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<b>VIPAC PLUMBING PRODUCTS LABORATORY</b>			
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<b>Client</b>	Larkin and Shoushani Solutions Pty. Ltd.	<b>Report No</b>	30P-09-0094-TRP-444700-1 - Report

<b>TEST REPORT</b>	
ITEM TESTED:	Waste seal
TESTED FOR:	Larkin and Shoushani Solutions Pty. Ltd. 3/15-17 Gatmore avenue Bankstown, NSW, 2200 Australia
TESTED TO:	Clauses 9.1, 9.2, 9.3, 9.4, 9.5 & 9.6 of ATS 5200.047:2005
PRODUCT:	Waste grate seal.
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**1. DOCUMENT CONTROL**

The following details pertain to test reports with document number 30P-09-0094-TRP-444700-0 - Report

Issue Date	Revision No.	Revision Description
9 October 2009	00	Initial Issue
20 October 2009	01	Amended version

**2. INTRODUCTION**

The Vipac Plumbing Products Laboratory a subsidiary of Vipac Engineers & Scientists Ltd., tested a self-sealing waste outlet to ATS 5200.047:2005. The product was selected and supplied by Larkin and Shoushani Solutions Pty. Ltd.

**3. APPLICABLE DOCUMENTS**

The tests and data analysis were carried out in accordance with the following standards.

ATS 5200.047:2005	Technical Specifications for plumbing and drainage products. Part 047: Self-sealing devices.
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#### 4. SPECIMEN DESCRIPTION

The specimen is designated in this report as follows:

Sample Code	Description
Sample	Grate Seal. Watermark licence 23002. Five items were tested with a brand new sample being subjected to each individual test.



#### 5. PERFORMANCE REQUIREMENTS AND TEST METHODS

##### Clause 9.1 of ATS 5200.047:2005 – Flow capacity

When tested in accordance with EN 274-2, the flow rate through the device was measured and recorded below.

Sample Code	Result
1	Flow rate through the device was measured at 45 L/min.
1A	Flow rate through the device was measured at 45 L/min.
1B	Flow rate through the device was measured at 53.5 L/min.

Item 1: Original item tested as supplied.

Item 1A: Original item tested with outlet flap cut in half.

Item 1B: New item tested made of softer composition rubber.



### Clause 9.2 of ATS 5200.047:2005 – Seal integrity

When tested in accordance with Clause 9.2 of ATS 5200.047:2005, the device is tested to determine its ability to prevent backpressure. The device is assembled in accordance with manufacturer's instructions and a back pressure of 70mm +5, -0 of water is applied for 10 seconds. During the test, the device is monitored for any signs of leakage.

Sample Code	Requirement	Result	Conformity to Clause 9.2 of ATS 5200.047:2005
1	Device shall retain the seal under a backpressure of 70mm, + 5, -0 of water	No signs of leakage with backpressure of 70mm of water.	Conforms

### Clause 9.3 of ATS 5200.047:2005 – Thermal cycling test

Plastics-bodied valves shall be tested for compliance with the thermal cycling test of AS 2887. AS 2888.8 requires plastic waste fittings to be subject to differential thermal expansion by being alternated between a water bath at 80°C for a period of 2 min, then 30 seconds in air and then immersion in a 20°C water bath before a further 30 seconds in the air before repeating the cycle. The plastic waste outlet must undertake 1000 cycles. Any cracking, distortion or degeneration of the fitting surface is to be reported. At the completion of the test, the device is tested in accordance with Clause 9.2 of ATS 5200.047:2005.

Sample Code	Requirement	Result	Conformity to Clause 9.3 of ATS 5200.047:2005
2	Device shall meet the requirements of AS 2888.8	No signs of cracking, splitting or any other failures.	Conforms
	Following testing to AS 2888.8 the device shall meet requirements of Clause 9.2 of ATS 5200.047	No signs of leakage with backpressure of 70mm of water.	

### Clause 9.4 of ATS 5200.047:2005 – Resistance to environmental agents

When tested in accordance with Clause 9.4 of ATS 5200.047:2005 the device is tested to determine its integrity against potential damage from environmental agents. The device is exposed to three test mixtures in accordance with Table 2 (below), each for 10,000 cycles, where a cycle comprises of 10 seconds exposure to the mixture, and 10 seconds of draining. At the completion of the test, the device is tested in accordance with Clause 9.2 of ATS 5200.047:2005.

**TABLE 2**  
**TEST MIXTURES**

Test mixture	Ingredients
1	Organic materials, such as tea leaves, mixed vegetables, rice and pasta
2	Dishwashing detergents containing sodium hydroxide
3	Hair, soap portions and grit

Figure 5.1 Table 2 of ATS 5200.047:2005 "Test Mixtures"

Sample Code	Requirement	Result	Conformity to Clause 9.4 of ATS 5200.047:2005
3	Following the 30,000 cycles of testing to environmental agents, the device shall meet requirements of Clause 9.2 of ATS 5200.047	No signs of leakage with backpressure of 70mm of water.	Conforms



#### Clause 9.5 of ATS 5200.047:2005 – Resistance to solvents

When tested in accordance with Clause 9.5 of ATS 5200.047:2005 the device is tested to determine its integrity against potential damage from solvents. The device is exposed to a test mixture consisting of an organic solvent, for 10,000 cycles, where a cycle comprises of 10 seconds exposure to the mixture, and 10 seconds of draining. At the completion of the test, the device is tested in accordance with Clause 9.2 of ATS 5200.047:2005.

Note: For this test, mineral turpentine was used.

Sample Code	Requirement	Result	Conformity to Clause 9.5 of ATS 5200.047:2005
4	Following the 10,000 cycles of testing with organic solvents, the device shall meet requirements of Clause 9.2 of ATS 5200.047	No signs of leakage with backpressure of 70mm of water.	Conforms

#### Clause 9.6 of ATS 5200.047:2005 – Resistance to cigarette burns

When tested in accordance with Clause 9.6 of ATS 5200.047:2005, the device is tested to determine its integrity against potential damage caused by cigarette burns. The device is mounted to a fixture in a dry environment before a burning cigarette is dropped into the device and allowed to self extinguish. At the completion of the test, the device is tested in accordance with Clause 9.2 of ATS 5200.047:2005.

Sample Code	Requirement	Result	Conformity to Clause 9.6 of ATS 5200.047:2005
5	After a burning cigarette is allowed to self extinguish inside device, the device shall meet requirements of Clause 9.2 of ATS 5200.047	No signs of leakage with backpressure of 70mm of water.	Conforms