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## TEST REPORT

REPORT NO : 2023FE0747

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### THIS TEST REPORT IS ISSUED IN SECURED PDF SOFTCOPY

Applicant : PRIMCHEM ENTERPRISE  
15, Jalan PBS14/13, Taman Perindustrian Bukit Serdang,  
Seri Kembangan,  
43300 Seri Kembangan,  
Selangor Darul Ehsan.

Manufacturer : PRIMCHEM ENTERPRISE

Product : BIO X 2 WATER BASED FIRE RETARDANT (FABRIC)

Reference Standard / Method of Test : BS 476 : Part 7: 1997  
Fire Test on Building Materials and Structures  
Part 7: Surface Spread of Flame Test.

Description of sample : 9 pieces of Bio X 2 Water Based Fire Retardant (Fabric).  
Size of Specimen: 270mm x 885mm x 0.84mm (measured thickness)

The specimens were tested with the face exposed to the specified heating condition and the test specimen were mounted on to 25.0 mm thick spacer.

Product Description: Bio X 2 Water Based Fire Retardant is a preventive pretreatment coating to be use on all fabric.

Date Received of Complete Application : 01 November 2023

Job No. : J20231440717

Description of Test Results : The Classification test results of the submitted test samples are described in Page 3 and Page 4 of this test report.

Issued Date : 30 November 2023

Approved Signatory;

(MUHAMMAD SAFUAN BIN MUSA)  
Testing Executive



(ZAINI BIN AHMAD)  
Head  
Fire Protection Section  
Testing Services Department

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**Applicant** : PRIMCHEM ENTERPRISE  
**Manufacturer** : PRIMCHEM ENTERPRISE  
**Product** : BIO X 2 WATER BASED FIRE RETARDANT (FABRIC)  
**Brand** : BIO X 2  
**Measured Thickness** : 0.84 mm  
**Mass per unit area** : 0.277 kg/m<sup>2</sup>  
**Date of Test** : 28.11.2023  
**Test Location** : Building 14 Fire Protection Section, SIRIM QAS International Sdn. Bhd.

### Requirement

The flame spread on any specimen of the sample shall not exceed the limit assigned for the class with the proviso that for one specimen only in the sample the flame spread may exceed this limit by the tolerance shown.

### Classification of Surface Spread of Flame

Classification	Flame Spread at 1½ min		Final Flame Spread	
	Limit (mm)	Tolerance for one specimen in sample(mm)	Limit (mm)	Tolerance for one specimen in sample(mm)
Class 1	165	25	165	25
Class 2	215	25	455	45
Class 3	265	25	710	75
Class 4	Exceeding class 3 limits			



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### Test Results

Specimen	1	2	3	4	5	6
Spread of flame at 1½ minutes (mm)	0	0	0	0	0	0
Distance (mm)	Time of spread of flame to indicated distance (minutes. seconds)					
75	-	-	-	-	-	-
165	-	-	-	-	-	-
190	-	-	-	-	-	-
215	-	-	-	-	-	-
240	-	-	-	-	-	-
265	-	-	-	-	-	-
290	-	-	-	-	-	-
375	-	-	-	-	-	-
455	-	-	-	-	-	-
500	-	-	-	-	-	-
525	-	-	-	-	-	-
600	-	-	-	-	-	-
675	-	-	-	-	-	-
710	-	-	-	-	-	-
750	-	-	-	-	-	-
785	-	-	-	-	-	-
825	-	-	-	-	-	-
865	-	-	-	-	-	-
Time of maximum spread of flame (minutes. seconds)	-	-	-	-	-	-
Distance of maximum spread of flame (mm)	0	0	0	0	0	0



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## Test Results

1. Test result = (Spread of flame at 1½ minutes  $\pm$  0.9\*) mm
2. Test result = (Distance of maximum spread of flame  $\pm$  0.9\*) mm

Note:

- a) Where the reported uncertainty is calculated using a coverage factor  $k=2$ , which gives a level of confidence of approximately 95%
- b) \*Denotes measurement uncertainty

## Observations

All test specimens are softens, melts and coalesces so that areas of the substrate become exposed but without the product falling away.

## Conclusion

In accordance with the class definition specified in the standard, the test results show that the sample tested has a **Class 1Y** Surface Spread of Flame as per clause 9.2.3 and clause 11.5 (e) – *a thin product that softens or melts and coalesces so that areas of the substrate become exposed but without the product falling away of BS 476: Part 7: 1997.*

The test results relate only to the behavior of the test specimens of a product under the particular conditions of test; they are not intended to be sole criterion for assessing the potential fire hazard of the product in use.



Sample after test





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6. Subject to consent and written approval from the Head of Quality, Occupational Safety and Health & Environment (QOSHE) of SIRIM QAS International, the customer (Applicant/Manufacture/Factory,etc.) may use SIRIM QAS International logo or word on the promotional materials and the Applicant shall only include the phrase, "A sample of this product has been tested by SIRIM QAS International ...(Test Report No) ...(dated) ...(for what test) ...(to which standard)" or such similar words which stress that only the sample was actually tested. This phrase shall only be used for the purpose of product advertisement or product promotion (eg; brochures/flyers/official website). For avoidance of doubt, the statement shall not be used on the sample, packaging of the sample, items and products.
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  - a) Informing and placing a notice in the media;
  - b) Obtaining an injunction from Court (cost on a solicitor-client basis to be borne by the Applicant);
  - c) Refusing to accept any further Product for Testing Services from the Applicant or whosoever related to the Applicant, whether subsidiary or otherwise;
  - d) Instructing the Applicant to withdraw and recall the advertisement, statement or document in question and advertise a clarification and apology to SIRIM QAS International, SIRIM and/or other SIRIM's subsidiaries twice in a national publication of SIRIM QAS International's choice at the Applicant's sole cost; and
  - e) Informing or lodging a report pertaining the Applicant's Test Report with the relevant authorities.
9. SIRIM QAS International is committed in supporting an environmentally-friendly business practices by reducing paper consumption, therefore we do not issue any hard copy of Test Report to the Applicant. However, additional certified true copy(ies) or softcopy of the Test Report may be issued upon request by the Applicant upon payment of the relevant fee. The certified true copy(ies) or softcopy of test report shall only be given for test report issued not more than three (3) years from the date of issuance.
10. Issuance of Amendment Report due to the following reasons are chargeable to the Applicant :
  - a) Changes in details of the Applicant name and/or address;
  - b) Changes in details of the Manufacturer's name and/or address;
  - c) Changes in details of the Factory location name and/or address;
  - d) Changes in details of the model and/or type designation
11. However, issuance of Supplementary Report due to the following reasons are FOC :
  - a) Misprints and typo errors;
  - b) Missing technical information as agreed in PP1 form;
  - c) Test data not reported;
  - d) Mistake in reporting of test data
12. Corrections to report shall only be allowed if the date of issuance of the original report has not exceeded 6 months and shall be limited to a maximum 3 times, after either case whichever occurs earlier, an Amendment or a Supplementary Report shall not be issued.