runner Type	L-Shape - 1mm Metal
Number/Description of Legs	4 Castors - 65mm Ø

All dimensions are approximate.

PRECONDITIONING AND MOISTURE CONTENT

FIRA International cannot validate date of manufacture and therefore it is assumed that at least 4 weeks has elapsed between date of manufacture and delivery to FIRA.

Unless otherwise stated on the first page of this report the sample was stored in indoor ambient conditions for at least the minimum duration as required by this standard prior to test.

Wherever possible timber moisture content is verified prior to test. Where this is not possible the moisture content is assumed to be in the range 8 – 12 %.



TECHNICAL REPORT

BS EN 16121: 2023 – Non-Domestic Storage Furniture – Requirements for Safety, Strength, Durability and Stability

The tests required were carried out in accordance with the standard. Where applicable details of the loads applied, and their positions of application are retained at FIRA International and are available on request.

Item: Gragnells LEGO® Education Trolley

Initial Inspection: No apparent faults

Clause	Test	Result
5.2	General Safety Requirements (Clause Ref: BS EN 16121: 2023)	
	Accessible parts are rounded or chamfered.	Pass ^o
	All other edges are free from burrs and sharp edges.	Pass ^o
	Feet of tubular components shall be capped or otherwise closed.	Pass ^o
	Movable and adjustable parts shall be designed so that injuries and inadvertent operation are avoided.	Pass ^o
	It shall not be possible for any load bearing part of the storage unit to come loose unintentionally.	Pass ^o
	All parts which are lubricated to assist sliding shall be designed to protect users from lubricant stains when in normal use.	N/A
	Roll fronts and sliding doors sliding vertically.	N/A
	Avoid pinching points for feet.	N/A
	Extension elements and trays open stops.	N/A ^{oo}
	External vertical glass ≤ 900 mm.	N/A
5.3	Holes in tubular/rigid components.	Pass ^o
5.4.1	Shear and compression points when setting up and folding.	N/A
5.4.2	Shear and compression points under influence of powered mechanism.	N/A
5.4.3	Shear and compression points during use.	Pass ^o
5.5	Hinged horizontal lids.	N/A
5.6	Vertical glass component	N/A

^oNo trays supplied– test performed without.

^{oo}No trays supplied

In extreme weather conditions the ambient test temperature and/or humidity may fall outside the requirements of the standard. Such changes have not been shown to affect the validity of the results. Details of the ambient conditions at time of test are available on request.



TECHNICAL REPORT

BS EN 16121: 2023 – Non-Domestic Storage Furniture – Requirements for Safety, Strength, Durability and Stability

The tests required were carried out in accordance with the standard. Where applicable details of the loads applied, and their positions of application are retained at FIRA International and are available on request.

Item: Gratnells LEGO® Education Trolley

Initial Inspection: No apparent faults

Clause	Test	Result
5.7	Stability (Clause Ref: EN 16122: 2012)	
11.2.1	Doors, extension elements and flaps closed, unit unloaded ($\leq 1000\text{mm}$).	Pass ^o
11.2.2	Doors, extension elements and flaps closed, unit unloaded ($> 1000\text{mm}$).	N/A
11.4.1	Doors, extension elements and flaps opened.	N/A [∞]
11.4.2	All storage areas unloaded with overturning load.	N/A [∞]
11.4.3	All storage areas loaded with overturning load.	N/A [∞]
11.5	Doors, extension elements and flaps locked (loaded).	N/A
11.6	Dynamic stability for units with castors.	Not Tested

Clause	Test	Result
7	Information for Use (Clause Ref: BS EN 16121: 2023)	
a	Information regarding the intended use.	Pass
b	Assembly instructions, where applicable.	N/A
c	Instructions for care and maintenance of the storage furniture, where applicable.	Pass

^oNo trays supplied – test performed without.

[∞]Unable to perform tests as no trays supplied.

Not Tested: Not offered by FIRA.

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TECHNICAL REPORT

BS EN 16121: 2023 – Non-Domestic Storage Furniture – Requirements for Safety, Strength, Durability and Stability

The tests required were carried out in accordance with the standard. Where applicable details of the loads applied, and their positions of application are retained at FIRA International and are available on request.

