TEST REPORT

Ph: 909.472.4100 • Fax 909.472.4243 • Web: www.iapmo.org
5001 East Philadelphia Street • Ontario, California 91761-2816 - USA

Report Number: 1376-09002

Report Issued: December 18, 2009 **Project No.** 16961

Client: Baths of Distinction Inc.
5843 Carrier Street
St. Petersburg, FL 33714

Contact: Bill Hamilton

Source of Samples: The samples were shipped to IAPMO R&T Lab from Baths of Distinction Inc., and received in good condition on November 30, 2009.

Date of Testing: December 3, 2009 through December 17, 2009

Sample Description: Acrylic/ plastic Free Standing Bathtubs with overflow and outlet drain holes

Models: HLFL53 – overall dimensions 53" x 30"x 19"
CLDBL73 – overall dimensions 73" x 32"x 22-7/8"

Please refer to drawing and photo for detail

Scope of Testing: The purpose of the testing was to determine if the samples tested of the acrylic plastic bathtubs, models listed above met with the applicable requirements of CSA B45.0-02 and CSA B45.5-02.

CONCLUSION: **The samples tested of the acrylic plastic bathtubs models listed above from Baths of Distinction Inc. COMPLIED with the applicable requirements of CSA B45.0-02 except Marking Clause 16.2 Pending and COMPLIED with the applicable requirements of CSA B45.5-02 with Supplement No. 1 to CAN/CSA-B45 Series-02, including Update No. 4 to CAN/CSA-B45 Series-02, Plumbing Fixtures - July 2007**

By the signatures below we certify that all the testing and sample preparation for this report was performed under continuous, direct supervision of IAPMO R&T Lab unless otherwised stated.

Tested by,

Larry Owens, Test Technician

Reviewed by,

Kris Adilukito, P.E., Manager Testing and QA

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Primary Standards: CSA B45.0 – 02, entitled "General Requirements for Plumbing Fixtures" and CSA B45.5 – 02, entitled "Plastic Plumbing Fixtures" with Supplement No. 4 to CAN/CSA-B45 Series-02, Plumbing Fixtures - July 2007.

Applicable Sections Tested: CSA B45.0 – 02

4.1	Materials	4.2	Surface Finish
4.3	Quality of Work	4.5	Slope on the bottom of the Fixtures
4.9	Warpage		
8	Bathtubs	12	Shower Enclosures and Receptors
14.2	Loads on Rim, Threshold, Seat and Bottom	14.3	Loads on Lavatories and Sinks
14.4	Loads on Unsupported Areas	14.5	Area-Impact Load
16.1	Installation Instructions	16.2	Markings

CSA B45.5 – 02

3.1	Blemishes and Defects	4.1	Warpage
4.2	Thermal Test	4.3	Water Absorption
4.4	Colorfastness	4.5	Stain Resistance
4.6	Cleanability and Wear	4.7	Delamination
4.8	Resistance to Cigarette Burns	4.9	Ignitability of Unexposed Surface
4.10	Point Impact	4.11	Drain Fitting Connection
	Fitting Connection		

Test Results: All tests and evaluations were conducted per the written procedures as specified in the standards.

CSA B45.0 – 02

4.1 Materials – COMPLIED.

All materials should be free from deficiencies that affect would the shower basin intended purpose. The bathtubs were made of plastic.

4.2 Surface Finish – COMPLIED.

The bathtubs had a smooth, hard, corrosion-resistant surface free from blemishes and defects to the extent specified in the standard when evaluated per clause 15.3 of the standard.

4.3 Quality of Work – COMPLIED.

The bathtubs did not have any exposed sharp or jagged edges, burrs, cracks, or other defects that might affect their use and serviceability.

4.5 Slope on the bottom of the Fixtures – COMPLIED.

Fixtures with flat bottoms shall have a minimum slope of 1% to the drain outlet.

Model	Slope (1% Min.)
HLFL53	1
CLDBL73	3

4.9 Warpage – NOT APPLICABLE

The bathtub should be measured for warpage in accordance with clause 15.5.

Findings: The samples submitted were free-standing units which do not fall within the scope of warpage testing.

8 Bathtubs

8.1 – NOT APPLICABLE.

The sample submitted provided were not intended for installation against a wall.

8.2 – COMPLIED.

The sample submitted met the dimensional requirements of Figure 6.

8.3 – COMPLIED.

The sample submitted provided an overflow opening which met the dimensional requirements of Figure 6.

8.4 – COMPLIED.

The sample submitted provided a waste-outlet opening, the center of which was at the lowest point of the unit, in addition, met the minimum dimensional requirements of Figure 6.

Model: HLFL53

Dimension locations, as specified in Figure 6	Actual Dimension (mm)	Required Dimension (mm)
Width of bathtub opening (top)	607	560 (min)
Width of bathtub floor	418*	500 (min)
Waste opening diameter	57	50 – 58
Waste opening depth	10	10
Waste opening surrounding flat area	70	70
Waste opening surrounding flat area angle	45	45
Overflow diameter	59	63
Overflow height	345	255 (min)
Overflow opening from rim	88	60 (min)
Angle of tub side with overflow opening	8	0º – 9º
Slope % (at outlet)	1	1 % (min)

Note: Unless specified all dimensions are ± 5 %

*complies as special purposes bathtubs according to section 8.5

Model: CLDBL73

Dimension locations, as specified in Figure 6	Actual Dimension (mm)	Required Dimension (mm)
Width of bathtub opening (top)	650	560 (min)
Width of bathtub floor	514	500 (min)
Waste opening diameter	57	50 – 58
Waste opening depth	10	10
Waste opening surrounding flat area	70	70
Waste opening surrounding flat area angle	45	45
Overflow diameter	59	63
Overflow height	488	255 (min)
Overflow opening from rim	75	60 (min)
Angle of tub side with overflow opening	8	0º – 9º
Slope % (at outlet)	3	1 % (min)

Note: Unless specified all dimensions are ± 5 %

8.5 – COMPLIED.

