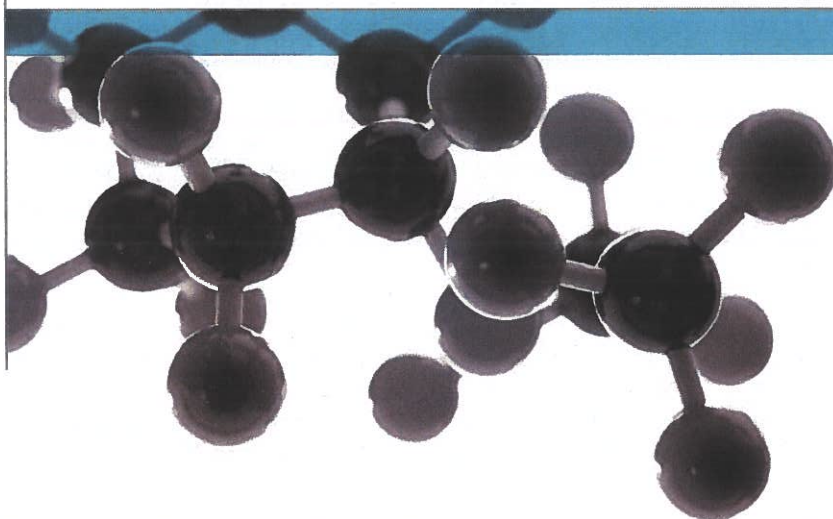


# EN 45545-2: 2013+A1:2015



## Summary Test Report – Requirement Table 5 (R22 & R23)

**Test Method References “T01” (EN ISO 4589-2: 2017. Determination of burning behaviour by oxygen index Part 2: Ambient temperature test), “T10.03” (ISO 5659-2: 2017; Plastics – Smoke Generation. Part 2 Determination of Optical Density by a Single Chamber Method) and “T12” (NF X70-100-1: 2006, NF X70-100-2: 2006 Gas analysis)**

**Date:** 11th May 2023

**Issue No.:** 1

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A Report To: Anamet Europe BV

Document Reference: 532098

## Executive Summary

### Objective

To assess the results of tests performed in accordance with methods T01, T10.03 and T12 as defined in EN 45545-2: 2013+A1:2015 at an irradiance level of 25kW/m<sup>2</sup> with a pilot flame, on specimens of a product and to provide an opinion of compliance with the requirements, as defined in EN 45545-2: 2013+A1:2015.

Generic Description	Product reference	Thickness	Application rate, weight per unit area or density
Silicone rubber coated fiberglass sleeving	"Anamet Hiprojacket Aero"	3.26mm*	3.31kg/m <sup>2</sup> *
<b>Individual components used to manufacture composite:</b>			
Silicone rubber	Unwilling to provide	1.13mm*	Unwilling to provide
Mesh	"ECG Fiberglass"	2.13mm*	Unwilling to provide
*determined by <a href="#">Warringtonfire</a>			
<b>Please see page 5 of this test report for the full description of the product tested</b>			

### Test Sponsor


Anamet Europe BV, Galwin 5, 1046 AW, Amsterdam, The Netherlands


### Opinion

We consider the results of the tests confirmed in Additional reports referenced 397309, 397310 & 397311 incorporating review reports referenced 532092, 532094 & 532096 to the test methods detailed above demonstrate that the product, as tested, complies with requirements R22 (detailed in Table 5 of EN 45545-2: 2013+A1:2015) for a HL1, HL2 and HL3 Hazard Level Classification.

We consider the results of the tests confirmed in Additional reports referenced 397309, 397310 & 397311 incorporating review reports referenced 532092, 532094 & 532096 to the test methods detailed above demonstrate that the product, as tested, complies with requirements R23 (detailed in Table 5 of EN 45545-2: 2013+A1:2015) for a HL1, HL2 and HL3 Hazard Level Classification.

## Signatories


Responsible Officer T. Kinder * Senior Technical Officer


Authorised T. Deluce * Senior Technical Officer

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

Report Issued: 11th May 2023

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Document No.: 532098  
Author: E. Anderson  
Client: Anamet Europe BV

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Issue Date: 11th May 2023  
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## Test Details

### Terms Of Reference

To assess the results of tests performed in accordance with methods T01, T10.03 and T12 as defined in EN 45545-2: 2013+A1:2015 at an irradiance level of  $25\text{kW/m}^2$  with a pilot flame, on specimens of a product and to provide an opinion of compliance with the requirements, as defined in EN 45545-2: 2013+A1:2015.

