

RAIN AND DUST TEST REPORT

Company : Gold Apollo Co., Ltd

Sample Name : VP101

Date Received : SEP 17, 2008

Date Tested : SEP 17, 2008

TESTING LABORATORY IS ACCREDITED BY:

IEC/IECQ 17025 certificate of independent test laboratory approval

Certificate No. : T1091

ISO 17025 accredited in respect of laboratory is approved by TAF

Certificate No. : L0835-060321

ISO 9001 certificate is approved by TUV CERT certification body of TUV NORD Cert GmbH

WE HEREBY CERTIFY THAT:

The test(s) shown in the attachment were conducted according to the indicating procedures. We assume full responsibility for the accuracy and completeness of these tests and vouch for the qualifications of all personnel performing them.

	Name	Signature	Date
Test Engineer	Max Hsu	<i>Max Hsu</i>	SEP-18-2008
Section Manager	Longson Lin	<i>Longson Lin</i>	SEP-18-2008

NOTE :

1. This report will be invalid if reproduced in part or altered in any way
2. This report refers only to the specimen(s) submitted to test, and is invalid if used otherwise
3. This report is ONLY valid with the examination seal and signature of this institute
4. The tested specimen(s) will only be preserved for thirty days from the date issued, if not collected by the applicant.



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1. GENERAL INFORMATION

1.1 DESCRIPTION OF UNIT

MANUFACTURER : Gold Apollo Co., Ltd

SAMPLE NAME : VP101

TEST ITEM & SAMPLE QUANTITY : Total of 4 units

TEST ITEM	SAMPLE QUANTITY
RAIN TEST	1 unit
DUST TEST	3 units

1.2 UNIT TESTING SETUP:

See attachment

1.3 UNIT OPERATING CONDITION:

None

2. RAIN TEST

2.1 DESCRIPTION OF TEST EQUIPMENT

Test Equipment	Serial Number	Calibration Date
Spray and Splash Water VSPT 200-S	59566059660010	DEC 14, 2007

2.2 LABORATORY AMBIENCE CONDITION

Temperature : $23\pm 3^{\circ}\text{C}$

Relative humidity : $55\%\pm 3\%$ (RH)

2.3 REFERENCE DOCUMENT

The test is based on IEC/EN 60529 IPX2. Setup method is based on customer requirement.

2.4 TEST CONDITION

Units are non-operating

Rain volume : 3 mm/min

Test angle and time : 2.5 minutes for each position of tilt. (Total 10 minutes)

Unit setup method : Unit in fixed position of 15°C tilt.

2.5 SUMMARY OF TEST

After testing, visual inspection showed no water permeated into the units and units' vibration, lights and sounds were normal.

3. DUST TEST

3.1 DESCRIPTION OF TEST EQUIPMENT

Test Equipment	Serial Number	Calibration Date
Vötsch- VDT 1000A	59566059640010	DEC 14, 2007

3.2 LABORATORY AMBIENCE CONDITION

Temperature : $23\pm 3^{\circ}\text{C}$

Relative humidity : $55\%\pm 3\%$ (RH)

3.3 REFERENCE DOCUMENT

This test is based on IEC60529 IP5X Dust Test Protected.

3.4 TEST CONDITION

Units are non-operating

Dust material : Talcum powder (100% dry fine)

Particle size : $< 5\text{ }\mu\text{m}$ (Diameter) $42.31\%\pm 5$

$5\sim 10\text{ }\mu\text{m}$ (Diameter) $35.85\%\pm 5$

$10\sim 20\text{ }\mu\text{m}$ (Diameter) $21.15\%\pm 5$

$20\sim 40\text{ }\mu\text{m}$ (Diameter) $0.69\%\pm 5$

$> 40\text{ }\mu\text{m}$ (Diameter) 0%

Dust density : 2.03 g/cm^3

Amount of talcum powder : 2 kg/m^3 (chamber volume)

