



AUSTRALIAN NATIONAL TESTING
LABORATORIES PTY. LTD.

Waterless Urinal with Integral Self-Sealing Device According to ATS5200.469-2005

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1 Introduction

Australian National Testing Laboratories (ANTL) was commissioned to carry out testing VC urinal waste connection as per ATS5200.469-2005

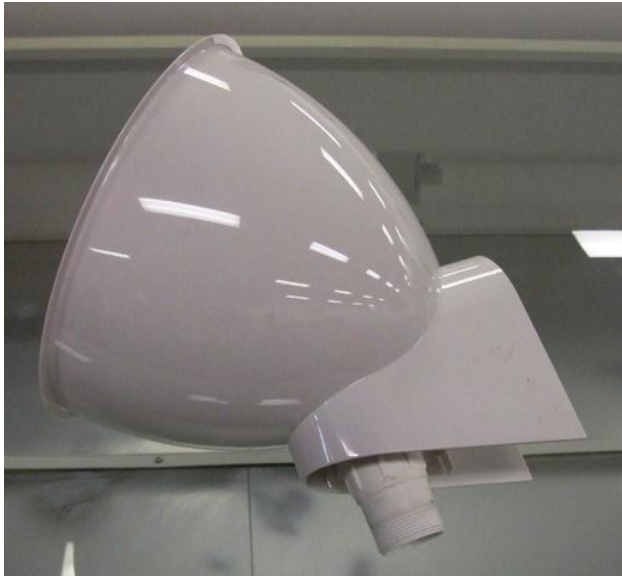
2 Test Material Setup Descriptions

Waterless Urinal with integral self-sealing device

2.1 Pipe Description

Name of Manufacturer:	Enswico AG
Model Number:	104000
Model I.D:	Key System SEO with suitable PC Urinal bowl
Type:	PC White Urinal
Markings:	No Markings

2.2 Photograph of Tested Item.



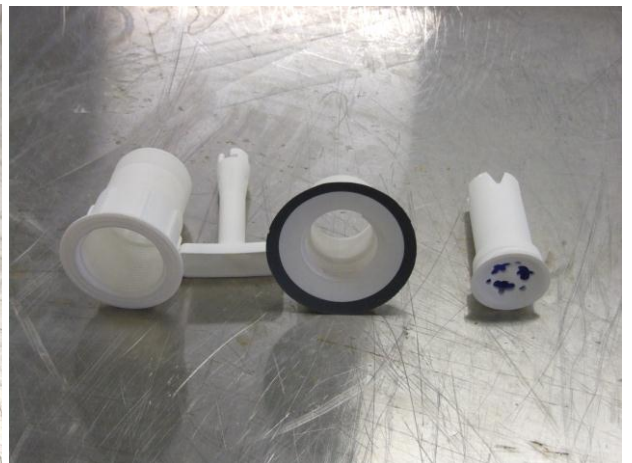
Pic: 1



Pic:2



Pic: 3



Pic: 4



Pic: 5



3 Instrumentation

The table below shows the instrumentation used to carry out the test. The instrumentation accuracy and calibration is listed below.

Parameter	Instrument Make	Instrument Model
Ambient Air Temperature	GEC16	Type T Thermocouple
Water Temperature	GEC16	Type T Thermocouple
Water Flow Rate	ManuFlo	ME5-F
Irradiance	Middleton Solar	SEQ08
Air Speed	Wilh Lambrecht KG	1405a
Pressure	Austral	70,000kPa
Data Logger	DataTaker	DT500
PID Controller	Novus	N2000
Scale	AND	FG-60KBM

4 Test Procedure

4.1 **Materials-** *ATS5200.469, clause 5.2.1.1*

Urinals made from thermo set or thermoplastic materials in either pure or composite form shall comply with the requirements of Clause 5.2.2.

4.2 **Distortion and Defects-** *ATS5200.469, clause 5.2.2.2.1*

When viewed from a distance of between 500 mm and 600 mm with a surface illumination of not less than 1001 x the surface of the urinal shall be without distortion, defects or blemishes. Any doubtful area shall be tested in accordance with AS 3558.6.

4.3 **Surface Finish-** *ATS5200.469, clause 5.2.2.2.2*

Urinals may have a lustrous or non-gloss finish.

4.4 **Chemical and stain resistance test-** *ATS5200.469, clause 5.2.2.3*

When sample specimens are tested in accordance with AS 3558.2, the material shall be unaffected by the following reagents:

- a) House detergent 'Teepol' Gold D6515 (5% solution/deionized water) or equivalent.
- b) Urea 6% (urine), analar grade

4.5 **Colourfastness Test-** *ATS5200.469, clause 5.2.2.4*

When a sample specimen is tested in accordance with AS 3558.3 the material shall not craze, crack or exhibit signs of any defect and change in colour shall not register less than grey scale of ISO 105.A02

4.6 **Surface Scratching test-** *ATS5200.469, clause 5.2.2.5*

When a sample specimen is tested in accordance with AS 3558.4 using a 2H lead there shall be no indentation or scratching deep than 0.15 mm. Removable scratches as defined in AS 3558.4 are acceptable.

