

Environmental Product Declaration



In accordance with EN 15804:2012+A2:2019/AC:2021, ISO 14025
and ISO 21930:2017 for:

BITUPLUS E4180 - UAE

From



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An EPD should provide current information and may be updated if conditions change. The stated validity is therefore subject to the continued registration and publication at www.environdec.com



General information

Programme information

Programme:	The International EPD® System
Address:	EPD International AB Box 210 60 SE-100 31 Stockholm Sweden
Website:	www.environdec.com
E-mail:	info@environdec.com

Accountabilities for PCR, LCA and independent, third-party verification

Product Category Rules (PCR)

CEN standard EN 15804 and ISO 21930 serve as the Core Product Category Rules (PCR).

Product Category Rules (PCR): *PCR 2019:14 Construction products, version 1.3.4 Published on 2024.04.30 valid until: 2025.06.20 and C-PCR 032 to PCR 2019:14 (version 2024-10-14). This c-PCR covers "reinforced bitumen, plastic and rubber flexible sheets intended for roof waterproofing according to EN 13707 and EN 13956" as stated in EN 17388:2024.*

PCR review was conducted by: *Technical Committee of the International EPD System. Chair: Claudia A. Peña. Contact via info@environdec.com.*

Life Cycle Assessment (LCA)

LCA accountability: Henkel AG & Co. KGaA

Third-party verification

Independent third-party verification of the declaration and data, according to ISO 14025:2006, via:

☒ EPD verification by accredited certification body

Third-party verification: *Cristina Gazulla Santos, CERTINALIA S.L.U. Certification is an approved certification body accountable for the third-party verification. The certification body is accredited by: ENAC (accreditation no. 125/C-PR283).*

Procedure for follow-up of data during EPD validity involves third party verifier:

☒ Yes ☐ No

The EPD owner has the sole ownership, liability, and responsibility for the EPD. The current EPD complies also with ISO 21930:2017, Sustainability in buildings and civil engineering works -- Core rules for environmental product declarations of construction products and services.

EPDs within the same product category but registered in different EPD programmes, or not compliant with EN 15804, may not be comparable. For two EPDs to be comparable, they must be based on the same PCR (including the same version number) or be based on fully-aligned PCRs or versions of PCRs; cover products with identical functions, technical performances and use (e.g. identical declared/functional units); have equivalent system boundaries and descriptions of data; apply equivalent data quality requirements, methods of data collection, and allocation methods; apply identical cut-off rules and impact assessment methods (including the same version of

characterisation factors); have equivalent content declarations; and be valid at the time of comparison. For further information about comparability, see EN 15804 and ISO 14025.

Company information

Owner of the EPD:

Henkel AG & Co. KGaA
Henkelstraße 67
40589 Düsseldorf
Deutschland

Contact:

polybitdammam@henkel.com

Description of the organisation:

Henkel AG & Co. KGaA, commonly known as Henkel, is a German multinational chemical and consumer goods company headquartered in Düsseldorf, Germany.

Henkel Adhesive Technologies Construction is a division of Henkel which offers, among others, a wide choice of waterproofing systems tailored to varied needs. This EPD is focused on the key components of Torch on Membranes (TOM). These components are mainly sold under the brand of Henkel Polybit.

For more information, please visit: www.henkelpolybit.com

Product-related or management system-related certifications: The plant, located Umm Al Thuob in United Arab Emirates (UAE), holds certificates for ISO 9001, ISO 14001 and ISO 45001.

Name and location of production site(s):

Henkel Polybit Industries Ltd.
GMV5+3H6 – Umm Al Thuob –
Emirate of Umm Al Quwain
United Arab Emirates

Product information

Product name: BITUPLUS E4180 - UAE

Product identification: BITUPLUS E4180 – UAE, is a bituminous waterproofing membrane of the brand Polybit, manufactured from a rich mixture of bitumen and SBS (Styrene Butadiene Styrene) polymers to obtain excellent waterproofing and low temperature flexibility properties. The BITUPLUS E4180 – UAE, “reinforced bitumen, plastic and rubber flexible sheets intended for roof waterproofing according to EN 13707 and EN 13956” as stated in EN 17388:2024.

