

# Environmental Product Declaration

According to ISO14025+EN15804 A2 (+indicators A1)

This declaration is for:

**HENCO** Vision push fitting with messing or inox inserts

Provided by:

**Henco Industries NV** 



MRPI® registration:

1.1.00987.2025

Program operator:

**Stichting MRPI®** 

Publisher:

Stichting MRPI®

www.mrpi.nl

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## **COMPANY INFORMATION**

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## **MRPI® REGISTRATION**

1.1.00987.2025

#### **DATE OF THIS ISSUE**

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#### SCOPE OF DECLARATION

This MRPI®-EPD certificate is verified by Mantijn van Leeuwen, NIBE sustainability experts. The LCA study has been done by Mando Kort, Ecochain Technologies B.V.. The certificate is based on an LCA-dossier according to ISO14025+EN15804 A2 (+indicators A1). It is verified according to the 'MRPI®-EPD verification protocol November 2020.v4.0'. EPDs of construction products may not be comparable if they do not comply with EN15804+A2. Declaration of SVHC that are listed on the 'Candidate list of Substances of Very High Concern for authorisation' when content exceeds the limits for registration with ECHA.

## **PRODUCT**

HENCO Vision push fitting with messing or inox inserts

## **DECLARED UNIT / FUNCTIONAL UNIT**

1 Mass (kg)

## **DESCRIPTION OF PRODUCT**

The HENCO Vision push fitting with messing or inox insert guarantees for an extremely fast and reliable coupling.

#### **VISUAL PRODUCT**



## **PROGRAM OPERATOR**

Stichting MRPI®

Kingsfordweg 151

1043 GR

Amsterdam

# MORE INFORMATION

https://www.henco.be/en/41S

Ing. L. L. Oosterveen MSc. MBA	DEMONSTRATION OF VERIFICATION
Managing Director MRPI	CEN standard EN15804 serves as the core PCR [1]
	Independent verification of the declaration an data
	according to ISO14025+EN15804 A2 (+indicators A1)
	Internal: External: X
$\downarrow$	Third party verifier: Mantijn van Leeuwen, NIBE sustainability experts
LuCokwe	
	[1] PCR = Product Category Rules







## **DETAILED PRODUCT DESCRIPTION**

The construction of the HENCO VISION PUSH FITTING WITH MESSING or INOX INSERTS is the result of a sophisticated product development. All parts are made with the utmost precision and made of the best materials. The Henco Vision push fittings are made of the same material as the composite press fittings. PVDF is a high-quality plastic with a unique range of properties. The Henco Vision push fittings can be used in both sanitary and CV applications, and guarantees an extremely fast and reliable connection.

The values are based on an average composition and expressed per kilogram. For correct use, the actual product mass must be multiplied by the stated value per 1 kg.

Components Product (>1%)	(kg/%)
Polyvinylfluoride	64,56%
Messing or Inox	34,16%
Synthetic rubber	1,28%

For its packaging of HENCO VISION PUSH FITTINGS WITH MESSING or INOX INSERTS, Henco Industries NV puts the focus mainly on the reuse and/or recyclability of the chosen material.

Components Packaging (>1%)	(kg/%)
Paper and cardboard	99,09%
Plastics	0,91%

## **SCOPE AND TYPE**

Produced in Belgium, sold in Europe. Based on datasets from Ecoinvent version 3.6, incorporated in Ecochain Helix version 4.3.1. The EPD gives average scores of all variants within the product group, all produced by Henco.

PROI	DUCT S	ΓAGE	CONSTRUC PROCESS S				US	SE STA	GE			EN	D OF LI	FE STA	.GE	BENEFITS AND LOADS BEYOND THE SYSTEM BOUNDARIES
Raw material supply	Transport	Manufacturing	Transport gate to 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	А3	A4	A5	B1	B2	В3	B4	B5	В6	В7	C1	C2	C3	C4	D
Х	Х	Х	Х	Х	ND	ND	ND	ND	ND	ND	ND	Х	Х	Х	Х	X

X = Modules Assessed

ND = Not Declared









## **REPRESENTATIVENESS**

Henco produces multiple types of VISION PUSH FITTING WITH MESSING or INOX INSERTS, with multiple variants in connections for each type. This makes Henco's range considerable. The LCA has therefore chosen to model a weighted average for the average composition per 1 kg COMPOSITE FITTING WITH MESSING or INOX INSERTS.

