

Uppgiftslämnaren reserverar sig för eventuella fel i produktinformationen eller felaktigt registrerade uppgifter och förbehåller sig rätten att korrigera och/eller komplettera produktinformation utan föregående avisering

## 1 GRUNDDATA

### Varubeskrivning

Ljuddämpat muffat inomhusavlopp i mineralförstärkt PP-plast i dim 50 - 160 mm.

### Övriga upplysningar

Avloppssystemet Geberit Silent-Pro består av mineralförstärkta rör och rördelar i dimensionerna 50-160mm. Systemet erbjuder avloppsinstallationer i dim 50-160mm med mycket hög ljuddämpning inomhus.

### Klassificeringar

<b>ETIM</b> >	
<b>BK04</b> >	-20508 - Avloppsrör i plast
<b>BSAB</b> >	-PNU.52232 - Ledningar av PP-rör, fabrikspecifika inomhusavloppsrör
<b>UNSPSC</b> >	-40142300 -40140000

### Leverantörsuppgifter

**Företagsnamn**

Geberit AB

**Organisationsnummer**

5566724745

**Adress**

Folkets Husgatan 1

**Hemsida**

www.geberit.se

**Miljökontaktperson****Namn**

Olle Månsson

**Telefon**

0734-439089

**E-post**

olle.mansson@geberit.com

## 2 HÅLLBARHETSARBETE

## Företagets certifiering

- ISO 9001
- ISO 14001
- ISI 45001

## Policys och riktlinjer

### 3

## INNEHÅLLSDEKLARATION

<b>Kemisk produkt</b>	Nej
<b>Innehåller produkten elektronik</b>	Nej
<b>Omfattas varan av RoHs-direktivet</b>	Nej
<b>Varans vikt</b>	0,122 - 15,752 kg

## Vara / Delkomponenter

### Koncentrationen har beräknats på komponentnivå

Rördel - 91,4% - 99,8% av hela varan

Ingående material /komponenter	Vikt-% i komponent	CAS-nr (alt legering)	EG-nr (alt legering)	Vikt % i produkt	Kommentar
Polypropen (PP)	34%	9003-07-0		31,076 - 33,932%	
Bariumsulfat (C.I. 77120 eller C.I. Pigment White 21)	60%	7727-43-7	231-784-4	54,84 - 59,88%	
Kimrök	6%	1333-86-4	215-609-9	5,484 - 5,988%	
Antioxidant	0,1%	Övrigt, kemikalier		0,0914 - 0,0998%	

Läppring - 0,2% - 8,6% av hela varan

Ingående material /komponenter	Vikt-% i komponent	CAS-nr (alt legering)	EG-nr (alt legering)	Vikt % i produkt	Kommentar
EPDM synonym Ethylene-ethylidenenorbornene-propylene terpolymer	48,2%	25038-36-2	Saknas	0,0964 - 4,1452%	
Kimrök synonym Aktivt kol, sot, C.I. Pigment Black 7 eller C.I. 77266	41%	1333-86-4	215-609-9	0,082 - 3,526%	
Paraffinolja	5,8%	8012-95-1	232-384-2	0,0116 - 0,4988%	
Kalciumoxid synonym lime	0,5%	1305-78-8	215-138-9	0,001 - 0,043%	
Kalciumkarbonat	1%	471-34-1	207-439-9	0,002 - 0,086%	
Svavel	1,5%	7704-34-9	231-722-6	0,003 - 0,129%	
Stearinsyra	1%	57-11-4	200-313-4	0,002 - 0,086%	

Zinkoxid	1%	1314-13-2	215-222-5	0,002 - 0,086%	
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**Del av materialinnehållet som är deklarerat**

89,69% - 110,5%

### Särskilt farliga ämnen

Varan innehåller INTE några ämnen med särskilt farliga egenskaper (Substances of very high concern, SVHC-ämnen) som finns med på kandidatförteckningen i en koncentration som överstiger 0,1 vikts-%

**Utgåva av kandidatförteckningen som har använts**

2026-06-12

### Nanomaterial

**Innehåller produkten tillsatt nanomaterial, som är medvetet tillsatta för att uppnå en viss funktion?:** Nej

### Tillsatt högflourerade ämnen (PFAS)

**Innehåller produkten tillsatt högflourerade ämnen (PFAS), som är aktivt tillsatta för att uppnå en specifik funktion?:** Nej

### Begränsningslistan

**Innehåller varan/produkten, eller någon av dess delkomponenter, ämnen som gör att produkten inte uppfyller villkoren i Begränsningslistan (Reach Bilaga XVII)?:** Nej

### POPs-förordningen

**Innehåller varan (eller någon av dess delkomponenter) ämnen som finns i POPs-förordningen?:** Nej

### Övrigt

Ämnen är redovisade ned till 0,1% viktprocent enligt iBVDs redovisningskrav. Eventuell avvikelse från redovisningskraven redovisas nedan

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## RÅVAROR

### Återvunnet material

**Innehåller varan återvunnet material:** Nej

### Träråvara

**Träråvara ingår i varan:** Nej

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## MILJÖPÅVERKAN

Finns en miljövarudeklaration framtagen enligt EN15804 eller ISO14025 för varan

Ja

Finns annan miljövarudeklaration

Nej

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## DISTRIBUTION

Beskrivning av emballagehantering för distribution av varan

Rördelar förpackas i plastpåse eller i kartonger. Avfallssorteras som plast respektive wellpapp

Rör levereras buntade med plastband, som sorteras som plastavfall

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## BYGGSCKEDET

Ställer varan särskilda krav vid lagring?

Ja

Bör ej långtidsutsättas för UV-strålning (mer än 2 år)

Ställer varan särskilda krav på omgivande byggvaror?

Nej

8

## BRUKSSKEDET

Finns skötselanvisningar/skötselråd?

Nej

Finns en energimärkning enligt energimärkningsdirektivet (2017/1369/EU) för varan?

Ej relevant

9

## RIVNING

Kräver varan särskilda åtgärder för skydd av hälsa och miljö vid rivning/demontering?

Nej

10

## AVFALLSHANTERING

Omfattas den levererade varan av förordningen (2014:1075) om producentansvar för elektriska och elektroniska produkter när den blir avfall?

Nej

**Är återanvändning möjlig för hela eller delar av varan?** Ja

Rör och delar kan demonteras och återanvändas i installationer

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**Är materialåtervinning möjlig för hela eller delar av varan?** Nej

**Är energiåtervinning möjlig för hela eller delar av varan?** Ja

Förbränning

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**Har leverantören restriktioner och rekommendationer för återanvändning, material- eller energiåtervinning eller deponering?** Nej

**När den levererade varan blir avfall, klassas den då som farligt avfall?** Nej

**Avfallskod (EWC) för den levererade varan** 170203

RSK-nummer	Eget Artikel-nr	GTIN
267 17 61	393.216.14.1	4025416473916
267 17 62	393.316.14.1	4025416446323
267 17 63	393.416.14.1	4025416473947
267 17 64	393.516.14.1	4025416446378
267 17 65	393.616.14.1	4025416446415
267 17 66	393.716.14.1	4025416473954
267 17 67	393.217.14.1	4025416449393
267 17 68	393.317.14.1	4025416473886
267 17 69	393.417.14.1	4025416449423
267 17 70	393.517.14.1	4025416473909
267 17 71	393.617.14.1	4025416449652
267 17 72	393.717.14.1	4025416449706
267 17 73	393.218.14.1	4025416446446
267 17 74	393.318.14.1	4025416473961
267 17 75	393.418.14.1	4025416473978
267 17 76	393.518.14.1	4025416473985
271 06 24	390.296.14.1	4025416728610
271 06 25	390.396.14.1	4025416728269
271 06 26	390.496.14.1	4025416728122
271 06 27	390.596.14.1	4025416728306
271 06 28	390.696.14.1	4025416085560
271 06 29	390.796.14.1	4025416084242
271 08 78	393.232.14.1	4025416452270
271 08 79	393.332.14.1	4025416446576
271 08 80	393.333.14.1	4025416446606
271 08 81	393.432.14.1	4025416452300
271 08 82	393.433.14.1	4025416446637
271 08 83	393.434.14.1	4025416452348
271 08 84	393.532.14.1	4025416447146
271 08 85	393.533.14.1	4025416447467
271 08 86	393.534.14.1	4025416452430
271 08 87	393.535.14.1	4025416447498
271 08 88	393.633.14.1	4025416452478
271 08 89	393.634.14.1	4025416447535
271 08 90	393.635.14.1	4025416452515
271 08 91	393.636.14.1	4025416447603
271 08 92	393.734.14.1	4025416447634
271 08 93	393.735.14.1	4025416452546
271 08 94	393.736.14.1	4025416447689
271 08 95	393.737.14.1	4025416452584
271 08 96	393.248.14.1	4025416447726
271 08 97	393.348.14.1	4025416447917

271 08 98	393.349.14.1	4025416452621
271 08 99	393.448.14.1	4025416448143
271 09 00	393.449.14.1	4025416452775
271 09 01	393.547.14.1	4025416448228
271 09 02	393.549.14.1	4025416448297
271 09 03	393.654.14.1	4025416448501
271 09 04	393.652.14.1	4025416474401
271 09 05	393.751.14.1	4025416453284
271 09 06	393.752.14.1	4025416474432
271 09 07	393.753.14.1	4025416454366
271 09 09	393.552.14.1	4025416448471
271 09 10	393.555.14.1	4025416453109
271 09 11	393.650.14.1	4025416453185
271 09 12	393.651.14.1	4025416448549
271 09 13	393.466.14.1	4025416454526
271 09 14	393.566.14.1	4025416463474
271 09 15	393.665.14.1	4025416463771
271 09 16	393.457.14.1	4025416463832
271 09 17	393.551.14.1	4025416464440
271 09 18	393.557.14.1	4025416464792
271 09 19	393.464.14.1	4025416454465
271 09 20	393.554.14.1	4025416456261
271 09 21	393.564.14.1	4025416458180
271 09 22	393.463.14.1	4025416454496
271 09 23	393.553.14.1	4025416457817
271 09 24	393.563.14.1	4025416459613
271 09 25	393.459.14.1	4025416474470
271 09 26	393.550.14.1	4025416474647
271 09 27	393.559.14.1	4025416454397
271 09 28	393.662.14.1	4025416454427
271 09 29	393.456.14.1	4025416460251
271 09 30	393.556.14.1	4025416460749
271 09 31	393.558.14.1	4025416461388
271 09 32	393.470.14.1	4025416460282
271 09 33	393.570.14.1	4025416461036
271 09 34	393.578.14.1	4025416461418
271 09 35	393.561.14.1	4025416462880
271 09 36	393.462.14.1	4025416460664
271 09 37	393.562.14.1	4025416461241
271 09 38	393.565.14.1	4025416461449
271 09 39	393.560.14.1	4025416462910
271 09 40	393.372.14.1	4025416448600
271 09 41	393.472.14.1	4025416464846
271 09 42	393.473.14.1	4025416448631
271 09 43	393.572.14.1	4025416448846
271 09 44	393.573.14.1	4025416465218

