

Result summary

BMI Icopal Base 500 PG & Top 500 P

(EN 15804+A1)

BMI Group Danmark

Calculation number:

ReTHiNK-40245

Generation on:

16-04-2024

Issue date:

16-04-2024

Valid until:

16-04-2029

Status:

verified

R<THiNK



1 General information

1.1 PRODUCT

BMI Icopal Base 500 PG & Top 500 P (EN 15804+A1)

1.2 VALIDITY

Issue date: 16-04-2024

Valid until: 16-04-2029

1.3 OWNER OF THE DECLARATION



Manufacturer: BMI Group Danmark

Address: Kystvejen 56, 9400 Nørresundby

E-mail: kundeservice.dk@bmigroup.com

Website: <https://www.bmigroup.com/dk/>

Production location: BMI Icopal Danmark

Address production location: Nygade 13, 7430 Ikast

1.4 VERIFICATION OF THE DECLARATION

The independent verification is in accordance with the ISO 14025:2011. The LCA is in compliance with ISO 14040:2006 and ISO 14044:2006. The EN 15804:2012+A2:2019 serves as the core PCR.

Internal External

A handwritten signature in black ink, appearing to be 'Anne Kees Jeeninga', written over a circular stamp or seal.

Anne Kees Jeeninga, Advieslab

1.5 PRODUCT CATEGORY RULES

EN 15804:2012+A1:2013

1.6 FUNCTIONAL UNIT

m²

m² roof coverage, with overlaps

reference_unit: square meter (m²)

1.7 CONVERSION FACTORS

Description	Value	Unit
reference_unit	1	m ²
weight_per_reference_unit	9.190	kg
Conversion factor to 1 kg	0.108818	m ²

1 General information

1.8 SCOPE OF DECLARATION AND SYSTEM BOUNDARIES

This is a Cradle to gate with options, modules C1-C4 and module D LCA. The life cycle stages included are as shown below:

(X = module included, ND = module not declared)

A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
X	X	X	X	X	X	X	X	ND	ND	ND	ND	X	X	X	X	X

The modules of the EN15804 contain the following:

Module A1 = Raw material supply	Module B5 = Refurbishment
Module A2 = Transport	Module B6 = Operational energy use
Module A3 = Manufacturing	Module B7 = Operational water use
Module A4 = Transport	Module C1 = De-construction / Demolition
Module A5 = Construction - Installation process	Module C2 = Transport
Module B1 = Use	Module C3 = Waste Processing
Module B2 = Maintenance	Module C4 = Disposal
Module B3 = Repair	Module D = Benefits and loads beyond the product system boundaries
Module B4 = Replacement	

1.9 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, the 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. 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).

2 Product

2.1 PRODUCT DESCRIPTION

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2.2 APPLICATION (INTENDED USE OF THE PRODUCT)

As a watertight roofing membrane

2.3 DESCRIPTION PRODUCTION PROCESS

For the production of bituminous roofing, a roll of inlay material (eg polyester, glass fiber or glass fabric) is unwound. This material runs over a stock bridge and then over cylinders to an impregnation installation. Depending on the desired quality of the product, the impregnating bitumen may or may not be blown or modified. The bitumen temperature is ± 190 ° C. The impregnated inlay material leaves the bath by means of heated wringer rollers such that it is fed so-called lean (dry) to the coating installation, where the cover layers are applied. The impregnation part is skipped with a number of qualities. The coating bitumen is blown or modified and optionally provided with a filler. To prevent

sticking, both sides are further processed after application of the cover layers. The following are used as a spreading agent on the top layer: sand, talcum (asbestos-free), slate, granulate and PE / PP foil or aluminum foil. The sand, talc, slate chippings and granulate are supplied and stored in bulk, big bags or sacks. After spreading, the hot roof roller line is cooled by means of cooling cylinders, after which it is rolled up and packaged in various lengths. The product is shrunk per pallet or per roll with polyethylene shrink film in an indirect gas-fired (propane) shrink unit or manually with a gas burner (propane). Production speeds vary from line to line.

