

Environmental Product Declaration

as per ISO 14025 and EN 15804

Valid to:	21.02.2030
Issue date:	21.02.2025
Registration number:	EPD-Kiwa-EE-000427-EN
Programme operator:	Kiwa-Ecobility Experts
Publisher:	Kiwa-Ecobility Experts
Owner of the declaration:	Verotec GmbH

Sto Group



Leichtbauplatte

Putzträgerplatte & Anti-Schimmelplatte für den vielseitigen Einsatz in Sanierung und Holzbau



1. General information

Verotec GmbH

Programme operator: Kiwa-Ecobility Experts Kiwa GmbH, Ecobility Experts Wattstraße 11-13 13355 Berlin Germany

Registration number:

EPD-Kiwa-EE-000427-EN

This declaration is based on the Product Category Rules:

Kiwa-Ecobility Experts (Kiwa-EE) – General Product Category Rules (2022-02-14) Issue date: 21.02.2025

Valid to: 21.02.2030

VeroBoard[®] AllStar

Owner of the declaration: Verotec GmbH Hanns-Martin-Schleyer-Str. 1 89415 Lauingen Germany

Declared product / declared unit:

1 m^2 of carrier board with a thickness of 12 mm.

Scope:

VeroBoard[®] AllStar is a lightweight carrier board made of expanded glass granulate produced by Verotec in Lauingen, Germany.

Kiwa-Ecobility Experts assumes no liability for manufacturer's information, LCA data and evidence.

Verification:

The European standard EN 15804+A2:2019 serves as the core PCR.

Independent verification of the declaration and data, according to EN ISO 14025:2010.

□internal

⊠external

Raoul Mancke (Head of programme operations, Kiwa-Ecobility Experts)

Kripanshi Gupta (Verification body, Kiwa-Ecobility Experts)

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2. Product

2.1 Product description

VeroBoard[®] AllStar is made of lightweight fillers (expanded glass granulate) and reactive resins with glass fibre mesh reinforcement on both sides. The expanded glass granulate consists of mainly recycled glass. VeroBoard[®] AllStar is made with formulation in the quality (class) A2-s1, d0 in accordance with EN 13501-1. This EPD uses a format variation of 800 x 1200 mm and a thickness of 12 mm to calculate the environmental impact of VeroBoard[®] Allstar per m². The thickness of VeroBoard[®] Allstar can vary between 8 - 20 mm. This format has specifically been chosen, since it covers the biggest market share and is therefore considered the most relevant variation of the product.

Raw material	Weight (%)
Expanded glass granulate	< 85
Filler material	< 20
Reactive polymer resin	5 - 8
Hardener	< 2
Glass fibre mesh	< 5
Additives	~ 1

1. This product does not contain substances listed in the candidate list (17 January 2023) exceeding 0.1 % by mass.

2. This product does not contain other CMR substances in categories 1A or 1B which are not on the candidate list, exceeding 0.1 % by mass.

3. There are no Biocide products added to this construction product or has it been treated with biocide products (this then concerns a treated product as defined by the (EU) Ordinance on Biocide Products No. 528/2012.)

4. This product contains fire retardants in form of aluminium hydroxide.

2.2 Application (Intended Use of the product)

VeroBoard[®] AllStar offers impressive properties for construction projects both indoors and outdoors, and wherever building materials need to handle moisture and require vapor permeability.

Due to the use of recycled glass and hydropower in production, Veroboard[®] Allstar assists the implementation of a circular economy and helps to reduce the negative impact on the environment. Its alkalinity and moisture resistance support moisture balance in rooms and wall structures, thereby improving room quality. It helps prevent mold and regulates the indoor climate in humid environments. It ensures quick heating of rooms, thus helping to save energy.

2.3 Reference Service Life (RSL)

According to the Bewertungssystem Nachhaltiges Bauen (BNB) Sustainable Building assessment system of 24 February 2017, Veroboard[®] Allstar approximately corresponds to Code Nr. 335.915 (BNB) wall coverings with a service life of 40 years. The board structure of recycled glass granulate and binding agent is extremely stable and can therefore be synonymous with the service life of the structure/building element which is equivalent to 50+ years.