271 09 45	393.574.14.1	4025416448884
271 09 46	393.674.14.1	4025416465553
271 09 47	393.675.14.1	4025416448914
271 09 48	393.775.14.1	4025416465638
271 09 49	393.776.14.1	4025416448945
271 09 50	393.227.14.1	4025416466246
271 09 51	393.327.14.1	4025416449140
271 09 52	393.427.14.1	4025416466536
271 09 53	393.527.14.1	4025416448259
271 09 54	393.627.14.1	4025416467236
271 09 55	393.727.14.1	4025416449195
271 09 56	393.503.14.1	4025416466208
271 09 57	393.603.14.1	4025416449041
271 09 58	393.703.14.1	4025416449119
274 95 73	393.200.14.1	4025416475804
274 95 74	393.300.14.1	4025416450306
274 95 75	393.400.14.1	4025416450313
274 95 76	393.500.14.1	4025416450320
274 95 77	393.600.14.1	4025416450337
274 95 78	393.700.14.1	4025416450344
274 95 79	393.201.14.1	4025416450382
274 95 80	393.301.14.1	4025416450405
274 95 81	393.401.14.1	4025416450412
274 95 82	393.501.14.1	4025416450429
274 95 83	393.601.14.1	4025416450436
274 95 84	393.701.14.1	4025416450443
274 95 85	393.202.14.1	4025416450290
274 95 86	393.302.14.1	4025416450528
274 95 87	393.402.14.1	4025416450535
274 95 88	393.502.14.1	4025416450542
274 95 89	393.602.14.1	4025416450610
274 95 90	393.702.14.1	4025416450627
274 95 91	393.204.14.1	4025416450634
274 95 92	393.304.14.1	4025416474333
274 95 93	393.404.14.1	4025416450641
274 95 94	393.504.14.1	4025416474340
274 95 95	393.604.14.1	4025416474357
274 95 96	393.704.14.1	4025416450719
274 95 97	393.205.14.1	4025416474364
274 95 98	393.305.14.1	4025416450771
274 95 99	393.405.14.1	4025416474371
274 96 00	393.505.14.1	4025416450788
274 96 01	393.605.14.1	4025416474388
274 96 02	393.705.14.1	4025416474166
274 96 03	393.206.14.1	4025416450795
274 96 04	393.306.14.1	4025416445814

274 96 05	393.406.14.1	4025416450801
274 96 06	393.506.14.1	4025416445845
274 96 07	393.606.14.1	4025416450818
274 96 08	393.706.14.1	4025416445937
274 96 09	393.207.14.1	4025416445999
274 96 10	393.307.14.1	4025416450825
274 96 11	393.407.14.1	4025416446033
274 96 12	393.507.14.1	4025416450832
274 96 13	393.607.14.1	4025416446071
274 96 14	393.707.14.1	4025416450849
274 96 15	393.210.14.1	4025416446101
274 96 16	393.310.14.1	4025416446132
274 96 17	393.410.14.1	4025416450863
274 96 18	393.510.14.1	4025416474852
274 96 19	393.610.14.1	4025410123794
274 96 20	393.211.14.1	4025416474944
274 96 21	393.311.14.1	4025416450887
274 96 22	393.411.14.1	4025416474982
274 96 23	393.511.14.1	4025416475019
274 96 24	393.611.14.1	4025416450894
274 96 25	393.213.14.1	4025416475040
274 96 26	393.313.14.1	4025416450900
274 96 27	393.413.14.1	4025416475118
274 96 28	393.513.14.1	4025416450917
274 96 29	393.613.14.1	4025416450924
274 96 30	393.214.14.1	4025416450931
274 96 31	393.314.14.1	4025416450948
274 96 32	393.414.14.1	4025416451013
274 96 33	393.514.14.1	4025416451044
274 96 34	393.614.14.1	4025410123787
276 28 50	393.220.14.1	4025416451204
276 28 51	393.320.14.1	4025416451235
276 28 52	393.420.14.1	4025416451266
276 28 53	393.520.14.1	4025416451297
276 28 54	393.620.14.1	4025416451495
276 28 55	393.720.14.1	4025416451525
276 28 56	393.221.14.1	4025416451563
276 28 57	393.321.14.1	4025416451600
276 28 58	393.421.14.1	4025416451631
276 28 59	393.521.14.1	4025416451693
276 28 60	393.621.14.1	4025416451730
276 28 61	393.721.14.1	4025416451808
276 28 62	393.222.14.1	4025416451884
276 28 63	393.322.14.1	4025416450979
276 28 64	393.422.14.1	4025416451914
276 28 65	393.522.14.1	4025416451969

276 28 66	393.622.14.1	4025416451990
276 28 67	393.722.14.1	4025416452027
276 28 68	393.223.14.1	4025416452089
276 28 69	393.323.14.1	4025416475507
276 28 70	393.423.14.1	4025416452119
276 28 71	393.523.14.1	4025416446187
276 28 72	393.224.14.1	4025416446248
276 28 73	393.324.14.1	4025416452201
276 28 74	393.424.14.1	4025416446293
276 28 75	393.524.14.1	4025416446484
276 28 76	393.624.14.1	4025416452232
276 28 77	393.724.14.1	4025416446514
283 18 39	393.540.14.1	4025410708953
283 18 40	393.542.14.1	4025410709127
283 18 41	393.544.14.1	4025410709189
283 18 42	393.545.14.1	4025410709226
283 18 43	393.546.14.1	4025410709264
283 18 44	393.525.14.1	4025410709288
283 18 45	393.526.14.1	4025410709042
283 18 46	393.541.14.1	4025410708977
283 18 47	393.543.14.1	4025410709141

**Produktdatablad**                      Geberit Silent-Pro produktblad 2026.pdf

**Prestandadeklaration**

**Säkerhetsblad**

**RoHS-intyg**

**Miljövarudeklaration**              EPD Silent-PP fittings exp 2029.08.pdf

**Skötselanvisning**

**Övriga bifogade dokument**

-EPD Silent-Pro pipes exp 2029.01.pdf

# ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH  
EN 15804+A2+AC,  
ISO 14025,  
ISO 21930

## GEBERIT SILENT-PP FITTING

Geberit International AG

EPD HUB, HUB- 1814

Published: 23.08.2024

Last updated: 23.08.2024

Valid until: 23.08.2029

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## GENERAL INFORMATION

### MANUFACTURER

Manufacturer	Geberit International AG
Address	Schachenstrasse 77, 8645 Jona, Switzerland
Contact details	sustainability@geberit.com
Website	www.geberit.com

### EPD STANDARDS, SCOPE AND VERIFICATION

Programme operator	EPD Hub, hub@epdhub.com
Reference standards	EN 15804+A2:2019+AC:2021 ISO 14025 ISO 21930
PCR	EPD Hub Core PCR version 1.0, 1 Feb 2022
Sector	Construction product
Category of EPD	Third-party-verified EPD
Scope of the EPD	Cradle to gate with options, A4-A5, and modules C1-C4 and D
EPD author	Georg Nauenburg
EPD verification	Independent verification of this EPD and data according to ISO 14025 <input type="checkbox"/> Internal certification <input checked="" type="checkbox"/> External verification
EPD verifier	Magaly González Vázquez, as an authorised verifier acting for EPD Hub Limited

The manufacturer retains the sole ownership of, liability and responsibility for the EPD. EPDs within the same product category but from different programmes may not be comparable. EPDs of construction products may not be comparable if they do not comply with EN 15804 and if they are not compared in a building context.

### PRODUCT

Product name	Geberit Silent-PP fitting
Additional labels	-
Product reference	390.522.14.1
Place of production	Pottenbrunn, Austria Ruše, Slovenia
Period for data	2023
Averaging in EPD	Multiple factories
Variation in GWP-fossil for A1-A3	< 5 %

### ENVIRONMENTAL DATA SUMMARY

Declared unit	1 kg Geberit Silent-PP fitting
Declared unit mass	1 kg
GWP-fossil, A1-A3 (kgCO <sub>2</sub> e)	1.79
GWP-total, A1-A3 (kgCO <sub>2</sub> e)	1.63
Secondary material, inputs (%)	0.3
Secondary material, outputs (%)	65
Total energy use, A1-A3 (kWh)	14.4
Total water use, A1-A3 (m <sup>3</sup> e)	0.15

## PRODUCT AND MANUFACTURER

### ABOUT THE MANUFACTURER

Geberit wants to play a leading role in the transition towards a sustainable sanitary industry. Sustainability has formed an integral component of the corporate strategy for more than 30 years. The Geberit Group has a group ISO certificate in accordance with ISO 9001 (quality), ISO 14001 (environment) and ISO 45001 (occupational health and safety). The company prepared life cycle assessments for key products from an early stage, and eco-design has been an integral part of the product development process since 2007. You can find comprehensive information on sustainability in the current annual report or at <https://www.geberit.com/sustainability>

### PRODUCT DESCRIPTION

Geberit Silent-PP is a hydraulically optimised and sound-optimised plug-in drainage system, designed for non-pressurised building drainage. It can be used in the building and buried within the building structure. Geberit Silent-PP consists of robust mineral-reinforced three-layer pipes, mineral-reinforced fittings and are available in the dimensions d32 – 160 mm.