The data are based on an average composition, with the observed variation included (The highest deviation was: 34,84%) to reflect the possible deviations.







# **ENVIRONMENTAL IMPACT** per functional unit or declared unit (indicators A1)

	Unit	A1	A2	<b>A3</b>	A1-A3	A4	<b>A</b> 5	B1	B2	В3	B4	B5	B6	B7	C1	C2	C3	C4	D
ADPE	kg Sb eq.	1,56E-02	5,27E-06	2,09E-05	1,56E-02	1,88E-06	9,06E-07	ND	0,00E+00	3,42E-07	2,72E-06	1,94E-08	-7,87E-03						
ADPF	MJ	1,56E+02	3,13E+00	8,03E+01	2,40E+02	1,12E+00	5,86E-01	ND	0,00E+00	2,04E-01	2,20E+00	1,35E-02	-1,68E+01						
GWP	kg CO2 eq.	1,34E+01	2,02E-01	1,61E+00	1,52E+01	7,37E-02	5,57E-02	ND	0,00E+00	1,34E-02	3,18E-01	1,00E-01	-1,40E+00						
ODP	kg CFC11 eq.	8,40E-07	3,75E-08	4,62E-07	1,34E-06	1,31E-08	3,81E-09	ND	0,00E+00	2,37E-09	1,39E-08	1,23E-10	-8,70E-08						
POCP	kg ethene eq.	1,55E-02	1,21E-04	4,22E-04	1,60E-02	4,45E-05	2,09E-05	ND	0,00E+00	8,07E-06	9,88E-05	5,64E-07	-5,18E-03						
AP	kg SO2 eq.	2,73E-01	8,69E-04	4,90E-03	2,79E-01	3,24E-04	1,81E-04	ND	0,00E+00	5,88E-05	5,12E-04	1,03E-05	-1,07E-01						
EP	kg (PO4) 3 eq.	1,66E-02	1,74E-04	4,39E-04	1,73E-02	6,37E-05	1,20E-04	ND	0,00E+00	1,16E-05	8,92E-05	3,93E-06	-5,86E-03						
Toxicity	indicate	ors and	ECI (Du	tch marl	ket)														
НТР	kg DCB eq.	5,25E+01	8,64E-02	4,06E-01	5,30E+01	3,10E-02	1,71E-01	ND	0,00E+00	5,63E-03	2,06E-01	2,87E-03	-1,76E+01						
FAETP	kg DCB eq.	9,57E-01	2,53E-03	1,71E-02	9,76E-01	9,06E-04	9,75E-03	ND	0,00E+00	1,64E-04	4,02E-03	1,61E-03	-4,08E-01						
MAETP	kg DCB eq.	4,19E+03	9,04E+00	6,07E+01	4,26E+03	3,26E+00	2,85E+01	ND	0,00E+00	5,92E-01	7,81E+00	1,75E+00	-1,79E+03						
TETP	kg DCB eq.	1,44E-01	3,06E-04	2,01E-02	1,64E-01	1,10E-04	4,21E-04	ND	0,00E+00	1,99E-05	6,65E-04	3,24E-06	-4,83E-02						
ECI	euro	7,14E+00	2,44E-02	1,52E-01	7,31E+00	8,89E-03	2,83E-02	ND	0,00E+00	1,61E-03	3,86E-02	5,56E-03	-2,34E+00						

ND

ND

ND

ND

ND

ND

ND

ADPE = Abiotic Depletion Potential for non-fossil resources

ADPF = Abiotic Depletion Potential for fossil resources

8,13E-02 1,48E-03 1,37E-02 9,65E-02 5,42E-04 2,82E-04

GWP = Global Warming Potential

ADPF

kg Sb eq.