Typical Applications		Standards
Dimension	1m X 10m, wt 40 kg	
Thickness, mm	4	DIN EN 1849-1
Mass per unit area (kg/m ²)	4.25	DIN EN 1849-1

Typical Applications		Standards
Tensile strength [L/T], [n/5cm]	850/650	DIN EN 12311-1
Elongation @Break [L/T], [%]	40/50	DIN EN 12311-1
Tear resistance (L/T), [N]	180/200	DIN EN 12310-1, ASTM D 5147 / D 4073
Water absorption [BSP], [%]	< 0.2	ASTM D 5147
VOC [g/L]	<50	ASTM D3960 / D2369

Product description: BITUPLUS E4180 - UAE is used as a bituminous waterproofing membrane on the following structures: concrete foundations & footings, basements, pile heads, swimming pools & water retaining structures (externally), tunnels, wet areas (kitchens & bathrooms). BITUPLUS E4180 - UAE membranes are tested and conform to the requirements of UEAtc 2001 and ASTM standards. The application temperature should be between 5°C to 55°C. Application procedures may vary slightly depending upon site conditions.

UN CPC code: 3480

Geographical scope: Global.

The product under study is manufactured in the Umm Al Thuoob manufacturing site but can be used at a global scale

LCA information

Declared unit: 1 square meter (1 m²) of packed Bitumen Membrane, applied into the building with a mass per unit area of 4.25 kg/m².

Reference service life: 60 YEARS (The reference service life is 60 years, as the product is designed to align with the building's lifespan)

Application and reference service life: bonding the Self Adhesive Membrane (SAM) or the Torch on Membrane (TOM) in Henkel Polybit range onto the surface for waterproofing/ damp proofing. The expected RSL for this type of product is expected to be 60 years.

Time representativeness: All specific data related to the production plants and used for the study date from 2023.

Database(s) and LCA software used: This EPD is based on specific data and system information. The primary inventory data has been directly obtained from Henkel and corresponds to the product mentioned above. The product analysed in this study is manufactured in Henkel manufacturing plant located in Umm Al Thuob (UAE).

The secondary data has been extracted from the generic Ecoinvent version 3.10 database, included in the SimaPro v9.6. software which is internationally recognised. Wherever possible, inventory data related to specific countries or on its absence, from Global in general has been selected. This has been used for the stage of production and transport of raw materials, as well as for electricity generation or waste management processes, over which the manufacturer has no direct influence.

Description of system boundaries: cradle-to-gate with modules C1-C4, module D and optional modules A4 and A5, covering the modules of extraction and processing of raw materials (A1), their transportation to the production plant (A2), the manufacturing process (A3), transport to construction site (A4), installation (A5), end of life (C1-C4) and potential benefits and loads from the reuse and recycling of the products at its end of life (D).

Product stage (A1-A3):

- Raw material supply (A1): this module considers the extraction and processing of raw materials used for the manufacture of the products.
- Transport of the raw materials (A2): this module consists of the transportation of all raw materials covered by module A1, from the extraction, production, and treatment site to the factory, considering the specific distances of each material supplier.
- Manufacturing of products (A3): this module refers to the production process of the bituminous waterproofing membrane in the production plants. From the heated bitumen storage tank, the bitumen is transferred to the primary mixer, where it is heated and mixed with other raw materials. It is then transferred to the secondary mixer for further heating and mixing with additional raw materials. Afterward, the mixture enters the process line where the sheets are formed, cooled with water, slit to the required dimensions, and finally packed. This phase includes the burning of fuels (natural gas and diesel) and the water consumed during the manufacturing process. It also considers wastes and the material lost generated from the production process: the treatment and transport from the production plant to the waste manager. Finally, it takes into account the packaging used for distribution: the production of the primary and secondary packaging of the product (cans, buckets, bags, plastic films and wooden pallets), and the transport of this packaging from suppliers to the factory. The chosen packaging type is the most representative in terms of sales volume. It also serves as the standard reference for all other packaging options analyzed for this product.

Installation stage (A4-A5):

- Transport from factory to construction site (A4): this module considers the distribution of the product and its packaging to the construction site

Scenario information	Unit (by declared unit)
Fuel type and consumption of the vehicle	16-32 tons trucks, with 34 L per 100 km fuel consumption
Distance	167 km
Capacity Utilization	100%
Bulk density	1062.5 kg/m ³
Volume capacity utilisation factor	1

- Installation (A5): this module considers the preparation of the product in order to be installed. No additional raw materials or processes are needed for installation.

