

STANDARD FOR STACKABLE LAUNDRY STORAGE BOXES

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1. FOREWARD

This document has been prepared to introduce standards and standardisation in the laundry handling industry. This is a standardising document and aims to facilitate the use of Stackable Laundry Storage Boxes supplied by various suppliers within the same facility, stacked to a maximum of 3 units high.

2. INTRODUCTION

The Stackable Laundry Storage Boxes, referred to as the Boxes from here on, are used in the Laundry and Hospitality industries to store linen and other product. These boxes vary in size and are required to meet certain standards in order to be safe, hygienic and reliable.

3. SCOPE

This standard specifies the requirements for plastic Material Handling Boxes for use in the Laundry and Hospitality industries for the discharge and storage of Laundry and other products. The boxes will be used for the storage of linen and goods which may be in contact with humans.

The purpose of the standard is to define the material used, specific requirements, type tests and production quality controls.

Companies manufacturing to this standard must be certified to ISO 9001 or equivalent.

4. NORMATIVE REFERENCE

This standard incorporates dated or undated references from other publications. These 'normative' references subsequent amendments to, or revisions of, any of these publications apply to this standard only when incorporated in it by amendment or revision. For undated reference the latest edition of the publication referred to applies.

ISO	1133	Plastics Determination of the Melt Flow Rate of Thermoplastics
ISO	1183	Plastics: Method of determining density
ISO	R527	Determination of Tensile Properties
ISO	175	Plastics: Determination of the effects of liquid chemicals, including water
ISO	1872	Plastics: Test specimen preparation
EN	45020	General terms and their definition concerning standardisation and related activities

5. DEFINITIONS

Stackable Laundry Storage Boxes; Boxes that have openings in the top and front of the product to allow for easy of filling. The boxes shall be able to stack on top of each other.

6. DESIGN REQUIREMENTS

- 6.1 A range of boxes, from large to small as defined herein, shall be available.
- 6.2 The product shall be manufactured from UV stabilised, medium density polyethylene. (Colour to be specified).
- 6.3 Sufficient ribs and stiffeners shall be moulded into the product to generate strength and prevent warpage.
- 6.4 The product shall have an open top and an opening in the front to allow for ease of filling.
- 6.5 The products may not stack into each other but shall stack on top of each other stably.
- 6.6 A sufficient wall thickness should be allowed to ensure good strength in the product. This wall thickness shall be 3.5mm +/-15.
- 6.7 The product shall have no sharp edges that could cause injury. All corners shall be well rounded with a minimum radius of 10mm.
- 6.8 The design shall be such to allow the stacking of units to a maximum height of 3 units high.

7. MATERIAL PROPERTIES

- 7.1 Raw materials (Medium Density Polyethylene)
The material must be determined in accordance with ISO 1183 method A or D. A single resin polymer shall have a density not less than 932kg/ m³ and not greater than 952kg/ m³.
- 7.2 Melt Flow Rate
The Melt Flow Rate is measured in accordance with ISO 1133 Section 4, must be a maximum of 7g/10min and a minimum 3g/10min. Test to be carried out on raw material.
- 7.3 Weather Resistance
The material and colouring used in the manufacture of the body shall be ultra violet light stabilised to a rating of 8 or greater.
- 7.4 There shall be no colour give-off from any material in contact with the product being handled.

8. PLASTIC BOXES

- 8.1 Capacity and Tolerance
The smaller box shall be 260L +/- 15%.
The larger box shall be 390L +/- 15%.
- 8.2 Visual inspection
On visual inspection of the trolley there should be no bubbles, blisters, or other defects that could cause a hole or fracture.
- 8.3 Weight
The weight of the small product shall be 8kg +/- 10%
The weight of the Large product shall be 13kg +/- 10%

- 8.4 Wall thickness
The minimum wall thickness on any point of the sides, top or base shall not be less than 3.5mm +/- 15%.
- 8.5 The boxes shall be sized as per Annex 1 +/- 5%.
- 8.6 Load capacity
The boxes shall be designed and tested to give a minimum load capacity of 78kg and 117kg. The load capacity shall be stated on the product.
- 8.7 The certified load capacity shall be the stated load capacity multiplied by a factor of 1.25 +/- 10%, being 100kg and 150kg.

