

**FUGRO TECHNICAL SERVICES LIMITED**

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Client Ref. : --  
Report No : 013210ST20391

**REPORT ON THERMAL SHOCK TEST ON VITREOUS ENAMEL**

**Information Supplied by Client**

Client : Pantech (Metal Panel) Technologies Ltd.  
Project : Hua Wei Centre, Shenzhen  
Sample Description : Vitreous Enamel Panel

**Laboratory Information**


Lab. Sample I.D. : ST20391/1  
Date Received : 09 April 2002  
Date Tested : 10 June 2002  
Oven Temperature : 200°C  
Water Temperature : 20°C  
Sample Dimensions : 150 x 150mm  
Test Method : BS 1344 : Part 1 : 1994

**Test Results**

Lab. Sample I.D.	Cycle Number	Observation
ST20391/1	1	No visible damage
	2	No visible damage
	3	No visible damage
	4	No visible damage
	5	No visible damage

Result : The test samples is resistant to thermal shock at 200°C.

- Remarks :
- 1.) The test result relate only to the sample tested.
  - 2.) The test configuration and sample after test are shown in the photographs on pages 7 & 8 of this report.

Checked By : Stewart Uken Date : 27/06/2002 Certified By :  Date : 27/6/02  
Gary Winstanley



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**REPORT ON RESISTANCE OF VITREOUS ENAMEL TO CITRIC ACID AT ROOM TEMPERATURE****Information Supplied by Client**

Client : Pantech (Metal Panel) Technologies Ltd.  
 Project : Hua Wei Centre, Shenzhen  
 Sample Description : Vitreous Enamel Panel

**Laboratory Information**

Lab. Sample I.D. : ST20391/2  
 Date Tested : 29 May 2002  
 Sample Dimension : 150 x 150mm  
 Test Method : BS 1344 : Part 2 : 1975

**Test Results**

Lab. Sample I.D.	Test Solution	Resistance Class	Observation
ST20391/2	Citric Acid 100g/l	AA	No visible damage

- Remarks : 1.) The test result relate only to the sample tested.  
 2.) The test configuration and sample after test are shown in the photographs on pages 8 & 9 of this report.

Checked By : Stewart Usher Date : 27/06/2002 Certified By : [Signature] Date : 27/6/02  
 Gary Winstanley



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## REPORT ON RESISTANCE OF VITREOUS ENAMEL TO ABRASION

### Information Supplied by Client

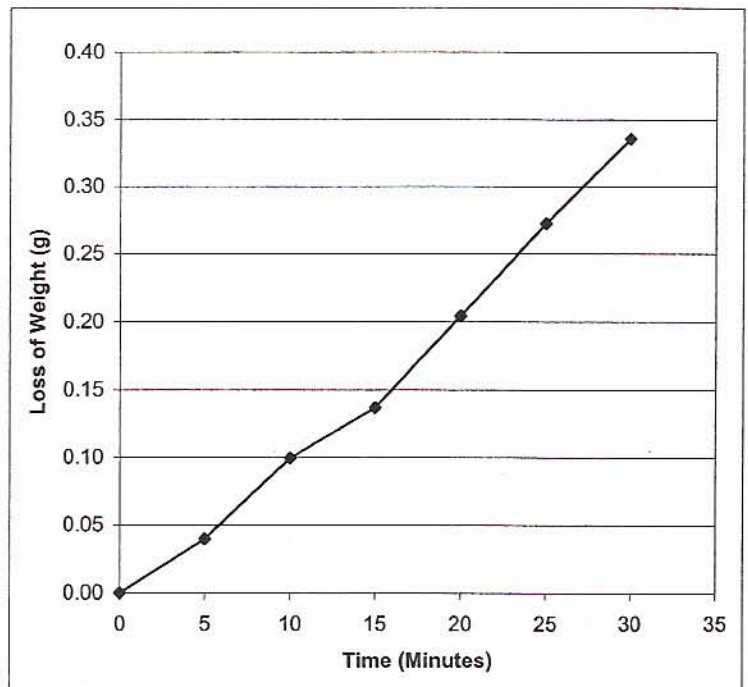
Client : Pantech (Metal Panel) Technologies Ltd.  
Project : Hua Wei Centre, Shenzhen  
Sample Description : Vitreous Enamel Panel