Intended use:

- For draining off waste water within buildings
- For central vacuum cleaner systems in single-family houses, use dimensions DN 40–50 exclusively.
- For pressure pipes of faeces-lifting units according to EN 12050-2 and EN 12050-3, use dimensions DN 32–50 only.
- Conventional roof drainage system

Further information is available in the local online product catalogue.

### PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	0	-
Minerals	36	Europe
Fossil materials	64	Europe
Bio-based materials	0	-

### BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	0
Biogenic carbon content in packaging, kg C	0.045

### FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 kg Geberit Silent-PP fitting
Mass per declared unit	1 kg
Functional unit	-
Reference service life	50 years

### REACH – SUBSTANCES OF VERY HIGH CONCERN (SVHC)

The product does not contain any REACH SVHC substances in amounts greater than 0.1 % (1,000 ppm).

# PRODUCT LIFE CYCLE

## SYSTEM BOUNDARY

This EPD covers the life cycle modules listed in the following table.

Product stage			Construction stage		Use stage							End-of-life stage				Beyond system boundaries		
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D		
x	x	x	x	x	MND	MND	MND	MND	MND	MND	MND	x	x	x	x	x		
Raw materials	Transport	Manufacturing	Transport	Installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstr./demol.	Transport	Waste processing	Disposal	Reuse	Recovery	Recycling

MND = Modules not declared; MNR = Modules not relevant.

## MANUFACTURING AND PACKAGING (A1-A3)

The environmental impacts considered for the product stage cover the manufacturing of raw materials used in the production as well as packaging materials and other ancillary materials. The energy used by machines, and handling of waste formed in the production processes at the manufacturing facilities are also included in this stage. Furthermore, the study considers the material losses occurring during the manufacturing processes as well as losses during electricity transmission.

The raw materials for the product are polypropylene (PP) and calcium carbonate. The fitting has a coupling with an EPDM sealing. The share of external secondary materials in the product is 0 %. The product is free from organic halogens in accordance with EN 50642. For the supply of raw materials, the total input of raw materials was mapped with corresponding European data. Further information on supply chain sustainability and material purchasing can be found in Geberit Annual Report.

The transports from suppliers to Geberit are modelled based on material-class-specific transport distances. The individual transport distances of each supplier are averaged according to the corresponding sales volumes. All A2 transports are carried out by lorry. Transport by rail, air and sea freight is not considered due to lack of relevance. On average, the transport distance from suppliers of raw and semfinished materials is about 580 km.

The compounding of raw materials takes place in the production site in Villadose (IT). The production and packaging of the Geberit Silent-PP fitting takes place at the production sites in Pottenbrunn (AT) and Ruše (SI). The Geberit plants are certified according to ISO 9001, ISO 14001 and ISO 45001. The current Group ISO certificate can be downloaded from <https://www.geberit.com>. The main production process is injection moulding. A high share of production waste from plastic extrusion is recycled internally. The sources of electricity consumed for the manufacturing process are modelled for the Villadose plant with around 40 % renewable (remaining Italian average mix) and in the Pottenbrunn and Ruše plants with 100 % renewable sources. The consumption of additives is negligible, i.e. it falls under the cut-off rules. The production and provision of packaging material are modelled in A3. The finished product is packaged normally with plastic bags and cardboard. Other packaging materials fall under the cut-off rules. The manufacturing waste is assumed to be sent to the closest waste disposal facilities by lorry, which is estimated to be 50 km away.

## TRANSPORT AND INSTALLATION (A4-A5)

Transportation impacts resulting from final products delivery to construction site (A4) cover direct fuel exhaust emissions and environmental impacts of fuel production, as well as related infrastructure emissions.

Transport from Geberit to customers within Europe is carried out by logistics partners via the modern, efficient Logistics Centre in Pfullendorf (DE) which is certified according to ISO 9001, ISO 14001 and ISO 45001. Distribution to countries outside Europe is not taken into account due to lack of relevance.

The following information has been considered:

- The majority of transports within Europe are carried out by lorry. Therefore, intercontinental transport by sea and air is not considered.
- The majority of vehicles in use are > 32 t Euro 6 class (> 85 %).
- The average transport distance in Europe from the production site to the Logistics Centre and to the consumer is approximately 580 km.

Further information on logistics and how we consider ecological aspects of transport can be found in the Geberit Annual Report.

In A5, there are no relevant environmental impacts during installation. Therefore, only the preparation of the waste treatment of packaging materials is taken into account in A5. Cardboard is assumed to be fully recycled. Plastics are assumed to be disposed of in the municipal waste incineration plant.

### **PRODUCT USE AND MAINTENANCE (B1-B7)**

The product use and maintenance phases are not considered. Air, soil and water impacts during the use phase have not been studied.

The product does not consume any electricity in use and has no moving parts. Periodic maintenance is not necessary.

The resistance to ageing depends on the strength of the mechanical, thermal and chemical stress, the resistance of the material and the wall thickness of the fitting and its proper functioning. Under conditions normally encountered in waste water fittings in buildings, Geberit Silent-PP has a service life of at least 50 years.

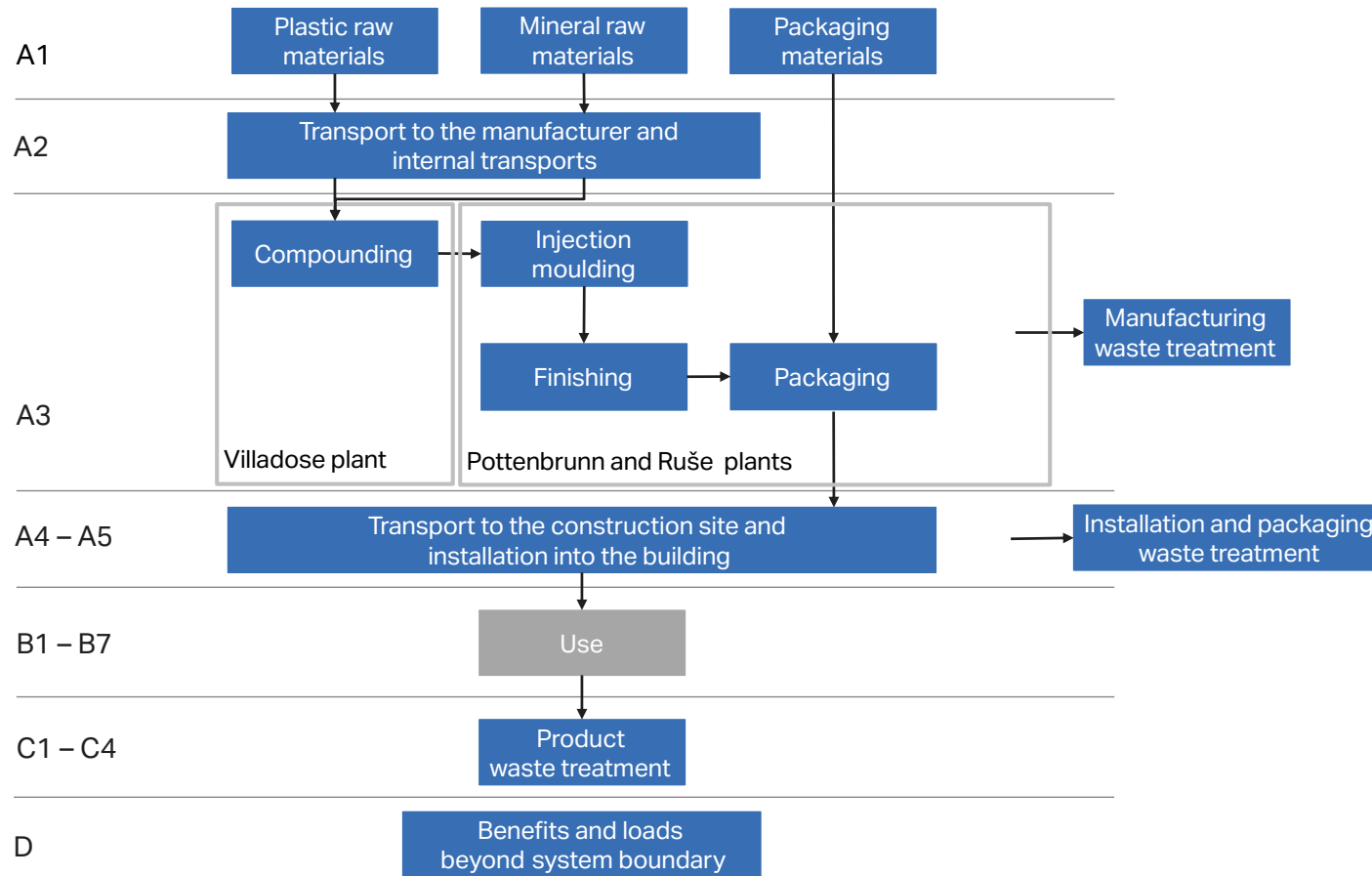
### **PRODUCT END-OF-LIFE (C1-C4, D)**

As the consumption of energy and natural resources is negligible for disassembling the end-of-life product, the impacts of demolition are assumed to be zero (C1). The end-of-life product is assumed to be sent to the closest waste disposal facilities by lorry, which is estimated to be

50 km away (C2). It is generally assumed that all waste is collected and professionally separated after demolition on the construction site. The type of waste treatment is determined on the basis of the material class. Plastics are disposed of in the municipal waste incineration plant. Although the plastic components of the product are basically suitable for recycling due to their material properties, they are conservatively modelled with thermal energy recovery. The mineral material of the product is assumed to be disposed of in the inert material landfill. The product is not biodegradable.

In module D, the thermal treatment of plastics generates benefits. This covers energy and heat produced from the incineration in a waste incineration plant. Waste of packaging materials in A5 have benefits and loads that are also considered.

