ENVIRONMENTAL PRODUCT DECLARATION

as per *ISO 14025* and *EN 15804+A2*

Owner of the Declaration	BMI Group Holdings UK Ltd
Publisher	Institut Bauen und Umwelt e.V. (IBU)
Programme holder	Institut Bauen und Umwelt e.V. (IBU)
Declaration number	EPD-WOL-20250076-IBC1-EN
Issue date	17.04.2025
Valid to	16.04.2030

EverGuard TPO

BMI Group

www.ibu-epd.com | https://epd-online.com

1. General Information

BMI Group

Programme holder

IBU – Institut Bauen und Umwelt e.V.
Hegelplatz 1
10117 Berlin
Germany

Declaration number

EPD-WOL-20250076-IBC1-EN

This declaration is based on the product category rules:

Plastic and elastomer roofing and sealing sheet systems,
01.08.2021
(PCR checked and approved by the SVR)

Issue date

17.04.2025

Valid to

16.04.2030

Dipl.-Ing. Hans Peters
(Chairman of Institut Bauen und Umwelt e.V.)

Florian Pronold
(Managing Director Institut Bauen und Umwelt e.V.)

EverGuard TPO

Owner of the declaration

BMI Group Holdings UK Ltd
Thames Tower, Station Rd -
- Reading RG1 1LX
United Kingdom

Declared product / declared unit

1 m² plastic roofing and sealing membrane system produced

Scope:

This Declaration applies for EverGuard TPO roofing and sealing membranes manufactured at 4 different GAF facilities in the USA. This declaration is valid for a range of EverGuard TPO products (EverGuard TPO, EverGuard TPO FB, EverGuard Extreme TPO, EverGuard Extreme TPO FB, EverGuard SA TPO and EverGuard T+).
The LCA results are declared for an average EverGuard TPO membrane with a 1.5 mm thickness.

The owner of the declaration shall be liable for the underlying information and evidence; the IBU shall not be liable with respect to manufacturer information, life cycle assessment data and evidences.

The EPD was created according to the specifications of EN 15804+A2. In the following, the standard will be simplified as *EN 15804*.

Verification

The standard EN 15804 serves as the core PCR
Independent verification of the declaration and data according to ISO 14025:2011
☐ internally ☒ externally

Mrs Kim Allbury,
(Independent verifier)

2. Product

2.1 Product description/Product definition

This EPD covers different EverGuard TPO roofing and sealing membranes which are closely described in the text below. For the LCA calculation in this declaration, an average of all 6 different EverGuard TPO products has been used.
EverGuard TPO (1.1; 1.5; 2.0 mm) membranes are single-ply roofing products, designed to be used as an outer roof layer, either in new construction or re-covering applications. Fundamentally, all EverGuard TPO membranes are made of two layers of thermoplastic polyolefin (TPO) bonded to a layer of polyester scrim in the middle. This configuration meets all the inherent properties and performance which TPO is known for, including excellent seam strength, long-term weathering, reflectivity, and more.

Different EverGuard TPO membranes share the same basic structure (as described above), with certain individual differences for a large number of different applications:

EverGuard TPO FB (1.1; 1.5; 1.8; 2.0 mm)
Fleece backing

EverGuard Extreme TPO (1.2; 1.5; 1.8; 2.0 mm)
Contains product modifications for an extended heat and UV resistance.

EverGuard Extreme TPO FB (1.2; 1.5; 1.8; 2.0 mm) Contains a Fleece backing and product modifications for an extended heat and UV resistance.

EverGuard Self Adhered TPO (1.5; 2.0 mm)
Hot melt adhesive backing which increases the ease and time efficiency when fixing the membrane.

EverGuard TPO T+ (1.2; 1.5; 1.8; 2.0 mm)
Contains product modifications with regard to extensive fire protection.

For the placing on the market in the European Union/European Free Trade Association (EU/EFTA) (except for Switzerland) is subject to Regulation (EU) No. 305/2011 (CPR). The product requires a Declaration of Performance in accordance with the harmonized standard EN 13956:2012 'Flexible sheets for waterproofing' and the CE marking. Application is subject to the regulations of each specific country; in Germany the application standard DIN SPEC 20000-201.

2.2 Application

EverGuard TPO products are designed as single-ply roofing solutions for use as an outer layer in both new construction and re-roofing applications.

