This appendix refers to the EPD MD-24189-EN, developed according to EN15804+A2:2019.

Results in the appendix communicates LCA results in the format described in EN15804+A1:2013, in order to accommodate a need in the transition period between the two standard revisions. The appendix cannot stand alone, as the reference EPD describes the basis of the assessment.

ENVIRONMENTAL IMPACTS PER 1 m² of insulation material with thickness corresponding to R-value = 1m²K/W

									Scenario 1			Scenario 2		
Parameter	**Unit**	**A1**	**A2**	**A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**	**C3**	**C4**	**D**
GWP	kg CO2-eq.	2,62E+00	1,57E-01	4,25E-01	5,18E-03	3,41E-02	0,00E+00	1,62E-03	5,11E-04	0,00E+00	-2,70E+00	0,00E+00	4,52E+00	-1,63E+00
ODP	kg CFC11-eq.	6,23E-11	2,41E-14	8,62E-10	7,95E-16	5,95E-15	0,00E+00	2,49E-16	2,35E-14	0,00E+00	-6,10E-12	0,00E+00	2,34E-13	-1,55E-11
AP	kg SO2-eq.	3,28E-03	1,44E-04	4,21E-04	5,42E-06	2,56E-06	0,00E+00	1,70E-06	2,25E-18	0,00E+00	-3,11E-03	0,00E+00	2,37E-04	-2,59E-03
EP	kg PO4(3-)-eq.	4,51E-04	3,05E-05	8,98E-05	1,18E-06	5,61E-07	0,00E+00	3,73E-07	5,30E-10	0,00E+00	-4,40E-04	0,00E+00	5,34E-05	-4,22E-04
POCP	kg ethene-eq	6,38E-04	1,32E-05	3,29E-02	4,37E-07	2,75E-07	0,00E+00	1,36E-07	5,90E-11	0,00E+00	-6,12E-04	0,00E+00	2,52E-05	-2,61E-04
ADPE	kg Sb-eq	1,01E-07	1,04E-08	2,11E-07	3,43E-10	5,76E-11	0,00E+00	1,07E-10	7,11E-14	0,00E+00	-1,03E-07	0,00E+00	2,05E-09	-1,65E-07
ADPF	MJ	9,57E+01	2,11E+00	6,55E+00	6,96E-02	1,23E-02	0,00E+00	2,17E-02	1,01E-10	0,00E+00	-9,53E+01	0,00E+00	4,08E-01	-1,84E+01
Caption	GWP = Global warming potential; ODP = Ozone depletion potential; AP = Acidification potential of soil and water; EP = Eutrophication potential; POCP = Photochemical ozone creation potential; ADPE = Abiotic depletion potential for non fossil resources; ADPF = Abiotic depletion potential for fossil resources													
	The numbers are declared in scientific notation, e.g., 1.95E+02. This number can also be written as: $1.95*10^{2}$ or 195, while 1.12E-11 is the same as $1.12*10^{-11}$ or 0.0000000000112.													

RESOURCE USE PER 1 m² of insulation material with thickness corresponding to R-value = 1m²K/W

									Scenario 1			Scenario 2		
Parameter	**Unit**	**A1**	**A2**	**A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**	**C3**	**C4**	**D**
PERE	MJ	2,57E+00	1,56E-01	1,33E-01	5,15E-03	2,95E-03	0,00E+00	1,61E-03	1,77E-03	0,00E+00	-2,79E+00	0,00E+00	1,27E-01	-1,61E+01
PERM	MJ	3,88E-01	0,00E+00	-3,86E-01	0,00E+00	-1,38E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	MJ	2,96E+00	1,56E-01	-2,53E-01	5,15E-03	1,57E-03	0,00E+00	1,61E-03	1,77E-03	0,00E+00	-2,79E+00	0,00E+00	1,27E-01	-1,61E+01
PENRE	MJ	9,77E+01	2,15E+00	1,07E+01	7,10E-02	1,36E-02	0,00E+00	2,22E-02	6,62E-03	0,00E+00	-9,73E+01	0,00E+00	4,99E-01	-2,57E+01
PENRM	MJ	5,04E+01	0,00E+00	6,71E-01	0,00E+00	-7,64E-01	0,00E+00	0,00E+00	-5,04E+01	0,00E+00	0,00E+00	0,00E+00	-5,04E+01	0,00E+00
PENRT	MJ	1,48E+02	2,15E+00	1,14E+01	7,10E-02	-7,50E-01	0,00E+00	2,22E-02	-5,03E+01	0,00E+00	-9,73E+01	0,00E+00	-4,99E+01	-2,57E+01
SM	kg	1,98E-02	0,00E+00	7,03E-05	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	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	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	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	m3	1,35E-02	1,71E-04	4,04E-03	5,64E-06	7,32E-05	0,00E+00	1,76E-06	0,00E+00	0,00E+00	-1,43E-02	0,00E+00	8,59E-03	-9,81E-03
Caption	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 = Net use of fresh water													
	The numbers are declared in scientific notation, e.g., 1.95E+02. This number can also be written as: $1.95*10^{2}$ or 195, while 1.12E-11 is the same as $1.12*10^{-11}$ or 0.0000000000112.													

WASTE CATEGORIES AND OUTPUT FLOWS PER1 m² of insulation material with thickness corresponding to R-value = 1m²K/W

									Scenario 1			Scenario 2		
Parameter	**Unit**	**A1**	**A2**	**A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**	**C3**	**C4**	**D**
HWD	kg	6,20E-09	6,65E-12	1,18E-10	2,20E-13	1,16E-13	0,00E+00	6,87E-14	0,00E+00	0,00E+00	-6,58E-09	0,00E+00	1,13E-11	-1,07E-09
NHWD	kg	2,24E-02	3,28E-04	4,37E-03	1,08E-05	2,16E-03	0,00E+00	3,38E-06	1,54E-16	0,00E+00	-2,42E-02	0,00E+00	1,63E-02	-4,89E-02
RWD	kg	3,23E-04	4,02E-06	1,79E-05	1,33E-07	4,48E-07	0,00E+00	4,15E-08	1,14E-08	0,00E+00	-3,60E-04	0,00E+00	3,01E-05	-2,37E-03
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	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
MFR	kg	0,00E+00	0,00E+00	1,69E-02	0,00E+00	6,31E-03	0,00E+00	0,00E+00	1,34E+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	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
EEE	MJ	0,00E+00	0,00E+00	5,88E-02	0,00E+00	6,16E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	8,13E+00	0,00E+00
EET	MJ	0,00E+00	0,00E+00	1,06E-01	0,00E+00	1,10E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,45E+01	0,00E+00
Caption	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													
	The numbers are declared in scientific notation, e.g., 1.95E+02. This number can also be written as: $1.95*10^{2}$ or 195, while 1.12E-11 is the same as $1.12*10^{-11}$ or 0.0000000000112.													

Independent verification of the tool on which declaration and data is based, according to EN ISO 14025:2010.
Checked and approved by

David Althoff Palm
Third party verifier of MD-24189-EN

Martha Katrine Sørensen
EPD Danmark