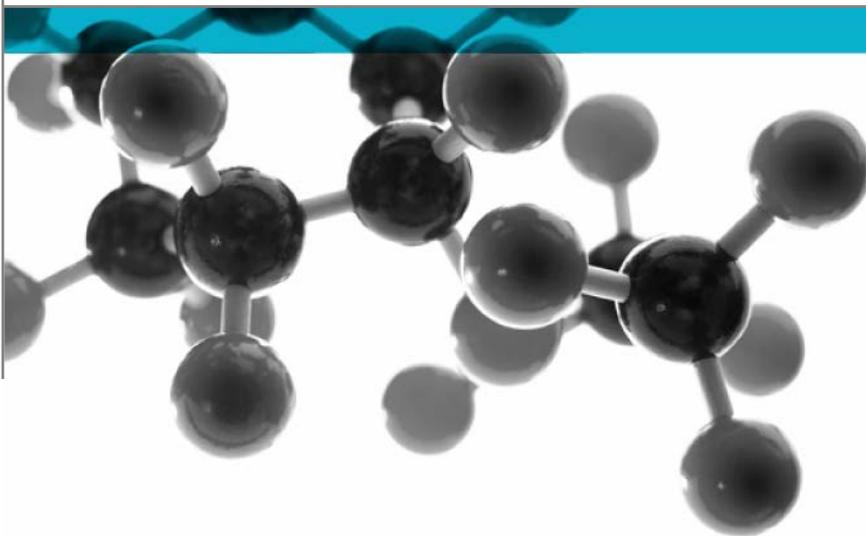


BS EN 45545-2:2013+A1:2015



Summary Test Report – BS EN 45545-2:2013+A1:2015 Requirement Table 5 (R21)

Test Method References “T03.02” (ISO 5660-1: Part 1; Heat Release Rate (Cone Calorimeter Method), “T10.03” (ISO 5659-2: 2017; Plastics – Smoke Generation. Part 2 Determination of Optical Density by a Single Chamber Method) and “T11.02” (Gas Analysis in the Smoke Box ISO, using FTIR Technique)

Date: 21st August 2019

Issue No.: 2

Page 1

A Report To: Camira Transport Fabrics Ltd.

Document Reference: 413569

Executive Summary

Objective To assess the results of tests performed in accordance with methods T03.02, T10.03 and T11.02 as defined in BS EN 45545-2:2013+A1:2015 at an irradiance level of 25kW/m² with a pilot flame, on specimens of a product and to provide an opinion of compliance with the requirements, as defined in BS EN 45545-2:2013+A1:2015.

Generic Description	Product reference	Thickness	Weight per unit area
Fabric	"AURA + ACRYLIC BACKCOAT & FR TREATMENT (P) - WOOL RICH MOQUETTE – FACE TO FACE – WITH CRINKLE"	4.2mm	850g/m ²
Please see page 5 of this test report for the full description of the product tested			

Test Sponsor Camira Transport Fabrics Ltd., Meltham Mills, Meltham Mills Road, Meltham, West Yorkshire, HD9 4AY

Opinion **The results of the tests confirmed in reports referenced 413565 & 413568, demonstrate that the fabric product as tested, in isolation, obtained results within the limits detailed for requirement set R21 (within Table 5 of EN 45545-2: 2013 + A1:2015) Hazard Level HL1, HL2 and HL3.**
Requirement set R21 should be conducted on the composite as used in practice.

Reason for Revision This document replaces Issue 1 (dated 19th June 2019) of the same number which has been withdrawn. The sponsor of the test has requested that the product reference is amended in this Issue 2 report

Signatories



Responsible Officer
S. Jones *
Technical Officer



Authorised
S. Deeming *
Business Unit Head

* For and on behalf of [Warringtonfire](#).

Report Issued: 21st August 2019

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Document No.:	413569	Page No.:	2 of 7
Author:	S. Jones	Issue Date:	21 st August 2019
Client:	Camira Transport Fabrics Ltd.	Issue No.:	2

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Test Details

Terms Of Reference To assess the results of tests performed in accordance with methods T03.02, T10.03 and T11.02 as defined in BS EN 45545-2:2013+A1:2015 at an irradiance level of 25kW/m² with a pilot flame, on specimens of a product and to provide an opinion of compliance with the requirements, as defined in BS EN 45545-2:2013+A1:2015.