- Additional technical information on module A5 according to EN 15804 and C-PCR-032.

Scenario information	Unit (by declared unit)
Auxiliary materials for installation	BITUPLUS E4810 - UAE: none
Water use	BITUPLUS E4810 - UAE: no consumption
Use of other resources	0.14 kg of LPG/ m ² of bitumen
Energy consumption during the installation	No consumption
Wastes and output flows as result of the waste treatment at the demolition point	No consumption
Direct emissions to air, soil and water	No applicable

The membranes are supplied in 1 m (width) x 10 m (length) are installed by torching technique using a cylinder fed propane gas torch. The handheld roofing torch is the recommended application technique, as it affords good control and reduces material waste (5%). The membrane is heated the embossing starts to melt away exposing a shiny bitumen surface. The propane flame should be moved from side to side and up the lap edge while the membrane is slowly unrolled and adhered to the underlying surface. Roll forward the membrane and press firmly with the boot or roller against the substrate to bond well. This provides us a total consumption of LPG of 0.033 kg LPG/kg BITUPLUS E4180 – UAE. No additional fastening materials such as glue, adhesives or mechanical fixation are needed for the installation. The complete roofing system consists of a primer, followed by one or two layers of BITUPLUS E4810 and it will be protected by other materials such as polyethylene film, insulation board, geotextile, and gravel or tiles.

End of life stage (C):

- Deconstruction or demolition (C1): this stage considers the dismantling of the products after its use. The consumption of energy and natural resources is negligible for deconstruction of the end-of-life product, as demolition of bitumen membrane roofing is assumed to be done manually according to c-PCR-032. Thus, the impacts of demolition are assumed zero.
- Transport to the waste processing site (C2): this module considers a default distance of 50 km between the building where the product was installed and the waste manager facility (landfill).

- Waste processing (C3): this module includes the reconditioning of the products waste for its reuse or recycling. However, in this study it is assumed that the products cannot be reused nor recycled after its end of useful life. Thus, there are not environmental impacts allocated to this module. On the other hand, following the "polluter pays" principle, if there were impacts due to the reuse/recycling of this product, they would not be attributed to its life cycle.
- Disposal (C4): this module includes the final discharge of waste that has not been destined for recovery or treatment processes. It has been assumed that the 100% of the product are finally disposed in the landfill after its end of useful life.

