



AVANTIPERFECTO



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TEST REPORT

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| REPORT NO : 2019CB1316 | PAGE : 1 OF 5 |
| <p>This Test Report refers only to samples submitted by the applicant to SIRIM QAS International Sdn. Bhd. and tested by SIRIM QAS International Sdn. Bhd. This Test Report shall not be reproduced, except in full and shall not be used for any purpose by any means or forms (including but not limited to advertising purposes) without written approval from the Managing Director, SIRIM QAS International Sdn. Bhd. Please refer the last page for Conditions Relating to the Use of Test Report.</p> | |

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Applicant : AVANTI PERFECTOR SDN. BHD.
No. 25, Jalan Tembaga SD5/2H,
52200 Sri Damansara Industrial Park,
Selangor, Malaysia.

Manufacturer PRIVATE & CONFIDENTIAL

Product : Automotive Window Film
Reference Standard / Method of Test : MS 2669:2017 (AMD. 1:2018)
 Tint film on glazing of road vehicles – Methods and requirements of light transmittance, ultraviolet transmittance, total solar energy transmittance, and other related factors
 (Details description of clauses tested – Refer Page 2)

Description of sample / Description of Test Specimen : Two sets of Automotive Window Film were received for testing.
 (Details description of samples - Refer Page 2)

Date Received of Complete Application : 18 June 2019

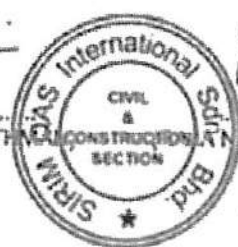
Job No. : J20191430941

Description of Test Results / Overall Test Result : The test report covers only test clauses as requested by Applicant to SIRIM QAS International Sdn. Bhd. The test results of the submitted test samples as described in this test report complied with the requirements of the above reference standard at the respective clauses tested, except Clause 4.3: Weathering Test for sample Care Series 70.

Issued Date : 15 August 2019

Approved Signatories:

(MUHAMMAD HAZMIE BIN OTHMAN)
Testing Executive



(NUR SIHA BINTI RAJA ABDUL HANAN)
Head
Civil & Construction Section
Testing Services Department

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Table 1: Test specification for solar performance

| Type of testing | Measurement range (nm) | Requirements |
|-----------------|------------------------|--------------|
| | | |

Sample No.2 : SF Series 50

Classification : Class A1
 Application : Front Side Windows

| Clause | Specifications / Requirements | Result | Remark |
|--------|---|--|---|
| 4.2 | <p>Solar Performance Solar performance requirements shall be specified in Table 1.</p> <p>Solar performance shall include visible light transmittance, ultraviolet transmittance and total solar energy transmittance (s factor).</p> | <p>Visible light transmittance for combination, VLT_c: • 55.86 %</p> <p>Ultraviolet transmittance: 0.37 %</p> <p>Total solar energy performance (solar factor): 0.35</p> | <p>Pass</p> <p>Pass (Class A)</p> <p>Pass (Class 1)</p> |
| 4.3 | <p>Weathering Test There shall be no obvious colour changes when comparing exposed sample and control sample.</p> <p>The difference of visible light transmittance between before and after exposure shall be not more than 4 %.</p> | <p>No obvious colour changes.</p> <p>0.35 %</p> | <p>Pass</p> <p>Pass</p> |
| 4.4.2 | <p>Bake Test All test samples shall not have bubble or other defects produced (delamination and discoloration).</p> | <ul style="list-style-type: none"> • Sample 1: No defect observed. • Sample 2: No defect observed. • Sample 3: No defect observed. | <p>Pass</p> <p>Pass</p> <p>Pass</p> |





Sample No.2 : SF Series 50

Classification : Class A1
Application : Front Side Windows

| Clause | Specifications / Requirements | Result | Remark |
|--------|--|---|--|
| 4.2 | Solar Performance Solar performance requirements shall be specified in Table 1. Solar performance shall include visible light transmittance, ultraviolet transmittance and total solar energy transmittance (solar factor). | Visible light transmittance for combination, VLTc: • 55.86 % Ultraviolet transmittance: 0.37 % Total solar energy performance (solar factor): 0.35 | Pass Pass (Class A) Pass (Class 1) |
| 4.3 | Weathering Test There shall be no obvious colour changes when comparing exposed sample and control sample. The difference of visible light transmittance between before and after exposure shall be not more than 4 %. | No obvious colour changes. 0.35 % | Pass Pass |
| 4.4.2 | Bake Test All test samples shall not have bubble or other defects produced (delamination and discoloration). | <ul style="list-style-type: none"> • Sample 1: No defect observed. • Sample 2: No defect observed. • Sample 3: No defect observed. | Pass Pass Pass |



Product Type :
Product Name :
Specification : VET % IRR % P.V. MIL

COOLMATE WINDOW FILM Sdn Bhd
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Mentari Park, 47100, Seremban
Negeri Sembilan, Malaysia
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