9. TESTING

- a) Weight: The weight of the trolley shall be tested every 6 months from samples randomly picked from production to be sure the shot weight and material is consistent.
- b) Visual inspection: Every trolley.
- c) Wall thickness: product randomly selected from production run every 3 months shall be tested, samples taken from a grid of 24 locations spread over the 6 faces of the trolley shall be tested.
- d) To test for stability, a test set up as in Annex 2 shall be carried out. The boxes shall not become unstable.
- e) Load capacity is a type test and shall be completed once at the initial stage of the product. A set up as in Annex 3 shall be carried out and maintained for 30 minutes. When unloaded, the product shall return to its design shape within 1 hour.

10. MARKINGS:

The following information should be marked on each trolley:

- Year of Manufacture.
- Standard mark number.
- Load capacity.
- Name of manufacturer.
- Maximum weight when empty.

11. PRODUCTION AND QUALITY CONTROL

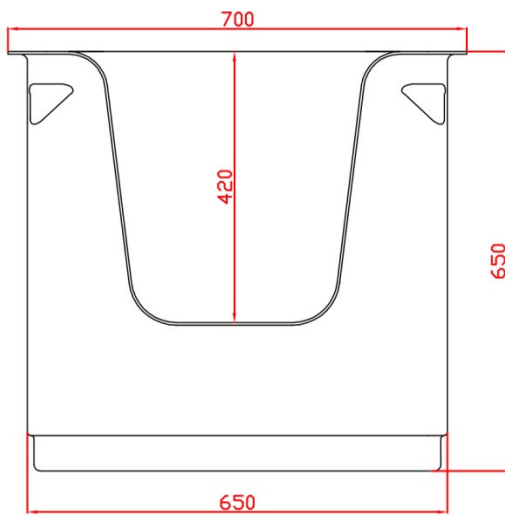
The tests described in chapter 9 of this standard shall be carried out at the frequency indicated above during production, quality control, and records maintained within a quality system. This system should be audited and certified by a Certified External Authority in accordance with CEN regulator EN 45020.

12. RECYCLING/ REPAIR

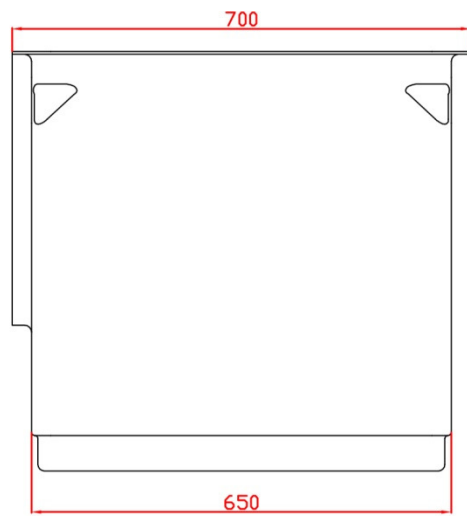
It shall be a condition of supply that the supplier offers the facility to take back for recycling, end of life product.

The supplier shall furthermore offer the facility to repair product which may suffer minor damage.