2.4 CONSTRUCTION DESCRIPTION

The system is fully torched. The following scenario for the jointing technique and energy consumption for installation (e.g. gas propane, electricity) shall be used:

EWA EPD: 0,150 kg = 0,294 liter (based on 1,96 liter per kg). Taken into account 49 MJ/ kg this is 7,35 MJ. The kg's is based on current EWA EPD [http://data.ewa-europe.com/EPDs/EPD%20S-P-00414%20\(2021-08-03\).pdf](http://data.ewa-europe.com/EPDs/EPD%20S-P-00414%20(2021-08-03).pdf) . This is the gas consumption we use for the standard product (500 series),. For the lightweight we have observed a huge reduction in gas consumption on the roof (25% less)

3 Results

3.1 ENVIRONMENTAL IMPACT INDICATORS PER SQUARE METER

CORE ENVIRONMENTAL IMPACT INDICATORS EN15804+A1

Abbreviation	Unit	A1	A2	A3	A4	A5	B1	B2	B3	C1	C2	C3	C4	D	Total
ADPE	Kg Sb	4.75E-4	2.86E-5	2.08E-5	1.55E-5	1.88E-5	0.00E+0	0.00E+0	0.00E+0	0.00E+0	7.81E-6	7.77E-6	4.23E-7	1.09E-6	5.76E-4
ADPF	MJ	2.56E+2	1.59E+1	1.91E+1	8.48E+0	2.64E+1	0.00E+0	0.00E+0	0.00E+0	0.00E+0	3.16E+0	5.88E+0	9.03E-1	-1.12E+2	2.24E+2
AP	Kg SO2 Equiv.	1.78E-2	3.94E-3	4.49E-3	1.82E-3	3.62E-3	0.00E+0	0.00E+0	0.00E+0	0.00E+0	6.81E-4	3.06E-3	4.89E-4	-8.00E-3	2.79E-2
ODP	Kg CFC-11 Equiv.	7.17E-7	1.94E-7	8.89E-8	1.04E-7	2.50E-7	0.00E+0	0.00E+0	0.00E+0	0.00E+0	3.84E-8	6.91E-8	9.74E-9	-1.18E-6	2.87E-7
GWP	Kg CO2 Equiv.	3.28E+0	1.07E+0	1.46E+0	5.69E-1	1.88E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	2.16E-1	1.01E+1	4.71E-1	-3.43E+0	1.57E+1
EP	Kg PO43- Equiv.	6.18E-3	7.12E-4	1.12E-3	3.33E-4	6.72E-4	0.00E+0	0.00E+0	0.00E+0	0.00E+0	1.22E-4	5.37E-4	2.20E-4	-1.29E-3	8.60E-3
POCP	Kg Ethene Equiv.	3.74E-3	5.73E-4	9.01E-4	2.89E-4	5.63E-4	0.00E+0	0.00E+0	0.00E+0	0.00E+0	1.07E-4	4.42E-4	1.15E-4	-1.31E-3	5.42E-3

ADPE=Depletion of abiotic resources-elements | **ADPF**=abiotic depletion of fossil resources | **AP**=Acidification of soil and water | **ODP**=Ozone layer depletion | **GWP**=Global warming | **EP**=Eutrophication | **POCP**=Photochemical oxidants creation

3.2 INDICATORS DESCRIBING RESOURCE USE AND ENVIRONMENTAL INFORMATION BASED ON LIFE CYCLE INVENTORY (LCI)

PARAMETERS DESCRIBING RESOURCE USE

Abbreviation	Unit	A1	A2	A3	A4	A5	B1	B2	B3	C1	C2	C3	C4	D	Total
PERE	MJ	3.57E+0	2.23E-1	8.03E+0	1.22E-1	4.58E-1	0.00E+0	0.00E+0	0.00E+0	0.00E+0	5.50E-2	3.54E-1	1.97E-2	-8.65E+0	4.18E+0
PERM	MJ	0.00E+0	0.00E+0	9.44E+0	0.00E+0	2.83E-1	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	9.72E+0
PERT	MJ	3.57E+0	2.23E-1	1.75E+1	1.22E-1	7.41E-1	0.00E+0	0.00E+0	0.00E+0	0.00E+0	5.50E-2	3.54E-1	1.97E-2	-8.65E+0	1.39E+1
PENRE	MJ	1.20E+2	1.73E+1	2.16E+1	9.19E+0	2.36E+1	0.00E+0	0.00E+0	0.00E+0	0.00E+0	3.44E+0	6.81E+0	9.94E-1	-7.22E+1	1.31E+2

PERE=renewable primary energy ex. raw materials | **PERM**=renewable primary energy used as raw materials | **PERT**=renewable primary energy total | **PENRE**=non-renewable primary energy ex. raw materials | **PENRM**=non-renewable primary energy used as raw materials | **PENRT**=non-renewable primary energy total | **SM**=use of secondary material | **RSF**=use of renewable secondary fuels | **NRSF**=use of non-renewable secondary fuels | **FW**=use of net fresh water