### Laboratory Information

Lab. Sample I.D. : ST20391/3  
Date Tested : 29 May 2002  
Sample Dimensions : 120 x 120mm  
Test Method : BS 1344 : Part 4 : 1968

### Test Results

Time (Minutes)	Weight of Sample (g)	Loss of Weight (g)
0	147.9568	0
5	147.9169	0.0399
10	147.8573	0.0995
15	147.8199	0.1369
20	147.7525	0.2043
25	147.6844	0.2724
30	147.6211	0.3357



Remarks : 1.) The test result relate only to the sample tested.  
2.) The rate of mass loss is 0.0133g/min.

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## REPORT ON DETERMINATION OF THE RESISTANCE OF VITREOUS ENAMEL TO HOT DETERGENT SOLUTIONS USED FOR WASHING TEXTILES

### Information Supplied by Client

Client : Pantech (Metal Panel) Technologies Ltd.  
Project : Hua Wei Centre, Shenzhen  
Sample Description : Vitreous Enamel

### Laboratory Information


Lab. Sample I.D. : ST20391/4-9  
Date Test Started : 20 June 2002  
Date Test Completed : 21 June 2002  
Test Method : BS 1344 : Part 5 : 1984 (with modification)  
Modification : 6 Samples tested  
Test area for each sample : 50cm<sup>2</sup>  
Duration of Test : 24 hours

### Test Results

Lab. Sample I.D.	Weight of Specimen (g)			Rounded loss in mass per unit area to nearest 0.1 g/m <sup>2</sup>
	Before Test	After Test	Loss in Mass	
ST20391/4	97.5743	97.5309	0.0434	0.0087
ST20391/5	98.8273	98.7855	0.0418	0.0084
ST20391/6	98.6558	98.6088	0.0470	0.0094
ST20391/7	98.9757	98.9321	0.0433	0.0087
ST20391/8	99.5377	99.4920	0.0457	0.0091
ST20391/9	98.9138	98.8694	0.0444	0.0089
		Average	0.0443	0.0089

Remarks : 1.) The test result relate only to the sample tested.  
2.) After testing no samples displayed visible defects such as pinholes through to the metal, clipped edges or corrosion.

Modification : Six Samples tested.

Checked By : Stewart Ullmer Date : 27/06/2002 Certified By :  Date : 27/6/02  
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## REPORT ON RESISTANCE OF VITREOUS ENAMEL TO ALKALI

### Information Supplied by Client

Client : Pantech (Metal Panel) Technologies Ltd.  
Project : Hua Wei Centre, Shenzhen  
Sample Description : Vitreous Enamel Panel


### Laboratory Information

Lab. Sample I.D. : ST20391/10  
Date Tested : 11 June 2002  
Sample Dimensions : 150 x 150mm  
Condition : Heat the solution to 80°C and maintain at 80 ± 5°C for 20 minutes  
Test Method : BS 1344 : Part 6 : 1971

### Test Results

Lab. Sample I.D.	Test Solution	Observation
ST20391/10	Sodium Carbonate 5%	No visible damage

Remark : The test result relate only to the sample tested.

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## REPORT ON DETERMINATION OF THE RESISTANCE TO HEAT OF VITREOUS ENAMEL

### Information Supplied by Client

Client : Pantech (Metal Panel) Technologies Ltd.  
Project : Hua Wei Centre, Shenzhen  
Sample Description : Vitreous Enamel Panel

### Laboratory Information

Lab. Sample I.D. : ST20391/11  
Date Test Started : 21 June 2002  
Date Test Completed : 21 June 2002  
Sample Dimensions : 150 x 150mm  
Test Method : In accordance with BS 1344 : Part 7 : 1984  
Number of Samples Tested : one (1) piece  
Type of Heat Source Used : Radiant  
Test Temperature : 400°C  
Time Test Temperature Maintained : 10 minutes

### Test Results

Lab. Sample I.D.	Observation
ST20391/11	No cracking, flaking or blistering or other surface change

Remarks : 1.) The test result relate only to the sample tested.  
2.) Test temperature as instructed by client.

