

**Test Report No. 7191051248-MEC12/02-LNB**  
dated 11 Jan 2013



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**SUBJECT:**

Testing of " SIAMP " brand WC Inlet and Outlet Valves (Set 2)

**TESTED FOR:**

SIAMP Ltd  
Lot E1, K1 Road,  
Cat Lai Industrial Zone Cluster 2,  
Thanh My Loi Ward, District 2  
Ho Chi Minh City, Vietnam

Attn : Mr Huynh Minh Khuong

**DESCRIPTION OF SAMPLE:**

One unit of " SIAMP " Brand WC Inlet and Outlet Valves ( Set 2) was received on 19/9/2012.

Set 2 (MSE Court Fix D58, Robinet 99T)

**TEST METHOD:**

1. SS 378:1996 Specification for low capacity water closet flushing cisterns up to 4.5L(max).
2. SS 379:1996 Specification for vitreous china water closet pans for use with low capacity water closet flushing cisterns up to 4.5L(max).
3. BS 1212:Part 4:1991 Specification for compact type float operated valves for water closet flushing cisterns(including floats)

**PUB's Requirements issued on July 06 - Testing Requirements for Dual-Flush Low Capacity WC Flushing Cistern**

- (1) Clause 2.a - Volume of discharge – Reduced Flush
- (2) Clause 2.b - Dilution Test – Reduced Flush
- (3) Clause 2.c - Endurance Test - 100,000 cycles – Reduced Flush
- (4) Clause 2.d - Load Test on Operating Mechanism – Reduced Flush
- (5) Clause 2.e - Paper Discharge Test – Reduced Flush



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**TÜV**<sup>®</sup>

**RESULTS:**

**(A) Full Flush Test**

**(A1) Dimensional Measurements on WC Inlet Valves & OutLet Valves (All dimensions in mm)**

Sample Reference		SIAMP Set 2	SS 378 : 1996 Requirements
Nominal size of ballvalve		½"	½"
Internal diameter of warning pipe		25	19 min.
Bottom Connection Inlet Pipe	Nominal bore	15	12
	The length of effective thread after the assembly has been fixed to the cistern shell	20	Shall not be less than 12
	Diameter of flange	36	Not less than 36
	Thickness of pipe	2.7	Nowhere less than 2.0
Thickness of internal connection warning pipe		1.5	1.2 minimum

**(A2) Flushing Test**

Sample Reference	SIAMP Set 2		SS 378 & SS379 : 1996 Requirements
	Before Endurance	After Endurance	
Volume of discharge (litres)	4.5	4.5	4.5 (+0.0, -1.0)
Toilet paper test	Passed	Passed	The trap shall be cleared completely four times out of five in each test.
Towel test	Passed	Passed	
Ball test	Passed	Passed	
Sawdust test	Passed	Passed	The unflushed areas between the water surface and the underside of the rim shall not exceed 5000 mm <sup>2</sup>

Note: The cistern was coupled with a pedestal WC pan for the flushing test






**RESULTS:**

**(A3) Physical Test**

Sample Reference	SIAMP Set 2	SS 378 : 1996 Requirements
Resistance to torque (15 Nm) of flushing device	Passed	Clause 4.5.2
Antisiphonage test (Backflow)	Passed	Clause 4.15
Adjustability test of float-operated valve	Passed	Clause 4.13
Dead load test at 23 kg on push button	Passed	Clause 5.2.4
Hydraulic test on connection inlet pipe	Passed	Shall be capable of withstanding a pressure of 2 MN/m <sup>2</sup> .
Torque test on connection inlet pipe (15 Nm)	Passed	Shall be no sign of distortion of the threads or the flats of the hexagon.

**(A4) Performance of Float Operated Valve**

Sample Reference	SIAMP Set 2	BS 1212 : Pt. 4 : 1991 Requirements
Inlet shank and backnuts distortion	Passed	No visible distortion of the inlet shank, backnuts or integral body flange.
Static hydraulic pressure at 20 bar for 60 seconds	Passed	Shall withstand a pressure of 20 bar for 60 seconds without leaking.
Shut-off pressure test	Passed	Shall withstand a shut-off pressure of 14 bar without passing water.
Lever deflection test after 28 days	Passed	No evidence of the valve passing water or any increase in water level.
Dynamic pressure test at 10 bar for 60 seconds	Passed	Shall show no permanent deformation or separation of any component part.



**TEST RESULTS:**

**(A5) Endurance Test of 100,000 cycles**

Sample Reference	SIAMP Set 2	SS 378 : 1996 Requirements
Result (The water closet flushing mechanism was subjected to repeated flushing operation simulating the device in actual use)	Passed	Clause 7.3 On completion of the test, it shall not leak or show sign of defect or damage.

**( B ) Reduced Flush**

Sample Reference	SIAMP Set 2	Clause 2.a - Reduced Flush Requirements
Volume of discharge – Reduced Flush	3	Shall not be more than 3 litres

Sample Reference	SIAMP Set 2	Clause 2.b - Reduced Flush Requirements
Dilution Test – Reduced Flush	Passed	Shall have no visible traces of the colouring matter in the water trap of the WC pan

Sample Reference	SIAMP Set 2	Clause 2.c - Reduced Flush Requirements
Endurance Test – 100,000 cycles – Reduced Flush	Passed	Shall not leak or show signs of defect or damage

Sample Reference	SIAMP Set 2	Clause 2.a -- Reduced Flush Requirements
Volume of discharge after Endurance Test – Reduced Flush	3	Shall not be more than 3 litres

Sample Reference	SIAMP Set 2	Clause 2.d -- Reduced Flush requirements
Load Test on Operating Mechanism	Passed	Shall not distort to such an extent that any part becomes detached or inoperative

*Juliana*

*Aldehny*

**TEST RESULTS:**

**( B ) Reduced Flush**

Sample Reference	SIAMP Set 2	SS 378 : 1996 Requirements,
Backflow test after endurance	Passed	SubClause 4.15

Sample Reference	SIAMP Set 2	Clause 2.e - Reduced Flush Requirements
Reduced Flush – Paper Discharge Test	Passed	Shall discharge from the outlet spigot of the pan all of 4 pcs of joined twin-ply papers in at least two out of the three tests

Note: The cistern was coupled with a pedestal WC pan for the flushing test



**MSE Court  
Fix D58**



**Robinet  
99T**



**BT 71**



Lee Ngai Boon  
Associate Engineer



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July 2011