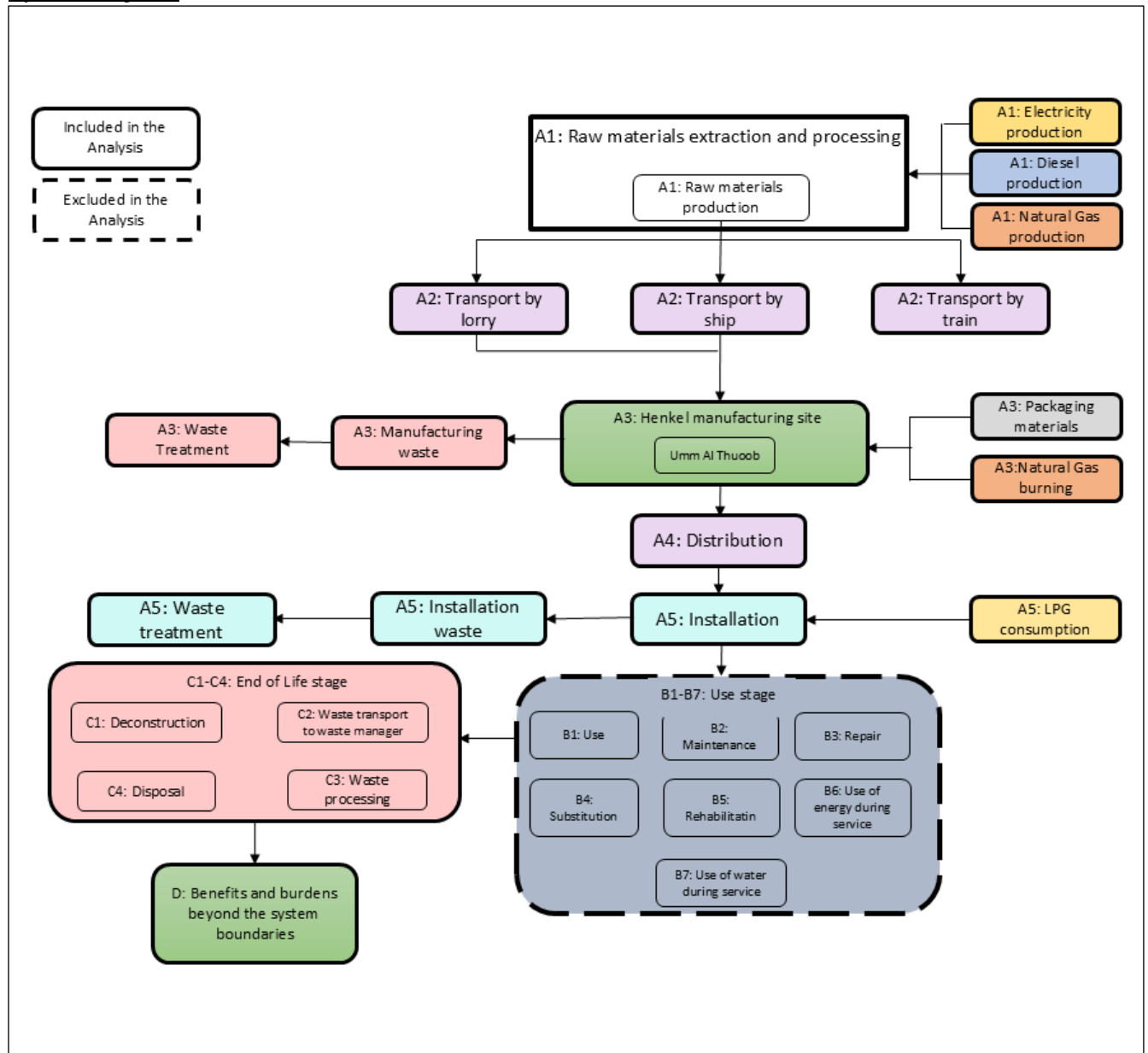
Benefits and loads beyond the system boundary (D): This module analyses the benefits and burdens related to the processes of recovery, reuse or recycling of waste from the products under study at their end of life, which could form part of the life cycle of a new product. In this the entire product is landfill so mule D is assumed as 0 contribution.

The scenarios for modules C1-C4 and D are realistic and representative of one of the most probable alternatives. The scenarios do not include processes or procedures that are not in current use or whose feasibility have not been demonstrated.

The module collects the most likely scenarios based on the best knowledge currently available. Considerations about the end of life of the representative average product:

Parameter	Units per declared Unit (kg)	Value (per 4.25 kg)
Waste collection process, specified by type	kg collected separately	0.00
	kg collected mixed with demolition waste	4.25
Recovery process waste, specified by type	kg for reuse	0.00
	kg for recycling	0.00
	kg for energy recovery	0.00
Waste disposal	kg to landfill	4.25
Considerations for scenarios development	Distance to waste manager (km)	50

System diagram:



More information:

Company website for more information: <https://www.henkel.de/>

Name and contact information of LCA practitioner:

Henkel AG & Co. KGaA
Henkelstraße 67
40589 Düsseldorf
Deutschland

Cut-off rules: In accordance with the provisions of the Product Category Rules (PCR): PCR 2019:14 Construction products, version 1.3.4 Published on 2024.04.30 valid until: 2025.06.20., UNI-EN 15804:2012+A2:2020, at least 95% of total inflows (raw materials and energy) and outflows per module have been considered. The packaging for the distribution of the products has also been included.

The "polluter pays" principle has been applied.

The following processes have not been included in the scope of the study:

- Manufacture of equipment used in production, buildings or any other assets.
- Business trips.
- Maintenance activities at the production plants and research and development sites.
- Transportation of personnel to and within the plants.
- Diffuse particle emissions during the transport and storage of raw materials.

The hypotheses made during the study are detailed below:

- All the primary data used in this study correspond to 2023 and has been provided by Henkel.
- The plant of Umm Al Thuoob in United Arab Emirates uses full renewable electricity (solar). For this reason, the Ecoinvent database has been used to model the renewable energy.