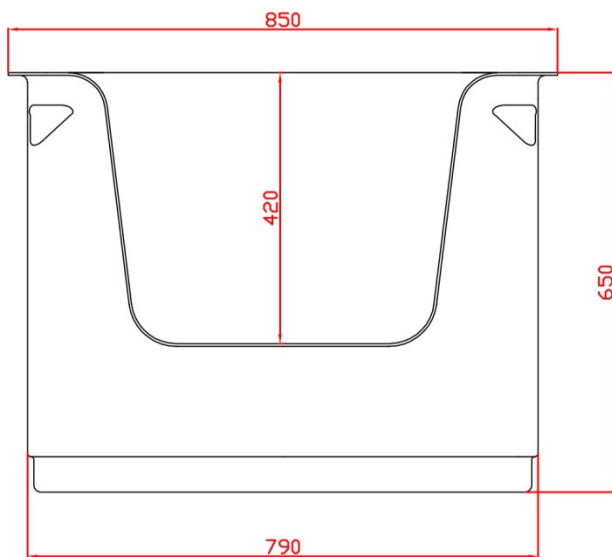
Annex 1



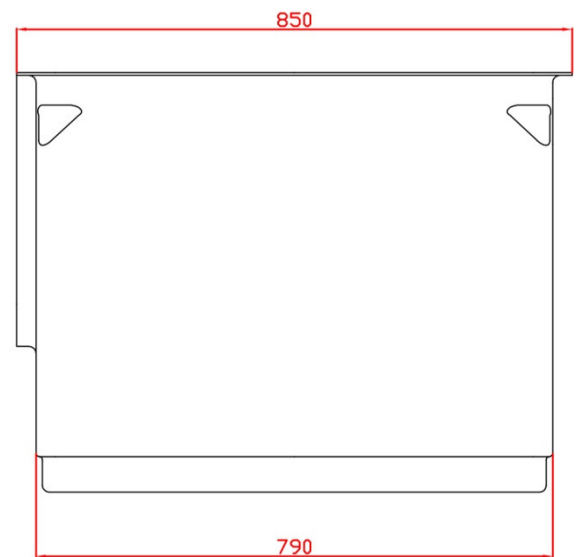
FRONT VIEW



SIDE VIEW



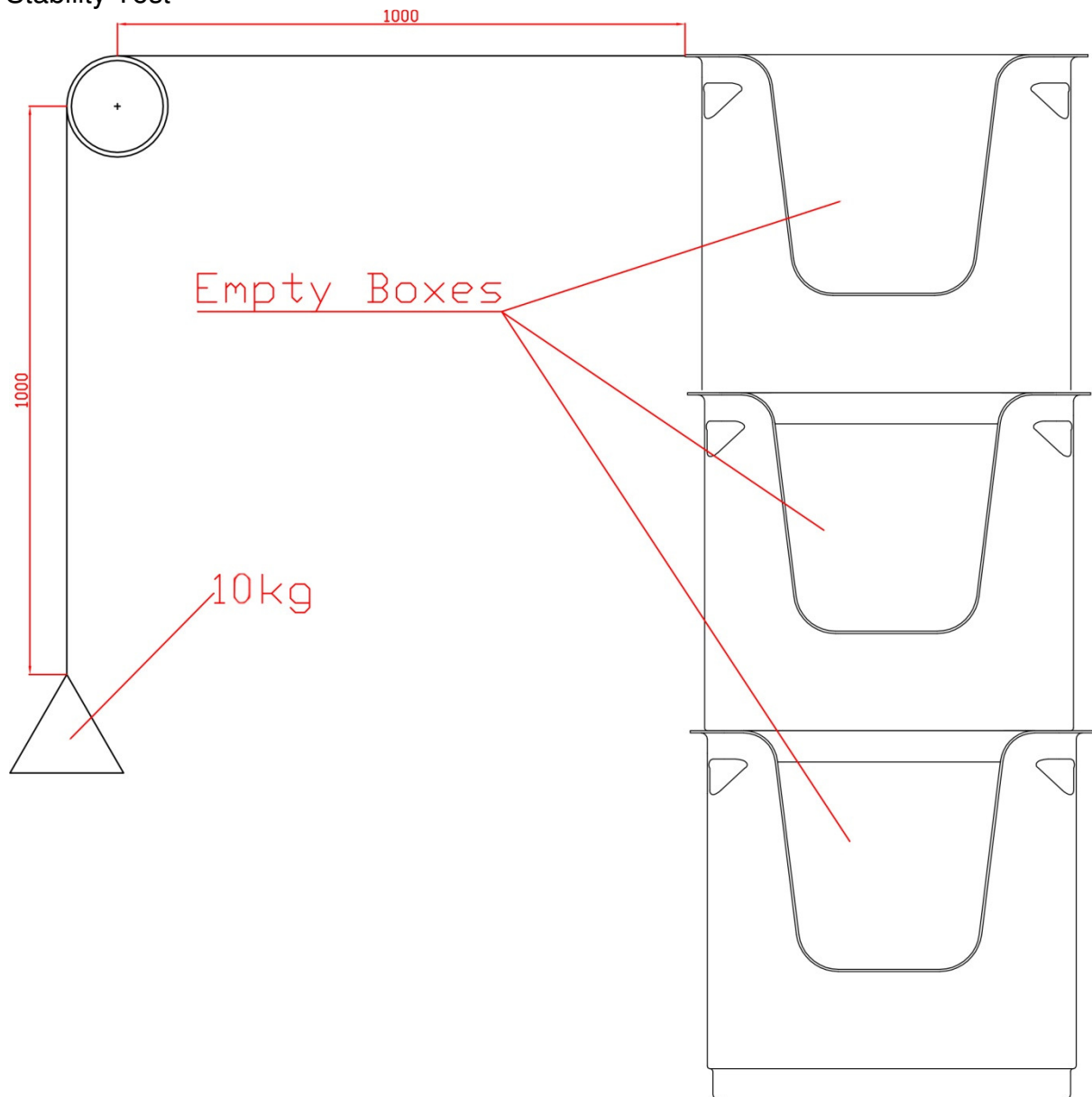
FRONT VIEW



SIDE VIEW

Annex 2

Stability Test



Annex 3

Mass Capacity test

