GHD CLIENTS|PEOPLE|PERFORMANCE

CLIENT: Guardian Protective Coatings
Suite 4, 105 Broadway
Nedlands WA 6909

YOUR REF: Waterbased Matt Clear

OUR REF: J/N 61/12579/09

Certificate of Test No. 5193

Sample: Waterbased Matt Clear

Date Received: 28 November 2005

Date Tested: January 2006

From: Guardian Protective Coatings, Nedlands

Description & Condition: 1 –off 1L kit of Waterbased Matt Clear

TEST DESCRIPTION: **ABRASION RESISTANCE**

Sample Preparation:

Coating system consisted of multiple coats by brush on metal plates. Recoat intervals were 4 hours and overnight.

Test pieces cured at 23±2°C prior to test.

Test Method:

In accordance with ASTM D4060-95 "Standard Test Method for Abrasion Resistance of Organic Coatings by the Taber Abraser".

Tested By N. Nguyen, Chemist	Date 27/1/06	Approved By A.M. Peek, Principal Materials Scientist	Date 27/1/06

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Test Results:

GHD Lab Sample No.:	P27205
Client ID:	Waterbased Matt Clear
Average Weight Loss after 2000 Cycles:	134.4 mg
Average Wear Index:	65

Note: Testing conducted by W.A. Corrosion Research Group, Curtin University of Technology, whose report forms an integral part of this document.

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Taber Abrasion Results

According to ASTM D4060-95, Standard Test Method for Abrasion Resistance of Organic Coatings by the Taber Abraser

Details of Experiment:

Temperature:	26°C
Calibrase Abrasive Wheel:	CS-17
Load:	1000 g
Number of Wear Cycles:	500, 1000, 1500, 2000
Wear Index:	$I = \frac{(A - B)1000}{C}$
Where:	A = weight of test specimen before abrasion, mg, B = weight of test specimen after abrasion, mg, and C = number of cycles of abrasion recorded.

Results:

The results of the testing are given in Tables 1-3. Photograph 1 shows the typical appearance of a samples after testing.

Table 1: Weight Loss for Samples 1 and 2.

Wear Cycles	Sample 1 (mg)	Sample 2 (mg)
500	31.5	31.1
1000	64.9	62.4
1500	98.2	96.3
2000	132.4	136 4

Table 2: Wear Index for Samples 1 and 2.

Wear Cycles	Sample 1	Sample 2
500	63	62
1000	65	62
1500	65	64
2000	66	68
Average Wear Index	65	

Table 3: Average Dry Film Thickness, Mean of 10 Measurements for Samples 1 and 2.

Wear Cycles	Sample 1 (µm)	Sample 2 (µm)
initial	663	674
2000	618	617

Notes:

- Noticeable wear occurred after 150 - 200 cycles.
- The coating did not wear through after 2000 cycles, therefore the wear cycles per mil could not be determined.
- It was difficult to obtain an accurate dry film thickness measurement because of the surface roughness of the material due to the abrasion.

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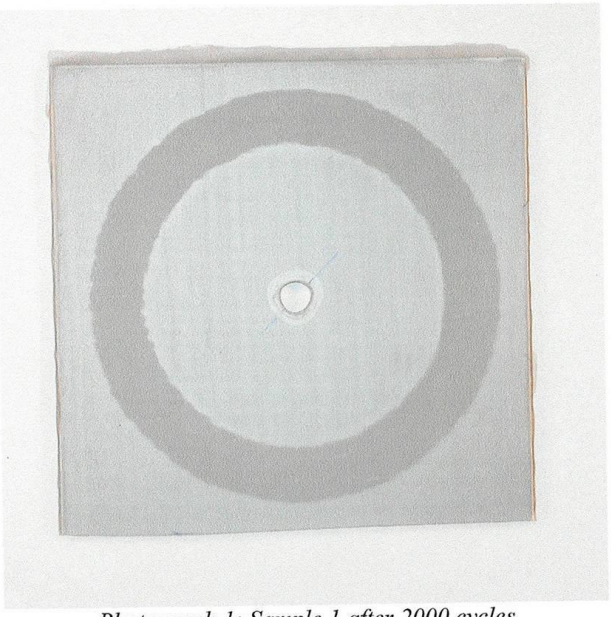

Photograph 1: Sample 1 after 2000 cycles