Statement of Verification

BREG EN EPD No.: 000393 Issue 01

This is to verify that the

Environmental Product Declaration

provided by:

Altro Ltd

BRE Global Verified EPD

is in accordance with the requirements of:

EN 15804:2012+A1:2013

and

BRE Global Scheme Document SD207

This declaration is for:

Altro Wood adhesive-free / Altro Cantata, 2.4mm

Company Address

Works Road
Letchworth Garden City
Hertfordshire
SG6 1NW
United Kingdom

altro

Signed for BRE Global Ltd	Emma Baker Operator	23 November 2021 Date of this Issue
23 November 2021 Date of First Issue		22 November 2026 Expiry Date

BRE Global Verified EPD

BRE Global Ltd., Garston, Watford WD25 9XX.
T: +44 (0)333 321 8811 F: +44 (0)1923 664603 E: Enquiries@breglobal.com

ECO PLATFORM EPD EN 15804 VERIFIED

Environmental Product Declaration

EPD Number: 000393

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	LCA consultant: Roger Connick Tool: BRE LINA v2.0
Declared Unit	**Applicability/Coverage**
1m^2 of 2.4 mm thick Altro Wood adhesive-free / Altro Cantata (2.44 kg/m^2)	Product specific
EPD Type	**Background database**
Cradle to Gate	ecoinvent v3.2

Demonstration of Verification
CEN standard EN 15804 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							End-of-life					Benefits and loads beyond the system boundary
					Related to the building fabric					Related to the building							
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	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
☑	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		☐

Note: Ticks indicate the Information Modules declared.

Manufacturing site(s)

Altro
Ebertalle 209
06846 Dessau
Germany

Construction Product

Product Description

Altro Cantata and Altro Wood adhesive-free flooring products are designed for busy public spaces and can be cleaned quickly and thoroughly. Altro's adhesive-free range of products do not require a damp proof membrane (DPM) and provide 14dB sound reduction. The adhesive-free installation method means that these products can be welded and walked on the same day, and there are no associated adhesive odours. At end of life the products can be removed easily, allowing them to be reused or recycled. Altro's range of adhesive-free products are intended for busy public spaces where disruption needs to be minimal.

Technical Information

Property	Value, Unit
Fire behaviour	≥ 4.5kW/m^2 (EN ISO 9239-1), Pass (EN ISO 11925-2), Cfl-s1 (EN 13501-1)
Slip resistance	≥ 0.30 / DS (EN 13893), R10 (DIN 51130 / BGR181)
Sound insulation	ca. 14 dB (EN ISO 10140-3)
Flooring type	Heterogenous floor (EN 651), Safety flooring (EN 651)
Thickness	2.4 mm (EN ISO 24346)
Wear layer thickness	0.7 mm (EN ISO 24340)
Roll dimensions	2 m x 20 m = 40 m^2 (EN ISO 24341)
Weight	2.4 kg/m^2 (EN ISO 23997)
Residual Indentation	≤ 0.20 mm (EN ISO 24343-1)
Classification for use	34, 42 (EN ISO 10874)
Flexibility	Pass (EN ISO 24344)

Property	Value, Unit
Dimensional Stability	≤ 0.4 % (EN ISO 23999)
Light fastness	≥ 6 (EN ISO 105-BO2)
Castor chair abrasion	Yes, type W (EN 425)
Wear resistance	Group T (EN 660-2)
Chemical resistance	Good (EN ISO 26987)
Under floor heating	Suitable (EN 12524)
Electrical behaviours	≤ 2 kV Antistatic (EN 1815)
VOC emissions	Approved (CDPH 1350 / Floorscore), Approved (Indoor Air Comfort Gold)