Checked By : Stewart Uien Date : 27/06/2002 Certified By : [Signature] Date : 27/6/02  
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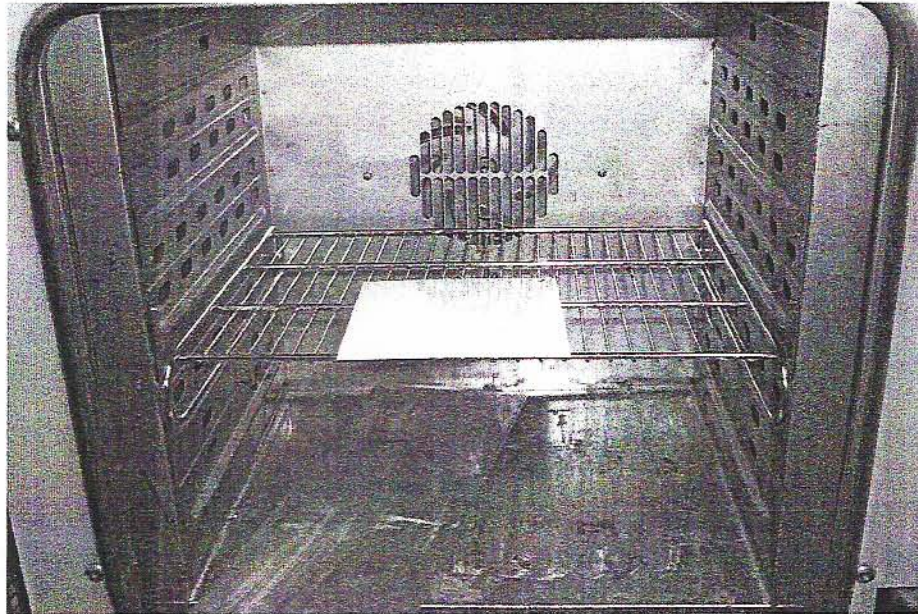
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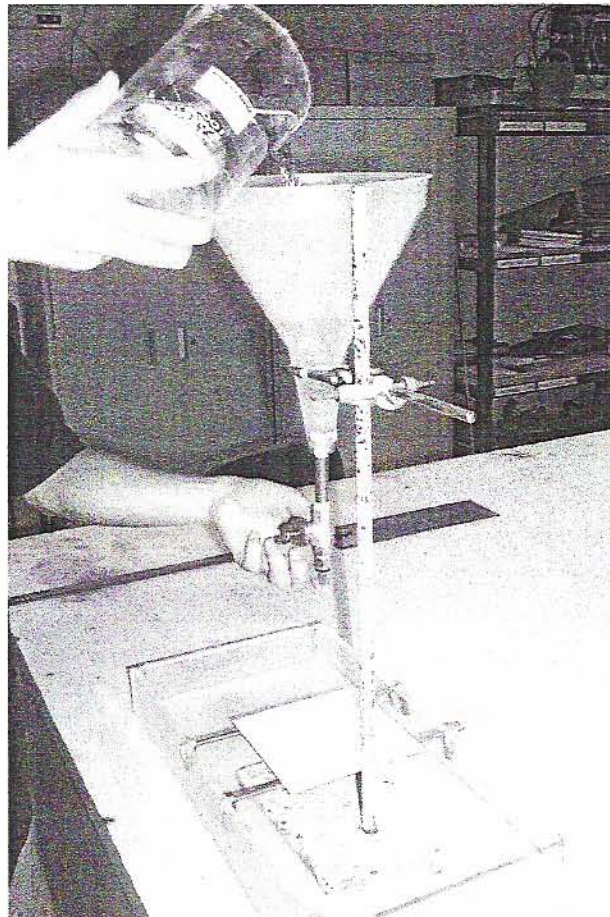
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Test Configuration  
Sample I.D. : ST20391/1



