

CERTIFICATE OF COMPLIANCE



21549-420

Certificate Number

04/04/2012 - 04/26/2015

Certificate Period

Certified

Status

UL 2818 -2013 Gold Standard for Chemical Emissions for Building Materials, Finishes and Furnishings

Product tested in accordance with UL 2821 test method to show compliance to emission limits on UL 2818, Section 7.1 and 7.2.

Building products and interior finishes are determined compliant in accordance with California Department of Public Health (CDPH) Standard Method V.1.1-2010 using the applicable exposure scenario(s).



Environment

GREENGUARD Gold Certification Criteria for Building Products and Interior Finishes

Criteria	CAS Number	Maximum Allowable Predicted Concentration	Units
TVOC ^(A)	-	0.22	mg/m ³
Formaldehyde	50-00-0	9 (7.3 ppb)	µg/m ³
Total Aldehydes ^(B)	-	0.043	ppm
4-Phenylcyclohexene	4994-16-5	6.5	µg/m ³
Particle Matter less than 10 µm ^(C)	-	20	µg/m ³
1-Methyl-2-pyrrolidinone ^(D)	872-50-4	160	µg/m ³
Individual VOCs ^(E)	-	1/2 CREL or 1/100th TLV	-

- ^(A) Defined to be the total response of measured VOCs falling within the C₆ – C₁₆ range, with responses calibrated to a toluene surrogate.
- ^(B) The sum of all measured normal aldehydes from formaldehyde through nonanal, plus benzaldehyde, individually calibrated to a compound specific standard. Heptanal through nonanal are measured via TD/GC/MS analysis and the remaining aldehydes are measured using HPLC/UV analysis.
- ^(C) Particle emission requirement only applicable to HVAC Duct Products with exposed surface area in air streams (a forced air test with specific test method) and for wood finishing (sanding) systems.
- ^(D) Based on the CA Prop 65 Maximum Allowable Dose Level for inhalation of 3,200 µg/day and an inhalation rate of 20 m³/day
- ^(E) Allowable levels for chemicals not listed are derived from the lower of 1/2 the California Office of Environmental Health Hazard Assessment (OEHHA) Chronic Reference Exposure Level (CREL) as required per the CDPH/EHLB/Standard Method v1.1 and BIFMA level credit 7.6.2 and 1/100th of the Threshold Limit Value (TLV) industrial work place standard (Reference: American Conference of Government Industrial Hygienists, 6500 Glenway, Building D-7, and Cincinnati, OH 45211-4438).



Environment

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Testing. Advising. Assuring.

Title:

CLASSIFICATION OF
REACTION TO FIRE
PERFORMANCE
IN ACCORDANCE WITH
EN 13501-1:2007+A1: 2009.

Notified Body No:

0833

Product Name:

"Avonite Surfaces
Foundations"

Report No:

311327

Issue No:

1

Prepared for:

Aristech Acrylics LLC
7350 Empire Drive
Florence
KY 41042
United States of America.

Date:

13th September 2011



1. Introduction

This classification report defines the classification assigned to "Avonite Surfaces Foundations", an acrylic solid surface sheet, in line with the procedures given in EN 13501-1:2007+A1: 2009.

2. Details of classified product

2.1 General

The product, "Avonite Surfaces Foundations", an acrylic solid surface sheet, is defined as being suitable for construction applications, excluding flooring and linear pipe thermal insulation.

2.2 Product description

The product, "Avonite Surfaces Foundations", an acrylic solid surface sheet, is fully described below and in the test reports provided in support of classification listed in Clause 3.1.

General description	Acrylic solid surface sheet
Product reference	"Avonite Surfaces Foundations"
Composition details	Mineral filled acrylic sheet
Name of manufacturer	Aristech Acrylics LLC
Thickness	12.7mm (0.50 inch) (stated by sponsor) 12.70mm (determined by Exova Warringtonfire)
Density	1.73g/m ³ (stated by sponsor) 1.76g/m ³ (determined by Exova Warringtonfire)
Colour	"8016 White"
Trade name of flame retardant	"Onyx Elite"
Generic type of flame retardant	Aluminium Trihydrate (ATH)
Amount of flame retardant	60%
Brief description of manufacturing process	The mix of acrylic monomers and ATH is polymerized by continuous casting process.
Mounting and fixing details	The product was backed by a calcium silicate based substrate having a thickness of 12mm and a density of 870kg/m ³

3. Test reports & test results in support of classification

3.1 Test reports

Name of Laboratory	Name of sponsor	Test reports/extended application report Nos.	Test method / extended application rules & date
Exova warringtonfire	Aristech Acrylics LLC	WF 309956	EN ISO 11925-2
Exova warringtonfire	Aristech Acrylics LLC	WF 309957	EN 13823