Item: GrateNells LEGO® Education Trolley

Initial Inspection: No apparent faults

Clause	Test	Result
5.8	Structural Safety (Clause Ref: BS EN 16122: 2012)	
6.2.2	Static load test for tops and bottoms.	Pass [^]
6.1.2	Shelf retention (horizontal outward).	N/A
6.1.3	Shelf retention (vertical downward).	N/A
6.1.5	Strength of shelf supports – Other.	N/A
6.1.5	Strength of shelf supports – Office, libraries, barracks.	N/A
7.1.2	Vertical load of pivoted doors.	N/A
7.1.3	Horizontal load of pivoted doors.	N/A
7.3.1	Strength of bottom hinged flaps.	N/A
7.5.2	Strength of extension elements.	N/A ^{oo}
7.5.4	Slam open and shut of extension elements.	N/A ^{oo}
7.5.6	Interlock test.	N/A
6.4.1	Strength of carcass and underframe.	Pass ^o
6.4.3	Test for unit with castors or wheels.	Not Tested
10.1.3	Overload.	N/A
10.1.4	Dislodgement test.	N/A
10.2	Floor standing units.	N/A

[^]Vertical force requirement reduced from 1000N to 500N due to customer request.

^oNo trays supplied – test performed without.

^{oo}No trays supplied

Not Tested: Not offered by FIRA.

In extreme weather conditions the ambient test temperature and/or humidity may fall outside the requirements of the standard. Such changes have not been shown to affect the validity of the results. Details of the ambient conditions at time of test are available on request.



TECHNICAL REPORT

BS EN 16121: 2023 – Non-Domestic Storage Furniture – Requirements for Safety, Strength, Durability and Stability

The tests required were carried out in accordance with the standard. Where applicable details of the loads applied, and their positions of application are retained at FIRA International and are available on request.

Item: Gratnells LEGO® Education Trolley

Initial Inspection: No apparent faults

Clause	Test	Result
6.1	Strength and Durability (Clause Ref: BS EN 16122: 2012)	
6.3.1	Strength of clothes rail supports.	N/A
9.1	Strength of coat hooks.	N/A
7.1.5	Durability of pivoted doors.	N/A
7.1.4	Slam shut of pivoted doors.	N/A
7.2.2	Slam shut/open of sliding doors and horizontal roll fronts.	N/A
7.2.3	Durability of sliding doors.	N/A
7.2.3	Durability of horizontal roll fronts.	N/A
7.3.2	Durability of flaps.	N/A
7.4.2	Durability of vertical roll fronts.	N/A
7.5.3	Durability of extension elements.	N/A
7.5.3	Durability of trays.	N/A ^{oo}
7.5.4	Slam open and shut of extension elements.	N/A ^{oo}
7.5.5	Displacement of extension element bottoms.	N/A
7.6.2	Strength of locking and latching mechanisms (extension elements).	N/A
7.6.3	Strength of locking and latching mechanisms (doors, flaps and roll fronts).	N/A
6.1.4	Deflection of shelves.	N/A
6.3.2	Dislodgement of clothes rails.	N/A
8.3	Drop test for trays.	N/A ^{oo}
8.2	Sustained load test for trays.	N/A ^{oo}

^{oo}No trays supplied

In extreme weather conditions the ambient test temperature and/or humidity may fall outside the requirements of the standard. Such changes have not been shown to affect the validity of the results. Details of the ambient conditions at time of test are available on request.



TECHNICAL REPORT

BS EN 16121: 2023 – Non-Domestic Storage Furniture – Requirements for Safety, Strength, Durability and Stability

The tests required were carried out in accordance with the standard. Where applicable details of the loads applied, and their positions of application are retained at FIRA International and are available on request.