2.3 Technical Data

Constructional data

Name	Value	Unit
Waterproof as per EN 1928	passed	-
Tensile strain as per EN 12311-2	≥ 25	%
Peel resistance of the seam joint	≥ 150	N/50mm
Shear resistance of the seam joint	≥ 800	N/50mm
Tear propagation resistance as per EN 12310-2	≥ 350	N
Artificial ageing as per EN 1297	passed (> 5000 h UV)	-
Folding in the cold as per EN 495-5	≤ - 25	°C
Bitumen compatibility as per EN 1548	passed	-
Resistance to root penetration (for green roofs) as per EN 13948	NPD	-
Waterproof as per EN 1928	passed	-
Resistance to impact loads as per EN 12691	≥ 400	mm
Shear resistance of the seam joint as per EN 12317-2	≥ 800	N/50mm

Performance data of the product in accordance with the declaration of performance with respect to its essential characteristics according to EN 13956:2012, Flexible sheets for waterproofing.

2.4 Delivery status

The products are stacked on pallets and the number of rolls per pallet and roll dimensions depend on the specific product and its thickness.
Further information and delivery status information can be found online at www.bmigroup.com/de.

2.5 Base materials/Ancillary materials

Name	Value	Unit
TPO Resin	50 - 65	% by mass
Polyester Scrim	3 - 23	% by mass
Filler	2 - 40	% by mass
UV Weathering Agent	2 - 22	% by mass
Colorant	1 - 6	% by mass

This product contains substances listed in the Candidate List of Substances of Very High Concern for Authorisation (SVHC) exceeding 0.1 percentage by mass: no.

This product/article/at least one partial article contains other Carcinogenic, mutagenic, reprotoxic (CMR) substances in categories 1A or 1B which are not on the candidate list, exceeding 0.1 percentage by mass: no.

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

2.6 Manufacture

EverGuard TPO products are manufactured using an extrusion process. The polymers, performance-enhancing additives and other optional ingredients are fed into an extruder, which melts and homogenizes the added materials that are then extruded onto the top and bottom of a scrim to create laminated layers. The membrane is then cooled by passing through a series of rollers before being wound into rolls or cut to size and packaged for shipment.

2.7 Environment and health during manufacturing

The health and safety of production personnel are prioritized, indicating that the working conditions are designed to mitigate risks associated with the manufacturing process. Waste gases generated during production are effectively managed through collection and filtration systems such as exhaust gas scrubbers, which help to reduce air pollution and improve air quality in and around the facility.Furthermore, the production facility complies with all applicable regulatory standards regarding exhaust gases, wastewater, solid waste, and noise emissions. This is crucial for minimizing environmental impact and assuring health and safety of the workers.

2.8 Product processing/Installation

The declared EverGuard products can either be loose laid with ballast or mechanically fixated. In the case of loose laying, membranes are rolled out loosely and the seams are hot air welded. In the case of mechanical fixation, the membranes are rolled out and fixated with fasteners, before the hot-air welding of the seams. An additional application method is based on fixating the membranes by using specific adhesive. In this method, the membranes are rolled out and adhered to the substrate, before the seams are welded with hot air.

2.9 Packaging

EverGuard rolls are compactly palletized, secured and wrapped in PE foil, and dispatched in such state. All the included packaging material can be sorted and collected for recycling.

2.10 Condition of use

When installed properly and subjected to typical loads, EverGuard TPO roofing membranes maintain their integrity and fulfill their function throughout their service life.

2.11 Environment and health during use

There are no adverse effect on the environment and health during the period of use.

2.12 Reference service life

EverGuard TPO roofing membranes are designed for durability and longevity. When utilized according to its intended purposes, installed properly and subjected to typical loads, these membranes attain a service life of 35 years.

2.13 Extraordinary effects

Fire

Fire protection

Name	Value
Building material class	E

Water

The substances used in EverGuard TPO are not soluble in water, nor do they react with water.
Accordingly, there are no consequences for the environment even in the event of unforeseen contact with water.

Mechanical destruction

There are no known negative consequences for the environment in the event of unforeseen mechanical destruction of the membrane material.

2.14 Re-use phase

EverGuard TPO membranes are fully recyclable, which means that when their service life comes to an end, they can be fully recycled and repurposed for other materials and applications, supporting a circular economy for roofing materials.

