

This appendix refers to the EPD MD-20042-EN_rev1, 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.

Product 1: Painted structural steel

ENVIRONMENTAL IMPACTS PER TON										
Parameter	Unit	A1-A3	A4	A5	B1-B7	C1	C2	C3	C4	D
GWP	[kg CO ₂ -eq.]	1.02E+03	8.18E+00	6.34E-01	0.00E+00	6.34E-01	8.26E+00	4.17E+01	0.00E+00	-3.03E+02
ODP	[kg CFC11-eq.]	1.13E-11	2.04E-15	2.30E-16	0.00E+00	2.30E-16	2.06E-15	3.05E-06	0.00E+00	-7.43E-13
AP	[kg SO ₂ -eq.]	2.37E+00	2.08E-02	2.40E-03	0.00E+00	2.40E-03	2.10E-02	2.47E-01	0.00E+00	-4.88E-01
EP	[kg PO ₄ ³⁻ -eq.]	3.12E-01	4.93E-03	5.45E-04	0.00E+00	5.45E-04	4.97E-03	9.47E-02	0.00E+00	-2.56E-02
POCP	[kg ethene-eq.]	2.86E-01	-7.25E-03	2.41E-04	0.00E+00	2.41E-04	-7.32E-03	1.82E-02	0.00E+00	-1.51E-01
ADPE	[kg Sb-eq.]	1.48E-04	6.74E-07	7.63E-08	0.00E+00	7.63E-08	6.81E-07	1.37E-03	0.00E+00	-6.69E-04
ADPF	[MJ]	1.10E+04	1.10E+02	1.25E+01	0.00E+00	1.25E+01	1.11E+02	3.31E+02	0.00E+00	-2.86E+03
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									

RESOURCE USE PER TON										
Parameter	Unit	A1-A3	A4	A5	B1-B7	C1	C2	C3	C4	D
PERE	[MJ]	2.18E+03	6.42E+00	7.26E-01	0.00E+00	7.26E-01	6.49E+00	5.52E+01	0.00E+00	2.25E+02
PERM	[MJ]	5.88E-02	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]	2.18E+03	6.42E+00	7.26E-01	0.00E+00	7.26E-01	6.49E+00	5.52E+01	0.00E+00	2.25E+02
PENRE	[MJ]	1.18E+04	1.11E+02	1.26E+01	0.00E+00	1.26E+01	1.13E+02	3.79E+02	0.00E+00	-2.78E+03
PENRM	[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
PENRT	[MJ]	1.18E+04	1.11E+02	1.26E+01	0.00E+00	1.26E+01	1.13E+02	3.79E+02	0.00E+00	-2.78E+03
SM	[kg]	7.84E+02	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
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
FW	[m ³]	2.05E+00	7.48E-03	8.46E-04	0.00E+00	8.46E-04	7.56E-03	2.18E-01	0.00E+00	-1.40E+00
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 = Use of net fresh water									

WASTE CATEGORIES AND OUTPUT FLOWS PER TON										
Parameter	Unit	A1-A3	A4	A5	B1-B7	C1	C2	C3	C4	D
HWD	[kg]	9.64E-05	5.16E-06	5.83E-07	0.00E+00	5.83E-07	5.21E-06	3.32E-08	0.00E+00	7.21E-07
NHWD	[kg]	1.15E+01	1.77E-02	2.00E-03	0.00E+00	2.00E-03	1.78E-02	2.59E+00	0.00E+00	3.29E+01
RWD	[kg]	3.03E-01	2.06E-04	2.32E-05	0.00E+00	2.32E-05	2.08E-04	3.95E-04	0.00E+00	-6.71E-04
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
MFR	[kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.31E+02	0.00E+00	0.00E+00
MER	[kg]	6.19E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.00E+01	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	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	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									

Product 2: Galvanised structural steel

ENVIRONMENTAL IMPACTS PER TON										
Parameter	Unit	A1-A3	A4	A5	B1-B7	C1	C2	C3	C4	D
GWP	[kg CO ₂ -eq.]	1.01E+03	8.18E+00	6.34E-01	0.00E+00	6.34E-01	8.26E+00	2.27E+01	0.00E+00	-3.00E+02
ODP	[kg CFC11-eq.]	1.15E-11	2.04E-15	2.30E-16	0.00E+00	2.30E-16	2.06E-15	3.05E-06	0.00E+00	-7.01E-13
AP	[kg SO ₂ -eq.]	2.35E+00	2.08E-02	2.40E-03	0.00E+00	2.40E-03	2.10E-02	2.40E-01	0.00E+00	-4.84E-01
EP	[kg PO ₄ ³⁻ -eq.]	3.08E-01	4.93E-03	5.45E-04	0.00E+00	5.45E-04	4.97E-03	9.34E-02	0.00E+00	-2.49E-02
POCP	[kg ethene-eq.]	2.71E-01	-7.25E-03	2.41E-04	0.00E+00	2.41E-04	-7.32E-03	1.78E-02	0.00E+00	-1.50E-01
ADPE	[kg Sb-eq.]	2.92E-04	6.74E-07	7.63E-08	0.00E+00	7.63E-08	6.81E-07	1.37E-03	0.00E+00	-6.68E-04
ADPF	[MJ]	1.05E+04	1.10E+02	1.25E+01	0.00E+00	1.25E+01	1.11E+02	3.23E+02	0.00E+00	-2.83E+03
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									

RESOURCE USE PER TON										
Parameter	Unit	A1-A3	A4	A5	B1-B7	C1	C2	C3	C4	D
PERE	[MJ]	2.14E+03	6.42E+00	7.26E-01	0.00E+00	7.26E-01	6.49E+00	5.37E+01	0.00E+00	2.52E+02
PERM	[MJ]	5.88E-02	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]	2.14E+03	6.42E+00	7.26E-01	0.00E+00	7.26E-01	6.49E+00	5.37E+01	0.00E+00	2.52E+02
PENRE	[MJ]	1.13E+04	1.11E+02	1.26E+01	0.00E+00	1.26E+01	1.13E+02	3.70E+02	0.00E+00	-2.75E+03
PENRM	[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
PENRT	[MJ]	1.13E+04	1.11E+02	1.26E+01	0.00E+00	1.26E+01	1.13E+02	3.70E+02	0.00E+00	-2.75E+03
SM	[kg]	7.84E+02	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
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
FW	[m ³]	2.14E+00	7.48E-03	8.46E-04	0.00E+00	8.46E-04	7.56E-03	1.62E-01	0.00E+00	-1.39E+00
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 = Use of net fresh water									

WASTE CATEGORIES AND OUTPUT FLOWS PER TON										
Parameter	Unit	A1-A3	A4	A5	B1-B7	C1	C2	C3	C4	D
HWD	[kg]	3.85E-05	5.16E-06	5.83E-07	0.00E+00	5.83E-07	5.21E-06	0.00E+00	0.00E+00	7.66E-07
NHWD	[kg]	1.09E+01	1.77E-02	2.00E-03	0.00E+00	2.00E-03	1.78E-02	0.00E+00	0.00E+00	3.30E+01
RWD	[kg]	2.96E-01	2.06E-04	2.32E-05	0.00E+00	2.32E-05	2.08E-04	0.00E+00	0.00E+00	9.95E-05
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
MFR	[kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.31E+02	0.00E+00	0.00E+00
MER	[kg]	6.11E+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	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	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									

Checked and approved by



David Althoff Palm, Ramboll
Third party verifier of MD-20042-EN



Henrik Fred Larsen
EPD Danmark