4.7 **Impact Test-** *ATS5200.469, clause 5.2.2.6*

When a sample specimen is tested in accordance with AS 3558.5 it shall not craze, crack show any signs of delamination.



4.8 Marking - *ATS5200.469, clause 6*

Waterless urinals shall be marked with the following:

- (a) Manufacturer's name, brand or trademark.
- (b) Watermark.
- (c) Licence number.
- (d) Batch identification.
- (e) Model number.
- (f) The number of this Technical Specification, i.e., ATS 5200.469.

4.9 Waste Outlet and Grating- *ATS5200.469, clause 8.1*

The urinal shall incorporate an integral waste and grating that provides free flow of urine into the mechanical sealing device. The grating shall prevent the intrusion of foreign articles, e.g., cigarettes or deodorizing tablets.

4.10 Sealing Device- *ATS5200.469, clause 8.2*

The sealing device shall be an integral part of the fixture and capable of complying with the performance requirements of Clause 9. The design of the urinal shall be such as to enable disassembly for easy replacement or cleaning of the sealing device in situ.

4.11 Sealing Device Free Passage *ATS5200.469, clause 8.3*

The design of the device shall be such to allow free passage of urine and shall not build up to an extent to be above the level of the seal.

4.12 Outlet Connection *ATS5200.469, clause 8.4*

The outlet of the urinal shall be designed for connection to the sanitary drainage system.

4.13 Structural Strength and Integrity- *ATS5200.469, clause 9.1*

Wall-hung urinals shall comply with the load test of AS/NZS 3982



4.14 Sanitary Performance - *ATS5200.469, clause 9.2*

Urinals shall comply with the requirements of ANSI Z124.9, Odour Evaluation Test.

4.15 Waste Seal - *ATS5200.469, clause 9.3*

The valve shall retain seal under a backpressure equivalent to 70 mm +5,-0 water column for 10s.

4.16 Resistance to Environmental Agents - *ATS5200.469, clause 9.4*

Where urinals have a diaphragm type sealing mechanism shall be exposed to the test solutions identified below, each for 3000 cycles.

A cycle comprises 10s exposure to the solution, followed by 10s draining.

Each test solution with the exception of (a) consist of the listed ingredients mixed with water at ambient temperature, the ingredients being 5% (+1,-0%) of the total volume of the test solution as follows:

- a) Urea 6% (urine), analar grade.
- b) Household detergent "Teepol" Gold D6515 (5% solution/deionised water) or equivalent.
- c) Crushed cigarettes.

At the completion of the above test the device shall be tested for seal integrity in accordance with Clause 9.3



5 Test Results

5.1 **Materials-** *ATS5200.469, clause 5.2.1.1*

Urinals made from thermo set or thermoplastic materials in either pure or composite form shall comply with the requirements of Clause 5.2.2.

Pass

5.2 **Distortion and Defects-** *ATS5200.469, clause 5.2.2.2.1*

When viewed from a distance of between 500 mm and 600 mm with a surface illumination of not less than 1001 x the surface of the urinal shall be without distortion, defects or blemishes. Any doubtful area shall be tested in accordance with AS 3558.6.

Specimen (Urinal bowl)	Soluble	Time	Result
(1)	Ink	30 Min	Pass No Cracks, Cracking, No surface defects

5.3 **Surface Finish-** *ATS5200.469, clause 5.2.2.2.2*

Urinals may have a lustrous or non-gloss finish

Result: The Urinal bowl lustrous finish

5.4 Chemical and stain resistance test- *ATS5200.469, clause 5.2.2.3*

When sample specimens are tested in accordance with AS 3558.2, the material shall be unaffected by the following reagents:

- a) House detergent 'Teepol' Gold D6515 (5% solution/deionized water) or equivalent.
- b) Urea 6% (urine), analar grade

Specimen (Urinal bowl)	Stain	Temp °C	Time (h)	Cleaning (h) (Urinal bowl)	Result
(1)	Teepol	23	17	24	Pass No colour change, No change in surface Texture
(2)	Urea	23	17	24	Pass No colour change, No change in surface Texture

5.5 Colourfastness Test- *ATS5200.469, clause 5.2.2.4*

When a sample specimen is tested in accordance with AS 3558.3 the material shall not craze, crack or exhibit signs of any defect and change in colour shall not resist less than grey scale of ISO 105.AO2

Specimen (Urinal bowl)	Time (h)	Result
(1)	48	Pass No sign of Colour Change, Crazeing, Cracking, Blistering
(2)	Store in a lightfast container	

5.6 **Surface Scratching test-** *ATS5200.469, clause 5.2.2.5*

When a sample specimen is tested in accordance with AS 3558.4 using a 2H lead there shall be no indentation or scratching deep than 0.15 mm. Removable scratches as defined in AS 3558.4 are acceptable.

