STANDARD FOR HEAVY DUTY WASTE SEGREGATION SKIP TROLLEY

NO: T.E.L. - 601 - Rev 1-06.

Standard for
Heavy Duty Waste Segregation Skip/Trolley

Wheeled or Un-wheeled

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1.0 SCOPE:

This standard specifies the requirements for thermoplastic skip trolleys for use in the construction industry for the discharge and collection of segregated waste. This standard applies to skips that are open and not subject to any over pressure and having a capacity in excess of 200 litres but not more than 1000litres
The purpose of the standard is to define the material used, requirements, tests, type tests and production quality control tests.
Companies manufacturing to the standard must have management system complying to I.S. EN 9002 or equivalent.

2. NORMATIVE REFERENCE

This Standard incorporates by dated or undated reference 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 - 1981	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 - 1986	Plastics: Test specimen preparation
EN	45020	General terms and their definition concerning standardisation and related activities

3. DEFINITION

A heavy duty segregation trolley*;*
A container that retains its design shape for the purpose of carrying construction site segregated waste when empty without any external support other than the integral support frame.

4. DESIGN REQUIREMENTS

4.1 ***Lifting***: The Heavy duty skip Trolley should be suitable for manoeuvring by hand or lifting by means of a crane or forklift or Teleporter, when used with appropriate certified lifting equipment and in accordance with manufacturers instructions.

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4.2 ***Supports:*** The skip should be supported about its top rim by means of a steel structure to the standards contained herein The body shall be encompassed in a steel frame to support the body of the Skip.

4.3 The Heavy duty skip trolley should be suitable for lifting and travelling about a smooth concrete floored construction site by means of a manual pushing, or by crane, forklift or Teleporter.

4.4 The Heavy duty skip trolley should be of such a design so as to prevent the stagnation of material. . It should be a single skin design & have no area for waste to become trapped there in.

5. MATERIAL PROPERTIES:

5.1 ***Density - (Raw materials)***
The use of regrind shall not be permitted.
Determined in accordance with ISO 1183 method A or D. A single resin polymer shall have a density not less than 925kg/m³ and not greater than 935kg/m3.

5.2 ***Melt Flow Rate - (Raw materials)***
The Melt Flow Rate is measured in accordance with ISO 1133 Section 4, must be a maximum of 5g/10min and a minimum 3g/10min. Test to be carried out on raw material.

5.3 ***Weather Resistance***
The material used in the manufacture of the body shall be ultra violet light stabilised.

5.4 ***Steel Frame***
Manufactured from steel to BS.1387 Medium grade or better,(gun barrell light gauge not suitable) the sides shall be strapped with 100mm X 4 mm or greater. The base shall be supported by a tubular frame recessed into the plastic body

5.5 ***Fabrication of Steel Frame***
All fabrication of steel components to be completed by Certified welder in accordance with EN 287-1

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6. HEAVY DUTY SKIP

6.1 Capacity and Tolerance

(a).When tested the ambient temperature shall be 15ºC ± 5ºC. The skip shall be filled to overflow (brimful) with water, wait ten minutes fill to overflow, and measure the capacity to an accuracy of ± 1%.

(b) The stated capacity shall be the measured capacity + 15% - 5% stated in litres.

6.2 Visual inspection

On visual inspection of the skip there should be no bubbles, blisters, or other defects that could cause a hole or fracture.

6.3. Weight

The weight of the skip, measured with the frame and any attachments, shall not be less than 60kg. The body of the skip should weigh 40 grammes per litre of capacity of the tub. Tolerance in these weights shall be +20%, -10%.

6.4 Wall thickness

The minimum wall thickness on any point of the sides or base shall not be less than 4mm. A margin of 10% is permitted.

6.5 Load capacity

The load capacity of the skip is the capacity as defined in 6.1, multiplied an average density of material of S.G.0.75 to give the certified load capacity of the skip in kg.

6.5.1 *Testing of the Heavy Duty skip trolley shall be as follows:*

The Heavy Duty Skip Trolley complete with all its framework and fixings shall be subject to a series of lift tests as follows:

(a) Loaded with weight which equates to its certified load capacity + 100%, well distributed.

(b) The temperature at test shall be 20°c +/- 5°c.
(c) The skip shall be lifted at its recommended lifting points by approved lifting devices.
(d) 50 lifts shall be completed in batches of 10 over a four-hour period.
(e) The skip when fully loaded shall be suspended for a period of 24 hours.
(f) Result:
(i) No failure of skip, frame or any part shall occur.
(ii)The skip when emptied shall return to its original shape within 3 hours and be suitable for re-use

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6.5.2 *Testing of Metal Frame for Mortar Skip.*

The metal frame should be tested as follows:

(a) A load of 1.5 tonne should be suspended from the centre part of the frame and left for 24 hours.
(b) A load of 1.5 tonne should be suspended from one handle of the mortar skip and the frame lifted by the other handle and left suspended for 24 hours.
(c) One in every 100 handles manufactures should be subjected to a tensile load of 1 tonne.
(d) Results:
(i) No failure or fracture of frame on welds shall occur.
(ii) No permanent deformation of the frame on any part shall occur.