ODP = Depletion potential of the stratospheric ozone layer

POCP = Formation potential of tropospheric ozone photochemical oxidants

AP = Acidification Potential of land and water

EP = Eutrophication Potential
HTP = Human Toxicity Potential

FAETP = Fresh water aquatic ecotoxicity potential

MAETP = Marine aquatic ecotoxicity potential

TETP = Terrestrial ecotoxicity potential

ECI = Environmental Cost Indicator

ADPF = Abiotic Depletion Potential for fossil resources





0,00E+00 9,84E-05 1,07E-03 7,11E-06 <mark>-9,08E-03</mark>



# **ENVIRONMENTAL IMPACT** per functional unit or declared unit (core indicators A2)

	Unit	A1	A2	A3	A1-A3	<b>A</b> 4	A5	B1	B2	В3	В4	B5	В6	В7	C1	C2	C3	C4	D
GWP-total	kg CO2 eq.	1,41E+01	2,04E-01	1,65E+00	1,60E+01	7,44E-02	1,54E-01	ND	0,00E+00	1,35E-02	3,21E-01	1,00E-01	-1,44E+00						
GWP-fossil	kg CO2 eq.	1,40E+01	2,04E-01	1,63E+00	1,59E+01	7,44E-02	5,44E-02	ND	0,00E+00	1,35E-02	3,21E-01	1,00E-01	-1,43E+00						
GWP- biogenic	kg CO2 eq.	6,27E-02	1,24E-04	1,94E-02	8,22E-02	3,43E-05	9,93E-02	ND	0,00E+00	6,23E-06	-7,33E-04	1,84E-04	-4,42E-03						
GWP-luluc	kg CO2 eq.	1,43E-02	7,21E-05	4,98E-04	1,49E-02	2,72E-05	3,13E-05	ND	0,00E+00	4,95E-06	1,26E-04	2,65E-07	-2,16E-03						
ODP	kg CFC11 eq.	8,71E-07	4,69E-08	2,87E-07	1,20E-06	1,64E-08	4,30E-09	ND	0,00E+00	2,98E-09	1,66E-08	1,45E-10	-9,49E-08						
AP	mol H+ eq.	3,14E-01	1,16E-03	5,95E-03	3,21E-01	4,31E-04	2,32E-04	ND	0,00E+00	7,83E-05	6,56E-04	1,46E-05	-1,23E-01						
EP-fresh water	kg PO4 eq.	2,55E-03	1,68E-06	7,79E-06	2,55E-03	7,50E-07	2,28E-06	ND	0,00E+00	1,36E-07	3,61E-06	1,38E-08	-9,87E-04						
EP-marine	kg N eq.	2,03E-02	4,15E-04	1,07E-03	2,18E-02	1,52E-04	5,49E-05	ND	0,00E+00	2,76E-05	1,84E-04	6,65E-06	-6,19E-03						
EP- terrestrial	mol N eq.	2,75E-01	4,57E-03	1,21E-02	2,91E-01	1,68E-03	5,81E-04	ND	0,00E+00	3,04E-04	2,02E-03	7,22E-05	-9,13E-02						
POCP	kg NMVOC eq.	7,68E-02	1,31E-03	3,36E-03	8,15E-02	4,78E-04	2,19E-04	ND	0,00E+00	8,68E-05	6,46E-04	1,78E-05	-2,42E-02						
ADP- minerals & metals	kg Sb eq.	1,56E-02	5,27E-06	2,09E-05	1,56E-02	1,88E-06	9,06E-07	ND	0,00E+00	3,42E-07	2,72E-06	1,94E-08	-7,87E-03						
ADP-fossil	MJ, net calorific value	1,56E+02	3,13E+00	8,03E+01	2,40E+02	1,12E+00	5,86E-01	ND	0,00E+00	2,04E-01	2,20E+00	1,35E-02	-1,68E+01						
WDP	m3 world eq. Deprived	6,13E+00	9,59E-03	8,43E-01	6,98E+00	4,01E-03	3,00E-02	ND	0,00E+00	7,28E-04	4,21E-02	1,33E-05	-1,17E+00						

