STANDARD FOR CRANE LIFTABLE MORTAR SKIP/TUB

S.F.P 53

STANDARD FOR CRANE LIFTABLE MORTAR SKIP/TUB

NO: T.E.L. - 595 - Rev 1-03.

1.0 SCOPE:

This standard specifies the requirements for thermoplastic mortar skips for use in the construction industry for the discharge and use of Trowel Ready Mortar (TRM). This standard applies to skips that are open and not subject to any over pressure and having a capacity in excess of 200 litres.
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 be certified to I.S. EN 9002:1994 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

Mortar skip; A container that retains its design shape for the purpose of carrying mortar when empty without any external support.

4. DESIGN REQUIREMENTS

4.1 ***Lifting***: The mortar skip should be suitable for 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 mortar skip should be supported about its top rim by means of a steel structure to the standards contained herein.

4.3 The mortar skip should be suitable for lifting and travelling about a construction site by means of a crane, forklift or Teleporter.

4.4 The skip should be of such a design so as to prevent the stagnation of residue mortar. It should also be suitable for the use with plastic liner bags. It should be a single skin design & have no area for mortar 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 920kg/m³ and not greater than 940kg.

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 2g/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)

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. MORTAR 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 more than 25kg. 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 by a factor of 2.00 to give the certified load capacity of the skip in kg.

6.5.1 *Testing of Mortar skips shall be as follows:*

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

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(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) 200 lifts shall be completed in batches of 25 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, spreading the load evenly along 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.

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6.7 Finish of Metal Parts

All metal parts shall be protected as follows.

Frame: Galvanised to BS 729

Fixings: Cadium Plated; Zinc Plated; Galvanised or Stainless steel

7.0 MARKINGS:

The following information should be marked on each skip:

Capacity
Year of Manufacture
Standard mark no.
Load capacity
Name of manufacturer.
Max Weight when empty.

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. This system should be audited and certified by a Certified External Authority in accordance with CEN regulator EN 45020.

9.0 HANDLING AND USE

The manufacturer should supply instructions for the handling and use of the Mortar Skip.