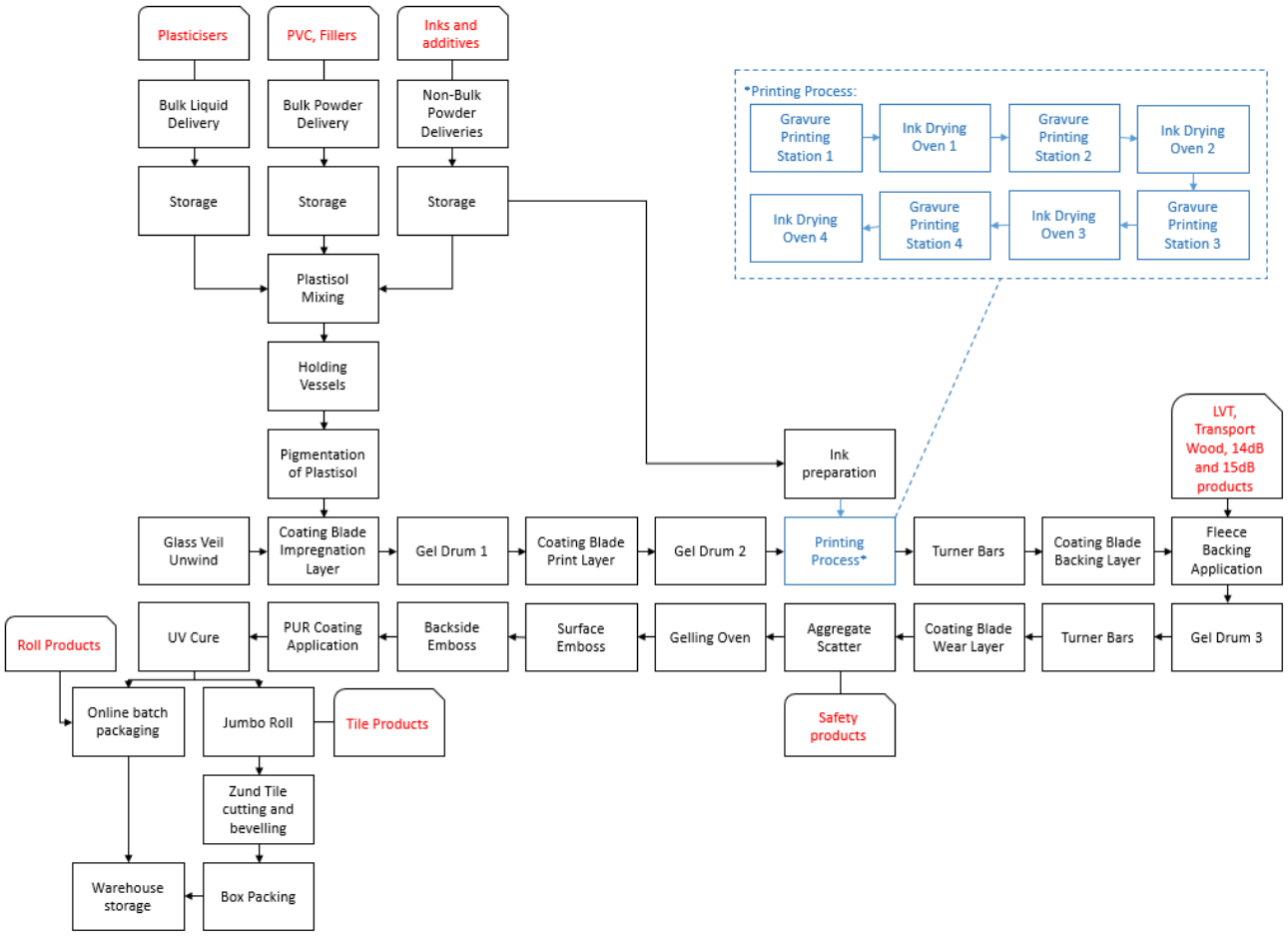
Main Product Contents

Material/Chemical Input	%
PVC	48.1
Plasticiser	23.2
Filler	19.7
Others	8.9

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 unit description

1m^2 of 2.4 mm thick Altro Wood adhesive-free / Altro Cantata (2.44 kg/m^2).