2.4 Technical Data

Name	Value	Unit
Gross density TIAP 120 (internal value)	ca. 500	kg/m3
Thermal conductivity DIN 52612	0.12	W/(mK)
Modulus of elasticity EN ISO 178	1800 - 2000	N/mm2
Thermal expansion TIAP 650 (internal value)	0.000011	1/K
Water vapour diffusion-equivalent air layer thickness EN ISO 7783-2	15	μ

Further information regarding the technical properties of Veroboard[®] Allstar can be found on the Technical Data Sheet on <u>www.veroboard.de</u> or <u>www.verotec.de</u>.

The characteristic values stated here are average values or approximate values. Product performance values in relation to its characteristics according to the relevant technical regulations (no CE marking).

2.5 Substances of very high concern

The product does not contain substances of very high concern (SVHC) on the REACH Candidate List published by the European Chemicals Agency in a concentration more than 0.1 % (by unit weight).

2.6 Description production process

VeroBoard[®] AllStar is produced in a plant in Lauingen, Germany. The raw materials are produced by and transported from suppliers located in Europe. The product components are dosed and mixed. The glass fibre mesh is laid out in the press mould and the mixture distributed. After being pressed at an increased temperature, the product is demoulded and cut to size.



2.7 Other Information

For further information regarding this product please visit the webpage under the following link: <u>www.veroboard.de</u>.

3. LCA: Calculation rules

3.1 Declared unit

The declared unit is 1 m^2 of VeroBoard[®] AllStar with a thickness of 12 mm and a RSL of 40 years. The scope of this LCA is cradle to gate with options, modules C1-C4 and module D. Technical life span of the products raw materials is the same as for the whole product.

Reference unit: square meter (m²)

3.2 Conversion factors

Product	Unit	Value
Declared Unit	1	m²
Weight per reference unit	6.2	kg/m²
Conversion factor to 1 kg	0.161	m ²

3.3 Scope of declaration and system boundaries

This is a Cradle to gate with options EPD. The life cycle stages included are as shown below

Descri	Description of the system boundary															
Produc	rt sta	ige	Constr proces	uctio s sta	on age	Use	stage	•				End stage	of	life	Benef loads beyor syster bound	its and nd the n daries
Raw material supply	Transport	Manu- facturing	Transport to constructin site	Installation	Use	Main- tenance	Repair	Replaceme nt	Refur- bishment	Operational energy use	Operational water use	Demolition	Transport	Waste processing	Disposal	Reuse- Recovery- Recycling-
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Х	Х	Х	ND	ND	ND	ND	ND	ND	ND	ND	ND	Х	Х	Х	Х	Х
X=Mo	dule	decla	red NE	D= M	lodu	le no	t decla	ared								

The modules of the EN15804 contain the following:

A1 = Raw material supply Module

- A2 = Transport Module
- A3 = Manufacturing Module
- A4 = Transport Module
- A5 = Construction Installation process Module
- B1 = Use Module
- B2 = Maintenance Module
- B3 = Repair Module
- B4 = Replacement Module
- B5 = Refurbishment Module
- B6 = Operational energy use Module
- B7 = Operational water use Module
- C1 = De-construction / Demolition Module
- C2 = Transport Module
- C3 = Waste Processing Module
- C4 = Disposal Module
- D = Benefits and loads beyond the product system boundaries



3.4 Representativeness

This EPD is representative for VeroBoard[®] AllStar, a product of Verotec GmbH. The data is representative for the European Union. The scenarios included in this life cycle analysis are currently in use and are representative for one of the most likely scenario alternatives.

3.5 Cut-off Criteria

Product Stage (A1-A3)

The production stage consists of the extraction of raw materials, transportation of the raw materials, processing the raw materials into materials and the production of the product. The required energy for production, ancillary materials, packaging materials and production emissions are included. All substantial raw materials and types of energy during production are included. Raw materials added to the product in very small amounts (less than 1%) are not included. These cut-off limits do not apply to hazardous materials or substances.

