

Statement of Verification

BREG EN EPD No.: 000253

This is to verify that the

Environmental Product Declaration

provided by:

Altro Ltd

is in accordance with the requirements of:

EN 15804:2012+A1:2013

and

BRE Global Scheme Document SD207

This declaration is for:

Altro Clear Coat Floor Products, 2mm

Company Address

Works Road Letchworth Garden City Hertforshire SG6 1NW **United Kingdom**





09 March 2019

Emma Baker

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Operator

Expiry Date

BRE Global Verified

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Environmental Product Declaration

EPD Number: 000253

General Information

EPD Programme Operator	Applicable Product Category Rules						
BRE Global Watford, Herts WD25 9XX United Kingdom	BRE Environmental Profiles 2013 Product Category Rules for Type III environmental product declaration of construction products to EN 15804:2012+A1:2013						
Commissioner of LCA study	LCA consultant/Tool						
Altro Ltd Works Road Letchworth Garden City Hertfordshire SG6 1NW United Kingdom	Fei Zhang / BRE LINA v2.0						
Declared/Functional Unit	Applicability/Coverage						
1m ² of PVC flooring	Manufacturer specific product range						
EPD Type	Background database						
Cradle to Gate	ecoinvent v3.2						
Demonstra	tion of Verification						
CEN standard EN 15	5804 serves as the core PCR ^a						
Independent verification of the declaration and data according to EN ISO 14025:2010 □Internal □ External							
(Where appropriate ^b) Third party verifier: Nigel Jones							
a: Product category rules b: Optional for business-to-business communication; mandatory for business-to-consumer communication (see EN ISO 14025:2010, 9.4)							

Comparability

Environmental product declarations from different programmes may not be comparable if not compliant with EN 15804:2012+A1:2013. Comparability is further dependent on the specific product category rules, system boundaries and allocations, and background data sources. See Clause 5.3 of EN 15804:2012+A1:2013 for further guidance



Information modules covered

Product			Construction		Use stage Related to the building fabric				ed to	End-of-life			Benefits and loads beyond the system boundary			
A1	A2	А3	A4	A5	B1	B2	В3	B4	B5	В6	В7	C1	C2	C3	C4	D
Raw materials supply	Transport	Manufacturing	Transport to site	Construction – Installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction demolition	Transport	Waste processing	Disposal	Reuse, Recovery and/or Recycling potential
$\overline{\mathbf{A}}$	\square	$\overline{\mathbf{A}}$														

Note: Ticks indicate the Information Modules declared.

Manufacturing site

Altro Ltd Works Road Letchworth Garden City Hertfordshire SG6 1NW United Kingdom	
United Kingdom	

Construction Product

Product Description

Altro clear coat products are 2mm sheet PVC based safety flooring to (EN 13845) both with a clear coat. This product range representative EPD covers the products **Altro Suprema** and **Altro Symphonia**.

Technical Information

The below table covers the basic technical properties of the Altro Suprema and Altro Symphonia products. For further properties, please see the products' pages on Altro's website: https://www.altro.co.uk/Altro-Suprema and <a href="https://www.altro.co.uk/Altro-Nutro.co.uk/Altro-Nutro.co.uk/Altro-Nutro.co.uk/Altro-Nutro.co.uk/Altro-Nutro.co.uk/Altro-Nutro.co.uk/Altro-Nutro.co.uk/Altro-Nutro.co.uk/Altro-Nutro.co.uk/Altro-Nutro.co.uk/Altro-Nutro.co.uk/Altro-Nutro.co.uk/Altro-Nutro.co.uk/A

Property	Value, Unit
Thickness (EN 428)	2 mm
Mass per area (EN 430)	2.5 kg/m ²
Slip resistance (Altro Suprema product only) (TRRL) (EN 13845) (EN 13893) (DIN 51130)	≥36*, ≥40* ESf DS R10
Fire performance (EN 13501-1, EN ISO 9239-1, EN ISO 11925-2) CAN/ULC ASTM E648 ASTM E662	Class Bfl-s1, ≥8kW/m², pass S102.2 (Tested) Class 1 <450



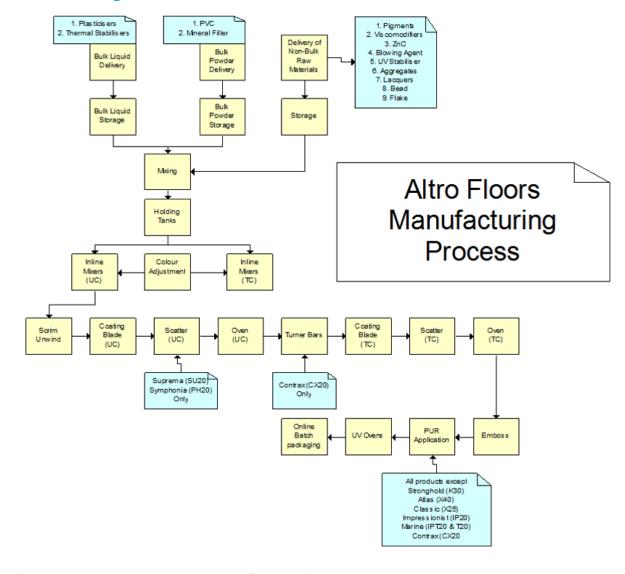
Main Product Contents

Material/Chemical Input	Mass (%)
Plastisol	90 - 91
Scatter	6 - 7
Scrim	2
Lacquer	1

Manufacturing Process

Bulk liquids, powders, performance additives and some aggregates are mixed together into a plastisol and placed in a holding tank. The plastisol is then pigmented and passed into inline mixers. The plastisol is then coated onto a scrim and aggregates are scattered onto the surface to aid slip resistance and durability. The product is then cured in an oven and PUR added for enhanced cleanability. The product is then cut into rolls and packaged for dispatch.