Test in Progress  
Sample I.D. : ST20391/1

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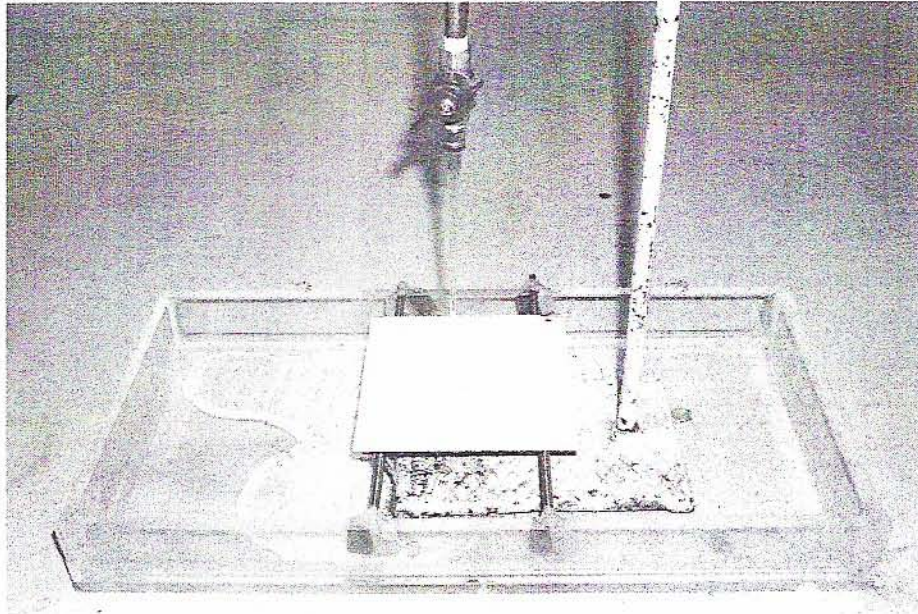
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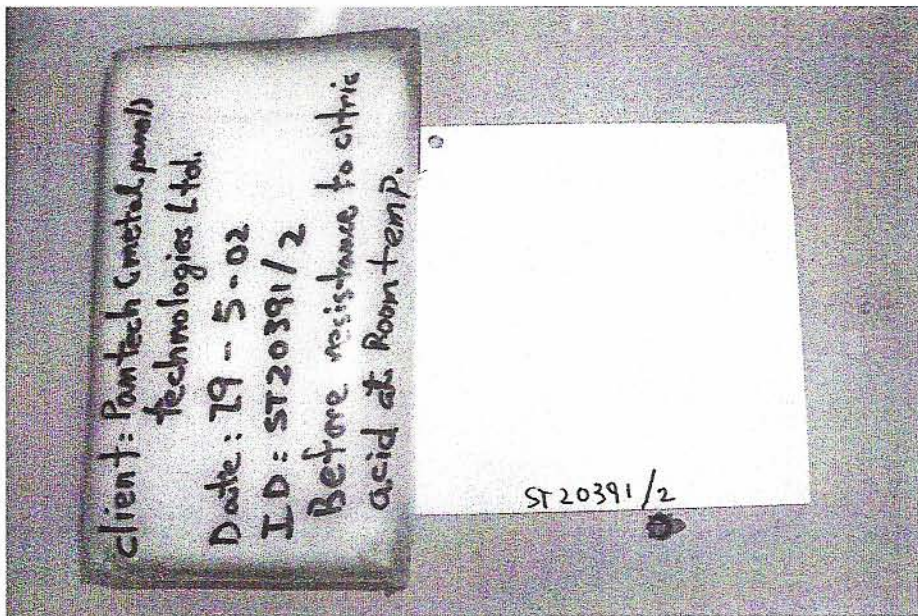
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After Test  
Sample I.D. : ST20391/1