Special purpose bathtub model HLFL 53 need not comply with the minimum width specify in Figure 6.

14.1 Structural Integrity Schedule

Unit tested meets the requirements of the structural integrity of test indicated in table 4.

14.2 Load on Rim and Bottom – COMPLIED.

When tested with 1.3 kN load per clause 15.6.1 of the standard, no damage was observed the fixture. The deflection under load was less the 4 mm and the residual deflection was less than 0.2 mm.

	Load Deflection		Residual Deflection	
Model	Rim	Bottom	Rim	Bottom
HLFL53	1.78 mm	0.51 mm	0.02 mm	0 mm

	Load Deflection		Residual Deflection	
Model	Rim	Bottom	Rim	Bottom
CLDBL73	2.24 mm	1.16 mm	0.04 mm	0.04 mm

14.4 Load on Unsupported Areas – COMPLIED

When tested with 45 N load per clause 15.6.2 of the standard, there shall be no crack in the fixture surface. The maximum deflection under the applied load shall be less than 4 mm.

The samples submitted showed no signs of cracking in the surface. In addition no deflection was observed

16.1 Installation Instructions – COMPLIED

The units were supplied with installation instructions.

16.2 **Marking – PENDING**

16.2.1 The units tested should be plainly and permanently marked with the following as specified in submitted drawings:

(a) the identity of the manufacturer
(c) the date of manufacture.

The manufacturer's identity should be readily visible after installation.

16.2.6 Special Purpose model Special purpose bathtub model HLFL 53 should be marked with " N" to indicate section 8.5

CSA B45.5 – 02

3.1 Blemishes and Defects – COMPLIED

3.1.1 When tested per clause 5.1.1 the samples submitted were free of cracks, chipped areas, blisters, large specks, and surface porosity.

3.1.2 When tested per clause 15.3 the samples submitted were free from blemishes and defects on the visible surface.

3.2 Voids – COMPLIED.

No voids were visible when tested in accordance with clause 5.1.2

4.2 Thermal Test – COMPLIED

When tested per clause 5.2, the material did not exhibit any permanent color change of more than ± 2 CIE units, blistering, change in fiber prominence, cracking nor loss of more than 5% of visible gloss.

- Color change – 0.12 CIE units
- Loss of gloss – 3.87%

4.3 Water Absorption through Cross-Section of Fixture – COMPLIED.

Absorption total average of specimens tested was 0.29 mg/100 mm

4.4 Colorfastness – COMPLIED.

When tested per clause 5.4, there was no significant change in color of the specimen.

4.5 Stain Resistance – COMPLIED.

When tested per clause 5.5, the maximum stain resistance rating allowed is 150 total. The maximum reduction of thickness of surface material allowed is 0.125 mm.

The stain resistance rating of the samples submitted was 64. No reduction in thickness of surface material was observed after the stains were removed.

4.6 Cleanability and Wear – COMPLIED.

When tested per clause 5.6, after 10,000 cycles, the reduction of surface material was less than 0.5 mm.

When tested per clause 5.7, the white-light reflectance loss after cleaning with liquid cleaner was:

Specimen 1 – 1.04 %
Specimen 2 – 1.23 %
Specimen 3 – 1.16 %
The maximum allowable change is 2 %.

4.7 Delamination – COMPLIED.

When tested in accordance with Clause 5.8, the adhesion between the surface material and the lamination did not delaminate.

4.8 Resistance to Cigarette Burns – COMPLIED.

When tested per clause 5.9, all damage shall be removed with a 400 grit sand paper and the reduction of material thickness to remove all the damage must be less than 0.125 mm. All surfaces returned to an acceptable finish by polishing.

4.9 Ignitability of Unexposed Surface – NOT APPLICABLE.

The sample submitted was a free standing unit with visible surfaces on the inside and outside the tub.

No faucet is to be mounted on the bathtub. The bathtub requires a floor mounted faucet which needs no soldering. The bathtub also requires a coated finish exposed waste fitting which needs no soldering. The free standing bathtub has no servicewall to be exposed to soldering using a propane torch. Therefore, the ignition test was considered to be not applicable.

4.10 Point Impact – COMPLIED.

Three points at the floor and three points at the threshold shall be impacted with a 38 mm diameter, 0.25 kg steel ball per clause 5.11 of the standard. There shall be no damage in the fixture surface.

Finding: There were no visible cracks, chips or surface damage.

4.11 Drain Fitting Connection – COMPLIED.

When tested per clause 5.12 of the standard, 11.3 kg load using 600 mm long arm at three positions, there shall be no crack in the fixture.

PHOTOGRAPHS OF SAMPLES SUBMITTED

HLFL53

CLDBL73

Clawfoot Designs