End of life stage (C1-C4)

All input flows (e.g. energy use for demolition or disassembly, transport to waste processing, etc.) and output flows (e.g. end-of-life waste processing of the product, etc.) are considered in this LCA. The total neglected input flows do therefore not exceed the limit of 5% of energy use and mass. The degree of landfill is assumed to be 100%.

Benefits and Loads beyond the system boundary (Module D)

All benefits and loads beyond the system boundary resulting from reusable products, recyclable materials and/or useful energy carriers leaving the product system are considered in this LCA.

Excluded processes

Following processes has not been taken into account in this life cycle analysis:

- The manufacture of equipment used in production, buildings or any other capital goods;
- The transportation of personnel to the production plant;
- The transportation of personnel within the production plant;
- Research and development activities;
- Transport to construction site
- Construction
- Packaging (negligible)

3.6 Allocation

The amount of electricity and natural gas at the production site for VeroBoard[®] AllStar derives from figures concerning the total amount of electricity being used at the production line and is then recalculated into the amount only used for the production of VeroBoard[®] AllStar. The amount of electricity and natural gas is then shown per declared unit.

Modularity principle has been taken into account. There are no co-products that have to be taken into account.

The producer of VeroBoard[®] Allstar is under regulation from national authorities and follows the polluter pays principle.

3.7 Data collection and reference time period

This EPD project has been performed during the year 2024. Production data is from the year 2023.

3.8 Estimates and assumptions

1% cut off criteria has been applied for formulation and production data when applicable according to ISO 15604+A2.

VeroBoard[®] Allstar is categorized under the European Waste Catalogue (EWC), category 17.09 "Other Construction and Demolition Waste" and is categorized as non-hazardous waste.



- A payload factor of 50 % was used for all truck transports, which in fact corresponds to a full delivery and empty return trip. A data set for a non-specific truck was used.
- An amount of 0.013 kWh/m² has been assumed for deconstruction.

3.9 Data Quality

Datasets from Ecoinvent 3.6 from 2019, as well as third party verified EPDs, have been used for calculation with R<think. Data concerning production has been from the Production Management System used at the production site. The data and scenarios used are representative for the European Union. The figures shown in this report are from January to December 2023. The data from the production site as well as the used scenarios are chosen in accordance with EN 15804.

3.10 Power mix

Data has been collected at production site in Lauingen. The energy used consists of 100% hydropower (market based approach) and covers the foreground processes in Lauingen. The electricity supplier is bound by state regulations in Germany for electricity labelling. The electricity labelling indicates 100 % renewable energy from hydropower. Hydropower is calculated with an environmental impact of 0.042 kg CO2-eq/kWh.

3.11 Comparability

In principle, a comparison or assessment of the environmental impacts of different products is only possible if they have been prepared in accordance with EN 15804. For the evaluation of the comparability, the following aspects have to be considered in particular: PCR used , functional or declared unit, geographical reference, definition of the system boundary, declared modules, data selection (primary or secondary data, background database, data quality), scenarios used for use and disposal phases, and the life cycle inventory (data collection, calculation methods, allocations, validity period). PCRs and general program instructions of different EPDs programs may differ. A comparability needs to be evaluated. For further guidance see EN 15804+A2 (5.3 Comparability of EPD for construction products) and ISO 14025 (6.7.2 Requirements for comparability).



4. LCA: Scenarios and additional technical information

4.1 De-construction/Demolition (C1)

The following information describes the scenario for demolition at end of life.

Description	Amount	Unit
Electricity (DE) – low voltage (max 1kV)	0.013	kWh

4.2 Transport end-of-life (C2)

The following distances and transport conveyance are assumed for transportation during end of life for the different types of waste processing.

Waste scenario	Transport conveyance	Not re- moved (stays in work) [km]	Landfill [km]	Incinera- tion [km]	Recycling [km]	Reuse [km]
Debris - mixed with 100% Iandfill	Lorry (Truck), unspecified (default) mar- ket group for (GLO)	0	100	150	50	0

The transport conveyance(s) used in the scenario(s) for transport during end of life has the following characteristics.

