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| Report No | 2381/7781010 | This Report consists of 4 pages |
| Client | Fenesta Building Systems (A Division of DCM Shriram, Consolidated Ltd) Shriram Nagar Kota Rajasthan 324004 India | |
| Authority & date | BSI Quotation Acceptance Form No BSI 0000349934 Dated 14 October 2011 Equipment Record Number 10132825 | |
| Items tested | PVC-U Profiles | |
| Specification | BS EN 12608:2003 Clause 5.8.3 (BS EN 513:1999) Direct Commission Test | |
| Results | See text | |
| Prepared by | G R Essam  | Principal Engineer |
| Authorized by | F Merrison  | Laboratory Manager |
| Issue Date | 08 March 2013 | |
| Conditions of issue | <p>This Test Report is issued subject to the conditions stated in current issue of CP0322 'Conditions of Contract for Testing'. The results contained herein apply only to the particular sample/s tested and to the specific tests carried out, as detailed in this Test Report. The issuing of this Test Report does not indicate any measure of Approval, Certification, Supervision, Control or Surveillance by BSI of any product. No extract, abridgement or abstraction from a Test Report may be published or used to advertise a product without the written consent of the Managing Director, BSI Testing Services, who reserves the absolute right to agree or reject all or any of the details of any items or publicity for which consent may be sought.</p> | |

TESTING AND EXAMINATION OF PVC-U PROFILES SUBMITTED AS DIRECT COMMISSION TEST SAMPLES

INTRODUCTION

At the request of Fenesta Building Systems the PVC-U Profiles, detailed below and received on 12 December 2011, were tested against the method detailed in BS EN 12608:2003 (BS EN 513:1999), as indicated below and on the following pages of this Report. This request was made in a BSI Quotation Acceptance Form No BSI 0000349934 dated 14 October 2011. It is emphasized that assessments were not made against the other clauses of the Specification.

This Report only relates to the actual samples which have been tested and assessed. The results obtained do not necessarily relate to samples from the production line and in no way imply that the performance or quality of the continuing production will be maintained.

The testing was externally subcontracted

TEST ITEMS

5 off 50mm x 50mm samples of white PVC-U profile referenced B-1, B-2, B-3, B-4 and B-5

EXAMINATION AND TEST

TEST METHOD

The five samples of white PVC-U profile were artificially weathered in accordance with the method detailed in BS EN 12608:2003 Clause 5.8.3 and BS EN 513:1999 Procedure 2 using the simulation of severe climate S for 8000 hours. This equated to a total irradiance of 16kJ/m² in the range 300nm to 800nm. Instrumental colour readings from the wavelengths 360nm to 750nm were taken every 1000 hours following the method detailed in ISO 7724-3:1984 using a D65 illuminant, gloss inclusion and an observing angle of 10°. The results are shown in the table following.

EXAMINATION AND TEST (CONTINUED)**TEST RESULTS**

| Sample B1 | | | | | |
|------------------------------|--|-----------------|-----------------|-----------------|-----------------|
| Exposure time (hours) | Irradiation dose (GJ/m²) | Delta L* | Delta a* | Delta b* | Delta E* |
| 1000 | 2 | 0.1 | -0.2 | -0.3 | 0.4 |
| 2000 | 4 | 0.2 | -0.1 | -1.4 | 1.4 |
| 3000 | 6 | 0.2 | -0.1 | -1.4 | 1.4 |
| 4000 | 8 | 0.2 | -0.1 | -1.0 | 1.0 |
| 5000 | 10 | 0.1 | -0.1 | -1.3 | 1.3 |
| 6000 | 12 | 0.2 | -0.2 | -1.2 | 1.2 |
| 7000 | 14 | 0.2 | -0.2 | -1.1 | 1.1 |
| 8000 | 16 | 0.2 | -0.2 | -0.8 | 0.9 |

| Sample B2 | | | | | |
|------------------------------|--|-----------------|-----------------|-----------------|-----------------|
| Exposure time (hours) | Irradiation dose (GJ/m²) | Delta L* | Delta a* | Delta b* | Delta E* |
| 1000 | 2 | 0.4 | -0.1 | -0.5 | 0.7 |
| 2000 | 4 | 0.4 | -0.1 | -1.2 | 1.3 |
| 3000 | 6 | 0.4 | -0.1 | -1.0 | 1.1 |
| 4000 | 8 | 0.5 | -0.1 | -0.9 | 1.0 |
| 5000 | 10 | 0.4 | -0.1 | -1.1 | 1.2 |
| 6000 | 12 | 0.5 | -0.1 | -1.1 | 1.2 |
| 7000 | 14 | 0.5 | -0.1 | -0.9 | 1.0 |
| 8000 | 16 | 0.5 | -0.1 | -0.9 | 1.0 |

| Sample B3 | | | | | |
|------------------------------|--|-----------------|-----------------|-----------------|-----------------|
| Exposure time (hours) | Irradiation dose (GJ/m²) | Delta L* | Delta a* | Delta b* | Delta E* |
| 1000 | 2 | 0.4 | -0.1 | -0.8 | 0.9 |
| 2000 | 4 | 0.2 | -0.2 | -1.3 | 1.3 |
| 3000 | 6 | 0.2 | -0.2 | -1.2 | 1.2 |
| 4000 | 8 | 0.2 | -0.2 | -1.1 | 1.1 |
| 5000 | 10 | 0.2 | -0.2 | -1.3 | 1.3 |
| 6000 | 12 | 0.3 | -0.2 | -1.3 | 1.3 |
| 7000 | 14 | 0.2 | -0.2 | -1.2 | 1.2 |
| 8000 | 16 | 0.2 | -0.3 | -1.1 | 1.2 |

EXAMINATION AND TEST (CONTINUED)**TEST RESULTS (CONTINUED)**

| Sample B4 | | | | | |
|------------------------------|--|-----------------|-----------------|-----------------|-----------------|
| Exposure time (hours) | Irradiation dose (GJ/m²) | Delta L* | Delta a* | Delta b* | Delta E* |
| 1000 | 2 | 0.5 | -0.2 | -0.8 | 1.0 |
| 2000 | 4 | 0.3 | -0.2 | -1.5 | 1.5 |
| 3000 | 6 | 0.4 | -0.2 | -1.4 | 1.5 |
| 4000 | 8 | 0.4 | -0.2 | -1.2 | 1.3 |
| 5000 | 10 | 0.4 | -0.2 | -1.4 | 1.5 |
| 6000 | 12 | 0.4 | -0.3 | -1.4 | 1.5 |
| 7000 | 14 | 0.4 | -0.3 | -1.4 | 1.4 |
| 8000 | 16 | 0.4 | -0.3 | -1.3 | 1.4 |

| Sample B5 | | | | | |
|------------------------------|--|-----------------|-----------------|-----------------|-----------------|
| Exposure time (hours) | Irradiation dose (GJ/m²) | Delta L* | Delta a* | Delta b* | Delta E* |
| 1000 | 2 | 0.5 | -0.1 | -0.9 | 1.0 |
| 2000 | 4 | 0.5 | -0.2 | -1.3 | 1.4 |
| 3000 | 6 | 0.5 | -0.2 | -1.3 | 1.4 |
| 4000 | 8 | 0.6 | -0.2 | -1.2 | 1.4 |
| 5000 | 10 | 0.5 | -0.2 | -1.4 | 1.5 |
| 6000 | 12 | 0.6 | -0.2 | -1.4 | 1.5 |
| 7000 | 14 | 0.6 | -0.2 | -1.4 | 1.5 |
| 8000 | 16 | 0.6 | -0.3 | -1.3 | 1.5 |

End of Report