Air direction : Vertically to achieve slowest possible downward settlement

Duration of exposure : 8 hours

3.5 SUMMARY OF TEST

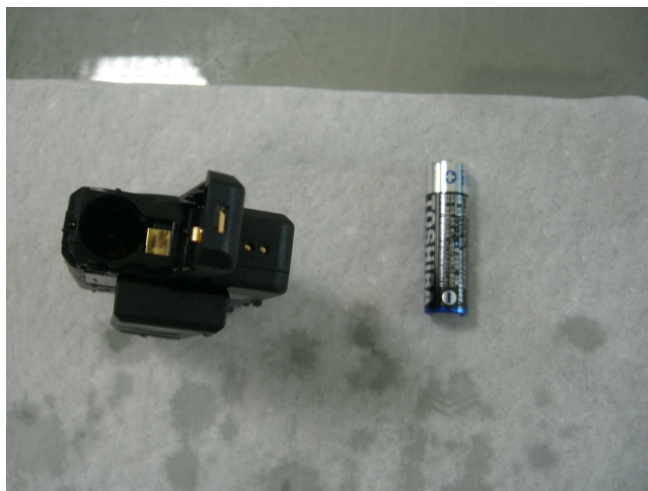
After testing, visual inspection showed no particles permeated into the unit and units' vibration, lights and sounds were normal.

Attachment 1: Photo of rain test



Attachment 2: Photo of unit after rain test

No water permeated into units




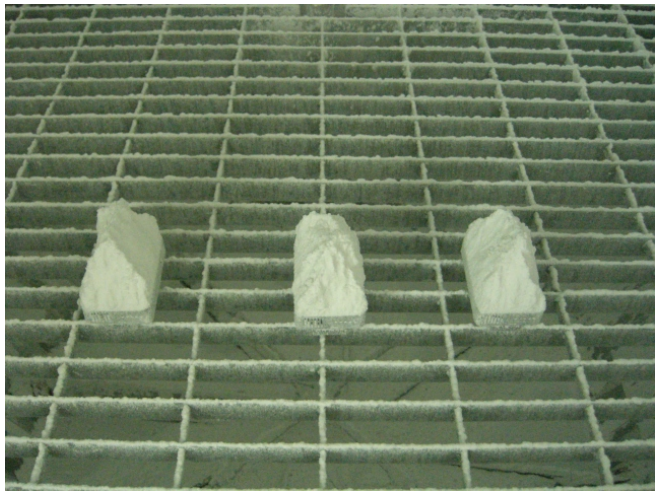
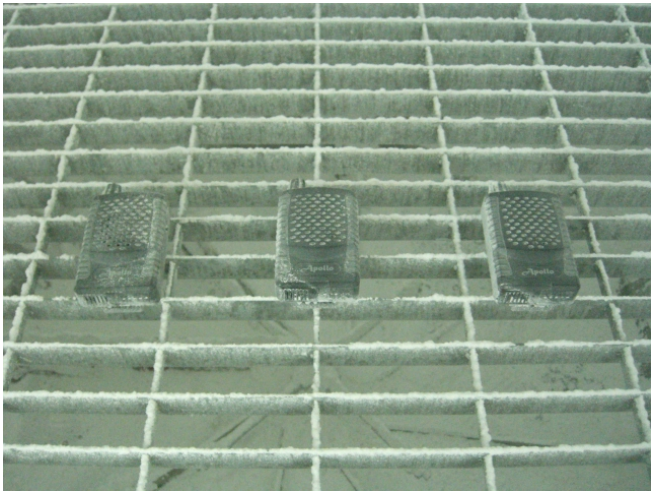



Functions were normal



Attachment 3: Photo of dust test



Attachment 4: Photo of unit after dust test

After testing-1	After testing-2
	
After testing-3	No dust permeated into units-1
	
No dust permeated into units-2	No dust permeated into units-3
	

Functions were normal