	Value and unit
Vehicle type used for transport	Lorry (Truck), unspecified (default) market
	group for (GLO)
Fuel type and consumption of vehicle	not available
Capacity utilisation (including empty re-	50 % (leaded up and return empty)
turns)	50 % (loaded up and return empty)
Bulk density of transported products	inapplicable
Volume capacity utilisation factor	1

4.3 End of life (C3, C4)

The scenario(s) assumed for end of life of the product are given in the following tables. First the assumed percentages per type of waste processing are displayed, followed by the assumed amounts.

Waste Scenario	Re- gion	Not removed (stays in work)[%]	Land- fill [%]	Incinera- tion [%]	Recy- cling [%]	Re- use [%]
Debris - mixed with 100% landfill	DE	0	100	0	0	0

4.4 BENEFITS AND LOADS BEYOND THE SYSTEM BOUNDARY (D)

The presented Benefits and loads beyond the system boundary in this EPD are based on the following calculated Net output flows in kilograms and Energy recovery displayed in MJ Lower Heating Value.

Waste scenario	Net output flow [kg]	Energy recovery [MJ]
Debris - mixed with 100% landfill	0	0
Total	0	0



5. LCA: Results

For the impact assessment, the characterization factors of the LCIA method EN 15804 +A2 Method v1.0 are used. Long-term emissions (>100 years) are not considered in the impact assessment. The results of the impact assessment are only relative statements that do not make any statements about end-points of the impact categories, exceedance of threshold values, safety margins or risks. The following tables show the results of the indicators of the impact assessment, of the use of resources as well as of waste and other output flows. Disclaimer on ADP-e, ADP-f, WDP, ETP-fw, HTP-c, HTP-nc, SQP: The results of these environmental impact indicators must be used with caution, as the uncertainties in these results are high or as there is limited experience with the indicator.

Disclaimer on IR: This impact category mainly addresses the potential effect of low dose ionizing radiation on human health in the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents and occupational exposures, nor does it consider radioactive waste disposal in underground facilities. Potential ionizing radiation from soil, radon, and some building materials is also not measured by this indicator.



LCA results	LCA results – Indicators describing environmental impacts based on the impact assessment (LCIA) (EN 15804+A2)								
Parameter	Unit	A1	A2	A3	C1	C2	C3	C4	D
Core environmental impact indicators (EN 15804+A2)									
GWP-total	kg CO2 eqv.	4,43E+00	4,04E-01	5,77E-01	8,09E-02	8,37E-02	0,00E+00	4,07 E-1	0,00E+00
GWP-f	kg CO2 eqv.	4,77E+00	4,04E-01	5,76E-01	7,48E-02	8,37E-02	0,00E+00	3,26E-02	0,00E+00
GWP-b	kg CO2 eqv.	-3,75E-01	1,95E-04	9,98E-04	6,03E-03	3,86E-05	0,00E+00	3,75E-01	0,00E+00
GWP-luluc	kg CO2 eqv.	4,02E-02	1,46E-04	1,82E-04	9,07E-05	3,07E-05	0,00E+00	9,11E-06	0,00E+00
ODP	kg CFC 11 eq.	1,49E-07	9,00E-08	7,47E-08	2,93E-09	1,85E-08	0,00E+00	1,35E-08	0,00E+00
AP	mol H+ eq.	1,96E-02	2,26E-03	7,05E-04	2,17E-04	4,85E-04	0,00E+00	3,10E-04	0,00E+00
EP-fw	kg P eqv.	7,90E-05	3,81E-06	5,74E-06	1,13E-05	8,44E-07	0,00E+00	3,66E-07	0,00E+00
EP-m	kg N eqv.	4,29E-03	7,88E-04	1,57E-04	3,36E-05	1,71E-04	0,00E+00	1,07E-04	0,00E+00
EP-T	mol N eqv.	4,61E-02	8,68E-03	1,79E-03	5,32E-04	1,89E-03	0,00E+00	1,18E-03	0,00E+00
POCP	kg NMVOC	1,24E-02	2,48E-03	5,70E-04	1,01E-04	5,38E-04	0,00E+00	3,42E-04	0,00E+00
	eqv.								
ADP-mm	kg Sb-eqv.	5,27E-05	1,05E-05	2,21E-06	6,22E-07	2,12E-06	0,00E+00	2,99E-07	0,00E+00
ADP-f	MJ	7,66E+01	6,10E+00	8,89E+00	1,02E+00	1,26E+00	0,00E+00	9,13E-01	0,00E+00
WDP	m3 world eqv.	5,00E-01	2,04E-02	8,31E-03	3,88E-03	4,51E-03	0,00E+00	4,09E-02	0,00E+00



