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GRATNELLS LTD
8 Howard Way
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Our Ref: CA-76327-S1/A*
Date: 12 April 2024
Delivery Date: 25 March 2024
Test Dates: 25 March - 08 April 2024

For the attention of Kelvin Tam

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

One, Gratnells Dynamis High Treble Trolley

TEST(S) AS REQUESTED BY CUSTOMER:

RESULT:

BS EN 16121: 2013 +A1: 2017 Test Level 2

Pass[^]

[^]Excluding Clauses 5.7.1.12, 5.6.7 & 7.

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 $\leq 2.5\%$. 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.



FIRA International
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Registered in England No: 03181481

TECHNICAL REPORT

DESCRIPTION

Item: Gratnells Dynamis High Treble Trolley
Supplied by: **GRATNELLS LTD**
Number of Photos: Five
Overall Dimensions: 1580mm High x 1060mm Wide x 25mm Deep

| ITEM | DESCRIPTION |
|----------------------------|--|
| Material/Thickness | Hollow Metal, 25mm x 25mm |
| Number/Description of Legs | 4x Castors, Braked, Plastic with Rubber – 70mm Ø |
| Other Information | 39x Plastic Trays – 3mm Thick |

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: 2013 +A1: 2017 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.

The tests were carried out in accordance with the standard, and the clause references of BS EN 16122: 2013 +A1: 2017.

Item: Gratnells Dynamis High Treble Trolley

Initial Inspection: No apparent faults

| Clause | Test | Result |
|--------|---|--------|
| 5 | General safety requirements (Clause Ref: BS EN 16121: 2013) | |
| 5.2 | No burrs or sharp edges. | Pass |
| 5.2 | No open-ended tubes. | Pass |
| 5.2 | Movable parts – safety distances. | Pass |
| 5.2 | Unintentional loosening of load bearing parts. | Pass |
| 5.2 | Lubricated components. | Pass |
| 5.2 | Roll front (vertical). | N/A |
| 5.2 | No pinching of feet. | N/A |
| 5.2 | Drawer open stops. | N/A |
| 5.2 | External vertical glass \leq 900 mm. | N/A |
| 5.3.1 | Shear and squeeze (setting up and folding). | N/A |
| 5.3.2 | Shear and squeeze (powered mechanisms). | N/A |
| 5.3.3 | Shear and squeeze (during use). | Pass |
| 5.4 | Hinged horizontal lids. | N/A |
| 5.5 | Vertical glass component | N/A |

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.



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Item: Gratnells Dynamis High Treble Trolley

Initial Inspection: No apparent faults

| Clause | Test | Result |
|--------|---|------------|
| 5.6 | Stability (Clause Ref: EN 16122: 2012) | |
| 11.2.1 | Doors, extension elements and flaps closed, unit unloaded ($\leq 1000\text{mm}$). | N/A |
| 11.2.2 | Doors, extension elements and flaps closed, unit unloaded ($> 1000\text{mm}$). | Pass |
| 11.4.1 | Doors, extension elements and flaps opened. | Pass |
| 11.4.2 | All storage areas unloaded with overturning load. | Pass |
| 11.4.3 | All storage areas loaded with overturning load. | Pass |
| 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: 2013) | |
| 7a | Information regarding the intended use, reference to test severity where appropriate; | Not Supplied |
| 7b | Assembly instructions, where applicable; | Not Supplied |
| 7c | Instructions for care and maintenance of the storage furniture, where applicable. | Not 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: 2013 +A1: 2017 Non-Domestic Storage Furniture – Requirements for Safety, Strength, Durability and Stability

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Item: Gratnells Dynamis High Treble Trolley

Initial Inspection: No apparent faults

| Clause | Test | Result |
|--------|---|------------|
| 5.7 | Structural safety (Clause Ref: BS EN 16122: 2012) | |
| 6.2.2 | Static load test for tops and bottoms. | N/A |
| 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. | 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. | Pass |
| 7.5.4 | Slam open and shut of extension elements. | Pass |
| 7.5.6 | Interlock test. | N/A |
| 6.4.1 | Strength of carcass and underframe. | Pass |
| 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 |

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BS EN 16121: 2013 +A1: 2017 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.

The tests were carried out in accordance with the standard, and the clause references of BS EN 16122: 2013 +A1: 2017.

Item: Gragnells Dynamis High Treble 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. | Pass ^o |
| 7.5.4 | Slam open and shut of extension elements. | Pass |
| 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. | Pass |
| 8.2 | Sustained load test for trays. | Pass |

^oPlastic sediment noted around the runner rails after testing.



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BS EN 16121:2013 +A1: 2017 Non-Domestic Storage Furniture – Requirements for Safety, Strength, Durability and Stability

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Item: Gratnells Dynamis High Treble Trolley

Initial Inspection: No apparent faults

| Clause | Test | Result |
|--------|--|--------|
| 5.7 | ANNEX A – Modifications for Schools, Kindergartens and Similar Applications | |
| A.2.2 | Shear and squeeze points. | N/A |
| A.2.3 | Safety principles. | N/A |
| A.2.4 | General safety. | N/A |
| A.2.5 | Shear and squeeze points under the influence of powered mechanisms. | N/A |
| A.2.6 | Shear and squeeze points during use. | N/A |
| A.2.7 | Glass. | N/A |
| A.2.8 | Stability. | N/A |
| A.2.9 | Strength and durability – drop test for trays. | N/A |
| A.3 | Finger entrapment. | N/A |

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TECHNICAL REPORT

Calculation Details

| | Average Shelf Load | | | LOAD Kg |
|-----------|--------------------|-------|-----------------------|------------|
| | Width | Depth | Kg/dm ² | |
| 39x Trays | 270mm | 370mm | 1.0Kg/dm ² | 10 |

| | Average Drawer Load | | | LOAD Kg | |
|------|---------------------|-------|--------|-----------------------|---|
| | Width | Depth | Height | | |
| Tray | 270mm | 370mm | 90mm | 0.2Kg/dm ³ | 2 |

COMMENTS

Report amended due to customer request.

CONCLUSION

The Gratnells Dynamis High Treble Trolley, as previously described, successfully satisfied the applicable test requirements of BS EN 16121: 2013 +A1: 2017 Test Level 2 – Excluding Clauses 5.7.1.12, 5.6.7 & 7.

Tested by: S Gerhard

Reported by: B Southam

Approved by: L Haines



Section Head - Structural Testing



TECHNICAL REPORT



Photo 1 - Gratnells Dynamis High Treble Trolley



Photo 2 - Gratnells Dynamis High Treble Trolley



Photo 3 - Gratnells Dynamis High Treble Trolley



Photo 4 - Gratnells Dynamis High Treble Trolley



Photo 5 - Gratnells Dynamis High Treble Trolley

TECHNICAL REPORT

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

