

Customer details: Amtico International  
Factory Nos 1 & 2  
Kingfield Road  
Coventry  
Warwickshire  
CV6 5AA

SATRA reference: FLO0251464 /1644/4

Your reference:

Date of report: 25 November 2016

Samples received: 04 November 2016

For the attention of: John Baggaley

Date(s) work carried out: 04 November 2016 –  
24 November 2016

## TECHNICAL REPORT

Subject: Testing of one product described by the customer as 'Cirro' to BS EN 13501-1:2007+A1:2009. Fire classification of construction products and building elements. Classification using test data from reaction to fire tests.

### Conditions of Issue:

This report may be forwarded to other parties provided that it is not changed in any way. It must not be published, for example by including it in advertisements, without the prior, written permission of SATRA.

Results given in this report refer only to the samples submitted for analysis and tested by SATRA. Comments are for guidance only.

Tests marked  $\neq$  fall outside the UKAS Accreditation Schedule for SATRA. All interpretations of results of such tests and the comments based upon them are outside the scope of UKAS accreditation and are based on current SATRA knowledge.

**A satisfactory test report in no way implies that the product tested is approved by SATRA and no warranty is given as to the performance of the product tested. SATRA shall not be liable for any subsequent loss or damage incurred by the client as a result of information supplied in the report.**

Please note uncertainty of measurement has not been applied to the results in this report. SATRA uncertainty of measurement values are available on request.

Report signed by: M. de Wet  
Position: Technologist  
Department: Furniture and Floor Coverings



**TESTING OF ONE PRODUCT DESCRIBED BY THE CUSTOMER AS 'CIRRO' TO BS EN 13501-1:2007+A1:2009. FIRE CLASSIFICATION OF CONSTRUCTION PRODUCTS AND BUILDING ELEMENTS. CLASSIFICATION USING TEST DATA FROM REACTION TO FIRE TESTS.**

## 1. Introduction

This classification report defines the classification assigned to reference 'Cirro', in accordance with the procedures given in BS EN 13501-1:2007+A1:2009. Testing has been conducted and completed by SATRA Technology Centre Ltd at the request of Amtico International – the Sponsor. All SATRA Reports are held in the relevant file associated with this report and this classification report is issued under the SATRA agreement.

## 2. Details of Classified Products

### 2.1 General

With regards to the property assessed, the product 'Cirro' is defined as being suitable for floor covering applications.

## Description of Test Specimens

The description of the specimen given below has been prepared from information provided by the sponsor of the test. All values quoted are nominal, unless tolerances are given.

General description of flooring system		Resilient Floor	
Product reference of flooring system		Amtico Cirro	
Colour reference		Oiled Pine DR5W7760	
Name of Manufacturer		Amtico International	
Overall weight per unit area		3126 g/m <sup>2</sup>	
Overall Thickness		2.5mm	
Product Configuration			
Floor covering	Layer 1 (Wear Layer)	Product Reference	In-house Manufacture
		Generic Type	Wear Layer
		Name of Manufacturer	Amtico International
		% Composition	(Note 2)
		Weight per unit area	570 g/m <sup>2</sup>
		Thickness	0.55mm
		Trade name of flame retardant	None
		Generic form of flame retardant	Not Applicable
	Amount of flame retardant	Not Applicable	
	Layer 2 (Printed film)	Product Reference	Various Design Codes
		Generic Type	(Note 2)
		Name of Manufacturer	(Note 2)
		% Composition	(Note 2)
		Weight per unit area	98 g/m <sup>2</sup>
		Thickness	0.075mm g/m <sup>2</sup>
		Flame Retardant details	None
		Generic form of flame retardant	Not Applicable
	Amount of flame retardant	Not Applicable	
	Layer 3	Product Reference	In-house Manufacture
		Generic Type	Print Face Ply
		Name of Manufacturer	Amtico International
		Thickness	0.6mm
		Weight per unit area	853 g/m <sup>2</sup>
		Flame Retardant details	None
		Generic form of flame retardant	Not Applicable
	Amount of flame retardant	Not Applicable	
	Backing Material (Calendared Layer)	Product Reference	In-house Manufacture
		Generic Type	Filled Backing Layer
		Name of Manufacturer	Amtico International
		Thickness	1.13mm
		Weight per unit area	1594 g/m <sup>2</sup>
		Flame Retardant details	(Note 2)
Generic form of flame retardant		(Note 2)	
Amount of flame retardant	(Note 2)		

<b>Floor covering</b>	Brief Description of the manufacturing process	Various layers are produced by calendaring the polymer and additives. The required plies are then thermally laminated together, coated and then cut.
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### Laboratory Supplied Substrate;

Adhesive	Product Reference	N/A
	Generic Type	N/A
	Name of Manufacturer	N/A
	Density (20°C)	N/A
	Colour	N/A
Substrate	Product reference	'Cembrit HD'
	Generic type	Fibre cement board
	Name of supplier	Clarkes of Walsham Ltd
	Thickness	8 ± 2mm
	Density	1800 ± 200 kg/m <sup>3</sup>

Note 1: The sponsor of the test has failed to provide the information

Note 2: The sponsor has provided the required information but at the request of the sponsor it has been omitted from the final report.

Note 3: The sponsor was unwilling to provide the required information.