Introduction Specimens of a product have been tested in accordance with the test methods “T03.02” (ISO 5660-1: Part 1; Heat Release Rate (Cone Calorimeter Method), “T10.03” (ISO 5659-2: 2017; Plastics – Smoke Generation. Part 2 Determination of Optical Density by a Single Chamber Method) and “T11.02” (Gas Analysis in the Smoke Box ISO, using FTIR Technique) as specified in BS EN 45545-2:2013+A1:2015 “Requirements for Fire Behaviour of Materials and Components”. The results of the tests are fully reported in the [Warringtonfire](#) test reports No's 413565 & 413568.

This summary report has been prepared at the request of the sponsor and relates the results of the tests to the requirements for R21, as defined in Table 5 of BS EN 45545-2:2013+A1:2015.

This summary should be read in conjunction with, and not accepted as a substitute for the [Warringtonfire](#) test reports No's. 413565 & 413568. Those test reports may include additional information which may be relevant to the assessment of the potential fire hazard of the product. Where this assessment covers a system used on European rolling stock covered by the Technical Specification for Interoperability (LOC&PAS TSI (Commission Regulation (EU) No. 1302/2014)) all tests must have been conducted within the last 5 years or the test reports must have been reviewed within the last five years.

Face subjected to tests The specimens were mounted in the test positions such that decorative face was exposed to the heating conditions of the tests.

Results of test The following results were obtained for the specimens, which were tested.

“T03.02” ISO 5660-1

MARHE = 19.8kW/m²

“T10.03” ISO 5659-2: 2017

D_s max = 70

“T11.02” Gas Analysis in the Smoke Box ISO, Using FTIR Technique

CIT_{4mins} = 0.20
CIT_{8mins} = 0.30

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

Description of Test Specimens

The description of the specimens given below has been prepared from information provided by the sponsor of the test. This information has not been independently verified by Warringtonfire. All values quoted are nominal, unless tolerances are given.

Generic type	Fabric
Trade name	"AURA + ACRYLIC BACKCOAT & FR TREATMENT (P) - WOOL RICH MOQUETTE – FACE TO FACE – WITH CRINKLE"
Name of manufacturer	Camira Fabrics Ltd
Composition details	Pile: 70% Wool, 12% Nylon 18% Polyester Ground: 100% Cotton
Weight per unit area	850g/m ² (stated by sponsor) 1028.94g/m ² (determined by Warringtonfire)
Thickness	4.2mm (stated by sponsor) 4.17mm (determined by Warringtonfire)
Colour reference	"Cream/Blue (CAA321)"
Pattern reference	"Sixties VDW"
Type of weave	WOOL RICH MOQUETTE - FACE TO FACE - WITH CRINKLE
Thread count or threads per inch (TPI)	See Note 1 below
Yarn count	See Note 1 below
Trade name of flame retardant	"Pekoflam®"
Generic type of flame retardant	See Note 1 below
Amount of flame retardant	See Note 1 below
Brief description of manufacturing process	See Note 1 below

Note 1. The sponsor of the test was unwilling to provide this information.

Classification

Opinion

The results of the tests confirmed in reports referenced 413565 & 413568, demonstrate that the fabric product as tested, in isolation, obtained results within the limits detailed for requirement set R21 (within Table 5 of EN 45545-2: 2013 + A1:2015) Hazard Level HL1, HL2 and HL3.

Requirement set R21 should be conducted on the composite as used in practice.

Validity of opinion

This opinion is based on the requirements of BS EN 45545-2:2013+A1:2015 at the date of this report. If BS EN 45545-2:2013+A1:2015 is revised or amended in any way subsequent to that date, care must be taken to ensure that this opinion is not invalidated by those revisions or amendments.

The opinion has been formulated on the assumption that the specimens are representative of the product in practice. Warringtonfire was not involved in any sampling or selection procedures which would confirm this or in any audit testing which would provide confidence in the consistency of the product in the tests.

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Revision History

Issue No : 1	Re - Issue Date: 21 st August 2019
Revised By: S. Jones	Approved By: S Deeming
Reason for Revision: This document replaces Issue 1 (dated 19 th June 2019) of the same number which has been withdrawn. The sponsor of the test has requested that the product reference is amended in this Issue 2 report	

Issue No :	Re - Issue Date:
Revised By:	Approved By:
Reason for Revision:	