
British Standard Specification for

Baths made from vitreous enamelled sheet steel

Baignoires en tôle d'acier revêtue d'émail vitrifié – Spécifications

Badewannen aus emailliertem Stahl

Confirmed February 2010

Foreword

This revision of BS 1390 has been prepared under the direction of the Building Services Policy Standards Committee and supersedes the 1972 edition which is therefore withdrawn.

This revision introduces two grades and two types of bath, based on the minimum thickness of the sheet steel. It also takes into account the published amendments to BS 1390 : 1972 and the requirements of the related standards on baths and shower trays made from various materials (BS 1189, BS 4305 and BS 6340 : Parts 5, 6, 7 and 8).

The connecting dimensions are specified in line with current UK practice but if the final documents on connecting dimensions being produced in CEN (European Committee for Standardization) are agreed then those documents will supersede these requirements.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

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Specification

1 Scope

This British Standard specifies requirements for two grades and two types of baths made from vitreous enamelled sheet steel which ensure that the product, when installed in accordance with manufacturers' instructions, gives satisfactory performance.

No specific requirements are given for the method of supporting baths as methods vary, but the rigidity is ensured by the installation meeting the general performance requirements specified in this standard.

The information to be supplied by the purchaser is given in appendix A.

Methods of test to check compliance with the requirements specified are given in appendix B.

NOTE. The titles of the publications referred to in this standard are listed on the inside back cover.

2 Definitions

For the purposes of this British Standard the following definitions apply, together with the definitions given in BS 4118.

2.1 vitreous enamel. A glazed surface finish produced by the application of a powdered inorganic glass, dry or suspended in water, to sheet steel parts, and its subsequent fusion.

2.2 work size*. Target size of bath specified for its manufacture.

3 Classification

Baths shall be classified according to the thickness of the steel sheet from which they are formed, as follows:

grade 16: the minimum thickness of the steel before forming shall be 1.6 mm;

grade 22: the minimum thickness of the steel before forming shall be 2.2 mm.

They shall be further classified as either type 1 or type 2, depending on the type of support used, as follows:

type 1: the bath shall be supplied with an integral support structure such that it can be installed without any additional support;

type 2: the bath shall be supplied without a support structure such that it requires a dwarf wall installation to be erected by the installer according to a system stipulated by the manufacturer.

The manufacturer shall indicate clearly, in all documents, which type of bath is supplied.

4 Materials and finish

4.1 Steel

4.1.1 General. The steel shall be first commercial quality enamelling steel which shall be free from laminations and surface cracks.

4.1.2 Defects. The steel surface shall be free from ripples, drawing fractures and other defects deleterious to the provision of a satisfactory coating.

4.2 Vitreous enamel

4.2.1 General. The interior of the bath shall be evenly coated with vitreous enamel of a quality complying with 4.2.2 to 4.2.6.

4.2.2 Finish. The gloss and opacity of the enamel shall be visually good.

4.2.3 Abrasion resistance. When tested as described in B.2, no scratching shall be visible when viewed through the microscope.

4.2.4 Alkali resistance. When tested as described in B.3, there shall be no uniform colour stain on the enamel.

4.2.5 Acid resistance. When tested as described in BS 1344 : Part 2, the enamel shall comply with classification A of that standard.

4.2.6 Hot water resistance. When tested as described in B.4, there shall be no visible signs of attack.

4.2.7 Impact resistance. Baths shall show no evidence of visual damage when tested in accordance with B.7 and using the drop height given in table 1.

Table 1. Impact drop height

	Types 1 and 2	
	Grade 16	Grade 22
Drop height (m)	1.0	1.4

4.3 Edges

The bath shall be free from sharp edges that would be exposed after installation in accordance with the manufacturer's instructions.

4.4 Appearance

When the bath is visually inspected in daylight from a height of 1.5 m from the surface to be examined, there shall be no evidence of crazing, chipping, dimples, lumps, rundown, specks, blisters, pinholes, or other defects that will impair the appearance or performance of the bath.