6.6 Test frequency

(i) Load capacity is a type test and shall be completed prior to certification, once off ref. 6.5.1 and 6.5.2 and thereafter test 6.5.1. (a) (as a once off load test held for 1 min.), every 6 months certified by independent body.
(ii) Weight: The weight of the skip as defined in 6.3 shall be tested every 3 months from samples randomly picked from production.
(iii) Capacity: As defined in 6.1 is a type of test that is completed prior to certification, once off.
(iv) Visual inspection: Every skip
(v) Wall thickness: Once every 3 months.

6.7 Testing of the support plate and castor fixing to underside of Heavy Duty Skip Trolley .

The support plate and castors should be tested as follows,

(a) A weight equal to ten times the total weight of the support plate, castors and securing nuts and bolts should be suspended from the base of the skip suspended from the castors.

(b) The unit shall be lifted at its recommended lifting points by approved lifting devices.
(c) 500 lifts shall be completed in batches of 10 over a four-hour period.
(d) The unit shall be suspended for a period of 24 hours.
(e) Result:
(i) No failure of the securing points in the skip or support plate, or any part shall occur.

6.7.1 Testing of the support plate and castor fixing to underside of Heavy Duty Skip Trolley .

(a) Loaded with weight which equates to its certified load capacity well distributed.
(b) The temperature at test shall be 20°c +/- 5°c.

(c) The skip shall be traversed across a series of batons set 500m/m apart and with a section size of 50m/m X 25m/m over a distance of 100 meters.
(d) Result:
(i) No failure of the securing points in the skip or support plate, or any part shall occur.

6.7.2. Testing of the support plate and castor fixing to underside of Heavy Duty Skip Trolley .

(a) Loaded with weight which equates to its certified load capacity , well distributed.
(b) The temperature at test shall be 20°c +/- 5°c.
(c) The skip shall be pushed in a sideways movement across a smooth concrete surface over a distance of 100 meters.
(d) Result:
(i) No failure of the securing points in the skip or support plate, or any part shall occur.
(ii) No failure of the wheel or the castor frame

6.8 Finish of Metal Parts

All metal parts shall be protected as follows.
Frame: Painted with black epoxy paint
Fixings: Cadmium Plated; Zinc Plated; Galvanised or Stainless steel
Base Plate: Mild steel base plate with a thickness of no less that 4mm, painted to Same colour as Tub or Black as standard Gloss epoxy paint finish. The plate shall have no sharp edges and not exceed the skip outer dimensions.

6.9 Castors and base

The Heave Duty Skip Trolley shall have two fixed direction castors and two swivel brake castors. The design of the casters shall be cast wheels in steel bracket frame with Poly urethane lined wheel.

7.0 *MARKINGS:*

The following information should be marked on each skip:

The frame shall have a punched identification marl to enable certification as compliance with Type Test Certification.

8.0 PRODUCTION AND QUALITY CONTROL

The tests described in section 6.6 of this standard should be carried out at the frequency indicated above during production, quality control, and records maintained within a quality system. .

9.0 HANDLING AND USE

The manufacturer should supply brochure for use of the HEAVY DUTY SKIP TROLLEY.

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Appendix 1

Frame Test was conducted by suspending 2000kg from crane for 24hours.

There was no frame failure.

DATA SHEET I

PERFORMANCE

FILE NO. M.F.N.: 390 - A PRODUCT NAME: Waste Segregation Trolley

DESCRIPTION OF PRODUCT: To be used to segregate on waste on construction sites.

ESSENTIAL REQUIREMENTS: The product is to be manufactured from Borealis material. Product weight is 34kg. The product will be manufactured in various colours, depending on customers' requirements.

STRUCTURAL REQUIREMENTS: Check that product has formed correctly in all areas and that there is no warping. Check for pinholes.

AESTHETIC REQUIREMENTS: The product must have no sharp edges. Any area where the product has been cut must be finished correctly. Ensure that the product is kept clean at all times.

REFERENCE CONTRACT FILE NO.: PD/G/W 103 Waste Segregation Trolley

INSPECTION & FINISHING

FILE NO. M.F.N.: 390 - A PRODUCT NAME: Waste Segregation Trolley

INSPECTION ON ARRIVAL IN FINISH AREA:

a) Make sure product has formed correctly
b) Check for pinholes especially around the bottom of the unit

FINISHING WORK TO BE COMPLETED:

a) Cut around top rim
b) Remove all sharp edges.
c) Attach support/lifting frame.
d) Silk screen if required by customer