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

Specific primary data derived from the Altro Wood adhesive-free / Altro Cantata production process in Dessau, Germany have been modelled using BRE LINA v2.0 and the BRE LINA database v2.0.85. In accordance with the requirements of EN15804, the most current available data has been used. The manufacturer-specific data from Altro covers a period of one year (01/01/20 – 31/12/20). Secondary data has been obtained for all other upstream and downstream processes that are beyond the control of the manufacturer (i.e. raw material production) from the ecoinvent 3.2 database. All ecoinvent datasets are complete within the context used, and conform to the system boundary and the criteria for the exclusion of inputs and outputs, according to the requirements specified in EN15804. Calculations were performed to enable allocation of processes to the Altro Wood adhesive-free / Altro Cantata products. Allocation procedures were by physical allocation and are according to EN15804 and are based on ISO14044 guidance.

Quality Level	Geographical representativeness	Technical representativeness	Time representativeness
Very Good	Data from area under study.	Data from processes and products under study. Same state of technology applied as defined in goal and scope (i.e. identical technology).	n/a
Fair	n/a	n/a	There is approximately 5-6 years between the ecoinvent LCI reference year, and the time period for which the LCA was undertaken.

Specific European and German datasets have been selected from the ecoinvent LCI for this LCA. The quality level of geographical and technical representativeness is therefore Very Good. The quality level of time representativeness is Fair as the background LCI datasets are based on ecoinvent v3.2 which was compiled in 2015. Therefore, there is approximately 5-6 years between the ecoinvent LCI reference year and the time period for which the LCA was undertaken.

Cut-off criteria

All raw materials, packaging materials, transportation, process energy, general energy, water use, production and non-production waste have been included where appropriate. Only direct emissions to water and soil, which are not measured, have been excluded.

LCA Results

(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 C_2H_4 equiv.	kg Sb equiv.	MJ, net calorific value.
Product stage	Raw material supply	A1	3.60e+0	2.37E-7	2.14e-2	7.47e-3	5.05e-3	4.48e-5	9.77e+1
	Transport	A2	2.49e-1	4.59e-8	8.35e-4	2.20e-4	1.45e-4	6.56e-7	3.76e+0
	Manufacturing	A3	1.71e+0	1.82e-7	2.90e-3	4.06e-3	4.45e-4	3.27e-6	2.81e+1
	Total (of product stage)	A1-3	5.55e+0	4.64e-7	2.51e-2	1.17e-2	5.64e-3	4.87e-5	1.30e+2

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;

Parameters describing resource use, primary energy

			PERE	PERM	PERT	PENRE	PENRM	PENRT
			MJ	MJ	MJ	MJ	MJ	MJ
Product stage	Raw material supply	A1	1.94e+1	3.30e-4	1.94e+1	AGG	AGG	AGG
	Transport	A2	5.01e-2	1.86e-7	5.01e-2	AGG	AGG	AGG
	Manufacturing	A3	2.23e+0	6.53e-6	2.23e+0	AGG	AGG	AGG
	Total (of product stage)	A1-3	2.17e+1	3.37e-4	2.17e+1	1.20e+2	2.55e+1	1.45e+2

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

LCA Results (continued)

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	0.00e+0	0.00e+0	0.00e+0	4.06e-1
	Transport	A2	0.00e+0	0.00e+0	0.00e+0	8.16e-4
	Manufacturing	A3	0.00e+0	0.00e+0	0.00e+0	1.04e-2
	Total (of product stage)	A1-3	0.00e+0	0.00e+0	0.00e+0	4.17e-1

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	1.43e-1	8.81e-2	2.37e-5
	Transport	A2	1.58e-3	1.75e-1	2.60e-5
	Manufacturing	A3	4.09e-2	4.57e-2	7.91e-5
	Total (of product stage)	A1-3	1.85e-1	3.09e-1	1.29e-4

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

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	0.00e+0	0.00e+0	0.00e+0	0.00e+0
	Transport	A2	0.00e+0	0.00e+0	0.00e+0	0.00e+0
	Manufacturing	A3	6.51e-2	2.84e-2	0.00e+0	0.00e+0
	Total (of product stage)	A1-3	6.51e-2	2.84e-2	0.00e+0	0.00e+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 (exactly 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.

Pre Consultants bv. SimaPro 8 LCA Software 2013. http://www.pre-sustainability.com

ecoinvent Centre. Swiss Centre for life Cycle Inventories. http://www.ecoinvent.org