

Anti-Fog Coating Test for ACM-370x/360x

Category Type	Design/Spec Note
Camera Model	ACM-3601, ACM-3603, ACM-3701, ACM-3703
Firmware Version	N/A
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Knowledge Type	Product Information – Testing Result

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Introduction

ACTi engineers have conducted several anti-fog tests for dome covers used in mini dome cameras ACM-3601, ACM-3603, ACM-3701 and ACM-3703.



Because of innovative technology applied in production process of dome covers, **there is no worldwide standard procedure for testing yet**. Therefore our engineers proposed a testing procedure based on their best judgment.

The purpose of sharing the test results with our customers is to let the customers see how the coating material behaves in extreme environments.

However, these test results are for reference only, allowing the customer to make better decisions while choosing cameras for specific environment. **The results of these tests should not be considered as a guarantee of performance**. Should the coating material of the dome camera be damaged for any reason so that it does not perform as efficiently as before, it is recommended to purchase a new dome cover. The dome covers are available for affordable price.

In order to maintain the maximum possible performance of anti-fog coating, it is recommended to **handle the dome cover carefully whenever opening the cover for lens replacement, focus adjustment or surface wiping**.

Test Results

Testing Items	Testing Criteria	Testing Procedure	Result
Fogging Test	No surface fogging allowed.	Place the test piece 5 cm above 90°C hot water and hold for 15 seconds.	Pass , no fogging detected.
Extreme Temperature Cycling Test	No detached coating, no surface anomalies, no fogging in fogging test.	Cycling between -20°C and 70°C / 95% Relative Humidity for 3 cycles each, total of 15.5 hours.	Testing condition exceeded limit of coating. Coating survived alternative test at 70°C/95% Relative humidity for 24 Hrs without damage, which is far above that required by EN 50155 (25°C to 55°C and 55% to 95% relative humidity). We passed SGS EN 50155 with ease.
<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>Extreme Temperature Test</p> <p>Temperature (°C)</p> <p>Test Time(Hrs)</p> <p>Legend: ActiTest (blue diamonds), SGS EN 50155 (green triangles)</p> </div> <div style="text-align: center;"> <p>Extreme Humidity Test</p> <p>Relative Humidity (%)</p> <p>Test Time(Hrs)</p> <p>Legend: ActiTest (blue diamonds), SGS EN 50155 (green triangles)</p> </div> </div>			
Surface wipe test	Maintain anti-fog capability after 5 wipes.	Place the test piece 5 cm above 80°C hot water held in a 50ml glass beaker. Wipe with clean dry cloth every 10 seconds. Change to new hot water beaker every 4 wipes, record the number of wipes where fogging initiates.	Pass
Anti-Fogging Boundary test	Fogging initiate time > 6 minutes. Fully fogged time > 18 minutes.	Place the test piece 5 cm above 80°C hot water held in a 50ml glass beaker. Change to new hot water every 6 minutes.	Pass , Fogging Initiate time at 8 minutes, Fully fogged time > 18 minutes.
UV endurance test	No fogging after UV test.	Place in direct sunlight for one week.	Pass , no fogging detected.