Source	Umm Al Thuoob
GWP-GHG (kg CO2 eq./kWh)	0.05

- Regarding the transport of raw materials (module A2), specific distances have been introduced by supplier and material.
- For the transport of waste from production plant, specific distances have been introduced for each waste management facility, which has been provided by Henkel.
- For the distribution to the customer site, Henkel has indicated that the manufacturing sites supply to a radius of 167 km.
- For the preparation of waterproofing membrane, Henkel has provided primary data.
- The End-of-Life scenario for the products has been provided by Henkel, where it is assumed that the 100% goes to landfill.
- This EPD is based on specific data and system information

Data quality requirements: "Good" data quality has been obtained (3.94 out of 5). The method used to assess the representativeness of the data is found in "Table E.1 — Data quality level and criteria of the UN Environment Global Guidance on LCA database development" in the Annex E of the EN 15804+A2 standard.

Modules declared, geographical scope, share of specific data (in GWP-GHG results) and data variation (in GWP-GHG results):

	Product stage			Construction process stage		Use stage							End of life stage				Resource recovery stage
	Raw material supply	Transport	Manufacturing	Transport	Construction installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling-potential
Module	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Modules declared	X	X	X	X	X	ND	ND	ND	ND	ND	ND	ND	X	X	X	X	X
Geography	GLO	GLO	UAE	UAE	GLO	ND	ND	ND	ND	ND	ND	ND	GL O	GL O	GL O	GL O	GLO
Specific data used	11%					-	-	-	-	-	-	-	-	-	-	-	-
Variation – products	0%					-	-	-	-	-	-	-	-	-	-	-	
Variation – sites	0%					-	-	-	-	-	-	-	-	-	-	-	

Content information

Product components	Weight, (kg)	Post-consumer material, weight (kg)	Renewable material, weight (kg)	Biogenic material, weight (kg) of product	Biogenic material, weight
Organics, nonvolatiles	3.52	0	0	0	0
Inorganics	0.73	0	0	0	0
TOTAL	4.25	0	0	0	0

Packaging materials	Weight, kg	Weight-% (versus the product)	Biogenic material, weight-% of product	Weight biogenic carbon; kg	Weight biogenic CO ₂ , kg
Paper and cardboard	2.59E-05	4.94E-04	4.94E-04	1.29E-05	4.74E-05
Wood	4.93E-02	9.41E-01	9.41E-01	2.46E-02	9.03E-02
Plastic	7.10E-03	1.36E-01	0.00E+00	0.00E+00	0.00E+00
TOTAL	5.64E-02	1.08E+00	9.42E-01	2.47E-02	9.04E-02

None of the components present in the final product are included in the "Candidate List of Substances of Very High Concern (SVHC) to the REACH Regulation (EC) No 1907/2006". The conversion factor to convert from kg carbon to kg CO₂ = 44 kg CO₂/12 kg C

Results of the environmental performance indicators

The environmental information related to the analysed products has been calculated with the SimaPro software version 9.6. As required by PCR 2019:14¹, the characterization factors indicated in Annex C of the EN 15804:2012+A2 standard have been used to estimate the potential environmental impacts (method EN 15804 + A2 Method V1.02 / EF 3.1 normalization and weighting set). With respect to the results corresponding to the rest of the parameters under study, the following methodologies have been used: inventory data to calculate waste production, CED (Cumulative Energy Demand) to calculate energy use and inventory data for output flows. For the additional ISO 21930 indicators, TRACI (Tool for Reduction and Assessment of Chemicals and Other Environmental Impacts) and inventory data (for waste indicators) have been used.

The environmental results corresponding to the representative product of the waterproofing membrane family manufactured by Henkel and commercialized under the brand Polybit are shown below. These are divided by modules, covering the stages defined above in the system boundary section (A1-A3+A4-A5+B1-B7+C1-C4+D), and considering all the impact categories required by the PCR 2019:14 Construction products, version 1.3.4.

Estimated impact results are only relative statements that do not indicate impact category endpoints, exceedances of assessed thresholds, safety margins, or risks.

Results obtained in both the product stage (modules A1-A3) and installation stage (modules A4-A5) should not be used without considering those results obtained in modules C1-C4. Regarding C4 module, locally and additional calculation will be necessary based on the local applicable waste treatment scenario.

All infrastructure and capital goods are excluded for all the upstream, core and downstream processes.