CLASSIFICATION OF DISCLAIMERS TO THE DECLARATION OF CORE AND ADDITIONAL ENVIRONMENTAL IMPACT INDICATORS

ILCD classifica-	Indicator	Disclaimer
tion		
ILCD type / level 1	Global warming potential (GWP)	None
	Depletion potential of the stratospheric ozone layer (ODP)	None
	Potential incidence of disease due to PM emissions (PM)	None
ILCD type / level 2	Acidification potential, Accumulated Exceedance (AP)	None
	Eutrophication potential, Fraction of nutrients reaching freshwater end compartment (EP-freshwater)	None
	Eutrophication potential, Fraction of nutrients reaching marine end compartment (EP-marine)	None
	Eutrophication potential, Accumulated Exceedance (EP-terrestrial)	None
	Formation potential of tropospheric ozone (POCP)	None
	Potential Human exposure efficiency relative to U235 (IRP)	1
ILCD type / level 3	Abiotic depletion potential for non-fossil resources (ADP-minerals&metals)	2
	Abiotic depletion potential for fossil resources (ADP-fossil)	2
	Water (user) deprivation potential, deprivation-weighted water consumption (WDP)	2
	Potential Comparative Toxic Unit for ecosystems (ETP-fw)	2
	Potential Comparative Toxic Unit for humans (HTP-c)	2
	Potential Comparative Toxic Unit for humans (HTP-nc)	2
	Potential Soil quality index (SQP)	2



LCA results	- Indicato	ors describing r	esource use	and environm	ental informa	ation derived f	rom life cycle	inventory (LCI)	(EN 15804+A2)
Parameter	Unit	A1	A2	A3	C1	C2	C3	C4	D
PERE	MJ	1,17E+01	7,93E-02	3,61E+00	1,85E-01	1,58E-02	0,00E+00	7,38E-03	0,00E+00
PERM	MJ	7,10E-01	0,00E+00	2,27E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	MJ	1,24E+01	7,93E-02	3,61E+00	1,85E-01	1,58E-02	0,00E+00	7,38E-03	0,00E+00
PENRE	MJ	6,74E+01	6,48E+00	9,78E+00	1,09E+00	1,34E+00	0,00E+00	9,70E-01	0,00E+00
PENRM	MJ	1,05E+01	0,00E+00	3,37E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PENRT	MJ	7,79E+01	6,48E+00	9,82E+00	1,09E+00	1,34E+00	0,00E+00	9,70E-01	0,00E+00
SM	Kg	5,70E+00	0,00E+00	1,82E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
RSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
NRSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	M3	2,53E-02	7,13E-04	4,64E-04	4,63E-04	1,54E-04	0,00E+00	9,73E-04	0,00E+00
HWD	Kg	2,14E-05	1,56E-05	1,11E-05	1,28E-06	3,20E-06	0,00E+00	1,36E-06	0,00E+00
NHWD	Kg	8,13E-01	3,59E-01	3,22E-02	4,28E-03	8,00E-02	0,00E+00	6,20E+00	0,00E+00
RWD	Kg	1,02E-03	4,05E-05	1,01E-05	4,11E-06	8,29E-06	0,00E+00	6,00E-06	0,00E+00
CRU	Kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
MFR	Kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
MER	Kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
EET	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
EEE	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERE=Use of renewable primary energy excluding renewable primary energy resources used as raw materials PERM= Use of renewable									

PERE=Use of renewable primary energy excluding renewable primary energy resources used as raw materials | PERM= Use of renewable primary energy resources used as raw materials | PERRE= Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials | PENRE= Use of non-renewable primary energy resources used as raw materials | PENRT= Total use of non-renewable primary energy resources | SM=Use of non-renewable primary energy resources used as raw materials | PENRT= Total use of non-renewable primary energy resources | SM=Use of secondary material | RSF=Use of renewable secondary fuels | secondary fuels | FW=Use of fresh water | HWD=Hazardous waste disposed | NHWD=Non-hazardous waste disposed | RWD=Radioactive waste disposed | CRU=Components for re-use | MFR=Materials for recycling | MER=Materials for energy, thermical | EE=Exported energy, electrical