Before Test  
Sample I.D. : ST20391/2



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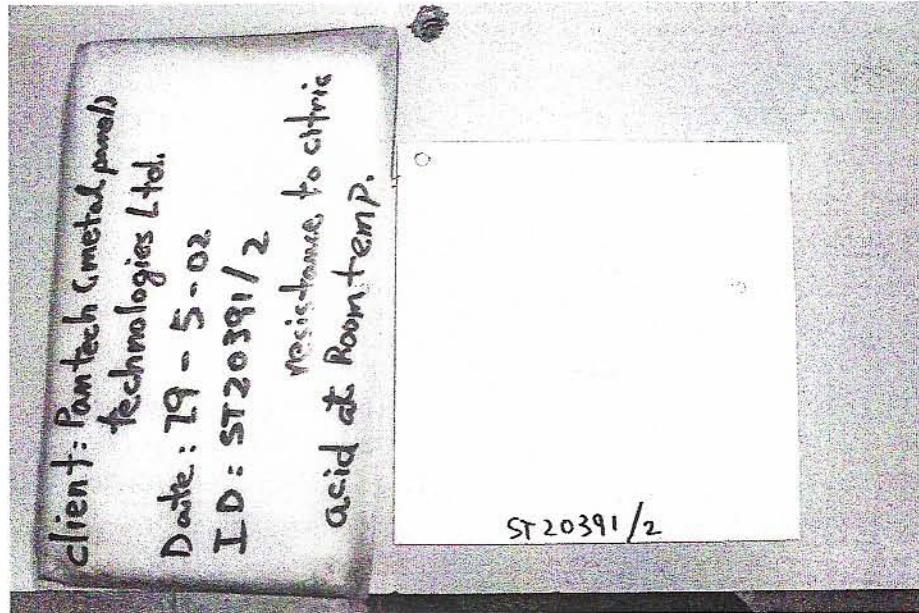
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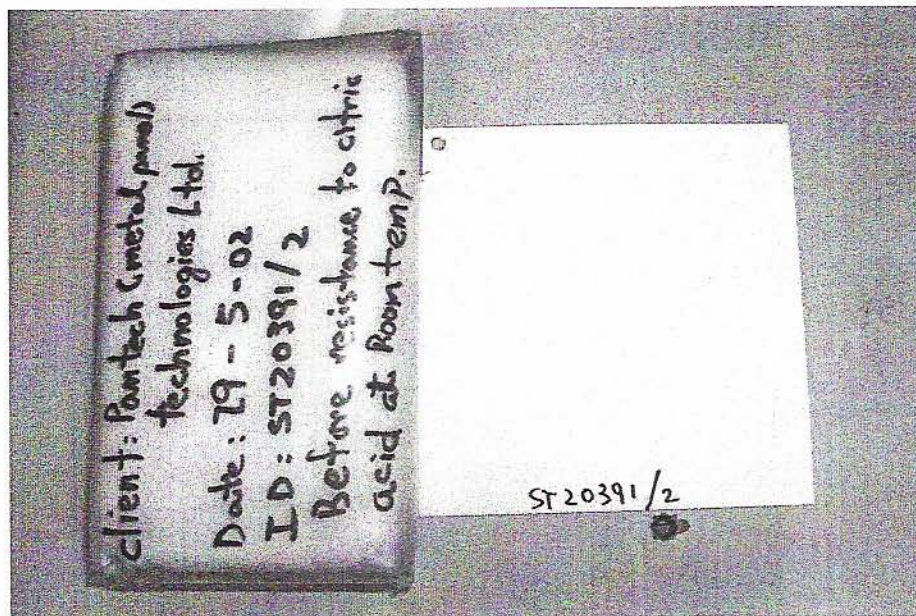
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Test in Progress  
Sample I.D. : ST20391/2



After Test  
Sample I.D. : ST20391/2