¹ *Product Category Rules (PCR): PCR 2019:14 Construction products, version 1.3.4 Published on 2024.04.30 valid until: 2025.06.20*

Mandatory impact category indicators according to EN 15804

Results per declared unit										
Indicator	Unit	A1-A3	A4	A5	B1-B7	C1	C2	C3	C4	D
GWP-fossil	kg CO ₂ eq.	4.10E-01	7.65E-03	2.65E-02	MND	0.00E+00	2.29E-03	0.00E+00	1.47E-03	0.00E+00
GWP-biogenic	kg CO ₂ eq.	-9.80E-04	1.98E-07	9.80E-04	MND	0.00E+00	5.93E-08	0.00E+00	2.03E-07	0.00E+00
GWP-luluc	kg CO ₂ eq.	2.86E-04	3.06E-06	1.50E-05	MND	0.00E+00	9.16E-07	0.00E+00	7.58E-07	0.00E+00
GWP-Total	kg CO ₂ eq.	4.09E-01	7.66E-03	2.63E-02	MND	0.00E+00	2.29E-03	0.00E+00	1.47E-03	0.00E+00
ODP	kg CFC 11 eq.	1.16E-07	1.10E-10	6.34E-09	MND	0.00E+00	3.31E-11	0.00E+00	4.26E-11	0.00E+00
AP	mol H ⁺ eq.	1.87E-03	2.87E-05	1.12E-04	MND	0.00E+00	8.60E-06	0.00E+00	1.04E-05	0.00E+00
EP-freshwater	kg P eq.	6.51E-05	6.01E-07	3.42E-06	MND	0.00E+00	1.80E-07	0.00E+00	1.22E-07	0.00E+00
EP-marine	kg N eq.	3.88E-04	9.95E-06	1.84E-05	MND	0.00E+00	2.98E-06	0.00E+00	3.97E-06	0.00E+00
EP-terrestrial	mol N eq.	4.00E-03	1.08E-04	1.93E-04	MND	0.00E+00	3.25E-05	0.00E+00	4.34E-05	0.00E+00
POCP	kg NMVOC eq.	2.20E-03	3.99E-05	1.64E-04	MND	0.00E+00	1.19E-05	0.00E+00	1.55E-05	0.00E+00
ADP-minerals and metals*	kg Sb eq.	3.17E-06	2.46E-08	1.51E-07	MND	0.00E+00	7.37E-09	0.00E+00	2.30E-09	0.00E+00
ADP-fossil*	MJ	1.12E+01	1.08E-01	9.59E-01	MND	0.00E+00	3.22E-02	0.00E+00	3.61E-02	0.00E+00
WDP*	m ³	1.65E-01	4.86E-04	8.61E-03	MND	0.00E+00	1.45E-04	0.00E+00	1.58E-03	0.00E+00
Acronyms	GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption									

* Disclaimer: The results of this environmental impact indicator shall be used with care as the uncertainties of these results are high or as there is limited experience with the indicator.

Additional mandatory and voluntary impact category indicators

Results per declared unit										
Indicator	Unit	A1-A3	A4	A5	B1-B7	C1	C2	C3	C4	D
GWP - GHG ³	kg CO ₂ eq.	3.93E-01	7.62E-03	2.56E-02	MND	0.00E+00	2.28E-03	0.00E+00	1.46E-03	0.00E+00
PM	disease inc.	2.16E-08	6.16E-10	1.20E-09	MND	0.00E+00	1.84E-10	0.00E+00	2.37E-10	0.00E+00
IRP ²	kBq U-235 eq	1.07E-02	8.84E-05	6.57E-04	MND	0.00E+00	2.65E-05	0.00E+00	2.30E-05	0.00E+00
ETP-fw ¹	CTUe	2.47E+00	2.86E-02	1.34E-01	MND	0.00E+00	8.57E-03	0.00E+00	4.93E-03	0.00E+00
HTP-c ¹	CTUh	1.48E-09	3.98E-11	9.28E-11	MND	0.00E+00	1.19E-11	0.00E+00	6.65E-12	0.00E+00
HTP-nc ¹	CTUh	3.35E-09	6.70E-11	1.87E-10	MND	0.00E+00	2.01E-11	0.00E+00	6.16E-12	0.00E+00
SQP ¹	Pt	1.85E+00	6.43E-02	1.09E-01	MND	0.00E+00	1.92E-02	0.00E+00	7.10E-02	0.00E+00
PM = Particulate matter; IRP = Ionizing radiation, human health; ETP-fw = Ecotoxicity freshwater - organic; HTP-c = Human health, carcinogenic effects; HTP-nc = Human health, non-carcinogenic effects; SQP = Land use; NR = Non relevant										
¹ The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.										
² 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 nor due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator										
³ The indicator includes all greenhouse gases included in GWP-total but excludes biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. This indicator is thus almost equal to the GWP indicator originally defined in EN 15804:2012+A1:2013										