3.2 Test results

Test method & test number	Parameter	No. tests	Results	
			Continuous parameter - mean (m)	Compliance parameters
EN ISO 11925-2 (30s exposure - surface)	F _s	6	Nil	Compliant
	Flaming droplets/ particles		None	Compliant
EN ISO 11925-2 (30s exposure - edge)	F _s	6	Nil	Compliant
	Flaming droplets/ particles		None	Compliant
EN 13823	FIGRA _{0.2MJ}	3	48.64	Compliant
	FIGRA _{0.4MJ}		48.64	Compliant
	THR _{600s}		6.11	Compliant
	LFS		None	Compliant
	SMOGRA		0.70	Compliant
	TSP _{600s}		6.92	Compliant

4. Classification and field of application

4.1 Reference of classification

This classification has been carried out in accordance with clause 8 of EN 13501-1:2007+A1:2009.

4.2 Classification

The product, "Avonite Surfaces Foundations", an acrylic solid surface sheet, in relation to its reaction to fire behaviour is classified:

B

The additional classification in relation to smoke production is:

s1

The additional classification in relation to flaming droplets / particles is:

d0

The format of the reaction to fire classification for construction applications, excluding flooring and linear pipe thermal insulation is:

Fire Behaviour		Smoke Production				Flaming Droplets	
B	-	s	1	,	d	0	

i.e. B – s1, d0

Reaction to fire classification: B – s1, d0

4.3 Field of application

This classification is valid for the following end use applications:

- i) Construction applications used over any substrate with a density equal to or greater than 870kg/m³, having a minimum thickness of 12mm and a fire performance of A2, s1, d0 or better (excluding paper faced gypsum plasterboard).

This classification is also valid for the following product parameters:

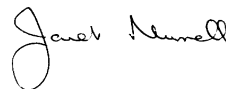
Product thickness	No variation allowed
Product weight per unit area	No variation allowed
Product colour/pattern	No variation allowed
Product composition	No variation allowed
Product construction	No variation allowed

SIGNED



.....
Matthew Dale
Certification Engineer

APPROVED



.....
Janet Murrell
Technical Manager
For and on behalf of:
Exova Warringtonfire

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LEED-NC 2.2
MATERIALS AND RESOURCES CREDITS / Recycled Content

MR Credit 4.1/4.2: Recycled Content

The following colors of the Avonite Surfaces Studio Recycled Collection contain a minimum **40%** recycled content. This recycled content is pre-consumer (post industrial).

Crater K1-6639, Summer C1-2900, White Sands K1-6636, Cottonwood K1-6600, Palm Desert K1-6638, Crushed Lava K1- 6637, Cozumel K3-8575, Kaleidoscope K3-8200

Avonite Foundations Recycled products contain a minimum **16%** recycled content. (pre-consumer)

Colors: Khaki F1-4331, Terrene F1-4340, Honey Crunch F1-4330, Recycled White F1-8699

These products are third party certified by Scientific Certification Services (SCS).

This link will take you to the product listing.

<http://www.scs-certified.com/ecoproducts/products/viewproduct.php?id=70>

LEED-NC 2.2
MATERIALS AND RESOURCES CREDITS / Regional Materials

MR Credit 5.1/5.2: Regional Materials

Avonite Surfaces Studio Collection is 100% processed and manufactured in Belen, NM **87002**.

Avonite Surfaces Foundations is 100% processed and manufactured in Florence, KY **41042**.

LEED-NC 2.2
INDOOR AIR QUALITY CREDITS / Low-Emitting Materials

EQc4.1: Adhesives and Sealants

Avonite Surfaces adhesives do not exceed the current VOC content limits of South Coast Air Quality Management District (SCAQMD) Rule #1168.

Worksheet Listings Example...

List of Adhesives and Sealants	Corresponding VOC Levels	Corresponding VOC Limits	Applicable Standard	Classification of Material
Avonite Solid Surface Adhesive	5.3 g/l	70 g/l	SCAQMD Rule #1168	General Construction Adhesive

Avonite Surfaces Ultra-Bond G have been evaluated for releasable levels VOC's using an EPA-approved Test Method described in the Plastics Parts and Coating MACT standard and are presented in Table 1.0 below. The adhesives are also **Greenguard** certified.

Table 1. Releasable VOC/HAP's for Avonite Surfaces Ultra-Bond G Adhesive System

Property	VOC/HAP Released	Test Method
Volatile Organic Compounds (VOC)	0.5%, by weight (5.3 g/L)	40 CFR Part 63 Appendix A
Hazardous Air Pollutants (HAP)	0.5%, by weight (5.3 g/L)	40 CFR Part 63 Appendix A (100% of the VOC is a HAP)
Solids	99.5%, by weight	40 CFR Part 63 Appendix A
Product Density	8.89 lbs/gal. (1.06 s.g.)	ASTM D1475