GWP-total = Global Warming Potential total

GWP-fossil = Global Warming Potential fossil fuels
GWP-biogenic = Global Warming Potential biogenictotal

GWP-luluc = Global Warming Potential land use and land use change

ODP = Depletion potential of the stratospheric ozone layer

AP = Acidification Potential, Accumulated Exceedence

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 Exceedence

POCP = Formation potential of tropospheric ozone photochemical oxidants

ADP-minerals & metals = Abiotic Depletion Potential for non-fossil resources [1]

ADP-fossil = Abiotic Depletion for fossil resources potential [1]

WDP = Water (user) deprivation potential, deprivation-weighted water consumption [1]

## Disclaimer [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 experience with the indicator.







# **ENVIRONMENTAL IMPACT** per functional unit or declared unit (additional indicators A2)

	Unit	A1	A2	<b>A</b> 3	A1-A3	<b>A4</b>	<b>A</b> 5	B1	B2	В3	B4	B5	В6	В7	C1	C2	C3	C4	D
РМ	Disease inci-dence	9,79E-07	1,84E-08	2,14E-08	1,02E-06	6,68E-09	3,51E-09	ND	0,00E+00	1,21E-09	1,11E-08	1,07E-10	-2,71E-07						
IRP	kBq U235 eq.	5,97E-01	1,37E-02	6,85E-01	1,30E+00	4,70E-03	2,39E-03	ND	0,00E+00	8,53E-04	6,66E-03	2,97E-05	-6,61E-02						
ETP-fw	CTUe	2,80E+03	2,54E+00	2,55E+01	2,83E+03	1,00E+00	1,80E+00	ND	0,00E+00	1,81E-01	2,43E+00	6,76E-02	-1,22E+03						
HTP-c	CTUh	5,73E-08	9,03E-11	5,19E-10	5,79E-08	3,24E-11	1,47E-10	ND	0,00E+00	5,89E-12	2,36E-10	3,81E-12	-1,77E-08						
HTP-nc	CTUh	3,27E-06	3,03E-09	1,69E-08	3,29E-06	1,09E-09	1,43E-09	ND	0,00E+00	1,98E-10	3,40E-09	1,44E-10	-1,43E-06						
SQP	-	7,15E+01	2,67E+00	2,19E+01	9,61E+01	9,73E-01	1,21E-01	ND	0,00E+00	1,77E-01	1,77E+00	9,13E-03	-1,85E+01						

PM = Potential incidence of disease due to PM emissions

IRP = Potential Human exposure efficiency relative to U235 [1]

ETP-fw = Potential Comparative Toxic Unit for ecosystems [2]

HTP-c = Potential Comparative Toxic Unit for humans, cancer [2]

HTP-nc = Potential Comparative Toxic Unit for humans, non-cancer [2]

SQP = Potential soil quality index [2]

## Disclaimer [1]:

- 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.

## Disclaimer [2]:

- 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 experience with the indicator.







# **OUTPUT FLOWS AND WASTE CATEGORIES per functional unit or declared unit (A1 en A2)**

	Unit	A1	A2	<b>A</b> 3	A1-A3	<b>A4</b>	<b>A</b> 5	B1	B2	В3	B4	B5	В6	В7	C1	C2	C3	C4	D
HWD	kg	2,96E-03	7,99E-06	8,17E-07	2,97E-03	2,84E-06	5,78E-03	ND	0,00E+00	5,16E-07	3,54E-06	1,09E-07	-9,82E-04						
NHWD	kg	2,60E+00	1,94E-01	8,72E-03	2,80E+00	7,11E-02	9,83E-02	ND	0,00E+00	1,29E-02	1,07E-01	1,13E-03	-4,61E-01						
RWD	kg	5,02E-04	2,13E-05	1,76E-06	5,25E-04	7,36E-06	2,43E-06	ND	0,00E+00	1,34E-06	8,49E-06	4,31E-08	-5,51E-05						
CRU	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	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	ND	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	1,58E-03	ND	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	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00						
ETE	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00						