Biogenic carbon content

The following Information describes the biogenic carbon content in (the main parts of) the product at the factory gate per square meter:

LCA results - information on biogenic carbon content at the factory gate							
(EN 15804+A2)							
Parameter	Unit	Value					
biogenic carbon content in the product	kg C	0.02054					
biogenic carbon content in accompanying packaging kg C 0							
NOTE 1 kg biogenic carbon is equivalent to 44/12 kg CO2							

Uptake of biogenic carbon dioxide

The following amount of carbon dioxide uptake is taken into account. Related uptake and release of carbon dioxide in downstream processes are not taken into account in this number although they do appear in the presented results. One kilogram of biogenic Carbon content is equivalent to 44/12 kg of biogenic carbon dioxide uptake

Uptake of biogenic carbon dioxide	Unit	Amount
Product	kg CO2 (biogenic)	0.07533

6. LCA: Interpretation



The figure above shows the impact of different life stages on the LCA results in accordance to their respective environmental impact indicator. The impact of the raw materials (A1) for Veroboard[®] Allstar dominate every indicator but Soil quality potential (SQP) which is influenced to a higher degree by the transport of the raw materials (A2). The manufacturing modul (A3) is, in comparison to moduls A1 and A2, only responsible for a relatively small impact. This can be, at least partly, assigned to the use of hydropower during production. The four GWP indicators are dominated by the raw materials. The results vary from 80 % of GWP-total and GWPfossil to almost 100 % of GWP-luluc. The negative value for GWP-biogenic is caused by the carbon intake of organic materials during their growth phase. The end-of-life stages are negligible in their impact on all indicators.

Verotec



ISO 14040

ISO 14040:2006-10, Environmental management - Life cycle assessment - Principles and framework; EN ISO 14040:2006

ISO 14044

ISO 14044:2006-10, Environmental management - Life cycle assessment - Requirements and guidelines; EN ISO 14044:2006

ISO 14025

ISO 14025:2011-10: Environmental labels and declarations — Type III environmental declarations — Principles and procedures

EN 15804+A2

EN 15804+A2: 2019: Sustainability of construction works — Environmental Product Declarations — Core rules for the product category of construction products

General PCR Ecobility Experts

Kiwa-Ecobility Experts (Kiwa-EE) – General Product Category Rules (2022-02-14)

EPD-DBC-20220174-IBF1-EN

Owner of the declaration: DBC, EFCC, FEICA, IVK; published by IBU – Institut Bauen und Umwelt e.V. (29.08.2022)

Code Nr. 335.915

Code Nr. 335.915 (BNB); FederalOffice for Building and Regional Planning (BBSR), 2017: Nutzungsdauern von Bauteilen für Lebenszyklusanalysen nach Bewertungssystem Nachhaltige Bauen (BNB)

NMD

The NMD waste scenario is based on a waste scenario from the National Milieu Database (NMD); finishes (adhered to wood, plastic, metal)

DIN EN 13501-1

DIN EN 13501-1 Fire classification of construction products and building elements – Part 1: Classification using data from reaction to fire tests; German version EN 13501-1:2007+A1:2009,2010-01

DIN EN 12667:2001-05

Thermal performance of building materials and products - Determination of thermal resistance by means of guarded hot plate and heat flow meter methods - Products of high and medium thermal resistance

EN ISO 7783-2

EN ISO 7783-2:1999 Paints and varnishes– Coating materials and coating systems for exterior masonry and concrete – Part 2: Determination and classification of water vapour transmission rate (permeability) (ISO 7783-2:1999), 1999-06)

DIN EN ISO 178:2010

DIN EN ISO 178:2010 Plastics – Determination of flexural properties (ISO 178:2010); German version EN ISO 178:2010, 2011-04PCR B



Kiwa-Ecobility established

Experts member

of

