

# FUGRO TECHNICAL SERVICES LIMITED

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# MaterialLab



Client Ref.: --  
Report No.: 154316ST150812

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## REPORT ON TESTING OF SELF-CLOSING BASIN TAP

### Information Supplied by Client

Client : E & I International Ltd.  
Client Address : 8/F., Block B, Chung Mei Centre, 15 Hing Yip Street, Kwun Tong, Hong Kong.  
Project : Testing of Self-Closing Basin Tap  
Sample Description : "Bellini" Self-Closing Basin Tap  
Brand Name : Bellini  
Model : BL-28/YY  
(where YY denotes the code of finish: CR: Chrome / BS: White/ NS: Black Matt/  
OR: Gold/ SN: Nickel)  
Manufacturer : E & I International Ltd.  
Country of Origin : PRC  
Body Marking : see photo on page 5 of this report

### Laboratory Information

Lab. Sample I.D. : ST150812/1  
Date Received : 27 August 2015  
Date Test Started : 22 September 2015  
Date Test Completed : 23 September 2015  
Test Method : BS EN 816 : 1997, BS EN 1982 : 2008 and World Health Organisation  
in international standards for drinking water quality 2014 Ed.

### Test Results

#### 1. DIMENSIONS

(BS EN 816 : 1997, Clause 8)

Dimension	Values (mm)	Dimension	Values (mm)	Requirement (mm)
Nominal Size	1/2"	D	105.0	100 min
Bore Seat	11.00	E	26.0	25 min
Thickness	1.60	G	45.2	45 min

#### 2. LEAKTIGHTNESS TEST

(BS EN 816 : 1997, Clause 9)

##### 2.1 Upstream with obturator closed, BS EN 816, Clause 9.2.2

Applied pressure (bar)	Duration (sec)	Observation	Remark
16	60	- No leakage through the obturator - No leakage or seepage through the walls	Pass
1.0	60		Pass

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**2.2 Downstream with obturator open, BS EN 816 : 1997, Clause 9.2.3**

Applied pressure (bar)	Duration (sec)	Observation	Remark
4	60	No leakage or seepage through the walls	Pass
0.2	60	No leakage or seepage through the walls	Pass

**3. PRESSURE RESISTANCE TEST**

(BS EN 816 : 1997, Clause 10)

**3.1 Upstream with obturator closed, BS EN 816 : 1997, Clause 10.2.2**

Applied pressure (bar)	Duration (sec)	Observation	Remark
25	60	No permanent deformation of any part of the tapware located upstream of the seat	Pass

**3.2 Downstream with obturator open, BS EN 816 : 1997, Clause 10.2.3**

Applied pressure (bar)	Duration (sec)	Observation	Remark
4	60	No permanent deformation of any part of the tapware located upstream of the seat	Pass

**4. HYDRAULIC CHARACTERISTICS**

(BS EN 816 : 1997, Clause 11)

**4.1 Flow rate QM, Clause 11.4.1**

Nominal Size	Test Pressure (bar)	Flow Rate (l/min)	Remark
Sample	3.0	7.60	N/A
BS Requirement	3 ± 0.2	To suit application	--

**Flow rate curve, Clause 11.4.2**

The flow rate curve was not applicable, since T1 < 6 seconds

**4.2 Flow duration, Clause 11.4.3**

Nominal Size	Test Pressure (bar)	Flow Rate (l/min)	Remark
Sample	3.0	Determined by manual	N/A
BS Requirement	3 ± 0.2	To suit application	--

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**5. Mechanical Endurance Test  
(BS EN 816 : 1997, Clause 13)**

Test Cycle	Observation	BS Requirement BS EN 816 Clause 13
210,000	The tap was no rupture of components separation from the seat or failure to operate	No rupture of components, separation from the seat or failure to operate of the tapware shall be observed
Operating force	The force was less than 65N	The force was less than 65N
Leaktightness Test	No leakage was found	- No leakage at the obturator - No leakage or seepage through the walls
Flow rate Test	The flow rate of the sample was meet the minimum requirement of the test	Flow rate is greater than the minimum requirement

**6. CHEMICAL COMPOSITION**

Testing items	Results	Specification according to BS EN 1982 : 2008 Grade CC754S castings
1. Aluminium (Al) content, %	0.53	0.8 max.
2. Copper (Cu) content, % <sup>1)</sup>	59.3	58.0 - 63.0
3. Nickel (Ni) content, %	0.08	1.0 max.
4. Lead (Pb) content, %	1.7	0.5 - 2.5
5. Tin (Sn) content, %	0.18	1.0 max.
6. Zinc (Zn) content, %	Remainder	Remainder
7. Iron (Fe) content, %	0.14	0.7 max.
8. Manganese (Mn) content, %	<0.01	0.5 max.
9. Phosphorus (P) content, %	<0.01	0.02 max.
10. Silicon (Si) content, %	<0.01	0.05 max.

Remark : <sup>1)</sup> Include nickel**7. Extraction of Metals from the Valve Cartridge**

Test method used : The valve cartridge was immersed in 100°C water for 5 minutes and the concentration of metals was then determined.

Testing items	Concentration of metals in the extract (ppm)	World Health Organization Requirement (ppm)	Test Results
1. Arsenic content	< 0.001	≤ 0.010	Pass
2. Cadmium content	<0.0005	≤ 0.003	
3. Chromium content	< 0.001	≤ 0.050	
4. Lead content	0.008	≤ 0.010	
5. Selenium content	< 0.001	≤ 0.040	
6. Nickel content	< 0.001	≤ 0.070	

The amount of heavy metals present is less than the permissible limits of the World Health Organisation in international Standards for drinking water quality 2014 Ed.

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### 8. Summary of Results (apply only to sample tested)

Dimensions	-- As shown in section 1
Leaktightness Test	-- Pass
Pressure resistance test	-- Pass
Hydraulic Characteristics	-- Pass
Mechanical Endurance Test	-- Pass
Chemical composition	-- Pass (Grade CC754S castings of BS EN 1982 : 2008)
Extraction of metals from the valve cartridge	-- Pass (No adverse physical effect or no toxic hazard to human beings)

- Remarks :
- (1) No requirements in dimensions for body thickness and bore of seat are stated in the BS EN 816 : 1997 and therefore the measured dimension are used for reference.
  - (2) The test sample and test configuration are shown in the photographs on page 5 of this report.

Checked by :  Date : 3/2/2016 Certified by :  Date : 4.2.2016

Chan Chun Wai Ivan  
Manager (Product Testing Laboratory)

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Test Sample  
Sample I.D.: ST150812/1



Body Marking  
Sample I.D.: ST150812

**\*\* End of Report \*\***