# MANUFACTURING PROCESS



# LIFE CYCLE ASSESSMENT

## CUT-OFF CRITERIA

The study does not exclude any modules or processes that are stated as mandatory in the reference standard and the applied PCR. The study does not exclude any hazardous materials or substances. The study includes all major raw material and energy consumption. All inputs and outputs of the unit processes for which data is available are included in the calculation. There is no neglected unit process with more than 1 % of total mass or energy flows. The module-specific total neglected input and output flows also do not exceed 5 % of energy use or mass.

## ALLOCATION, ESTIMATES AND ASSUMPTIONS

Allocation is required if some material, energy, and waste data cannot be measured separately for the product under investigation. All allocations are made as per the reference standards and the applied PCR. In this study, allocations have been made in the following ways:

Data type	Allocation
Raw materials	No allocation
Packaging materials	No allocation
Ancillary materials	No allocation
Manufacturing energy and waste	Allocated by mass or volume

## AVERAGES AND VARIABILITY

Type of average	Multiple factories
Averaging method	Representative product
Variation in GWP-fossil for A1-A3	< 5 %

This EPD is product-specific and results are for the manufacturing site in Pottenbrunn (AT). The manufacturing site in Ruše (SI) also produces fittings and varies in GWP-fossil A1-A3 by less than 5 %. The data of a Geberit Silent-PP bend PP-MD 45G d110 L9.7 (article number 390.522.14.1) was chosen as a reference product. The results can be scaled linearly for articles listed in the Annex.

## LCA SOFTWARE AND BIBLIOGRAPHY

This EPD has been created using the One Click LCA EPD Generator. The LCA and EPD have been prepared according to the reference standards, ISO 14040 and ISO 14044. Ecoinvent 3.8 and One Click LCA databases were used as sources of environmental data.

# ENVIRONMENTAL IMPACT DATA

## CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP <sup>1)</sup> -total	kg CO <sub>2</sub> e	1,43E+00	1,20E-01	8,27E-02	1,63E+00	5,99E-02	2,10E-01	MND	MND	MND	MND	MND	MND	MND	MNR	4,65E-03	1,80E+00	1,87E-03	-1,06E+00
GWP-fossil	kg CO <sub>2</sub> e	1,42E+00	1,20E-01	2,48E-01	1,79E+00	5,99E-02	4,43E-02	MND	MND	MND	MND	MND	MND	MND	MNR	4,65E-03	1,81E+00	1,87E-03	-1,06E+00
GWP-biogenic	kg CO <sub>2</sub> e	2,49E-03	0,00E+00	-1,66E-01	-1,63E-01	0,00E+00	1,66E-01	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	-2,38E-03	-1,83E-06	0,00E+00
GWP-luluc <sup>2)</sup>	kg CO <sub>2</sub> e	5,07E-04	4,67E-05	7,39E-04	1,29E-03	2,33E-05	4,00E-06	MND	MND	MND	MND	MND	MND	MND	MNR	1,75E-06	7,25E-05	1,77E-06	-1,82E-04
Ozone depletion pot.	kg CFC-11e	7,65E-08	2,83E-08	2,50E-08	1,30E-07	1,41E-08	3,60E-10	MND	MND	MND	MND	MND	MND	MND	MNR	1,08E-09	3,87E-09	7,56E-10	-5,61E-08
Acidification potential	mol H <sup>+</sup> e	5,37E-03	3,92E-04	1,17E-03	6,93E-03	1,95E-04	2,57E-05	MND	MND	MND	MND	MND	MND	MND	MNR	1,81E-05	4,04E-04	1,76E-05	-8,28E-03
EP <sup>3)</sup> -freshwater	kg Pe	2,45E-05	1,02E-06	1,13E-05	3,69E-05	5,07E-07	1,33E-07	MND	MND	MND	MND	MND	MND	MND	MNR	3,85E-08	1,63E-06	1,96E-08	-5,96E-05
EP-marine	kg Ne	8,75E-04	8,61E-05	3,95E-04	1,36E-03	4,28E-05	8,85E-06	MND	MND	MND	MND	MND	MND	MND	MNR	4,98E-06	1,56E-04	6,09E-06	-9,69E-04
EP-terrestrial	mol Ne	9,64E-03	9,56E-04	2,93E-03	1,35E-02	4,76E-04	8,74E-05	MND	MND	MND	MND	MND	MND	MND	MNR	5,50E-05	1,67E-03	6,69E-05	-1,13E-02
POCP <sup>4)</sup> ('smog')	kg NMVOCe	4,56E-03	3,70E-04	7,84E-04	5,72E-03	1,84E-04	2,40E-05	MND	MND	MND	MND	MND	MND	MND	MNR	1,85E-05	4,38E-04	1,95E-05	-3,12E-03
ADP-minerals & metals	kg Sbe	1,12E-05	2,93E-07	1,18E-06	1,27E-05	1,46E-07	6,03E-08	MND	MND	MND	MND	MND	MND	MND	MNR	1,10E-08	7,03E-07	4,30E-09	-8,08E-07
ADP <sup>5)</sup> -fossil resources	MJ	4,97E+01	1,88E+00	4,10E+00	5,57E+01	9,38E-01	4,30E-02	MND	MND	MND	MND	MND	MND	MND	MNR	7,08E-02	4,94E-01	5,12E-02	-1,30E+01
Water use	m <sup>3</sup> e depr.	6,47E-01	8,41E-03	5,52E+00	6,18E+00	4,19E-03	2,50E-03	MND	MND	MND	MND	MND	MND	MND	MNR	3,17E-04	7,06E-02	1,63E-04	-1,88E-01

1) GWP = Global warming potential; 2) luluc = land use and land use change; 3) EP = Eutrophication potential; 4) POCP = Photochemical ozone creation potential; 5) ADP = Abiotic depletion potential

## ADDITIONAL (OPTIONAL) ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Particulate matter	Incidence	5,88E-08	1,37E-08	1,37E-08	8,62E-08	6,81E-09	3,76E-10	MND	MND	MND	MND	MND	MND	MND	MNR	5,33E-10	6,00E-09	3,54E-10	-7,16E-08
Ionizing radiation	kBq U235e	1,17E-01	9,02E-03	2,78E-02	1,54E-01	4,49E-03	4,27E-04	MND	MND	MND	MND	MND	MND	MND	MNR	3,38E-04	3,89E-03	2,32E-04	-1,67E-01
Ecotoxicity, freshwater	CTUe	1,08E+01	1,68E+00	3,74E+00	1,62E+01	8,34E-01	2,12E-01	MND	MND	MND	MND	MND	MND	MND	MNR	6,34E-02	1,64E+00	3,34E-02	-2,31E+01
Human toxicity, cancer	CTUh	4,19E-10	4,10E-11	1,63E-10	6,24E-10	2,04E-11	1,31E-11	MND	MND	MND	MND	MND	MND	MND	MNR	1,56E-12	2,04E-10	8,36E-13	-3,37E-10
Human tox. non-cancer	CTUh	9,94E-09	1,61E-09	2,67E-09	1,42E-08	8,03E-10	2,30E-10	MND	MND	MND	MND	MND	MND	MND	MNR	6,22E-11	3,37E-09	2,19E-11	-1,07E-08
SQP <sup>6)</sup>	-	2,32E+00	2,17E+00	4,83E+00	9,31E+00	1,08E+00	4,15E-02	MND	MND	MND	MND	MND	MND	MND	MNR	8,15E-02	6,78E-01	1,10E-01	-1,20E+01

6) SQP = Potential soil quality index

## USE OF NATURAL RESOURCES

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Renew. PER <sup>7)</sup> as energy	MJ	1,00E+00	2,12E-02	1,76E+01	1,86E+01	1,06E-02	3,74E-03	MND	MND	MND	MND	MND	MND	MND	MNR	7,98E-04	4,32E-02	4,45E-04	-2,50E+00
Renew. PER as material	MJ	0,00E+00	0,00E+00	1,43E+00	1,43E+00	0,00E+00	-1,43E+00	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of renew. PER	MJ	1,00E+00	2,12E-02	1,90E+01	2,00E+01	1,06E-02	-1,42E+00	MND	MND	MND	MND	MND	MND	MND	MNR	7,98E-04	4,32E-02	4,45E-04	-2,50E+00
Non-ren. PER as energy	MJ	2,79E+01	1,88E+00	3,41E+00	3,32E+01	9,38E-01	4,30E-02	MND	MND	MND	MND	MND	MND	MND	MNR	7,08E-02	4,94E-01	5,13E-02	-1,30E+01
Non-ren. PER as material	MJ	2,18E+01	0,00E+00	-4,13E-01	2,14E+01	0,00E+00	-6,91E-01	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	-2,07E+01	0,00E+00	0,00E+00
Total use of non-ren. PER	MJ	4,97E+01	1,88E+00	2,99E+00	5,46E+01	9,38E-01	-6,48E-01	MND	MND	MND	MND	MND	MND	MND	MNR	7,08E-02	-2,02E+01	5,13E-02	-1,30E+01
Secondary materials	kg	2,57E-03	5,22E-04	1,11E-01	1,15E-01	2,60E-04	1,21E-04	MND	MND	MND	MND	MND	MND	MND	MNR	1,97E-05	2,42E-03	1,08E-05	3,45E-02
Renew. secondary fuels	MJ	1,75E-03	5,27E-06	8,49E-03	1,03E-02	2,62E-06	9,39E-07	MND	MND	MND	MND	MND	MND	MND	MNR	1,98E-07	1,95E-05	2,81E-07	-9,74E-06
Non-ren. secondary fuels	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m <sup>3</sup>	1,67E-02	2,43E-04	1,29E-01	1,46E-01	1,21E-04	8,24E-05	MND	MND	MND	MND	MND	MND	MND	MNR	9,16E-06	6,90E-04	5,61E-05	-1,01E-02

7) PER = Primary energy resources

## END-OF-LIFE – WASTE

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Hazardous waste	kg	3,86E-02	2,48E-03	1,70E-02	5,80E-02	1,23E-03	4,70E-04	MND	MND	MND	MND	MND	MND	MND	MNR	9,37E-05	7,01E-03	0,00E+00	-8,08E-02
Non-hazardous waste	kg	1,06E+00	4,07E-02	3,44E-01	1,45E+00	2,03E-02	2,47E-02	MND	MND	MND	MND	MND	MND	MND	MNR	1,54E-03	7,51E-01	3,55E-01	-4,07E+00
Radioactive waste	kg	5,19E-05	1,27E-05	9,95E-06	7,46E-05	6,32E-06	1,87E-07	MND	MND	MND	MND	MND	MND	MND	MNR	4,75E-07	1,47E-06	0,00E+00	-6,00E-05