4.5 Hole edges

The edges of any holes in the bath shall not show evidence of chips, cracks, or any other defects that will impair its appearance or performance.

*Repeated from BS 6100 : Subsection 1.5.1.

5 Connecting dimensions

5.1 General

The bath connecting dimensions illustrated in figure 1 shall comply with table 2.

5.2 Tap holes

Baths shall be provided either with or without tap holes. Baths with tap holes complying with the following requirements shall be provided, unless otherwise ordered:

hole diameter	36^{+2}_{-0} mm
distance between hole centres	180^{+2}_{-0} mm or 155^{+2}_{-0} mm

NOTE. Tap holes are normally positioned centrally but alternative positions can be provided if ordered. Hole centres at 155 mm are intended for pillar taps whilst centres at 180 mm can be used for mixer taps and pillar taps.

5.3 Waste hole

The waste hole form shall be such that, when a gauge complying with figure 2 is inserted in the waste hole, the part of the gauge that is shown cross-hatched in figure 2 does not protrude either above the top edge of the waste hole or below the bottom edge of the waste hole.

NOTE. This waste hole is suitable for type 11 and type 13 waste fittings complying with BS 3380.

5.4 Overflow hole

Baths shall be provided either with or without overflow holes, but a bath without an overflow hole shall only be supplied if so ordered by the purchaser.

6 Design and construction

6.1 General

6.1.1 The design of the bath and its supports shall take into account the passage of waste and supply services within its basic space.

6.1.2 The baths shall be constructed of the fewest practicable number of sections compatible with the manufacturing process, which shall be such as to ensure a suitably finished surface for the reception of the enamel. Any welded surfaces inside and outside the bath shall be cleaned off.

6.1.3 For the safety of users, baths shall be as flat bottomed as practicable.

NOTE. A slip-resistant surface may be provided.

6.1.4 The tap platform shall be flat. The extreme outer edge of the roll shall be turned as nearly vertical as practicable.

6.1.5 The bath shall be provided with one of the following means of attaching a bonding conductor:

- (a) a tag at least 50 mm long with a 6 mm clearance hole near to the free end;
- (b) a 30 mm long 6 mm bolt or threaded stud;
- (c) a 6 mm clearance hole with at least a 20 mm diameter clear space around the hole.

The tag, bolt, stud or hole surround shall be protected during the enamelling process to ensure that a good electrical contact can be made.

NOTE. The tag, bolt, stud or hole should be readily accessible after the bath has been installed to enable a connection to be made to accord with the bonding requirements of the IEE Regulations. This should be achieved, preferably at the waste outlet end of the bath, by either providing the bonding point on the longitudinal centre-line of the bath or providing duplicate bonding points, one on each side of the bath.

6.2 Chain stay hole

When no overflow hole is provided, a 7^{+2}_{-0} mm diameter chain stay hole may be provided, the centre of which shall be 60 mm maximum below the top of the flange.

6.3 Supports

6.3.1 Adjustable feet, or other form of support, shall be provided, giving a minimum range of height adjustment of 50 mm.

NOTE. The clearance from the bottom of the waste hole to the floor is specified in table 2.

6.3.2 To accommodate a toe recess in the bath panel, the supports shall not project into the area that would be taken by a toe recess of depth 60 mm and height 100 mm, measured from the edge of the rim and the nominal floor position, respectively.

6.4 Handgrips

If handgrips are provided then the holes into which they are fixed shall be provided by the manufacturer of the bath.

7 Sizes

The bath shall be of one of the nominal sizes given in table 3 and its actual size shall be within the limits given in columns 3 and 4 of that table.

The size quoted by the manufacturer shall be the nominal size.