### Introduction

Specimens of a product have been tested in accordance with the test methods "T01" (EN ISO 4589-2: 2017 Determination of burning behaviour by oxygen index Part 2: Ambient temperature test), "T10.03" (ISO 5659-2: 2017; Plastics – Smoke Generation. Part 2 Determination of Optical Density by a Single Chamber Method) and "T12" (NF X70-100-1: 2006, NF X70-100-2: 2006 Gas analysis)". The results of the tests are fully reported in the [Warringtonfire](#) additional test reports No's. 397309, 397310 & 397311 incorporating review reports referenced 532092, 532094 & 532096.

This summary report has been prepared at the request of the sponsor and relates the results of the tests to the requirements for R22 and R23, as defined in Table 5 of EN 45545-2: 2013+A1:2015.

This summary should be read in conjunction with, and not accepted as a substitute for the [Warringtonfire](#) additional test reports No's. 397309, 397310 & 397311 incorporating review reports referenced 532092, 532094 & 532096. 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 the coated face was exposed to the heating conditions of the tests.

### Results of test

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

#### "T01" EN ISO 4589-2: 2017

Oxygen index = 40.1%

#### "T10.03" ISO 5659-2: 2017

$D_s \text{ max} = 70$

#### "T12" NFX 70-100-1: 2006 Gas Analysis

$CIT_{NLP} = 0.02$

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### Applicability of test results

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.

The test results relate only to the specimens of the product in the form in which they were tested. Small differences in the composition or thickness of the product may significantly affect the performance during the test and will therefore invalidate the test results. It is the responsibility of the supplier of the product to ensure that the product which is supplied is identical with the specimens which were tested.

## 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.

General description		Silicone rubber coated fiberglass sleeving
Product reference of composite		"Anamet Hiprojacket Aero"
Thickness of composite		3.26mm (determined by Warringtonfire)
Weight per unit area of composite		3.31kg/m <sup>2</sup> (determined by Warringtonfire)
Silicone coating	Generic type	Silicone rubber
	Product reference	See Note 1 below
	Name of manufacturer	Dow Corning / Xiameter
	Colour reference	"Red/Orange"
	Number of coats	1
	Application thickness	1.13mm (determined by Warringtonfire)
	Application rate	See Note 1 below
	Application method	See Note 1 below
	Flame retardant details	See Note 2 below
	Curing process	Proprietary
Fibreglass layer	Generic type	Fiberglass yarn
	Product reference	"ECG Fiberglass"
	Name of manufacturer	See Note 1 below
	Thickness	2.13mm (determined by Warringtonfire)
	Type of weave	Braid
	Weight per unit area / density	See Note 1 below
	Flame retardant details	See Note 1 below
Brief description of manufacturing process		Silicone rubber is applied and cured to the fiberglass yarn substrate

**Note 1.** The sponsor was unwilling to provide this information.

**Note 2.** The sponsor of the test has confirmed that no flame retardant additives were utilised in the production of the component.



## Classification

### Opinion

We consider the results of the tests confirmed in Additional reports referenced 397309, 397310 & 397311 incorporating review reports referenced 532092, 532094 & 532096 to the test methods detailed above demonstrate that the product, as tested, complies with requirements R22 (detailed in Table 5 of EN 45545-2: 2013+A1:2015) for a HL1, HL2 and HL3 Hazard Level Classification.

We consider the results of the tests confirmed in Additional reports referenced 397309, 397310 & 397311 incorporating review reports referenced 532092, 532094 & 532096 to the test methods detailed above demonstrate that the product, as tested, complies with requirements R23 (detailed in Table 5 of EN 45545-2: 2013+A1:2015) for a HL1, HL2 and HL3 Hazard Level Classification.

### Validity of opinion

This opinion is based on the requirements of EN 45545-2:2013+A1:2015 at the date of this report. If EN 45545-2+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

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Revised By:	Approved By:
Reason for Revision:	

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