## END-OF-LIFE – OUTPUT FLOWS

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Components for reuse	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,12E-01	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for energy rec.	kg	0,00E+00	0,00E+00	9,30E-03	9,30E-03	0,00E+00	1,60E-02	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	6,50E-01	0,00E+00	0,00E+00
Exported energy	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,95E-01	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	1,40E+01	0,00E+00	0,00E+00

### ENVIRONMENTAL IMPACTS – EN 15804+A1, CML / ISO 21930

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Global warming pot.	kg CO <sub>2</sub> e	1,35E+00	1,19E-01	2,51E-01	1,72E+00	5,93E-02	4,51E-02	MND	MND	MND	MND	MND	MND	MND	MNR	4,60E-03	1,80E+00	1,83E-03	-1,04E+00
Ozone depletion pot.	kg CFC-11e	6,27E-08	2,24E-08	2,14E-08	1,07E-07	1,12E-08	3,06E-10	MND	MND	MND	MND	MND	MND	MND	MNR	8,53E-10	3,38E-09	5,98E-10	-4,58E-08
Acidification	kg SO <sub>2</sub> e	4,50E-03	3,18E-04	8,95E-04	5,72E-03	1,58E-04	1,96E-05	MND	MND	MND	MND	MND	MND	MND	MNR	1,43E-05	2,98E-04	1,33E-05	-7,07E-03
Eutrophication	kg PO <sub>4</sub> <sup>3</sup> e	1,16E-03	6,95E-05	5,42E-04	1,78E-03	3,46E-05	2,62E-05	MND	MND	MND	MND	MND	MND	MND	MNR	3,21E-06	5,01E-04	2,86E-06	-2,10E-03
POCP ('smog')	kg C <sub>2</sub> H <sub>4</sub> e	2,85E-04	1,46E-05	6,48E-05	3,64E-04	7,29E-06	1,56E-06	MND	MND	MND	MND	MND	MND	MND	MNR	5,86E-07	1,41E-05	5,57E-07	-3,01E-04
ADP-elements	kg Sbe	1,12E-05	2,85E-07	1,04E-06	1,25E-05	1,42E-07	5,91E-08	MND	MND	MND	MND	MND	MND	MND	MNR	1,07E-08	6,86E-07	4,23E-09	-8,11E-07
ADP-fossil	MJ	4,97E+01	1,88E+00	4,08E+00	5,57E+01	9,38E-01	4,30E-02	MND	MND	MND	MND	MND	MND	MND	MNR	7,08E-02	4,94E-01	5,12E-02	-1,30E+01

## ANNEX: ARTICLES COVERED BY THIS EPD

Article number	Product description	Net weight [kg per item]	GWP-fossil, A1-A3 [kg CO2e/item]
390.030.14.1	branch fitting PP-MD 45G d32/32	0.057	0.10
390.230.14.1	branch fitting PP-MD 45G d50/32	0.089	0.16
390.231.14.1	branch fitting PP-MD 45G d50/40	0.106	0.19
390.232.14.1	branch fitting PP-MD 45G d50/50	0.122	0.22
390.331.14.1	branch fitting PP-MD 45G d75/40	0.183	0.33
390.332.14.1	branch fitting PP-MD 45G d75/50	0.203	0.36
390.333.14.1	branch fitting PP-MD 45G d75/75	0.275	0.49
390.531.14.1	branch fitting PP-MD 45G d110/40	0.361	0.65
390.532.14.1	branch fitting PP-MD 45G d110/50	0.381	0.68
390.533.14.1	branch fitting PP-MD 45G d110/75	0.504	0.90
390.534.14.1	branch fitting PP-MD 45G d110/90	0.583	1.04
390.634.14.1	branch fitting PP-MD 45G d125/90	0.722	1.29
390.635.14.1	branch fitting PP-MD 45G d125/110	0.835	1.49
390.636.14.1	branch fitting PP-MD 45G d125/125	0.999	1.79
390.735.14.1	branch fitting PP-MD 45G d160/110	1.276	2.28
390.736.14.1	branch fitting PP-MD 45G d160/125	1.449	2.59
390.737.14.1	branch fitting PP-MD 45G d160/160	1.793	3.21
390.046.14.1	branch fitting PP-MD 87.5G d32/32	0.052	0.09
390.247.14.1	branch fitting PP-MD 87.5G d50/40	0.092	0.16
390.248.14.1	branch fitting PP-MD 87.5G d50/50	0.105	0.19
390.347.14.1	branch fitting PP-MD 87.5G d75/40	0.169	0.30
390.348.14.1	branch fitting PP-MD 87.5G d75/50	0.181	0.32
390.349.14.1	branch fitting PP-MD 87.5G d75/75	0.240	0.43
390.547.14.1	branch fitting PP-MD 87.5G d110/40	0.353	0.63
390.548.14.1	branch fitting PP-MD 87.5G d110/50	0.355	0.64
390.549.14.1	branch fitting PP-MD 87.5G d110/75	0.427	0.76
390.650.14.1	branch fitting PP-MD 87.5G d125/90	0.606	1.08
390.651.14.1	branch fitting PP-MD 87.5G d125/110	0.757	1.36
390.652.14.1	branch fitting PP-MD 87.5G d125/125	0.796	1.42
390.751.14.1	branch fitting PP-MD 87.5G d160/110	1.076	1.93
390.752.14.1	branch fitting PP-MD 87.5G d160/125	1.189	2.13

Article number	Product description	Net weight [kg per item]	GWP-fossil, A1-A3 [kg CO2e/item]
390.753.14.1	branch fitting PP-MD 87.5G d160/160	1.403	2.51
390.130.14.1	branch fitting PP-MD 45G d40/32	0.074	0.13
390.131.14.1	branch fitting PP-MD 45G d40/40	0.086	0.15
390.432.14.1	branch fitting PP-MD 45G d90/50	0.267	0.48
390.433.14.1	branch fitting PP-MD 45G d90/75	0.347	0.62
390.434.14.1	branch fitting PP-MD 45G d90/90	0.415	0.74
390.535.14.1	branch fitting PP-MD 45G d110/110	0.685	1.23
390.147.14.1	branch fitting PP-MD 87.5G d40/40	0.078	0.14
390.448.14.1	branch fitting PP-MD 87.5G d90/50	0.241	0.43
390.449.14.1	branch fitting PP-MD 87.5G d90/75	0.285	0.51
390.469.14.1	branch fitting 2x PP-MD 45G d90/50/50	0.290	0.52
390.569.14.1	branch fitting 2x PP-MD 45G d110/50/50	0.434	0.78
390.665.14.1	branch fitting 2x PP-MD 87.5G d125/110	0.910	1.63
390.020.14.1	bend PP-MD 15G d32 L5	0.030	0.05
390.120.14.1	bend PP-MD 15G d40 L5.4	0.044	0.08
390.320.14.1	bend PP-MD 15G d75 L6.5	0.124	0.22
390.021.14.1	bend PP-MD 30G d32 L5.2	0.031	0.06
390.121.14.1	bend PP-MD 30G d40 L5.7	0.045	0.08
390.321.14.1	bend PP-MD 30G d75 L7	0.124	0.22
390.022.14.1	bend PP-MD 45G d32 L5.5	0.031	0.06
390.023.14.1	bend PP-MD 67.5G d32 L5.9	0.033	0.06
390.123.14.1	bend PP-MD 67.5G d40 L6.5	0.049	0.09
390.323.14.1	bend PP-MD 67.5G d75 L8.6	0.146	0.26
390.024.14.1	bend PP-MD 87.5G d32 L6.4	0.034	0.06
390.324.14.1	bend PP-MD 87.5G d75 L9.7	0.157	0.28
390.220.14.1	bend PP-MD 15G d50 L5.8	0.058	0.10
390.420.14.1	bend PP-MD 15G d90 L7.3	0.193	0.35
390.520.14.1	bend PP-MD 15G d110 L8.2	0.309	0.55
390.620.14.1	bend PP-MD 15G d125 L8.8	0.427	0.76
390.720.14.1	bend PP-MD 15G d160 L9.7	0.739	1.32
390.221.14.1	bend PP-MD 30G d50 L6.2	0.060	0.11