NHWD = Non Hazardous Waste Disposed
RWD = Radioactive Waste Disposed
CRU = Components for reuse
MFR = Materials for recycling
MER = Materials for energy recovery
EEE = Exported Electrical Energy
ETE = Exported Thermal Energy

=

Hazardous Waste Disposed

HWD







# RESOURCE USE per functional unit or declared unit (A1 and A2)

	Unit	A1	A2	A3	A1-A3	<b>A4</b>	<b>A</b> 5	B1	B2	В3	B4	B5	В6	В7	C1	C2	C3	C4	D
PERE	MJ	1,34E+01	4,48E-02	5,28E+00	1,87E+01	1,40E-02	4,65E-02	ND	0,00E+00	2,55E-03	1,07E-01	2,65E-04	-3,98E+00						
PERM	MJ	7,47E+00	0,00E+00	0,00E+00	7,47E+00	0,00E+00	0,00E+00	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00						
PERT	MJ	2,09E+01	4,48E-02	5,28E+00	2,62E+01	1,40E-02	4,65E-02	ND	0,00E+00	2,55E-03	1,07E-01	2,65E-04	-3,98E+00						
PENRE	MJ	1,36E+02	3,32E+00	8,28E+01	2,22E+02	1,19E+00	5,86E-01	ND	0,00E+00	2,16E-01	2,34E+00	1,46E-02	-1,79E+01						
PENRM	MJ	3,11E+01	0,00E+00	0,00E+00	3,11E+01	0,00E+00	0,00E+00	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00						
PENRT	MJ	1,67E+02	3,32E+00	8,28E+01	2,54E+02	1,19E+00	5,86E-01	ND	0,00E+00	2,16E-01	2,34E+00	1,46E-02	-1,79E+01						
SM	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,35E-03	ND	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	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00						
NSRF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00						
FW	m3	1,77E-01	3,54E-04	2,91E-02	2,07E-01	1,37E-04	1,55E-03	ND	0,00E+00	2,48E-05	1,18E-03	5,52E-06	-3,10E-02						

PERE = Use of renewable primary energy excluding renewable primary energy 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 resources excluding non-renewable 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 materials

RSF = Use of renewable secondary fuels

NSRF = Use of non-renewable secondary fuels

FW = Use of net fresh water

# **BIOGENIC CARBON CONTENT per functional unit or declared unit (A1 and A2)**

													-						
	Unit	A1	A2	<b>A</b> 3	A1-A3	A4	A5	B1	B2	В3	B4	B5	В6	В7	C1	C2	C3	C4	D
BBCpr	kg C	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00						
BCCpa	kg C	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00						

BCCpr = Biogenic carbon content in product

BCCpa = Biogenic carbon content in packaging







## **CALCULATION RULES**

Technical product information was requested from the manufacturers and the components were modeled based on the technical product information provided by the manufacturers.

#### SCENARIOS AND ADDITIONAL TECHNICAL INFORMATION

All materials (A1) required to produce the VISION PUSH FITTING WITH MESSING or INOX INSERT are included, as is the transport distance from the supplier with the relevant means of transportation (A2). All relevant stage A3 production processes, such as potential production losses, have been included in this study. The production of HENCO VISION PUSH FITTING WITH MESSING or INOX INSERT is done by injection molding. In the next stage, the assembly and manual fitting of an O-ring is done. The finished products eventually go to the sales markets. The waste generated during the production process is due to waste treatment.