Resource use indicators

Results per declared unit										
Indicator	Unit	A1-A3	A4	A5	B1-B7	C1	C2	C3	C4	D
PERE	MJ	2.12E-01	2.18E-01	1.64E-02	MND	0.00E+00	4.24E-04	0.00E+00	3.35E-04	0.00E+00
PERM	MJ	2.16E-01	-2.16E-01	0.00E+00	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	MJ	4.29E-01	1.41E-03	1.64E-02	MND	0.00E+00	4.24E-04	0.00E+00	3.35E-04	0.00E+00
PENRE	MJ	8.73E+00	1.78E-01	1.02E+00	MND	0.00E+00	3.43E-02	0.00E+00	3.26E+00	0.00E+00
PENRM	MJ	3.29E+00	-6.35E-02	0.00E+00	MND	0.00E+00	0.00E+00	0.00E+00	-3.23E+00	0.00E+00
PENRT	MJ	1.20E+01	1.15E-01	1.02E+00	MND	0.00E+00	3.43E-02	0.00E+00	3.84E-02	0.00E+00
SM	kg	0.00E+00	0.00E+00	0.00E+00	MND	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	MND	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	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	m ³	4.14E-03	1.45E-05	2.19E-04	MND	0.00E+00	4.35E-06	0.00E+00	3.76E-05	0.00E+00
Acronyms	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 re-sources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water									

Waste indicators

Results per declared unit										
Indicator	Unit	A1-A3	A4	A5	B1-B7	C1	C2	C3	C4	D
Hazardous waste disposed	kg	1.16E-02	1.28E-04	6.37E-04	MND	0.00E+00	3.84E-05	0.00E+00	2.67E-05	0.00E+00
Non-hazardous waste disposed	kg	4.72E-01	1.01E-03	2.06E-02	MND	0.00E+00	3.04E-04	0.00E+00	3.89E-04	0.00E+00
Radioactive waste disposed	kg	2.63E-06	2.17E-08	1.61E-07	MND	0.00E+00	6.48E-09	0.00E+00	5.61E-09	0.00E+00

Output flow indicators

Results per declared unit										
Indicator	Unit	A1-A3	A4	A5	B1-B7	C1	C2	C3	C4	D
Components for re-use	kg	0.00E+00	0.00E+00	0.00E+00	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Material for recycling	kg	0.00E+00	0.00E+00	0.00E+00	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for energy recovery	kg	0.00E+00	0.00E+00	0.00E+00	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy, electricity	MJ	0.00E+00	0.00E+00	0.00E+00	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy, thermal	MJ	0.00E+00	0.00E+00	0.00E+00	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Additional ISO 21930 mandatory impact categories and indicators

Results per declared unit										
Indicator	Unit	A1-A3	A4	A5	B1-B7	C1	C2	C3	C4	D
High-Level radioactive waste	kg	2.63E-06	2.17E-08	1.61E-07	MND	0.00E+00	6.48E-09	0.00E+00	5.61E-09	0.00E+00
Intermediate/low-level radioactive waste	kg	0.00E+00	0.00E+00	0.00E+00	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Global warming potential (GWP 100)	kg CO2 eq	3.99E-01	7.55E-03	2.54E-02	MND	0.00E+00	2.26E-03	0.00E+00	1.44E-03	0.00E+00
Ozone depletion potential (ODP)	kg CFC-11 eq	1.06E-07	1.20E-10	5.88E-09	MND	0.00E+00	3.59E-11	0.00E+00	4.55E-11	0.00E+00
Eutrophication potential (EP)	kg N eq	8.95E-04	7.59E-06	4.27E-05	MND	0.00E+00	2.27E-06	0.00E+00	1.76E-06	0.00E+00
Acidification potetential (AP)	kg SO2 eq	1.62E-03	2.57E-05	9.49E-05	MND	0.00E+00	7.69E-06	0.00E+00	9.40E-06	0.00E+00
Photochemical oxidant creation potential (POCP)	kg O3 eq	2.29E-02	6.24E-04	1.11E-03	MND	0.00E+00	1.87E-04	0.00E+00	2.51E-04	0.00E+00

Information on biogenic carbon content

Results per functional or declared unit		
BIOGENIC CARBON CONTENT	Unit	QUANTITY
Biogenic carbon content in product	kg C	0
Biogenic carbon content in packaging	kg C	2.47E-02

Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO₂.