Article number	Product description	Net weight [kg per item]	GWP-fossil, A1-A3 [kg CO2e/item]
390.421.14.1	bend PP-MD 30G d90 L7.9	0.199	0.36
390.521.14.1	bend PP-MD 30G d110 L9	0.312	0.56
390.621.14.1	bend PP-MD 30G d125 L9.8	0.440	0.79
390.721.14.1	bend PP-MD 30G d160 L11	0.764	1.37
390.122.14.1	bend PP-MD 45G d40 L6	0.044	0.08
390.222.14.1	bend PP-MD 45G d50 L6.5	0.063	0.11
390.322.14.1	bend PP-MD 45G d75 L7.6	0.131	0.23
390.422.14.1	bend PP-MD 45G d90 L8.5	0.206	0.37
390.522.14.1	bend PP-MD 45G d110 L9.7	0.335	0.60
390.622.14.1	bend PP-MD 45G d125 L10.7	0.471	0.84
390.722.14.1	bend PP-MD 45G d160 L12.2	0.835	1.49
390.223.14.1	bend PP-MD 67.5G d50 L7.2	0.066	0.12
390.423.14.1	bend PP-MD 67.5G d90 L9.7	0.231	0.41
390.523.14.1	bend PP-MD 67.5G d110 L11.2	0.378	0.68
390.623.14.1	bend PP-MD 67.5G d125 L12.3	0.532	0.95
390.723.14.1	bend PP-MD 67.5G d160 L14.3	0.936	1.68
390.124.14.1	bend PP-MD 87.5G d40 L7.1	0.052	0.09
390.224.14.1	bend PP-MD 87.5G d50 L7.9	0.069	0.12
390.424.14.1	bend PP-MD 87.5G d90 L11	0.241	0.43
390.524.14.1	bend PP-MD 87.5G d110 L12.8	0.397	0.71
390.624.14.1	bend PP-MD 87.5G d125 L14.2	0.577	1.03
390.724.14.1	bend PP-MD 87.5G d160 L16.6	1.028	1.84
390.456.14.1	Comb branch PP-MD d90/90/50 Sh-Elem Toi	0.489	0.88
390.556.14.1	Comb branch PP-MD d110/90/50 Sh-Elem Toi	0.657	1.18
390.558.14.1	Comb branch PP-MD d110/110/50 Sh-ElemToi	0.758	1.36
390.454.14.1	brnFtg swept entry PP-MD 87.5G d90/90	0.377	0.67
390.554.14.1	brnFtg swept entry PP-MD 87.5G d110/90	0.520	0.93
390.555.14.1	brnFtg swept entry PP-MD 87.5G d110/110	0.607	1.09
390.567.14.1	brnFtg s/e 2x PP-MD 87.5G d110/110/75	0.672	1.20
390.566.14.1	brnFtg s/e 2x PP-MD 87.5G d110/110	0.750	1.34
390.466.14.1	brnFtg s/e 2x PP-MD 87.5G d90/90	0.477	0.85
390.470.14.1	Comb corner brnFtg PP-MD d90/90/50 le	0.492	0.88
390.570.14.1	Comb corner brnFtg PP-MD d110/90/50 le	0.655	1.17
390.578.14.1	Comb corner brnFtg PP-MD d110/110/50 le	0.765	1.37
390.561.14.1	Comb corner brnFtg PP-MD d110/110/75 le	0.820	1.47

Article number	Product description	Net weight [kg per item]	GWP-fossil, A1-A3 [kg CO2e/item]
390.462.14.1	Comb corner brnFtg PP-MD d90/90/50 ri	0.461	0.83
390.562.14.1	Comb corner brnFtg PP-MD d110/90/50 ri	0.659	1.18
390.565.14.1	Comb corner brnFtg PP-MD d110/110/50 ri	0.756	1.35
390.560.14.1	Comb corner brnFtg PP-MD d110/110/75 ri	0.699	1.25
390.459.14.1	corner branch PP-MD 87.5G d90/90/90	0.418	0.75
390.559.14.1	corner branch PP-MD 87.5G d110/110/110	0.672	1.20
390.662.14.1	corner branch PP-MD 87.5G d125/110/110	0.905	1.62
390.457.14.1	parallel branch PP-MD 45G d90/90	0.504	0.90
390.557.14.1	parallel branch PP-MD 45G d110/110	0.834	1.49
390.279.14.1	reducer PP-MD d50/32 L11.3 eccentric	0.043	0.08
390.271.14.1	reducer PP-MD d50/40 L11.4 eccentric	0.049	0.09
390.471.14.1	reducer PP-MD d90/40 L14.6 eccentric	0.119	0.21
390.473.14.1	reducer PP-MD d90/75 L13.9 eccentric	0.150	0.27
390.571.14.1	reducer PP-MD d110/40 L16.4 eccentric	0.177	0.32
390.573.14.1	reducer PP-MD d110/75 L15.7 eccentric	0.216	0.39
390.675.14.1	reducer PP-MD d125/110 L17.1 eccentric	0.397	0.71
390.775.14.1	reducer PP-MD d160/110 L19.4 eccentric	0.508	0.91
390.776.14.1	reducer PP-MD d160/125 L19.4 eccentric	0.568	1.02
390.373.14.1	reducer PP-MD d75/50 L8.4 ecc short	0.076	0.14
390.474.14.1	reducer PP-MD d90/50 L8.8 ecc short	0.110	0.20
390.475.14.1	reducer PP-MD d90/75 L8.9 ecc short	0.107	0.19
390.575.14.1	reducer PP-MD d110/50 L9.5 ecc short	0.159	0.28
390.576.14.1	reducer PP-MD d110/75 L9.6 ecc short	0.170	0.30
390.577.14.1	reducer PP-MD d110/90 L9.8 ecc short	0.165	0.30
390.179.14.1	reducer PP-MD d40/32 L6.8 conc short	0.023	0.04
390.372.14.1	reducer PP-MD d75/50 L13.3 eccentric	0.090	0.16
390.472.14.1	reducer PP-MD d90/50 L14.6 eccentric	0.122	0.22
390.572.14.1	reducer PP-MD d110/50 L16.4 eccentric	0.186	0.33
390.574.14.1	reducer PP-MD d110/90 L15.7 eccentric	0.237	0.42
390.278.14.1	reducer PP-MD d50/40 L6.8 conc short	0.034	0.06
390.225.14.1	bend PP-MD 87.5G d40/50 L8.1	0.062	0.11
390.325.14.1	bend PP-MD 87.5G d50/75 L9.8	0.120	0.21
390.227.14.1	access pipe PP-MD 90G d50 round opening	0.133	0.24
390.327.14.1	access pipe PP-MD 90G d75 round opening	0.276	0.49
390.427.14.1	access pipe PP-MD 90G d90 round opening	0.400	0.72

Article number	Product description	Net weight [kg per item]	GWP-fossil, A1-A3 [kg CO2e/item]
390.527.14.1	access pipe PP-MD 90G d110 round opening	0.747	1.34
390.627.14.1	access pipe PP-MD 90G d125 round opening	0.892	1.60
390.727.14.1	access pipe PP-MD 90G d160 round opening	1.257	2.25
390.464.14.1	duct branch PP-MD 87.5G d90/75/90 le	0.475	0.85
390.564.14.1	duct branch PP-MD 87.5G d110/75/110 le	0.710	1.27

Article number	Product description	Net weight [kg per item]	GWP-fossil, A1-A3 [kg CO2e/item]
390.463.14.1	duct branch PP-MD 87.5G d90/75/90 ri	0.475	0.85
390.563.14.1	duct branch PP-MD 87.5G d110/75/110 ri	0.703	1.26

## VERIFICATION STATEMENT

### VERIFICATION PROCESS FOR THIS EPD

This EPD has been verified in accordance with ISO 14025 by an independent, third-party verifier. The process involved reviewing results, documents and compliance with the reference standards, ISO 14025, ISO 14040 and ISO 14044 following the process and checklists of the programme operator for:

- This Environmental Product Declaration
- The Life Cycle Assessment used in this EPD
- The digital background data for this EPD

Why does verification transparency matter? [Read more online.](#)

This EPD has been generated by the One Click LCA EPD generator, which has been verified and approved by the EPD Hub.

### THIRD-PARTY VERIFICATION STATEMENT

I hereby confirm that, following detailed examination, I have not established any relevant deviations by the studied Environmental Product Declaration (EPD), its LCA and project report, in terms of the data collected and used in the LCA calculations, the way the LCA-based calculations have been carried out, the presentation of environmental data in the EPD, and other additional environmental information, as present with respect to the procedural and methodological requirements in ISO 14025:2010 and reference standard.

I confirm that the company-specific data has been examined as regards plausibility and consistency; the declaration owner is responsible for its factual integrity and legal compliance.

I confirm that I have sufficient knowledge and experience of construction products, this specific product category, the construction industry, relevant standards, and the geographical area of the EPD to carry out this verification.

I confirm my independence in my role as verifier; I have not been involved in the execution of the LCA or in the development of the declaration and have no conflicts of interest regarding this verification.

Magaly González Vázquez as an authorised verifier acting for EPD Hub Limited

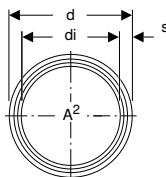
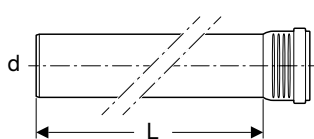
23.08.2024





# Rör

## Geberit Silent-Pro rör med muff



### Användning

- För avledning av avloppsvatten inom byggnader
- För byggnader med höga krav på ljudisolering

### Tekniska data

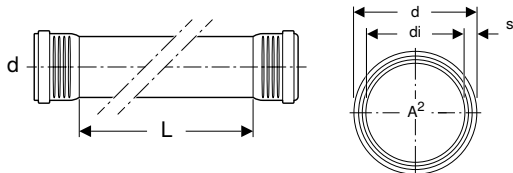
Installationstemperatur	-10 – +40 °C
Material	PP MX
Längdutvidgning	0,08 mm/(m·K)

### Egenskaper

- Enskiktströr massivt
- Ljudisolerande
- Packning av EPDM
- Kan förvaras utomhus i två år