2.15 Disposal

EverGuard TPO waterproofing membranes can upon their end-of-life be fully recycled. The European Waste Catalogue designates the EverGuard TPO waterproofing membranes under Waste Code 170904.

2.16 Further information

Further information, such as installation instructions, installation guidelines, brochures etc., can be found online at www.bmigroup.com/de.

3. LCA: Calculation rules

3.1 Declared Unit

The declared unit is 1 m² EverGuard TPO roofing membrane with a declared thickness of 1.5 mm; the factors for independent calculation of the values for different thicknesses are indicated in section 5. The sheets are laid loosely with ballast, fastened mechanically or through self-adherence. The seams are bonded through hot-air welding.

Declared unit and mass reference

Name	Value	Unit
Declared unit	1	m^2
Grammage	1.6	kg/m^2
Conversion factor to 1 kg	0.625	-
Type of sealing (thermisches Verschweißen oder Verbindung mittels Nahtband und Primer)	Hot-air weld	-
Layer thickness	0.0015	m

3.2 System boundary

Type of EPD: Cradle to gate with options, modules C1–C4, and module D (A1–A3 + C + D and additional modules A4 + A5)

The Life Cycle Assessment considers:

- A1-A5: Supply of raw materials and energy, raw material transport, product manufacturing, packaging material, transport to the building site and installation at the building site
- C1: Deconstruction and demolition
- C2/1: Transport to the recycling facility
- C2/2: Transport to the incineration facility
- C3/1: Waste processing (for recycling)
- C3/2: Incineration of waste
- D/1: Material credits from the recycling of the membrane
- D/2: Energy credits from the thermal treatment of the packaging material and product waste

3.3 Estimates and assumptions

There have been no assumptions or approximate LCAfE datasets used. Specific CUP 2024.1 data was available for all raw materials and production processes. Distances in A2 have been based on the location at which most of the total production for BMI takes place.

3.4 Cut-off criteria

All the material and energy inputs have been considered;Including the flows with a share of less than 1 % of total product mass.

3.5 Background data

The LCA FE software system developed by Sphera Solutions GmbH has been used to model the life cycle of the declared product. The underlying database is CUP 2024.1.

3.6 Data quality

The Sphera MLC background data was last revised in 2023.
The production of the roofing membranes was modelled using primary data from GAF.
The quality and representativeness of the data surveyed can be regarded as very good.The robustness of the LCA data can be valued as very good from the perspective of geographical and product and production variability coverage by the average product.

3.7 Period under review

The period under review is the year 2021.

3.8 Geographic Representativeness

Land or region, in which the declared product system is manufactured, used or handled at the end of the product´s lifespan: Europe

3.9 Allocation

The GAF production site in the US are located in Cedar City, Gainesville, Mount Vernon and New Columbia. At these production sites, GAF is manufacturing various products. Accordingly, the energy consumption values were allocated to the specific products on the basis of production quantities and their shares. Recipe data was used for the raw material quantities.
Formation of the average value in this calculation was based on a mathematical average.

3.10 Comparability

Basically, a comparison or an evaluation of EPD data is only possible if all the data sets to be compared were created according to *EN 15804* and the building context, respectively the product-specific characteristics of performance, are taken into account. The underlying database used is CUP 2024.1.

4. LCA: Scenarios and additional technical information

Characteristic product properties of biogenic carbon

Information on describing the biogenic carbon content at factory gate

Name	Value	Unit
Biogenic carbon content in product	-	kg C
Biogenic carbon content in accompanying packaging	-	kg C

The mass of biogenic carbon containing materials in the product and packaging is less than 5 % of the total mass of the product/packaging.

Note: 1 kg of biogenic carbon is equivalent to 44/12 kg of CO_2.

Transport to the building site (A4)

Name	Value	Unit
Transport distance (truck)	930	km
Capacity utilisation (including empty runs)	61	%
Transport distance (ship)	6720	km

Installation into the building (A5)

Name	Value	Unit
Electricity consumption	0.016	kWh
Overlap (membrane material)	6	%

End of life (C1-C4)

Name	Value	Unit
Recycling (scenario 1)	100	%
Transport (scenario 1)	100	km
Incineration (scenario 2)	100	%
Transport (scenario 2)	100	km

Since the deconstruction requires only manual labor, no material nor environmental inputs/outputs have been considered in the module C1.

