

## STANDARD: PV 1200 Testing Method Statement

### EQUIPMENT: Ascott Cyclic Corrosion Chambers & Accessories

#### 1. Scope

1.1 This methodology is to be used to perform Volkswagen PV1200 Environment Cyclic Test standard in an Ascott corrosion chamber. This document should be used in conjunction with the PV1200 test standard document. The test standard takes precedence over this method statement and this method may need to be altered to follow/comply with the standard.

1.2 This method is based on PV 1200 October 2004 edition which consists of:

• **A 12 hour cycle (720 mins)**

**Step 1** - 1 hour (60 min) heating phase to +80°C and 80% rel. humidity,

**Step 2** - 4 hours (240 min) holding time at +80°C and 80% rel. humidity,

**Step 3** - 2 hours (120 min) cooling phase to -40°C, when freezing point is reached: approx. 30% rel. humidity, the air humidity remains unregulated as of  $T < 0^{\circ}\text{C}$  (depending on the system, humidity regulation can also be suspended as of  $T < 10^{\circ}\text{C}$ ),

**Step 4** - 4 hour (240 min) holding time at -40°C, air humidity remains uncontrolled,

**Step 5** - 1 hour (60 min) heating phase to +23°C, rel. humidity is regulated to 30% as of  $T = 0^{\circ}\text{C}$

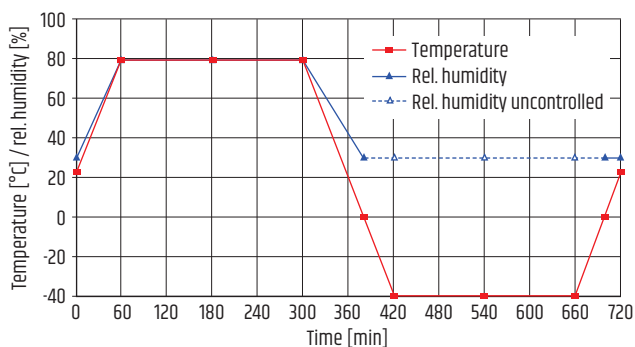


Figure 1 - Test cycle for PV 1200

1.3 The tolerances around the set values are as follows:

- Temperature Tolerance  $\pm 2^{\circ}\text{C}$
- Relative Humidity  $\pm 5\%$

1.4 The chamber will be loaded with test samples as required by the customer or in accordance with PV1200.

#### 2. Instrumentation

2.1 All measuring equipment must be calibrated. The recalibration renewal date must not fall within the test duration.

2.1.1 The Ascott corrosion chamber should be calibrated for chamber air temperature and relative humidity as a minimum. The following 'chamber' items may also be calibrated, if required:

- Chamber air saturator temperature.
- Chamber air pressure gauge (atomiser pressure).

2.2 The chamber temperature may be continuously monitored if required, using an independently calibrated data logger.

2.3 The test can be ran in multiple chambers, or in a single test chamber capable of meeting the following requirements

2.4.1 The climatic chamber shall be set to room temperature ( $23^{\circ}\text{C}$ ) and 30% rel. humidity before the test specimen is inserted.

The holding times must always be maintained. The heating and cooling phases can be varied according to the performance capability of the climatic chambers used. Deviations shall be specified in the test report.

**This test can be ran in its entirety in an Ascott Cyclic Corrosion chamber fitted with Dehumidification Unit (Ref ACC29 -40°C), Ultra heater blower system to +80°C (ref ACC47) including Atmosfar Premium -40°C Chambers .**

### 3. Sample Preparation

3.1 The test samples should be thoroughly cleaned before testing commences. This should not include the use of abrasives or solvents. This process should be agreed with the customer.

Latex gloves must be worn at all times when handling samples.

Photographs should be taken of each sample prior to starting the test

### 4. Operation

#### 4.1 Pre-test evaluation

- Create and run a complete 12-hour cycle of the controlled humidity.
- Record the profile using an independent data logger or Ascott's logging software (ACC121).
- Verify that the chamber can follow the example test profile and that the transition times and values for temperature and relative humidity are within tolerance of the standard.

#### 4.2 Starting the test cycle

##### 4.2.1 Test Exposure Conditions

- Position samples within the chamber in accordance of the test standard.
- Ensure that no samples 'shadow' other samples and that droplets from one sample cannot fall onto other samples.
- Start the test cycle and record test parameters at start.
- Photographs to be taken prior to starting the test and at customer specified times.

#### 4.3 Quality Control

4.3.1 Daily checks to ensure the standard is being followed with variable parameters within limits - Record all parameters.

- Check that the chamber temperature is within acceptable limits.

#### 4.4 After Exposure

4.4.1 The handling of the tested specimens varies depending upon their material. Refer to the test standard and agree the correct procedure with the customer.

Latex gloves must always be worn when handling samples.

Photographs of the samples should be taken.

#### 4.5 Deviation Handling

4.5.1 General deviations such as downtime, out of tolerance recordings should be noted in the test report, including details of any alterations made.

For further information, please contact us.

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**Typical Daily Checks**

Hours	Temp' Check	Humidity Check	Salt Solution pH	Reservoir Salinity %	Oscillation Pump Speed	Spray down Water Pressure PSI	Photos Taken	Initials