ATTACHMENTS TO BE FITTED TO THE PRODUCT:

a) Coated lifting/support frame
b) Standard 6mm rivets

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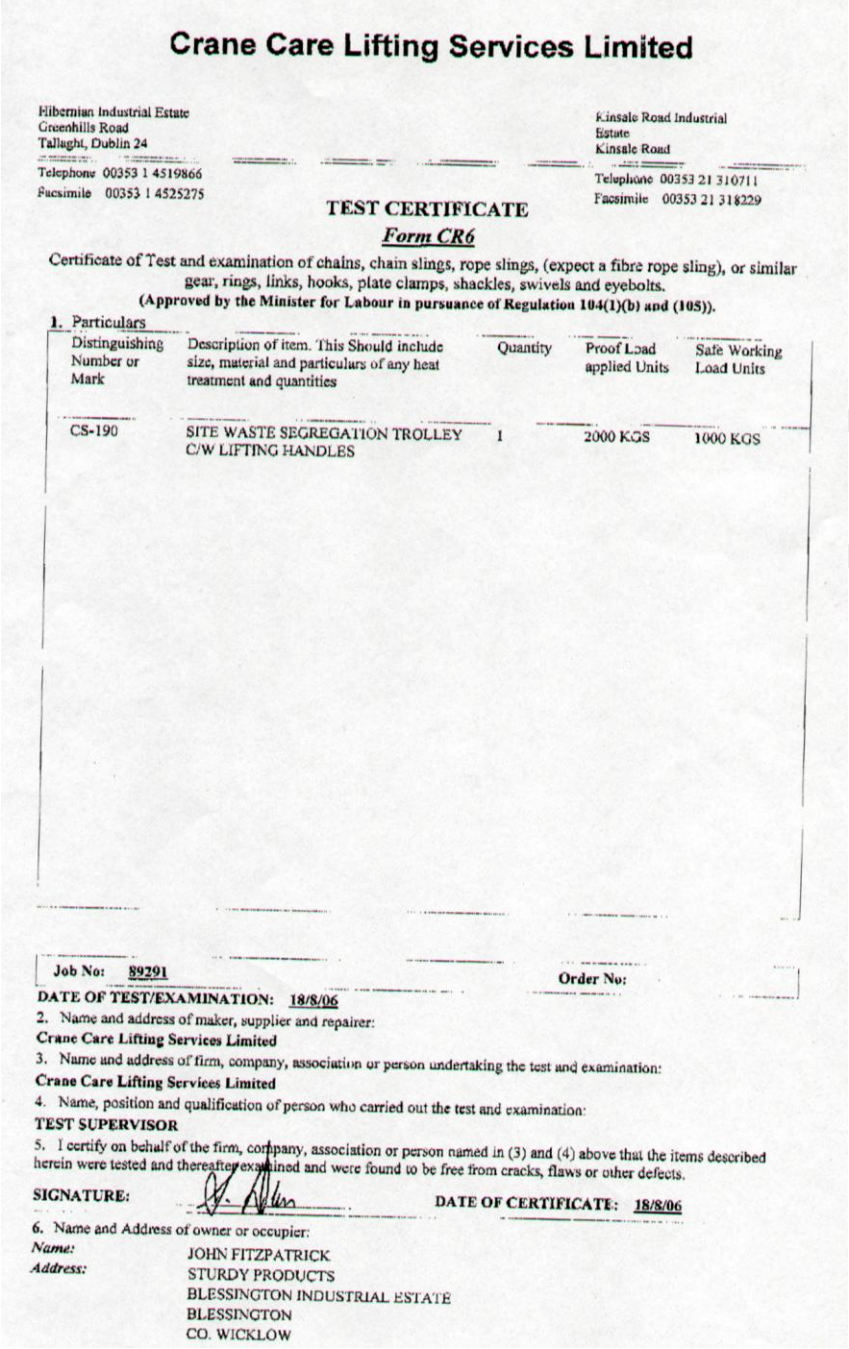
c) 200mm s/c castors braked and un-braked
d) Bolts, Nuts, Washers



Crane Care Lifting Services Limited

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TEST CERTIFICATE

Form CR6

Certificate of Test and examination of chains, chain slings, rope slings, (expect a fibre rope sling), or similar gear, rings, links, hooks, plate clamps, shackles, swivels and eyebolts.
(Approved by the Minister for Labour in pursuance of Regulation 104(1)(b) and (105)).

1. Particulars

Distinguishing Number or Mark	Description of item. This Should include size, material and particulars of any heat treatment and quantities	Quantity	Proof Load applied Units	Safe Working Load Units
CS-190	SITE WASTE SEGREGATION TROLLEY C/W LIFTING HANDLES	1	2000 KGS	1000 KGS

Job No: 89291 **Order No:**

DATE OF TEST/EXAMINATION: 18/8/06

2. Name and address of maker, supplier and repairer:
Crane Care Lifting Services Limited

3. Name and address of firm, company, association or person undertaking the test and examination:
Crane Care Lifting Services Limited

4. Name, position and qualification of person who carried out the test and examination:
TEST SUPERVISOR

5. I certify on behalf of the firm, company, association or person named in (3) and (4) above that the items described herein were tested and thereafter examined and were found to be free from cracks, flaws or other defects.

SIGNATURE: **DATE OF CERTIFICATE:** 18/8/06

6. Name and Address of owner or occupier:
Name: JOHN FITZPATRICK
Address: STURDY PRODUCTS
BLESSINGTON INDUSTRIAL ESTATE
BLESSINGTON
CO. WICKLOW