5. LCA: Results

DESCRIPTION OF THE SYSTEM BOUNDARY (X = INCLUDED IN LCA; MND = MODULE OR INDICATOR NOT DECLARED; MNR = MODULE NOT RELEVANT)

Product stage			Construction process stage		Use stage							End of life stage				Benefits and loads beyond the system boundaries
Raw material supply	Transport	Manufacturing	Transport from the gate to the site	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling-potential
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
X	X	X	X	X	MND	MND	MNR	MNR	MNR	MND	MND	X	X	X	MND	X

RESULTS OF THE LCA - ENVIRONMENTAL IMPACT according to EN 15804+A2: 1 m2 EverGuard TPO

Parameter	Unit	A1-A3	A4	A5	C1	C2/1	C2/2	C3/1	C3/2	D/1	D/2
GWP-total	kg CO_2 eq	4.59E+00	2.35E-01	8.7E-01	0	1.27E-02	1.27E-02	4.54E-01	3.22E+00	-3.08E+00	-1.11E+00
GWP-fossil	kg CO_2 eq	4.62E+00	2.32E-01	8.72E-01	0	1.24E-02	1.24E-02	4.51E-01	3.22E+00	-3.06E+00	-1.11E+00
GWP-biogenic	kg CO_2 eq	-3.59E-02	6.63E-04	-1.91E-03	0	7.09E-05	7.09E-05	3.05E-03	-2.6E-04	-1.42E-02	-4.72E-03
GWP-luluc	kg CO_2 eq	1.63E-03	2.22E-03	2.8E-04	0	2.38E-04	2.38E-04	7.68E-05	7.17E-04	-1.18E-03	-9.96E-05
ODP	kg CFC11 eq	5.23E-12	5.05E-14	9.11E-13	0	3.91E-15	3.91E-15	5.96E-12	2.48E-12	-7.1E-12	-9.67E-12
AP	mol H^+ eq	1.2E-02	2.12E-03	9.8E-04	0	1.23E-05	1.23E-05	6.18E-04	7.23E-04	-4.68E-03	-1.15E-03
EP-freshwater	kg P eq	2.01E-05	3.42E-07	1.54E-06	0	3.37E-08	3.37E-08	4.49E-06	6.62E-07	-3.74E-06	-1.81E-06
EP-marine	kg N eq	2.84E-03	9.51E-04	2.57E-04	0	3.67E-06	3.67E-06	1.64E-04	2.36E-04	-1.35E-03	-3.52E-04
EP-terrestrial	mol N eq	3.28E-02	1.05E-02	3.12E-03	0	4.71E-05	4.71E-05	1.72E-03	3.12E-03	-1.44E-02	-3.78E-03
POCP	kg NMVOC eq	9.46E-03	2.6E-03	8.06E-04	0	1.2E-05	1.2E-05	4.37E-04	6.79E-04	-6.42E-03	-9.98E-04
ADPE	kg Sb eq	1.75E-06	3.34E-08	1.16E-07	0	2.11E-09	2.11E-09	1.03E-07	2.59E-08	-2.27E-07	-9.46E-08
ADPF	MJ	1.14E+02	2.92E+00	7.74E+00	0	1.63E-01	1.63E-01	6.34E+00	5.04E+00	-1.06E+02	-1.97E+01
WDP	m^3 world eq deprived	2.62E+00	1.32E-03	2.14E-01	0	8.88E-05	8.88E-05	8.96E-02	3.2E-01	-2.53E-01	-1.18E-01

GWP = Global warming potential; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential of land and water; EP = Eutrophication potential; POCP = Formation potential of tropospheric ozone photochemical oxidants; ADPE = Abiotic depletion potential for non-fossil resources; ADPF = Abiotic depletion potential for fossil resources; WDP = Water (user) deprivation potential)

RESULTS OF THE LCA - INDICATORS TO DESCRIBE RESOURCE USE according to EN 15804+A2: 1 m2 EverGuard TPO