Differences versus previous versions

This document corresponds to the first version of the EPD of the BITUPLUS E4810 - UAE product manufactured by Henkel.

References

- General Programme Instructions of the International EPD[®] System. Version 4.0.
- Product Category Rules PCR 2019:14 Construction products, version 1.3.4. Published on 2024.04.30 valid until: 2025.06.20, based on the European standard UNI-EN 15804:2012+A2:2020.
- Complementary Product Category Rules c-PCR-032 (TO PCR 2019:14). Flexible sheets for waterproofing (EN 17388:2024). Version 2024-10-14.
- CEN (2024) EN 17388-1:2024 Flexible sheets for waterproofing – Environmental product declarations – Product category rules for reinforced bitumen, plastic and rubber flexible sheets for roof waterproofing – Part 1: Cradle to grave and module D.
- CEN (2024) EN 17388-2:2024 Flexible sheets for waterproofing – Environmental product declarations – Product category rules for reinforced bitumen, plastic and rubber flexible sheets for roof waterproofing – Part 2: Cradle to gate with options, modules C1-C4 and module D.
- UNI-EN ISO 14040:2006 – Environmental management – Life Cycle Assessment – Principles and framework.
- UNI-EN ISO 14044:2006 – Environmental management – Life Cycle Assessment – Requirements.
- UNI-EN ISO 14025:2006- Labels and environmental declarations.
- ISO/TR 14047: 2003 – Environmental management – Life Cycle Assessment – LCI application examples.
- ISO/TS 14048: 2003 – Environmental management – Life Cycle Assessment – Data inventory.
- ISO/TR 14049: 2000 – Environmental management – Life Cycle Assessment – Examples of application of objectives and scope and inventory analysis.
- UNI-EN 15804:2012+A2: Sustainability in construction. Product environmental statements. Commodity category rules for construction products.
- ISO (2017): ISO 21930:2017, Sustainability in buildings and civil engineering works -- Core rules for environmental product declarations of construction products and services
- EN 13707, Flexible sheets for waterproofing – Reinforced bitumen sheets for roof waterproofing – Definitions and characteristics.
- EN 13956, Flexible sheets for waterproofing – Plastic and rubber sheets for roof waterproofing - Definitions and characteristics.

VERIFICATION STATEMENT CERTIFICATE

CERTIFICADO DE DECLARACIÓN DE VERIFICACIÓN

Certificate No. / Certificado nº: EPD09717

CERTINALIA S.L.U., confirms that independent third-party verification has been conducted of the Environmental Product Declaration (EPD) on behalf of:

CERTINALIA S.L.U., confirma que se ha realizado verificación de tercera parte independiente de la Declaración Ambiental de Producto (DAP) en nombre de:

HENKEL AG & CO. KGAA
Henkelstraße 67
40589 Düsseldorf
Deutschland

for the following product:
para el siguiente producto:

Torch on membrane BITUPLUS E4180 – UAE
Membrana asfáltica BITUPLUS E4180 – UAE

with registration number **EPD-IES-0017668** in the International EPD® System (www.environdec.com).
con número de registro EPD-IES-0017668 en el Sistema Internacional EPD® (www.environdec.com).

it's in conformity with:
es conforme con:

- ISO 14025:2010 Environmental labels and declarations. Type III environmental declarations.
- General Programme Instructions for the International EPD® System v4.0.
- PCR 2019:14 Construction products (EN 15804+A2) v.1.3.4.
- c-PCR-032 Flexible Sheets for waterproofing (EN 17388:2024). Version 2024-10-14.
- UN CPC 3480 Synthetic rubber and factice derived from oils, and mixtures thereof with natural rubber and similar natural gums, in primary forms or in plates, sheets or strip.

Issued date / Fecha de emisión: 17/12/2024
Update date / Fecha de actualización: 17/12/2024
Valid until / Válido hasta: 16/12/2029
Serial Nº / Nº Serie: EPD0971700-E

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Carlos Nazabal Alsua
Manager