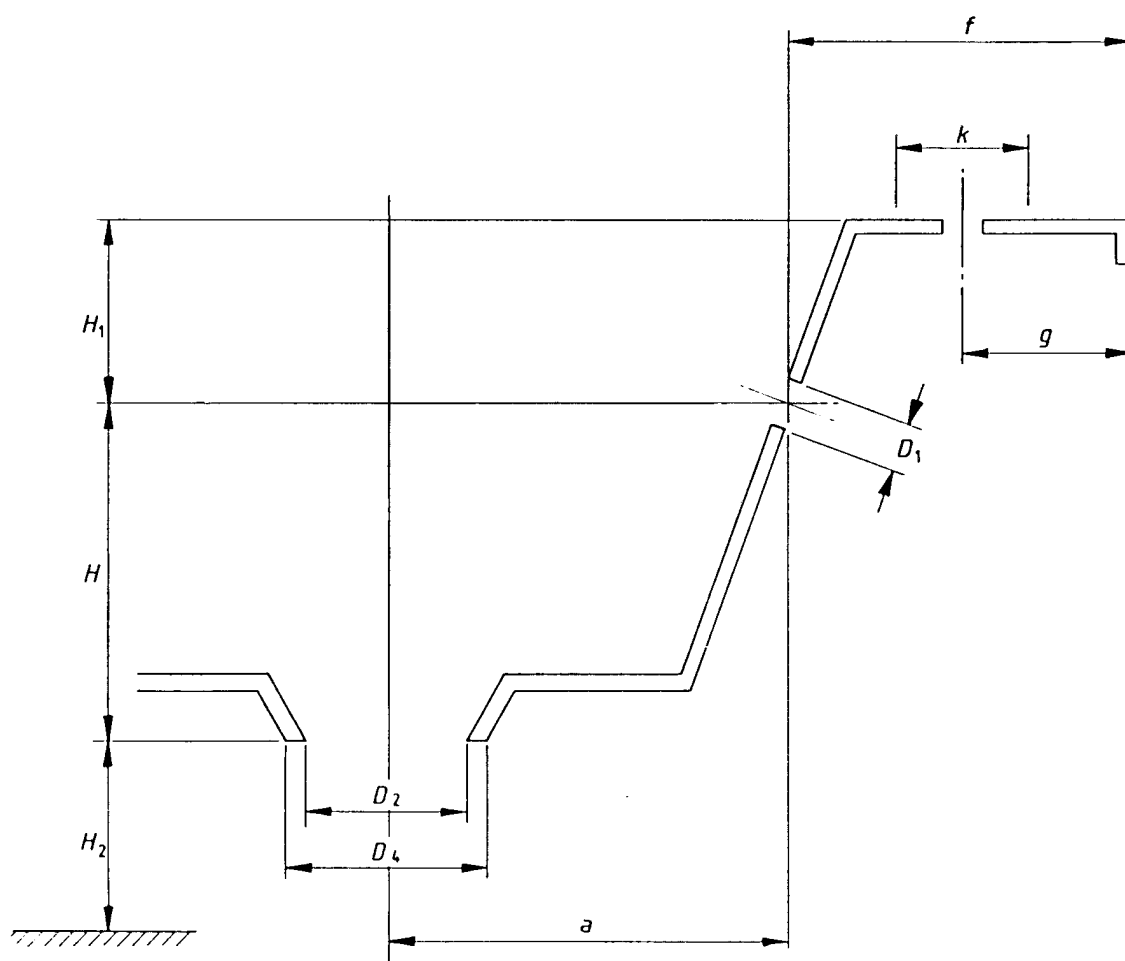
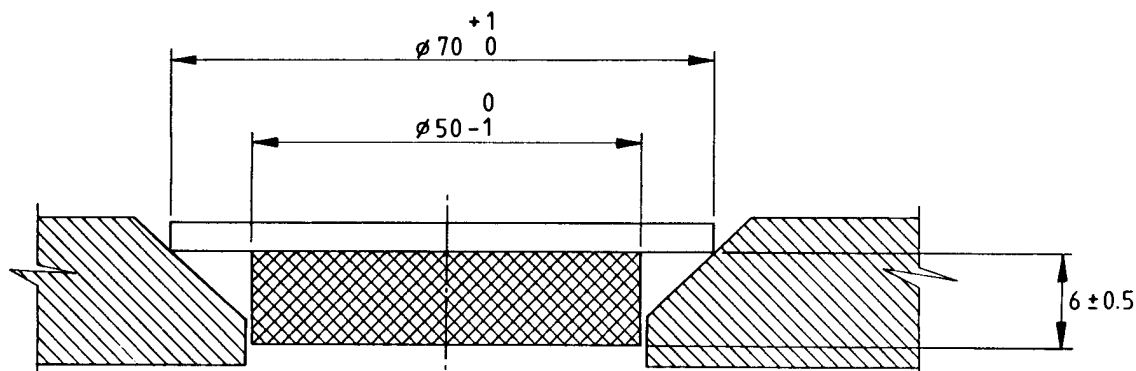