Parameter	Unit	A1-A3	A4	A5	C1	C2/1	C2/2	C3/1	C3/2	D/1	D/2
PERE	MJ	4.91E+00	1.8E-01	9.73E-01	0	1.8E-02	1.8E-02	3.99E+00	1.29E+00	-4.17E+00	-6.47E+00
PERM	MJ	2.84E-01	0	-2.84E-01	0	0	0	0	0	0	0
PERT	MJ	5.19E+00	1.8E-01	6.89E-01	0	1.8E-02	1.8E-02	3.99E+00	1.29E+00	-4.17E+00	-6.47E+00
PENRE	MJ	4.63E+01	2.92E+00	1.66E+01	0	1.63E-01	1.63E-01	6.69E+01	6.56E+01	-1.06E+02	-1.97E+01
PENRM	MJ	6.93E+01	0	-8.84E+00	0	0	0	-6.05E+01	-6.05E+01	0	0
PENRT	MJ	1.15E+02	2.92E+00	7.79E+00	0	1.63E-01	1.63E-01	6.34E+00	5.04E+00	-1.06E+02	-1.97E+01
SM	kg	0	0	0	0	0	0	0	0	-1.47E+00	0
RSF	MJ	0	0	0	0	0	0	0	0	0	0
NRSF	MJ	0	0	0	0	0	0	0	0	0	0
FW	m^3	6.15E-02	1.75E-04	5.16E-03	0	1.68E-05	1.68E-05	3.45E-03	8.02E-03	-1.16E-02	-4.97E-03

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; 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 resources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water

RESULTS OF THE LCA – WASTE CATEGORIES AND OUTPUT FLOWS according to EN 15804+A2: 1 m2 EverGuard TPO

Parameter	Unit	A1-A3	A4	A5	C1	C2/1	C2/2	C3/1	C3/2	D/1	D/2
HWD	kg	6.98E-06	2.66E-10	4.31E-07	0	7.92E-12	7.92E-12	2E-07	2.82E-09	-9.95E-09	-1.31E-08
NHWD	kg	8.1E-01	3.36E-04	1.14E-01	0	2.75E-05	2.75E-05	1.75E-01	1.37E+00	-2.62E-02	-1.02E-02
RWD	kg	2.48E-03	6.32E-06	2.16E-04	0	2.59E-07	2.59E-07	8.77E-04	1.31E-04	-7.08E-04	-1.43E-03
CRU	kg	0	0	0	0	0	0	0	0	0	0
MFR	kg	0	0	9.88E-02	0	0	0	1.65E+00	0	0	0
MER	kg	0	0	0	0	0	0	0	0	0	0
EEE	MJ	0	0	8.46E-01	0	0	0	0	4.28E+00	0	0
EET	MJ	0	0	1.96E+00	0	0	0	0	7.77E+00	0	0

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 recovery; EEE = Exported electrical energy; EET = Exported thermal energy

RESULTS OF THE LCA – additional impact categories according to EN 15804+A2-optional: 1 m2 EverGuard TPO

Parameter	Unit	A1-A3	A4	A5	C1	C2/1	C2/2	C3/1	C3/2	D/1	D/2
PM	Disease incidence	1.45E-07	5.76E-08	1.35E-08	0	1.3E-10	1.3E-10	5.27E-09	1.62E-08	-5.79E-08	-9.41E-09
IR	kBq U235 eq	4.15E-01	5.79E-04	3.55E-02	0	2.73E-05	2.73E-05	1.44E-01	1.59E-02	-1.16E-01	-2.36E-01
ETP-fw	CTUe	5.36E+01	2.27E+00	3.54E+00	0	1.26E-01	1.26E-01	1.96E+00	3.8E+00	-5.58E+01	-2.74E+00
HTP-c	CTUh	1.19E-08	4.14E-11	7.34E-10	0	2.52E-12	2.52E-12	1.03E-10	1.25E-10	-1.27E-09	-2.24E-10
HTP-nc	CTUh	2.36E-07	1.33E-09	1.5E-08	0	1.06E-10	1.06E-10	2.19E-09	9.93E-09	-4.52E-08	-5.3E-09
SQP	SQP	5.51E+00	1.01E+00	6.44E-01	0	1.08E-01	1.08E-01	2.38E+00	1.23E+00	-3.04E+00	-3.79E+00

PM = Potential incidence of disease due to PM emissions; IR = Potential Human exposure efficiency relative to U235; ETP-fw = Potential comparative Toxic Unit for ecosystems; HTP-c = Potential comparative Toxic Unit for humans (cancerogenic); HTP-nc = Potential comparative Toxic Unit for humans (not cancerogenic); SQP = Potential soil quality index

The mass value differences between the different products included in the average calculation and the average product do not exceed 10%; same goes for the variance of the LCIA results.

