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**TEST
REPORT**
XC3166

**Testing
of
Clear Automotive Coating**

CSIRO Materials Science and Engineering

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1.0 INTRODUCTION

At the request of Joel Blake, Zen Automotive Supplier, clear coated card were tested for Scratch and Chemical Resistance.

The sample supplied consisted of 195x290 mm cards coated with Opticoat Batch D6071812A applied on 18/07/2012 by Zen Automotive Suppliers.

2.0 TEST METHODS

2.1 Scratch Resistance

The scratch resistance was determined in accordance with AS 1580 Method 403.1 'Scratch resistance'. A tungsten carbide needle is slid over the surface. The load required for the needle to penetrate through to the substrate is used to indicate the scratch resistance. A maximum of 2000 gm load is used.

2.2 Test Conditions and Timing

Ambient conditions at the time of the test/s were $23 \pm 3^{\circ}\text{C}$ and $45 \pm 15\%$ RH thereby complying with AS/NZS 1580.101.5

The testing was undertaken on the 30 October 2012 and the results pertain to the samples as received.

2.3 Chemical Resistance

The chemical resistance of the coating was determined in accordance with ASTM D1308-02 'Effect of Household Chemicals on Clear and Pigmented Organic Finishes'

Concentrated Hydrochloric acid, Phosphoric acid, and Ethanol were applied to the surface of the coating, covered and allowed to be in contact with the surface for one hour. The surface was then washed with distilled water, allowed to dry and then inspected.

3.0 RESULTS

The results are detailed below.

Client Sample No	XC3166
Sample Details	Opticoat Batch D6071812A applied on 18/07/2012
Scratch Resistance <i>AS 1580 Method 403.1</i>	1100 g
Chemical Resistance <i>ASTM D1308-02</i>	Conc. Hydrochloric Acid; No effect Conc. Phosphoric Acid: No effect Ethanol: No effect



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31 October 2012