

Test report ABREX® - standardized chemo-mechanical hand abrasion tester



Würzburg, 2012-04-17

Customer:

Samples: Plastic clasps

Test engineer:

Report by:

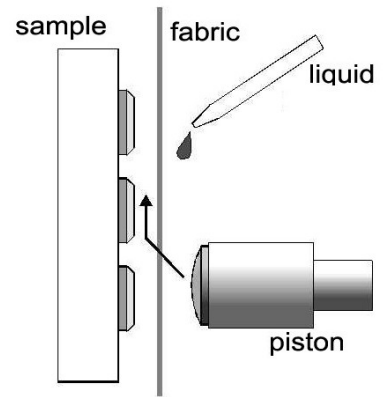
(sign)

1. Description of the ABREX[®] system

Measurements of hand abrasion with the ABREX instrument according to DIN EN 60068-2-70 / IEC 68-2-70.

This procedure assures a one to one simulation of continuous abrasion due to contact with the human hand even on extremely curved and structured surfaces.

A silicone-piston with defined shape and viscoelasticity is pressed onto a surface in a combined impact, fulling and friction movement. Located between specimen and test piston a specific standardized fabric guarantees constant standardized friction.



To permit realistic chemo-mechanical testing the friction material will automatically be moistened with testing fluids. (i.e. artificial sweat, lotions, ...)

ABREX is constructed to assure natural hand-abrasion. All parameters concerning the above standard are automatically observed.

2. Task

The task was to test a plastic clasp according to BMW AA-P 296 (follower to PA-P 315). For each of the seven individual tests one specimen was available.

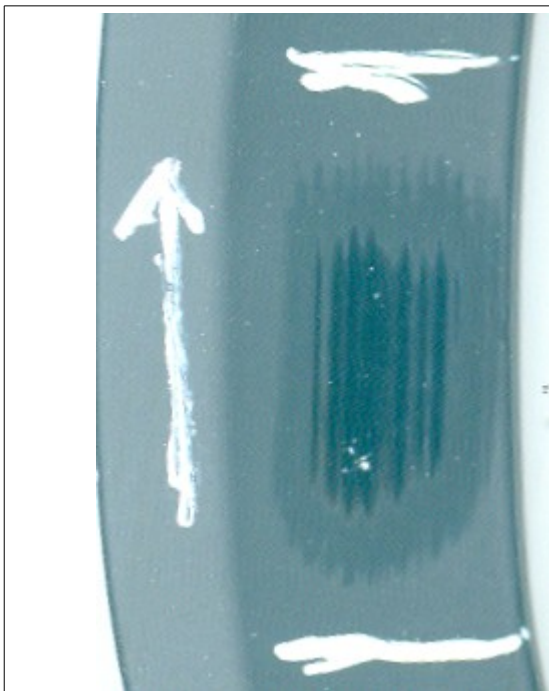
3. ABREX[®] test parameters

(according to BMW AA-P 296)

Parameter	Description
Test piston	Silicone, hardness 47±5 Shore A, Ø 10mm, bending diameter 20 mm
Test load	10 N
Friction path	10 mm
Strokes	10000
Test fabric	standard abrasion fabric DIN 60068-2-70
Test liquids	1. dry 2. Artificial sweat pH 8 3. Artificial sweat pH 5.5 4. Plastic treatment emulsion 5. Interior cleaner 6. Window cleaner 7. Sun screen lotion
Test frequency	1.2 Hz

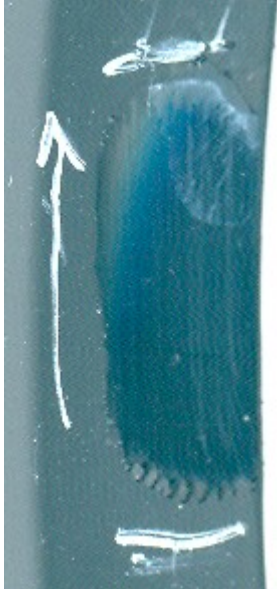
4. Documentation

4.1 Artificial sweat pH 8



Already after 1000 cycles there was a black discoloration on the cloth visible. After 5000 cycles the test was canceled due to the complete abrasion of the lacquer layer.

4.2 Sun lotion

	<p>The test was canceled after 5000 cycles due to the complete abrasion of the lacquer layer.</p>
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5. Final note

In agreement with the customer the test was abandoned after these two partial tests.