Disclaimer 1 - for the indicator "Potential Human exposure efficiency relative to U235".
This impact category deals mainly with the eventual impact of low dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure or radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, radon and from some construction materials is also not measured by this indicator.

Disclaimer 2 - for the indicators "abiotic depletion potential for non-fossil resources", "abiotic depletion potential for fossil resources", "water (user) deprivation potential, deprivation- weighted water consumption", "potential comparative toxic unit for ecosystems", "potential comparative toxic unit for humans – cancerogenic", "Potential comparative toxic unit for humans - not cancerogenic", "potential soil quality index".The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high as there is limited experience with the indicator.

The LCA results from the tables above are based on an average EverGuard TPO with a thickness of 1.5 mm. As there is a linear connection between the LCA results for 1.5 mm and other thicknesses, the following formula can be used for the calculation of results of all evaluation categories and modules.

X(E1.1)=(E1.5)*0.7
X(E1.2)=(E1.5)*0.8
X(E1.8)=(E1.5)*1.2
X(E2.0)=(E1.5)*1.3

X --> value of any LCA indicator for EverGuard TPO membrane with a thickness of "x" mm

(E1.5)--> value of any LCA indicator for EverGuard TPO membrane with a thickness of "1.5" mm

This EPD was created using a software tool.

6. LCA: Interpretation

As in most evaluation categories, the majority of loads originate from the product stage. Primarily Modules A1-A3 are described using a dominance analysis in the interpretation.

When observing the LCA results through all the impact categories, it can be concluded that modules A1-A3 are the biggest contributors in the case of most impact categories. Product stage (A1-A3) is responsible for 74 % of the total climate change emissions. Raw materials alone are responsible for 71 % of the total climate change emissions, followed by the construction stage (A4-A5) with 18 %. The ozone depletion potential (ODP) is with more than 50 % influenced by the production of EverGuard TPO, packaging material and installation at the building site.

The largest share of total use of regenerative primary energy (PERT) for EverGuard TPO can be allocated to raw materials, packaging materials (particularly paper and wood) and electricity consumption. Total use of non-renewable primary energy resources (PENRT) is predominantly influenced by the by the production process, primarily by the raw materials.

7. Requisite evidence

There is no requisite evidence required for the declared product.

8. References

PCR, Part A
PCR, Part A, Institut Bauen und Umwelt e.V., Berlin
Bauen und Umwelt (IBU), Part A: Calculation Rules for the Life Cycle Assessment and Requirements on the Background Report. V1.4, 2024.

PCR, Part B
PCR, Part B, Requirements on the EPD for plastic and elastomer roofing and ceiling sheet systems, v4, 2023.

EN 15804+A2
EN 15804:2012+A2:2019:+AC:2021, Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products.

Regulation No. 305/2011
Regulation No. 305/2011, of the European Parliament and of the European Council laying down harmonised conditions for the marketing of construction products and repealing Council Directive 89/106/EEC

Regulation No. 528/2012
Regulation No. 305/2011, of the European Parliament and of the European Council laying down harmonised conditions for the marketing of construction products and repealing Council Directive 89/106/EEC

DIN 4102: 1998-05
Reaction to fire of building materials and components – Part 1:Building materials, terms, requirements and tests

DIN EN 495-5:2012-10
Flexible sheets for waterproofing – Determination of foldability at low temperature –Part 5: Plastic and rubber sheets for roof waterproofing

DIN EN 1107-2: 2001-04
Flexible sheets for waterproofing – Determination of dimensional stability –Part 2: Plastic and rubber sheets for roof waterproofing

DIN EN 1187: 2012-03
Test methods for external fire exposure to roofs

DIN EN 1297: 2004-12
Flexible sheets for waterproofing – Bitumen, plastic and rubber sheets for roof waterproofing –Method of artificial ageing by long-term exposure to the combination of UV radiation,elevated temperature and water

DIN EN 1928:2000-07
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