Components Product (>1%)	(kg/%)
Polyvinylfluoride	64,56%
Messing or Inox	34,16%
Synthetic rubber	1,28%

All relevant transport and structures in the construction and installation process were included in this study (A4). Material required for installation and handling of the packaging waste (A5). Sometimes at the construction site, the products shall be made to size. This usually generates waste. In addition, some of the materials are lost due to damage or weather. It is assumed that 5% of the materials are lost.

Packaging processing at installation	Recyling	Energy recovery	Landfill
Plastics	27%	26%	47%
Paper and cardboard	75%	10%	15%
Wood	38%	23%	39%
Metals	66%	0%	34%

This LCA includes demolition (C1), transport to a waste treatment facility (C2), processes for waste treatment (up to end-of-waste status; C3) and landfill (C4). This assumes that 5% will be recycled, 90% incinerated and 5% ends up in landfill.

The HENCO VISION PUSH FITTING WITH MESSING or INOX INSERT is made of PVDF and brass or stainless steel. Separately, all materials used are easy to recycle. The technology to separate these materials is currently only available on a small scale. At the end of the life cycle, the composite fittings are often soiled by other building materials, which makes recycling more difficult. That is why the most important destination is waste incineration with energy recovery. A limited part is also deposited for the reasons stated above.







## **DECLARATION OF SVHC**

None of the substances in the product are on the 'Candidate List of Substances of Very High Concern for Authorization' (SVHC) or exceed the threshold value of the European Chemicals Agency.

#### **REFERENCES**

- [1] 'ISO 14040: Environmental management Life cycle assessment Principles and Framework', International Organization for Standardization, ISO14040:2006.
- [2] 'ISO 14044: Environmental management Life cycle assessment Requirements and guidelines', International Organization for Standardization, ISO14044:2006.
- [3] 'ISO 14025: Environmental labels and declarations Type III environmental declarations Principles and procedures, International Organization for Standardization', ISO14025:2006.
- [4] 'NEN-EN 15804+A2: Duurzaamheid van bouwwerken Milieuverklaringen van producten Basisregels voor de productgroep bouwproducten', NEN-EN 15804:2012+A2:2019.
- [5] 'Bepalingsmethode Milieuprestatie Bouwwerken', Stichting Nationale Milieudatabase, versie 1.1, maart 2022.
- [6] 'NMD-Toetsingsprotocol opname data in de Nationale Milieudatabase, op basis van de Bepalingsmethode Milieuprestatie Bouwwerken', Stichting Nationale Milieudatabase, versie 1.1, maart 2022
- [7] Ecochain 3.2.12 web: http://app.Ecochain.com.
- [8] De Bruyn, S.M., Korteland, M.H., Markowska, A.Z., Davidson, M.D., De Jong, F.L., Bles, M., Sevenster, M.N. (2010) "Handboek Schaduwprijzen. Waardering en weging van emissies en milieueffecten", CE Delft.
- [9] Van Harmelen, A.K., Korenromp, R.H.J., Ligthart, T.N., Van Leeuwen, S.M.H., Van Gijlswijk, R.N. (2004) "Toxiciteit heeft z'n prijs. Schaduwprijzen voor (eco-)toxiciteit en uitputting van abiotische grondstoffen binnen DuboCalc", TNO.
- [10] TEPPFA, Environmental Product Declaration Polymer/Al/Polymer Composite Pipe System For Hot And Cold Water In The Building, 2020, https://www.teppfa.eu/wp-content/uploads/HC02 Revision-2 Polymer-composite EPD 2020 final-1.pdf
- [11] Nederlandse Milieu Database, Forfaitaire waarden voor verwerking-scenario's einde leven behorende bij: Bepalingsmethode Milieuprestatie Bouwwerken, versie mei 2022
- [12] Environmental Product Declaration: POLYMER/AL/POLYMER COMPOSITE PIPE SYSTEM FOR HOT AND COLD WATER IN THE BUILDING, TEPPFA 2019