3 Results

Abbreviation	Unit	A1	A2	A3	A4	A5	B1	B2	B3	C1	C2	C3	C4	D	Total
PENRM	MJ	1.57E+2	0.00E+0	1.06E+0	0.00E+0	4.82E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	-4.90E+1	1.14E+2
PENRT	MJ	2.78E+2	1.73E+1	2.27E+1	9.19E+0	2.84E+1	0.00E+0	0.00E+0	0.00E+0	0.00E+0	3.44E+0	6.81E+0	9.94E-1	-1.21E+2	2.45E+2
SM	Kg	9.46E-2	0.00E+0	2.16E-3	0.00E+0	2.90E-3	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	9.96E-2
RSF	MJ	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
NRSF	MJ	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
FW	M3	4.42E-2	1.76E-3	2.59E-2	9.12E-4	3.42E-3	0.00E+0	0.00E+0	0.00E+0	0.00E+0	3.85E-4	6.42E-3	9.78E-4	-7.89E-4	8.32E-2

PERE=renewable primary energy ex. raw materials | **PERM**=renewable primary energy used as raw materials | **PERT**=renewable primary energy total | **PENRE**=non-renewable primary energy ex. raw materials | **PENRM**=non-renewable primary energy used as raw materials | **PENRT**=non-renewable primary energy total | **SM**=use of secondary material | **RSF**=use of renewable secondary fuels | **NRSF**=use of non-renewable secondary fuels | **FW**=use of net fresh water

OTHER ENVIRONMENTAL INFORMATION DESCRIBING WASTE CATEGORIES

Abbreviation	Unit	A1	A2	A3	A4	A5	B1	B2	B3	C1	C2	C3	C4	D	Total
HWD	Kg	9.53E-5	4.21E-5	2.78E-5	2.27E-5	3.89E-5	0.00E+0	0.00E+0	0.00E+0	0.00E+0	8.70E-6	1.07E-5	1.41E-6	-7.83E-5	1.69E-4
NHWD	Kg	2.27E-1	8.20E-1	3.60E-1	4.14E-1	2.51E-1	0.00E+0	0.00E+0	0.00E+0	0.00E+0	1.28E-1	4.81E-1	3.68E+0	-3.11E-2	6.34E+0
RWD	Kg	2.35E-3	1.10E-4	7.97E-5	5.90E-5	1.97E-4	0.00E+0	0.00E+0	0.00E+0	0.00E+0	2.18E-5	2.45E-5	5.62E-6	-4.90E-4	2.36E-3

HWD=hazardous waste disposed | **NHWD**=non hazardous waste disposed | **RWD**=radioactive waste disposed

ENVIRONMENTAL INFORMATION DESCRIBING OUTPUT FLOWS

Abbreviation	Unit	A1	A2	A3	A4	A5	B1	B2	B3	C1	C2	C3	C4	D	Total
CRU	Kg	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
MFR	Kg	0.00E+0	0.00E+0	6.33E-2	0.00E+0	3.27E-1	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	1.38E+0	0.00E+0	0.00E+0	1.77E+0
MER	Kg	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
EE	MJ	0.00E+0	0.00E+0	6.97E-1	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	3.85E+1	3.92E+1
EET	MJ	0.00E+0	0.00E+0	4.41E-1	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	2.43E+1	2.48E+1
EEE	MJ	0.00E+0	0.00E+0	2.56E-1	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	1.41E+1	1.44E+1

CRU=Components for re-use | **MFR**=Materials for recycling | **MER**=Materials for energy recovery | **EE**=Exported energy | **EET**=Exported Energy Thermic | **EEE**=Exported Energy Electric

3 Results

3.3 INFORMATION ON BIOGENIC CARBON CONTENT PER SQUARE METER

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:

Biogenic carbon content	Amount	Unit
Biogenic carbon content in the product	0	kg C
Biogenic carbon content in accompanying packaging	0.2853	kg C

UPTAKE OF BIOGENIC CARBON DIOXIDE

The following amount of uptake of carbon dioxide is account in module A1 by the main parts of the product. 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.

Uptake Biogenic Carbon dioxide	Amount	Unit
Packaging	1.046	kg CO2 (biogenic)

4 Contact information

Publisher



Operator

Owner of declaration



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