Paint Testing

for

Fiddes & Son

Work carried out by
K G Mower
T J Winter

Group Leader
Norman Falla

PRA Ref 05/143/NP

4 January 2010

PRA Coatings Technology Centre
14 Castle Mews, High Street, Hampton, Middlesex, TW12 2NP, UK
Tel: +44 (0)20 8487 0800, Fax: +44 (0)20 8487 0801
e-mail: coatings@pra.org.uk, website: www.pra.org.uk

TEST SERVICES REPORT

Enquiry No. 05/143/NP

Date Received 4/1/10

Date Issued 4/1/10

Client: Fiddes & Son Ltd
Florence Works
Brindley Road
Cardiff
CF11 7TX
FAO Robert Fiddes

Samples Submitted Sample Fiddes Supreme Hard Wax Oil

Work requested Paint Testing

Work carried out by K G Mower T.J Winter

. . . . . .

Approved by . . . . . .

J. Marshall, N. Falla, R. Holman, K. Mower, T. Winter

Authorised Signatory

1. Materials Submitted For Testing

One litre Fiddes Supreme Hard Wax Oil

2. Test Procedure

Testing to EN 71 - Toy Safety Test

The coating was applied to glass panels and allowed to dry. The dry coating was stripped from the glass and sent to an associated laboratory for testing for compliance with the Toy Safety Regulations in accordance with EN 71-3, Specification for the migration of certain elements.

Testing to BS 3900:F15 - Taber Abrasion Testing.

Two coats of the Hard Wax Oil were applied , 24 hours apart, at 100µm wet film thickness to aluminium panels. The panels were aged for 7 days before testing the Taber Abrasion Resistance in accordance with BS 3900:E15 using CS 10 wheels and a load of 500g for a total of 750 cycles (the test was terminated at 750 cycles because the coating had worn through to the substrate in places). The weight loss was determined at 250 cycle intervals.

Testing to BS 3900:G5 - Resistance to Liquids

Two coats of the Hard Wax Oil were applied, 24 hours apart, at 100µm wet film thickness to parana pine panels. The panels were aged for 7 days before testing for resistance to liquids in accordance with BS 3900:G5 using water, black tea, black coffee, tomato sauce, red wine, corn oil and 1% detergent solution as the test fluids. The tea and coffee were at 40°C when first applied to the panel. The fluids were applied in small pools to the panel and left in contact with the coating for a period of 1 hour at a temperature of 23°C.

3. Test Results and Observations

Toy Safety Test

Element	Permitted Limit (mg/kg)	Result (mg/kg)
Antimony	60	<5
Arsenic	25	<10
Barium	1000	<20
Cadmium	75	<5
Chromium	60	<5
Lead	90	<5
Mercury	60	<5
Selenium	500	<5

Taber Abrasion Test

Panel	Film Thickness (µm)	Weight Loss After 250 Cycles (mg)	Weight Loss After 500 Cycles (mg)	Weight Loss After 750 Cycles (mg)
1	48	5.7	11.4	16.6
2	48	5.6	10.8	16.6

Note - The weight loss is fairly low for this type of material. The wear through to the substrate
after a relatively small number of cycles is probably due to patchy pick up by the Taber wheels
or loss of adhesion as opposed to abrasive wear.

Resistance to Liquids

Fluid	Test Result
Water	No effect on coating
Tea	No effect on coating
Coffee	No effect on coating
Tomato Sauce	No effect on coating
Red Wine	No effect on coating
Corn Oil	No effect on coating
1% Detergent Solution	No effect on coating

End of Report

PRA Coatings Technology Centre
14 Castle Mews, High Street, Hampton, Middlesex, TW12 2NP, UK
Tel: +44 (0)20 8487 0800 Fax: +44 (0)20 8487 0801
e-mail: coatings@pra.org.uk website: www.pra.org.uk