Artikelnr	RSK nr.	DN	d, ø [mm]	di, ø [mm]	s [mm]	A² [cm²]
<b>L / Längd: 15 cm</b>						
393.200.14.1	2749573	50	50	44	3	15,2
393.300.14.1	2749574	70	75	67,4	3,8	35,7
393.400.14.1	2749575	90	90	81,4	4,3	52
393.500.14.1	2749576	100	110	101	4,5	80,1
393.600.14.1	2749577	125	125	115	5	103,9
393.700.14.1	2749578	150	160	148	6	172
<b>L / Längd: 25 cm</b>						
393.201.14.1	2749579	50	50	44	3	15,2
393.301.14.1	2749580	70	75	67,4	3,8	35,7
393.401.14.1	2749581	90	90	81,4	4,3	52
393.501.14.1	2749582	100	110	101	4,5	80,1
393.601.14.1	2749583	125	125	115	5	103,9
393.701.14.1	2749584	150	160	148	6	172
<b>L / Längd: 50 cm</b>						
393.202.14.1	2749585	50	50	44	3	15,2
393.302.14.1	2749586	70	75	67,4	3,8	35,7
393.402.14.1	2749587	90	90	81,4	4,3	52
393.502.14.1	2749588	100	110	101	4,5	80,1
393.602.14.1	2749589	125	125	115	5	103,9
393.702.14.1	2749590	150	160	148	6	172
<b>L / Längd: 100 cm</b>						
393.204.14.1	2749591	50	50	44	3	15,2
393.304.14.1	2749592	70	75	67,4	3,8	35,7
393.404.14.1	2749593	90	90	81,4	4,3	52
393.504.14.1	2749594	100	110	101	4,5	80,1
393.604.14.1	2749595	125	125	115	5	103,9
393.704.14.1	2749596	150	160	148	6	172
<b>L / Längd: 150 cm</b>						
393.205.14.1	2749597	50	50	44	3	15,2
393.305.14.1	2749598	70	75	67,4	3,8	35,7
393.405.14.1	2749599	90	90	81,4	4,3	52
393.505.14.1	2749600	100	110	101	4,5	80,1
393.605.14.1	2749601	125	125	115	5	103,9
393.705.14.1	2749602	150	160	148	6	172
<b>L / Längd: 200 cm</b>						
393.206.14.1	2749603	50	50	44	3	15,2
393.306.14.1	2749604	70	75	67,4	3,8	35,7
393.406.14.1	2749605	90	90	81,4	4,3	52
393.506.14.1	2749606	100	110	101	4,5	80,1
393.606.14.1	2749607	125	125	115	5	103,9
393.706.14.1	2749608	150	160	148	6	172
<b>L / Längd: 300 cm</b>						
393.207.14.1	2749609	50	50	44	3	15,2
393.307.14.1	2749610	70	75	67,4	3,8	35,7
393.407.14.1	2749611	90	90	81,4	4,3	52
393.507.14.1	2749612	100	110	101	4,5	80,1
393.607.14.1	2749613	125	125	115	5	103,9
393.707.14.1	2749614	150	160	148	6	172

## Geberit Silent-Pro rör med två muffar



## Användning

- För avledning av avloppsvatten inom byggnader
- För byggnader med höga krav på ljudisolering

## Tekniska data

Installationstemperatur	-10 – +40 °C
Material	PP MX
Längdutvidgning	0,08 mm/(m·K)

## Egenskaper

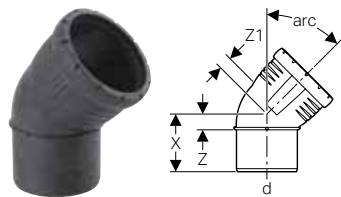
- Enskiktsrör massivt
- Ljudisolerande
- Packning av EPDM
- Kan förvaras utomhus i två år

Artikelnr	RSK nr.	DN	d, ø [mm]	di, ø [mm]	s [mm]	A² [cm²]
<b>L / Längd: 50 cm</b>						
393.210.14.1	2749615	50	50	44	3	15,2
393.310.14.1	2749616	70	75	67,4	3,8	35,7
393.410.14.1	2749617	90	90	81,4	4,3	52
393.510.14.1	2749618	100	110	101	4,5	80,1
393.610.14.1	2749619	125	125	115	5	103,9
<b>L / Längd: 100 cm</b>						
393.211.14.1	2749620	50	50	44	3	15,2
393.311.14.1	2749621	70	75	67,4	3,8	35,7
393.411.14.1	2749622	90	90	81,4	4,3	52
393.511.14.1	2749623	100	110	101	4,5	80,1
393.611.14.1	2749624	125	125	115	5	103,9
<b>L / Längd: 200 cm</b>						
393.213.14.1	2749625	50	50	44	3	15,2
393.313.14.1	2749626	70	75	67,4	3,8	35,7
393.413.14.1	2749627	90	90	81,4	4,3	52
393.513.14.1	2749628	100	110	101	4,5	80,1
393.613.14.1	2749629	125	125	115	5	103,9
<b>L / Längd: 300 cm</b>						
393.214.14.1	2749630	50	50	44	3	15,2
393.314.14.1	2749631	70	75	67,4	3,8	35,7
393.414.14.1	2749632	90	90	81,4	4,3	52
393.514.14.1	2749633	100	110	101	4,5	80,1
393.614.14.1	2749634	125	125	115	5	103,9

# Rördelar

## Böjar

### Geberit Silent-Pro böj



#### Användning

- För avledning av avloppsvatten inom byggnader
- För byggnader med höga krav på ljudisolering

#### Egenskaper

- Ljudisolerande
- Packning av EPDM

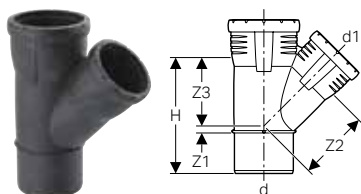
#### Tekniska data

Installationstemperatur	-10 – +40 °C
Material	PP MX
Längdutvidgning	0,08 mm/(m·K)

Artikelnr	RSK nr.	DN	d, ø [mm]	X [cm]	Z [cm]	Z1 [cm]
<b>arc / Vinkel: 15°</b>						
393.220.14.1	2762850	50	50	5,8	0,7	1,1
393.320.14.1	2762851	70	75	6,5	0,9	1,5
393.420.14.1	2762852	90	90	7,3	1,2	1,6
393.520.14.1	2762853	100	110	8,2	1,4	2
393.620.14.1	2762854	125	125	8,9	1,6	2,4
393.720.14.1	2762855	150	160	9,9	1,9	2,7
<b>arc / Vinkel: 30°</b>						
393.221.14.1	2762856	50	50	6,2	1,1	1
393.321.14.1	2762857	70	75	7,1	1,5	1,5
393.421.14.1	2762858	90	90	7,9	1,8	1,7
393.521.14.1	2762859	100	110	9	2,1	2
393.621.14.1	2762860	125	125	9,8	2,4	2,5
393.721.14.1	2762861	150	160	11	3	2,8
<b>arc / Vinkel: 45°</b>						
393.222.14.1	2762862	50	50	6,5	1,5	1,4
393.322.14.1	2762863	70	75	7,6	2	2,1
393.422.14.1	2762864	90	90	8,5	2,4	2,5
393.522.14.1	2762865	100	110	9,8	3	2,9
393.622.14.1	2762866	125	125	10,7	3,3	3,3
393.722.14.1	2762867	150	160	12,2	4,2	4
<b>arc / Vinkel: 67,5°</b>						
393.223.14.1	2762868	50	50	7,2	2,1	2,1
393.323.14.1	2762869	70	75	8,6	3	3
393.423.14.1	2762870	90	90	9,7	3,6	3,5
393.523.14.1	2762871	100	110	11,2	4,4	4,3
<b>arc / Vinkel: 87,5°</b>						
393.224.14.1	2762872	50	50	7,9	2,8	3
393.324.14.1	2762873	70	75	9,7	4,1	4,2
393.424.14.1	2762874	90	90	11	4,9	4,8
393.524.14.1	2762875	100	110	12,8	6	6
393.624.14.1	2762876	125	125	14,2	6,8	6,7
393.724.14.1	2762877	150	160	16,6	8,5	8,4

## Grenrör

### Geberit Silent-Pro grenrör 45°



#### Användning

- För avledning av avloppsvatten inom byggnader
- För byggnader med höga krav på ljudisolering

#### Egenskaper

- Ljudisolerande
- Packning av EPDM

#### Tekniska data

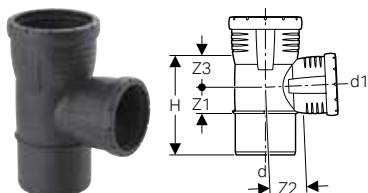
Installationstemperatur	-10 – +40 °C
Material	PP MX
Längdutvidgning	0,08 mm/(m·K)

Artikelnr	RSK nr.	DN	d, ø [mm]	d1, ø [mm]	arc [°]	H [cm]	Z1 [cm]	Z2 [cm]	Z3 [cm]
393.232.14.1	2710878	50 / 50	50	50	45	12,9	1,5	6,3	6,3
393.332.14.1	2710879	70 / 50	75	50	45	13,5	0,1	8,1	7,8
393.333.14.1	2710880	70 / 70	75	75	45	16,9	1,9	9,4	9,4
393.432.14.1	2710881	90 / 50	90	50	45	13,9	0,6	9,2	8,4
393.433.14.1	2710882	90 / 70	90	75	45	17,5	1,2	10,5	10,2
393.434.14.1	2710883	90 / 90	90	90	45	19,6	2,2	11,3	11,3
393.532.14.1	2710884	100 / 50	110	50	45	15,1	1,5	10,6	9,8
393.533.14.1	2710885	100 / 70	110	75	45	18,5	0,2	11,9	11,5
393.534.14.1	2710886	100 / 90	110	90	45	20,5	1,1	12,6	12,6
393.535.14.1	2710887	100 / 100	110	110	45	23,3	2,7	13,8	13,8
393.633.14.1	2710888	125 / 70	125	75	45	20,1	0,4	13,3	13,1
393.634.14.1	2710889	125 / 90	125	90	45	24,3	2,8	18,4	14,2
393.635.14.1	2710890	125 / 100	125	110	45	24,3	2,1	14,7	14,9
393.636.14.1	2710891	125 / 125	125	125	45	26,2	3,1	15,7	15,7
393.734.14.1	2710892	150 / 90	160	90	45	25,2	1	21	16,2
393.735.14.1	2710893	150 / 100	160	110	45	25,2	0,3	17,3	16,9
393.736.14.1	2710894	150 / 125	160	125	45	27,3	1,4	18,4	17,9
393.737.14.1	2710895	150 / 150	160	160	45	32,4	4	20,3	20,3



- Artiklarna 393.634.14.1 och 393.734.14.1 består var och en av ett likformigt grenrör och en motsvarande reducering. Delarna levereras löst i en påse.