Figure 1. Illustration of dimension references

Table 2. Connecting dimensions

Dimension reference	Description	Dimension	Dimension reference	Description	Dimension
H^*	Bottom of waste hole to mid-point of overflow hole	mm 240 min. 400 max.	D_4	Outside waste hole diameter	mm $D_2 + 10$ min.
H_1^*	Top of flange to mid-point of overflow hole	60 min.	a^*	Mid-point of overflow hole to mid-point of outlet	105 min. 250 max.
H_2	Bottom of waste hole to floor	150 min. or adjustable to 150	f^*	Mid-point of overflow hole to end of bath	80 min.
D_1^*	Overflow hole diameter	45^{+2}_{-3}	g^*	Mid-point of tap hole to end of bath	50 min.
D_2	Waste hole diameter	52^{+7}_{-0}	k^*	Diameter of flat area for tap	50 min.

*Only applicable if overflow hole and/or tap holes are provided.



Dimensions are in millimetres.

NOTE. This figure is only diagrammatic and is not meant to indicate the detailed design of waste holes.

Figure 2. Waste hole form and gauge

Table 3. Bath sizes

Nominal sizes		Actual sizes	
length	width	length	width
mm	mm	mm	mm
1800	800	1795^{+0}_{-10}	800^{+0}_{-10}
1700	750	1695^{+0}_{-10}	750^{+0}_{-10}
1700	725	1695^{+0}_{-10}	725^{+0}_{-10}
1700	700	1695^{+0}_{-10}	700^{+0}_{-10}
1525	725	1525^{+0}_{-10}	725^{+0}_{-10}
1500	700	1500^{+0}_{-10}	700^{+0}_{-10}

8 Functional characteristics

The bath rims shall enable water to return to the inside of the bath.

When the bath is set so that the level at any point along the top surface of the rim does not deviate by more than 10 mm from a fixed datum level, and when the waste outlet hole is open, all water shall empty from the bath unless prevented by surface tension. Any provision of a slip-resistant surface shall not impair the draining efficiency.

9 Dimensional deviations

9.1 General

Straight sides or edges of the bath that might abut independent surroundings or supporting structures shall comply with 9.2 to 9.5.

NOTE. These requirements are not applicable to sides or edges that are purposely designed as curves or slopes.

9.2 Squaring

The deviations from the square, when measured as described in B.5.2, shall not exceed 8 mm at any point.

9.3 Straightness of the sides

The deviations from straightness of the sides of the bath when measured as described in B.5.3 shall not exceed 8 mm in the concave or convex direction at any point.

9.4 Straightness of the roll edge

The deviation from straightness of the roll edge when measured as described in B.5.4 shall not exceed 8 mm in the concave or convex direction at any point.

9.5 Flatness of the top surface of rim

The deviation from the flat plane when measured as described in B.5.5 shall not exceed 10 mm at any point.

9.6 Maximum dimension of corner radius

The corner radius shall not exceed 25 mm.