Process flow diagram





Life Cycle Assessment Calculation Rules

Declared / Functional unit description

1m² of 2mm thick Altro clear coat PVC flooring products. The declared unit represents both Altro Suprema and Altro Symphonia 2mm thick products.

System boundary

This is a cradle-to-gate EPD, reporting all production life cycle stages (modules A1 to A3) in accordance with EN 15804:2012+A1:2013.

Data sources, quality and allocation

The supporting LCA study was carried out using BRE LINA v2.0 using manufacturer specific data provided by Altro for the production period of the 12 months of 2017 at the Letchworth site.

The Letchworth site produces other PVC products in addition to the Altro Suprema and Altro Symphonia products, so allocation was applied to site wide values for packaging, energy, water, non-production waste, and wastewater, on a m² of production basis. Production waste was allocated on a percentage mass of production basis. No allocation of raw material inputs was required as total raw material usage for all Altro Suprema and Altro Symphonia products made over the production period was used. The weighted average of the results of the two individually modelled products within the product range have been used on this EPD to represent the Altro clear coat PVC product range of 2mm thickness.

Secondary data has been drawn from the BRE LINA database v2.0.31 and the background LCI datasets are based on ecoinvent v3.2.

Cut-off criteria

No inputs or outputs have been excluded. All raw materials and packaging inputs, plus their transport, process and general energy and water use, production and non-production waste, have been included, except for direct emissions to air, water and soil, which are not measured.

LCA Results

The results per declared unit (1m²) of the weighted average results of the Altro Suprema and Altro Symphonia products for the declared modules can be found in the following tables and can be considered to represent the 2mm thick Altro clear coat product range.

(MND = module not declared; MNR = module not relevant; INA = indicator not assessed; AGG = aggregated)

Parameters describing environmental impacts										
			GWP	ODP	AP	EP	POCP	ADPE	ADPF	
	kg CO ₂ equiv.	kg CFC 11 equiv.	kg SO ₂ equiv.	kg (PO ₄) ³⁻ equiv.	kg C₂H₄ equiv.	kg Sb equiv.	MJ, net calorific value.			
	Raw material supply	A1	AGG	AGG	AGG	AGG	AGG	AGG	AGG	
Droduct stogs	Transport	A2	AGG	AGG	AGG	AGG	AGG	AGG	AGG	
Product stage	Manufacturing	А3	AGG	AGG	AGG	AGG	AGG	AGG	AGG	
	Total (of product stage)	A1-3	5.43	4.24e-7	0.0274	9.16e-3	6.10e-3	3.76e-5	124	

GWP = Global Warming Potential;

ODP = Ozone Depletion Potential;

AP = Acidification Potential for Soil and Water;

EP = Eutrophication Potential;

POCP = Formation potential of tropospheric Ozone;

ADPE = Abiotic Depletion Potential – Elements;

ADPF = Abiotic Depletion Potential – Fossil Fuels.



LCA Results (continued)

Parameters describing resource use, primary energy										
			PERE	PERM	PERT	PENRE	PENRM	PENRT		
			MJ	MJ	MJ	MJ	MJ	MJ		
Product stage	Raw material supply	A1	AGG	AGG	AGG	AGG	AGG	AGG		
	Transport	A2	AGG	AGG	AGG	AGG	AGG	AGG		
	Manufacturing	АЗ	AGG	AGG	AGG	AGG	AGG	AGG		
	Total (of product stage)	A1-3	19.7	1.99e-4	19.7	143	0	143		

PERE = Use of renewable primary energy excluding renewable primary energy used as raw materials;

PERM = Use of renewable primary energy resources used as raw materials;

PERT = Total use of renewable primary energy resources;

PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials:

PENRT = Total use of non-renewable primary energy resource.

Parameters describing resource use, secondary materials and fuels, use of water									
			SM	RSF	NRSF	FW			
			kg	MJ net calorific value	MJ net calorific value	m ³			
Product stage	Raw material supply	A1	AGG	AGG	AGG	AGG			
	Transport	A2	AGG	AGG	AGG	AGG			
	Manufacturing	А3	AGG	AGG	AGG	AGG			
	Total (of product stage)	A1-3	0	0	0	0.457			

SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Net use of fresh water.

Other environmental information describing waste categories									
			HWD	NHWD	RWD				
			kg	kg	kg				
	Raw material supply	A1	AGG	AGG	AGG				
Draduat ataga	Transport	A2	AGG	AGG	AGG				
Product stage	Manufacturing	А3	AGG	AGG	AGG				
	Total (of product stage)	A1-3	0.256	0.209	1.82e-4				

HWD = Hazardous waste disposed; NHWD = Non-hazardous waste disposed; RWD = Radioactive waste disposed.



LCA Results (continued)

Other environmental information describing output flows – at end of life										
			CRU	MFR	MER	EE				
			kg	kg	kg	MJ per energy carrier				
Product stage	Raw material supply	A1	AGG	AGG	AGG	AGG				
	Transport	A2	AGG	AGG	AGG	AGG				
	Manufacturing	А3	AGG	AGG	AGG	AGG				
	Total (of product stage)	A1-3	0	0.133	0.0945	0				

CRU = Components for reuse; MFR = Materials for recycling; MER = Materials for energy recovery; EE = Exported energy.



References

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ASTM E648, Test for Surface Burning Characteristics of Building Materials.