

**FUNGAL RESISTANCE TESTING**

**To BS 3900 : Part G6**

**for**

**JOTUN U.A.E. LTD (LLC)**

**PRA Ref 00/041**

**Work carried out by A L Smith**

**Group Leader W R SPRINGLE**

**PAINT RESEARCH ASSOCIATION**

**International Centre for Coatings Technology**

**TEST SERVICES REPORT**

**Enquiry No.** 00/041

**Date Received:** 8 February 2000

**Date Issued:** 10 May 2000

**Client:** JOTUN U.A.E. LTD (LLC)  
PO Box 3671  
Dubai  
U.A.E.

FAO: Mr S Mathew

**Samples Submitted:** Two samples of paint

**Work requested:** Fungal resistance testing to BS 3900:Part G6

**Work carried out by:** A L Smith  
*A.L. Smith*

**Approved by:** *[Signature]*

*W.R.* W R Springle  
Head of Microbiology Group

FRT ALS 00/041



## 1. MATERIALS SUBMITTED

The sponsor submitted two samples of Fenomastic Gold Paint, one preserved and one blank (without fungicide) to be tested for fungal resistance to BS 3900:G6.

## 2. TEST PROCEDURES

The test paints, together with a PRA control paint, were used directly without pre-conditioning and applied to three substrates, namely calcium silicate masterboard panels, plaster panels and unglazed ceramic tiles. The applied paint films were then tested according to the standard protocol.

### **2.1 Fungal Testing**

Fungal testing was carried out according to the procedure described in BS 3900:G6 in which the panels were inoculated with a spore suspension containing the following mixture of mould and yeast fungi:

<u>Species</u>	<u>Strain Number</u>
Aspergillus versicolor	IMI 45554
Aureobasidium pullulans	IMI 45533
Cladosporium cladosporioides	IMI 178517
Penicillium purpurogenum	IMI 178519
Phoma violacea	IMI 4994ii
Rhodotorula rubra	NCYC 1659
Rhodotorula rubra	NCYC 1660
Sporobolomyces roseus	NCYC 717
Stachybotrys chartarum	IMI 80021
Ulocladium atrum	IMI 79906

**Note:** The IMI number is a strain prefix used by the International Mycological Institute.  
The NCYC number is the catalogue number of the National Collection of Yeast Cultures.

Each painted panel was inoculated uniformly with the spore suspension and placed in fungal test cabinets (i.e. humidity chambers operating on a time cycle to give two hours in every twelve hours at 4°C above ambient). After incubation for 7 days the panels were reinoculated as above and incubation was continued for a total of 56 days.

Growth of fungi on the panels was monitored by microscopic examination after 7, 28, 42 and 56 days incubation.

### **3. TEST RESULTS**

Fungal growth assessments on the test systems are given in duplicate in the Table. Sample condition was rated according to the following numerical scale:

0	=	no growth	
1	=	trace of growth	
2	=	growth on 1	- 10% of test face
3	=	growth on 10	- 30% of test face
4	=	growth on 30	- 70% of test face
5	=	growth on 70	- 100% of test face

A photographic record made of test panels and plates are included in the report.

### **4. ASSESSMENT**

Using BS 3900:G6 (test for fungal resistance) ratings of 0, 1, 2 are considered by PRA to represent "pass" levels since, at most, only a very slight growth will have occurred on the test face. The higher ratings of 3, 4, 5 are considered by PRA to represent "fail" levels since a noticeable increase in biomass from the initial level will usually have occurred.

### **5. CONCLUSIONS**

The PRA blank control together with the Fenomastic Gold Blank showed extensive mould growth on all three substrates (rated 4 or 5).

However, the Fenomastic Gold test sample (preserved) showed only a trace of mould growth on all three substrates (rated 1 or 2).

