

## Statement of Verification

BREG EN EPD No.: 000261

Issue 06

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 Acoustic Floor Products, 3.9mm**

### Company Address

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Operator

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## Environmental Product Declaration

EPD Number: 000261

### 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	BRE LINA v2.0
Declared/Functional Unit	Applicability/Coverage
1m <sup>2</sup> of PVC flooring	Manufacturer specific product
EPD Type	Background database
Cradle to Gate	ecoinvent v3.2
Demonstration of Verification	
CEN standard EN 15804 serves as the core PCR <sup>a</sup>	
Independent verification of the declaration and data according to EN ISO 14025:2010 <input type="checkbox"/> Internal <input checked="" type="checkbox"/> External	
(Where appropriate <sup>b</sup> ) 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							End-of-life				Benefits and loads beyond the system boundary
A1	A2	A3	A4	A5	Related to the building fabric				Related to the building			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
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Note: Ticks indicate the Information Modules declared.

## Manufacturing site

Altro  
Ebertalle 209  
06846 Dessau  
Germany

## Construction Product

### Product Description

**Altro Debolon R450.1 Silence**, also sold as **Altro Serenade** and **Altro Wood Acoustic**, is 3.9 mm thick PVC based sheet flooring, that does not only reduce noise, but provides a high level of comfort underfoot, making it a great solution for well-used spaces.

### Technical Information

The below table covers the basic technical properties of the Altro Debolon R450.1 Silence, Altro Serenade and Altro Wood Acoustic products. For further properties, please see the products' pages on Altro's website: <https://www.altrodebolon.de/Altro-Debolon-R-450-1>, <https://www.altro.co.uk/Altro-Serenade>, <https://www.altrofloors.com/AltroWoodAcoustic>.

Property	Value, Unit
Thickness (EN 428)	3.9 mm
Mass per area (EN ISO 23997)	2.9 kg/m <sup>2</sup>
Slip resistance (DIN 51130)	R10
Fire performance (EN 13501-1, EN ISO 9239-1, EN ISO 11925-2)	Class Cfl-s1, ≥4.5 kW/m <sup>2</sup> ,pass
Sound insulation (ISO 140-8)	19 dB