Item: Grasnells LEGO® Education Trolley

Initial Inspection: No apparent faults

Clause	Test	Result
5.2	ANNEX B – Requirements for Schools, Kindergartens and Similar Applications (Clause Ref: BS EN 16121: 2023 ANNEX B)	
B.2.1	Shear and compression points.	Pass ^o
B.2.2	Principles of safety requirements.	Pass ^o
B.2.3	General safety requirements.	Pass ^o
B.2.4	Glass.	N/A
B.2.5	Stability.	Pass ^o
B.2.6	Strength and durability – drop test for trays.	N/A ^{oo}
B.3.1	Finger entrapment.	Pass ^o
B.3.2	Shear and compression points under the influence of powered mechanisms.	N/A
B.3.3	Shear and compression points during use.	Pass ^o

^oNo trays supplied – test performed without.

^{oo}No trays supplied

In extreme weather conditions the ambient test temperature and/or humidity may fall outside the requirements of the standard. Such changes have not been shown to affect the validity of the results. Details of the ambient conditions at time of test are available on request.



TECHNICAL REPORT

CALCULATION DETAILS

	Average Shelf Load			LOAD Kg
	Width	Depth	Kg/dm ²	
Top	300mm	362mm	1.5Kg/dm ²	16
Bottom	307mm	420mm	1.5Kg/dm ²	19
L Pocket	310mm	88mm	1.5Kg/dm ²	4
R Pocket	310mm	88mm	1.5Kg/dm ²	4

COMMENTS

Report amended due to customer request.

Please note that the environmental conditions deviated outside of the limits as stated in the standard during the testing of this product. Test conditions for the full duration of the test are available on request.

CONCLUSION

The Gratnells LEGO® Education Trolley, as previously described, successfully satisfied the applicable test requirements of BS EN 16121: 2023 Test Level 2 - Excluding Clauses 5.8.1.12 & 5.7.7 Castor Testing.

Tested by:

J Moore

Reported by:

B Southam

Approved by:

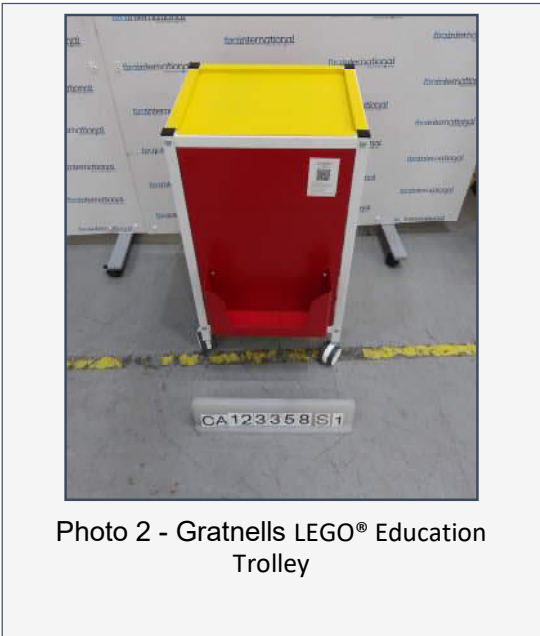
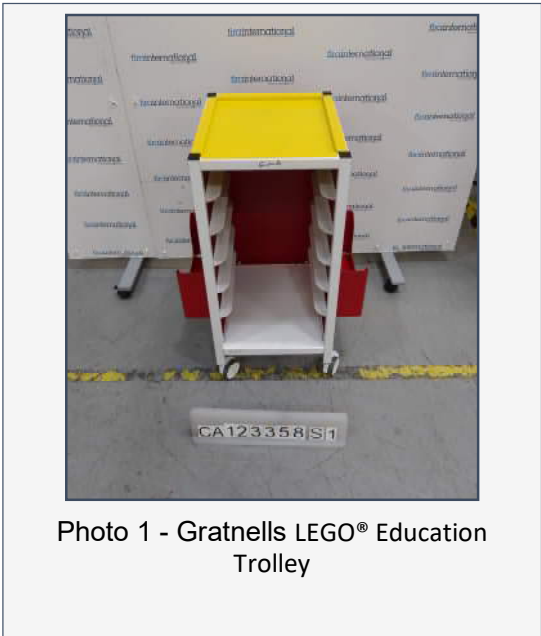
L Haines



Section Head - Structural Testing



TECHNICAL REPORT



*****End of Report*****