## Test reports/extended application reports & test results in support of classification

### 3.1 Test Reports/extended application reports

Testing Laboratory	Name of Sponsor	Test Reports / extended application reports	Test method / extended application rules & date
SATRA Technology Centre Ltd	Amtico International	FLO0251464 /1644/2	BS EN ISO 9239-1:2010
SATRA Technology Centre Ltd	Amtico International	FLO0251464 /1644/3	BS EN ISO 11925-2:2010

### 3.2 Test Results

Test method & test number	Parameter	No. tests	Results	
			Continuous parameter – mean	Compliance with Cfl-s1 parameters
EN ISO 9239-1	Critical flux (kW/m <sup>2</sup> ) or HF-30 (kW/m <sup>2</sup> )	3	5.42 5.42 4.51 Mean = 5.12	<b>Compliant</b>
	Smoke (%.min)		325.75 333.21 316.94 Mean = 325.30	<b>Compliant</b>
EN ISO 11925-2 (15s exposure - surface)	F <sub>s</sub> (mm)	6	45	<b>Compliant</b>
	Flaming Droplets / particles		None	<b>Compliant</b>

## 4. Classification and field of application

### 4.1 Reference of application

This classification has been carried out in accordance with clause 11 of BS EN 13501-1: 2007+A1:2009.

### 4.2 Classification

The product 'Cirro', in relation to its reaction to fire behaviour is classified:

**C<sub>fl</sub>**

The additional classification in relation to smoke production is:

**s1**

The format of the reaction to fire classification for flooring is:

Fire Behaviour	Smoke Production
<b>C<sub>fl</sub></b>	<b>s 1</b>

i.e **C<sub>fl</sub> – s1**

**Reaction to Fire classification: C<sub>fl</sub> – s1**

## 4.3 Field of application

This classification is valid for the following end use applications:

- i) Flooring applications, used over and above any substrate with a density equal to or greater than  $1800 \text{ Kg/m}^3$ , having a minimum thickness of 6 mm and a fire performance of A2 or better.
- ii) Installed with or without adhesive

This classification is also valid for the following product parameters:

Products:	'Cirro'
Product thickness:	2.5 mm
Product weight per unit area:	$3.126 \text{ Kg/m}^2$
Colour:	Any variation allowed
Composition:	No variation from the described product

## TERMS AND CONDITIONS OF BUSINESS

1. **GENERAL**  
Work done or services undertaken are subject to the terms and conditions detailed below and all other conditions, warranties and representations, expressed or implied are hereby excluded.
2. **PRICES**  
Prices are based on current material and production costs, exchange rates, duty and freight and are subject to change without notice.
3. **DELIVERY ESTIMATES**  
Delivery estimates are made in good faith and date from receipt of a written order and full information to enable us to proceed. While SATRA or its subsidiaries (hereafter referred to as "SATRA") make every effort to fulfil them, such estimates are subject to unforeseen events and if not maintained, cannot give rise to any claim. Offers "ex stock" are subject to prior sale.
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Claims for errors, shortages etc should be notified within 10 days of date of receipt. In the event of goods damaged in transit, packing materials should be retained for examination; otherwise no liability can be accepted.
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Payment terms are net 21 days from date of invoice. Failure to comply with the terms of payment may result in delayed delivery of goods and services and a review of the Customer's credit account. Should the customer become subject to an administration order, or becomes bankrupt or goes into liquidation, SATRA has a right to cancel any contract and discontinue any work. SATRA reserves the right to adjust US Dollar and Euro sales price where customer exceeds credit terms and where the exchange rate has moved more than 10% since invoicing.
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All goods manufactured by SATRA are guaranteed both as regards material and workmanship. Any part returned carriage paid, within twelve months from date of supply and found defective, will be repaired or replaced at SATRA's option free of charge. SATRA admits no liability for loss, damage or delay consequent on any defect in any goods supplied by SATRA.
9. **TEST REPORTS**  
Results given in test reports refer only to samples submitted for analysis and tested by SATRA. A satisfactory test report in no way implies that the product tested is approved by SATRA and no warranty is given as to the performance of the product tested. SATRA shall not be liable for any subsequent loss or damage incurred by the Customer as a result of information supplied in a test report.
10. **TEST SAMPLES**  
Unless otherwise agreed in advance, test samples will be disposed of 6 weeks after the date of the final report. If required, samples can be returned at the Customer's expense.
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Unless specifically excluded in the terms of an individual contract between SATRA and its Customer, the following shall apply to all reports, advice, drawings, photographs, specifications or data:
  - i. The above shall not be disclosed to third parties or used in litigation without the consent of SATRA.
  - ii. Where SATRA has given consent to disclosure, the Customer shall draw the attention of the third party to these terms of business and the basis on which SATRA undertakes test, reporting and advising. The Customer shall indemnify SATRA for any failure to do so.
  - iii. The above items are submitted to the Customer as confidential documents. Confidentiality shall continue to apply after completion of the business, but shall cease to apply to information or knowledge which may come into the public domain.
13. **CONSTRUCTION AND ARBITRATION**  
The laws of England shall govern all contracts and the parties submit to exclusive jurisdiction of the courts of England, unless otherwise agreed.

Issue Date: 1st October 2009