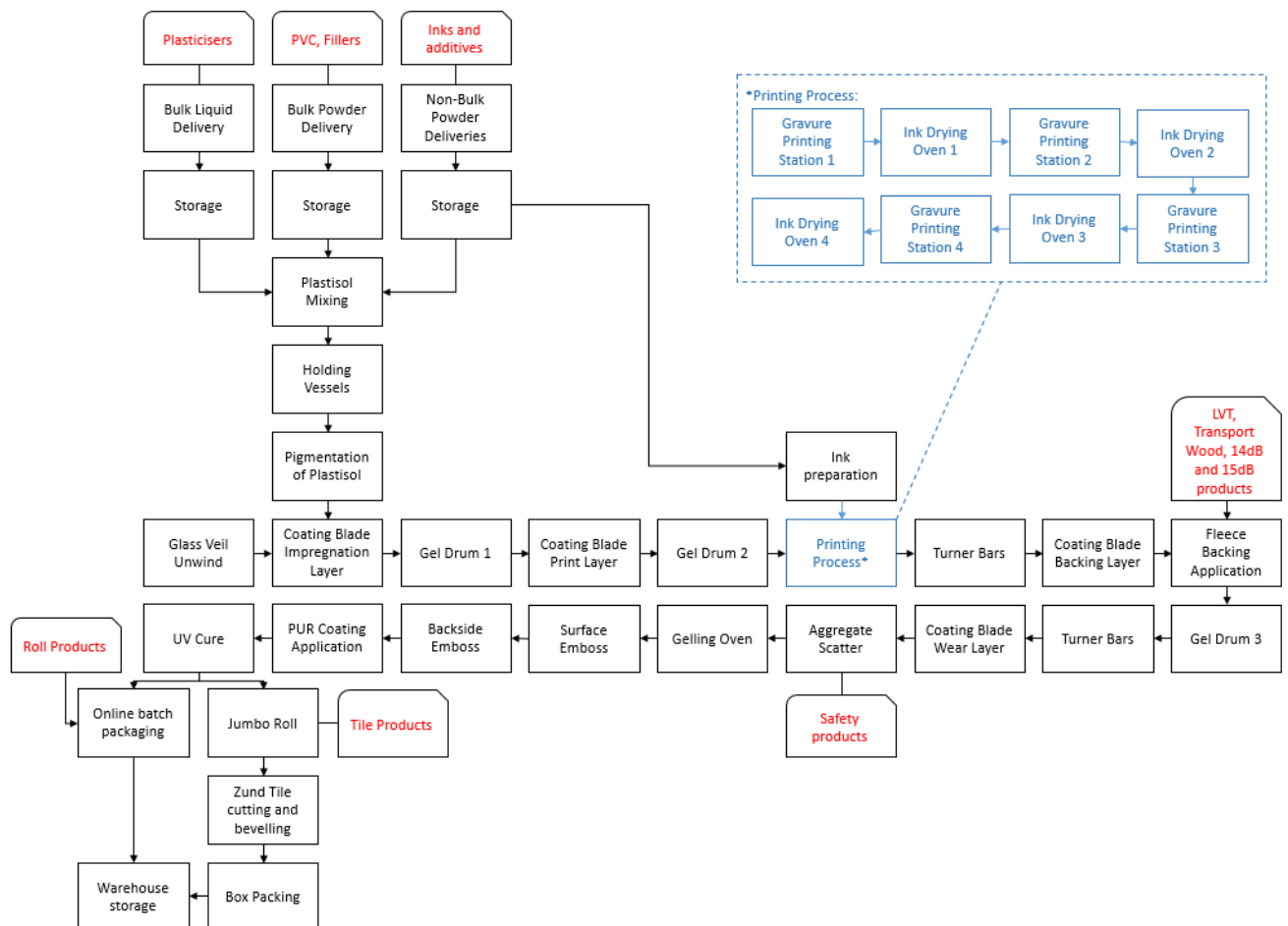
## Main Product Contents

Material/Chemical Input	Mass (%)
Plastisol	97
Scrim	2
Lacquer	<1
Print ink	<1

## Manufacturing Process

Bulk liquids, powders, aggregates and performance additives are mixed together into a plastisol and placed in a holding tank. The plastisol is then pigmented and passed into inline mixers. The pigmented plastisol is spread coated onto a scrim and gravure printed to give a range of designs. PUR is added for enhanced cleanability and the product is then cured in an oven. The final product is then cut into rolls and packaged for dispatch.

## Process flow diagram



## Life Cycle Assessment Calculation Rules

### Declared / Functional unit description

The declared unit is 1m<sup>2</sup> of 3.9 mm thick Altro Debolon R450.1 Silence, Altro Serenade, Altro Wood Acoustic flooring products of 2.9 kg/m<sup>2</sup>.

### 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 Dessau, Germany site.

The Dessau site produces other PVC products in addition to these Altro Debolon R450.1 Silence, Altro Serenade and Altro Wood Acoustic products, so allocation was applied to site wide values for packaging, energy, water, non-production waste, and wastewater, on a m<sup>2</sup> 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 Debolon R450.1 Silence, Altro Serenade and Altro Wood Acoustic products made over the production period was used.

Secondary data has been drawn from the BRE LINA database v2.0.42 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 (1m<sup>2</sup>) of the Altro Debolon R450.1 Silence, Altro Serenade and Altro Wood Acoustic flooring products for the declared modules can be found in the following tables.

(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 <sub>2</sub> equiv.	kg CFC 11 equiv.	kg SO <sub>2</sub> equiv.	kg (PO <sub>4</sub> ) <sup>3-</sup> equiv.	kg C <sub>2</sub> H <sub>4</sub> equiv.	kg Sb equiv.	MJ, net calorific value.
Product stage	Raw material supply	A1	AGG	AGG	AGG	AGG	AGG	AGG	AGG
	Transport	A2	AGG	AGG	AGG	AGG	AGG	AGG	AGG
	Manufacturing	A3	AGG	AGG	AGG	AGG	AGG	AGG	AGG
	Total (of product stage)	A1-3	7.53	6.93e-7	0.0362	1.59e-2	7.98e-3	5.45e-5	175

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	A3	AGG	AGG	AGG	AGG	AGG	AGG
	Total (of product stage)	A1-3	29.0	2.20e-4	29.0	197	0	197

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 <sup>3</sup>
Product stage	Raw material supply	A1	AGG	AGG	AGG	AGG
	Transport	A2	AGG	AGG	AGG	AGG
	Manufacturing	A3	AGG	AGG	AGG	AGG
	Total (of product stage)	A1-3	0	0	0	0.605

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
Product stage	Raw material supply	A1	AGG	AGG	AGG
	Transport	A2	AGG	AGG	AGG
	Manufacturing	A3	AGG	AGG	AGG
	Total (of product stage)	A1-3	0.275	0.440	1.88e-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	A3	AGG	AGG	AGG	AGG
	Total (of product stage)	A1-3	0.312	0.0353	6.67e-3	0

CRU = Components for reuse;  
MFR = Materials for recycling;

MER = Materials for energy recovery;  
EE = Exported energy.

## References

BSI. Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction products. BS EN 15804:2012+A1:2013. London, BSI, 2013.

BSI. Environmental labels and declarations – Type III Environmental declarations – Principles and procedures. BS EN ISO 14025:2010 (identical to ISO 14025:2006). London, BSI, 2010.

BSI. Environmental management – Life cycle assessment – Principles and framework. BS EN ISO 14040:2006. London, BSI, 2006.

BSI. Environmental management – Life cycle assessment – Requirements and guidelines. BS EN ISO 14044:2006. London, BSI, 2006.

BSI. Resilient floor coverings. Determination of overall thickness. BS EN 428:1993. London, BSI, 1993.

BSI. Resilient floor coverings. Determination of mass per unit area. BS EN 430:1994. London, BSI, 1993.

BSI. Pendulum testers. Specification / Method of operation / Method of calibration (with TRRL rubber slider) BS EN 7976 parts 1 to 3: 2002+A1:2013. London, BSI, 2002.