Fungal Resistance Testing of Paints by BS 3900:Part G6

Test Sample	Fungal Growth Assessment*								
	Masterboard			Unglazed Tile			Plaster		
	28 days	42 days	56 days	28 days	42 days	56 days	28 days	42 days	56 days
Fenomastic Gold (Preserved)	1	1	1 <sup>+</sup>	1	1	1 <sup>+</sup>	2	2	2 <sup>+</sup>
Fenomastic Gold (Blank)	3	3	4	4	4	4	5	5	5
PRA Blank Control	3	4	5	4	4	4	5	5	5

\* Key: See Section 3

+ Yeast presence noted

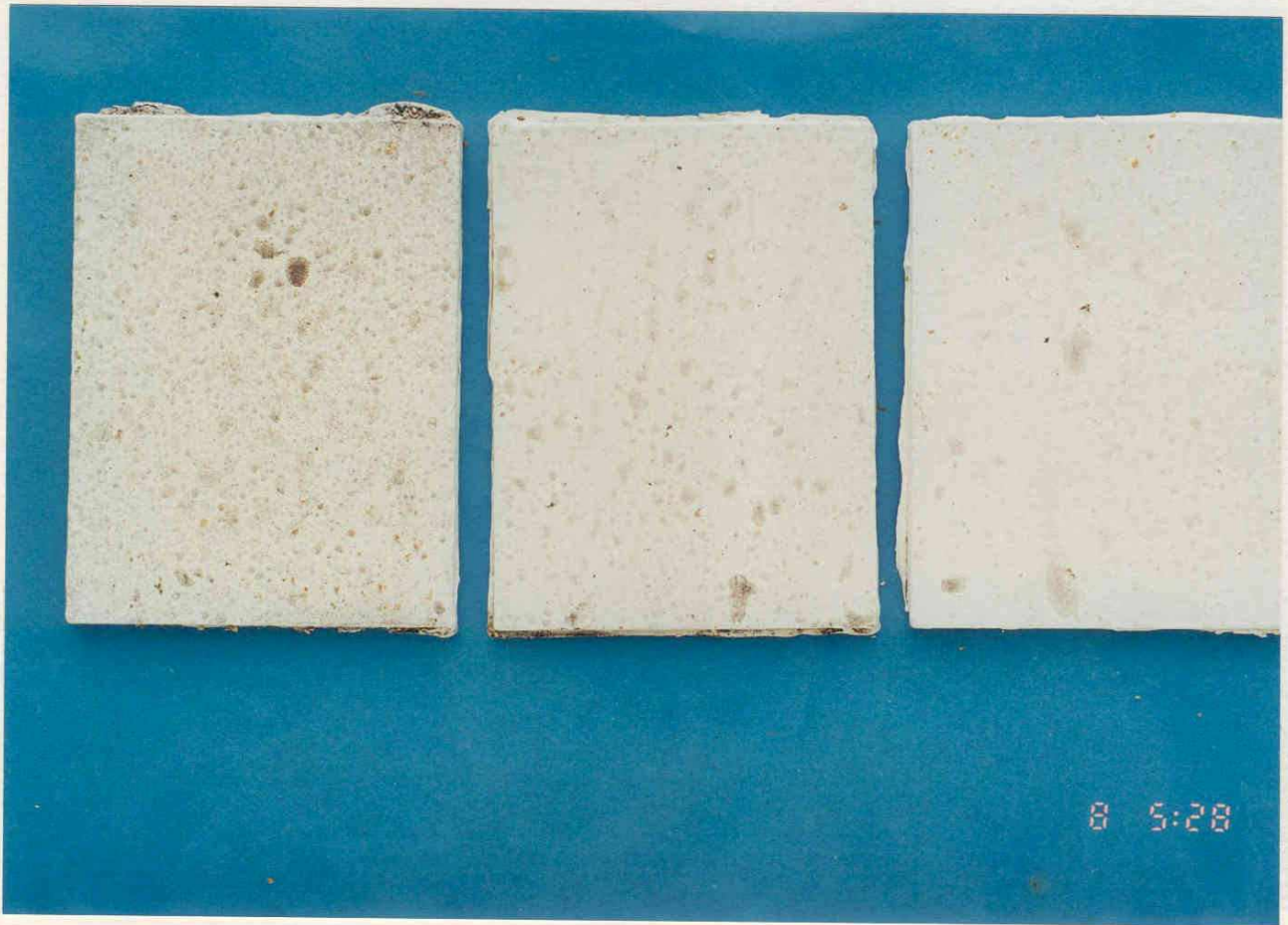


Plate 1: Test substrate : Masterboard.  
From left to right: PRA Control, Gold Blank, Gold Test Sample



**Plate 2: Test substrate : Unglazed Tile**  
**From left to right: PRA Control, Gold Blank, Gold Test Sample**



Plate 3: Test substrate : Plaster  
From left to right: PRA Control, Gold Blank, Gold Test sample

*End of Report*