Specimen (Urinal bowl)	Lead (mm)	Abrasive (Grade)	Result
(1)	2	400	Pass No Cracks, Crazing, No surface defects

5.7 **Impact Test-** *ATS5200.469, clause 5.2.2.6*

When a sample specimen is tested in accordance with AS 3558.5 it shall not craze, crack show any signs of delamination.

Test Date	Specimen (Urinal bowl)	Test	Time of Test	Description	Marital	Pass Fail.	Comments
6.02.2012 to 7.02.2012	(1)	UV Degradation	24 Hours	25mm x25mm	PC Urinal bowl	PASS	No Signs of Damage

Perform the test for the determination of impact resistance in accordance with AS 3558.19

Test	Specimen (Urinal bowl)	Test	Steel Ball mm	Heights mm	Marital	Pass / Fail.	Comments
(1)	(1)	Impact Resistance	38	300	PC Urinal bowl	PASS	No Signs of Damage
(2)	(1)	Impact Resistance	38	750	PC Urinal bowl	PASS	No Signs of Damage



5.8 Marking - *ATS5200.469, clause 6*

Waterless urinals shall be marked with the following:

- a) Manufacturer's name, brand or trademark.
- b) Watermark.
- c) Licence number.
- d) Batch identification.
- e) Model number.
- f) The number of this Technical Specification, i.e., ATS 5200.469.

Fail

5.9 Waste Outlet and Grating- *ATS5200.469, clause 8.1*

The urinal shall incorporate an integral waste and grating that provides free flow of urine into the mechanical sealing device. The grating shall prevent the intrusion of foreign articles, e.g., cigarettes or deodorizing tablets. (Pic: 5)

Pass

5.10 Sealing Device- *ATS5200.469, clause 8.2*

The sealing device shall be an integral part of the fixture and capable of complying with the performance requirements of Clause 9. The design of the urinal shall be such as to enable disassembly for easy replacement or cleaning of the sealing device in situ. (Pic: 5)

Pass

5.11 Sealing Device Free Passage *ATS5200.469, clause 8.3*

The design of the device shall be such to allow free passage of urine and shall not build up to an extent to be above the level of the seal.

Pass

5.12 Outlet Connection *ATS5200.469, clause 8.4*

The outlet of the urinal shall be designed for connection to the sanitary drainage system. (Pic: 3) (40mm)

Pass

5.13 Structural Strength and Integrity - *ATS5200.469, clause 9.1*

Wall-hung urinals shall comply with the load test of AS/NZS 3982

Specimen (Urinal bowl)	Load Applied	Time	Result
(1)	30kg	120 secs	Pass No sign of cracking, leakage,

5.14 Sanitary Performance - *ATS5200.469, clause 9.2*

Urinals shall comply with the requirements of ANSI Z124.9, Odour Evaluation Test.

Date	Urinal	Evaluations	Result
28.11.2011 To 23.01.2012	PC Urinal bowl	56	Pass



5.15 Waste Seal- ATS5200.469, clause 9.3

The valve shall retain seal under a backpressure equivalent to 70 mm +5,-0 water column for 10s.

Backpressure Equivalent	Time	Result
70mm	10 secs	Pass

5.16 Resistance to Environmental Agents - ATS5200.469, clause 9.4

Where urinals have a diaphragm type sealing mechanism shall be exposed to the test solutions identified below, each for 3000 cycles.

A cycle comprises 10s exposure to the solution, followed by 10s draining.

Each test solution with the exception of (a) consist of the listed ingredients mixed with water at ambient temperature, the ingredients being 5% (+1,-0%) of the total volume of the test solution as follows:

- a) Urea 6% (urine), analar grade.
- b) Household detergent "Teepol" Gold D6515 (5% solution/deionised water) or equivalent.
- c) Crushed cigarettes.

At the completion of the above test the device shall be tested for seal integrity in accordance with Clause 9.3

Test	Number of Cycles	Time	Result
Urea	3000	10 secs	Pass
Teepol	3000	10 secs	Pass
Crushed Cigarettes	3000	10 secs	Pass



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6 Conclusion

Australian Testing National Laboratories Pty Ltd (ANTL) has tested the waste outlet valve in accordance with ATS5200.469.

The results of this test are presented in Section 5 of this report.