## Geberit Silent-Pro grenrör 87,5°



### Användning

- För avledning av avloppsvatten inom byggnader
- För byggnader med höga krav på ljudisolering

### Egenskaper

- Ljudisolerande
- Packning av EPDM

### Tekniska data

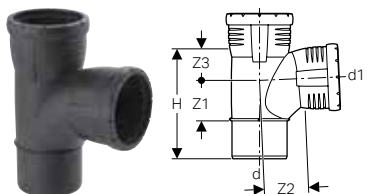
Installationstemperatur	-10 – +40 °C
Material	PP MX
Längdutvidgning	0,08 mm/(m·K)

Artikelnr	RSK nr.	DN	d, ø [mm]	d1, ø [mm]	arc [°]	H [cm]	Z1 [cm]	Z2 [cm]	Z3 [cm]
393.248.14.1	2710896	50 / 50	50	50	87,5	10,9	2,9	2,8	2,9
393.348.14.1	2710897	70 / 50	75	50	87,5	11,5	2,8	4,2	3,1
393.349.14.1	2710898	70 / 70	75	75	87,5	13,9	3,9	4,3	4,3
393.448.14.1	2710899	90 / 50	90	50	87,5	12,1	2,8	4,9	3,2
393.449.14.1	2710900	90 / 70	90	75	87,5	14,6	4	5,1	4,5
393.547.14.1	2710901	100 / 50	110	50	87,5	12,9	2,8	6	3,2
393.549.14.1	2710902	100 / 70	110	75	87,5	15,4	4	6	4,5
393.654.14.1	2710903	125 / 70	125	75	87,5	23	9	12,2	6,5
393.650.14.1	2710911	125 / 90	125	90	87,5	23	8,3	12	7,3
393.652.14.1	2710904	125 / 125	125	125	87,5	20,9	6,5	6,8	7
393.751.14.1	2710905	150 / 100	160	110	87,5	25,2	10,2	13,3	7
393.752.14.1	2710906	150 / 125	160	125	87,5	25,2	9,4	13	7,7
393.753.14.1	2710907	150 / 150	160	160	87,5	25,2	8,3	8,6	8,8



- Artiklarna 393.650.14.1, 393.654.14.1, 393.751.14.1 och 393.752.14.1 består var och en av ett likformigt grenrör och en motsvarande reducering. Delarna levereras löst i en påse.

## Geberit Silent-Pro grenrör 87,5°, swept entry



### Användning

- För avledning av avloppsvatten inom byggnader
- För byggnader med höga krav på ljudisolering

### Egenskaper

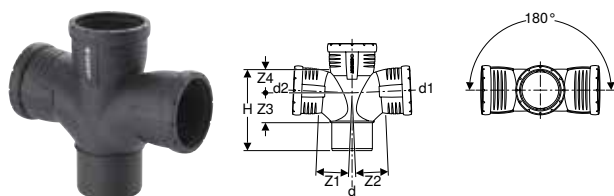
- Ljudisolerande
- Packning av EPDM

### Tekniska data

Installationstemperatur	-10 – +40 °C
Material	PP MX
Längdutvidgning	0,08 mm/(m·K)

Artikelnr	RSK nr.	DN	d, ø [mm]	d1, ø [mm]	arc [°]	H [cm]	Z1 [cm]	Z2 [cm]	Z3 [cm]
393.454.14.1	2710908	90 / 90	90	90	87,5	17	6,7	7	4,9
393.552.14.1	2710909	100 / 90	110	90	87,5	21,2	8,2	8,1	6,1
393.555.14.1	2710910	100 / 100	110	110	87,5	21,2	8,2	7,7	6,1
393.651.14.1	2710912	125 / 100	125	110	87,5	21,3	6,6	7,8	7,3

## Geberit Silent-Pro grenrör 87,5°, swept entry, dubbel



### Användning

- För avledning av avloppsvatten inom byggnader
- För byggnader med höga krav på ljudisolering

### Egenskaper

- Ljudisolerande
- Packning av EPDM

### Tekniska data

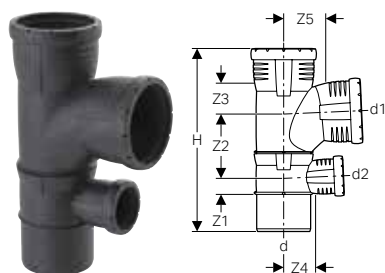
Installationstemperatur	-10 – +40 °C
Material	PP MX
Längdutvidgning	0,08 mm/(m·K)

Artikelnr	RSK nr.	DN	d, ø [mm]	d1, ø [mm]	d2, ø [mm]	arc [°]	H [cm]	Z1 [cm]	Z2 [cm]	Z3 [cm]	Z4 [cm]
393.466.14.1	2710913	90 / 90 / 90	90	90	90	87,5	17,7	7	7	6,7	4,9
393.566.14.1	2710914	100 / 100 / 100	110	110	110	87,5	21,2	7,7	7,7	8,2	6,1
393.665.14.1	2710915	125 / 100 / 100	125	110	110	87,5	22,9	8,2	8,2	7,7	7,8



- Artikelnr 393.665.14.1 är en svetsad formdel

## Geberit Silent-Pro kombigrenrör 87,5°



### Användning

- För avledning av avloppsvatten inom byggnader
- För byggnader med höga krav på ljudisolering
- För anslutning till djupliggande avlopp från duschelement

### Egenskaper

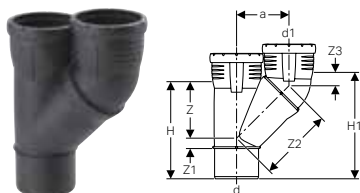
- Ljudisolerande
- Rördel svetsad
- Packning av EPDM

### Tekniska data

Installationstemperatur	-10 – +40 °C
Material	PP MX
Längdutvidgning	0,08 mm/(m·K)

Artikelnr	RSK nr.	DN	d, ø [mm]	d1, ø [mm]	d2, ø [mm]	arc [°]	H [cm]	Z1 [cm]	Z2 [cm]	Z3 [cm]	Z4 [cm]	Z5 [cm]
393.456.14.1	2710929	90 / 90 / 50	90	90	50	87,5	30,6	2,8	10,8	4,9	4,9	7
393.556.14.1	2710930	100 / 90 / 50	110	90	50	87,5	34,9	2,8	12,3	6,1	6	8
393.558.14.1	2710931	100 / 100 / 50	110	110	50	87,5	34,9	2,8	12,3	6,1	6	7,7

## Geberit Silent-Pro parallellgrenrör 45°



### Användning

- För avledning av avloppsvatten inom byggnader
- För byggnader med höga krav på ljudisolering

### Tekniska data

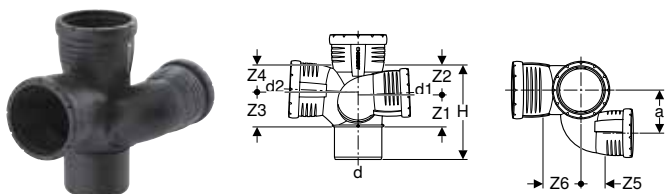
Installationstemperatur	-10 – +40 °C
Material	PP MX
Längdutvidgning	0,08 mm/(m·K)

### Egenskaper

- Ljudisolerande
- Rördel svetsad
- Packning av EPDM

Artikelnr	RSK nr.	DN	d, ø [mm]	d1, ø [mm]	arc [°]	a [cm]	H [cm]	H1 [cm]	Z [cm]	Z1 [cm]	Z2 [cm]	Z3 [cm]
393.457.14.1	2710916	90 / 90	90	90	45	11,2	19,6	22	11,3	2,2	15,8	2,3
393.551.14.1	2710917	100 / 90	110	90	45	12,3	20,5	22,7	12,6	1,1	17,4	2,2
393.557.14.1	2710918	100 / 100	110	110	45	13,3	23,3	25,7	13,8	2,7	18,4	2,4

## Geberit Silent-Pro schaktförgrening 87,5°, vänster



### Användning

- För avledning av avloppsvatten inom byggnader
- För byggnader med höga krav på ljudisolering

### Tekniska data

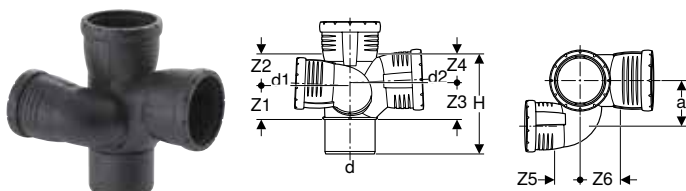
Installationstemperatur	-10 – +40 °C
Material	PP MX
Längdutvidgning	0,08 mm/(m·K)

### Egenskaper

- Ljudisolerande
- Rördel svetsad
- Packning av EPDM

Artikelnr	RSK nr.	DN	d, ø [mm]	d1, ø [mm]	d2, ø [mm]	arc [°]	a [cm]	H [cm]	Z1 [cm]	Z2 [cm]	Z3 [cm]	Z4 [cm]	Z5 [cm]	Z6 [cm]
393.464.14.1	2710919	90 / 70 / 90	90	75	90	87,5	8,2	17,7	6,2	5,4	6,7	4,9	4,2	7
393.554.14.1	2710920	100 / 70 / 90	110	75	90	87,5	9,2	21,2	7,7	6,7	8,2	6,1	4,2	8,1
393.564.14.1	2710921	100 / 70 / 100	110	75	110	87,5	7,7	21,2	6,7	7,7	8,2	6,1	4,2	7,7

## Geberit Silent-Pro schaktförgrening 87,5°, höger



### Användning

- För avledning av avloppsvatten inom byggnader
- För byggnader med höga krav på ljudisolering

### Tekniska data

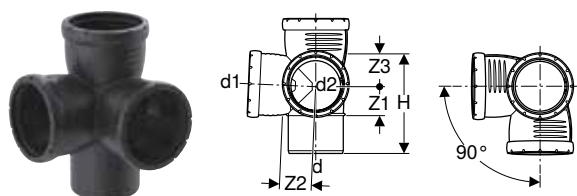
Installationstemperatur	-10 – +40 °C
Material	PP MX
Längdutvidgning	0,08 mm/(m·K)

### Egenskaper

- Ljudisolerande
- Rördel svetsad
- Packning av EPDM

Artikelnr	RSK nr.	DN	d, ø [mm]	d1, ø [mm]	d2, ø [mm]	arc [°]	a [cm]	H [cm]	Z1 [cm]	Z2 [cm]	Z3 [cm]	Z4 [cm]	Z5 [cm]	Z6 [cm]
393.463.14.1	2710922	90 / 70 / 90	90	75	90	87,5	8,2	17,7	6,7	4,9	6,2	5,4	4,2	7
393.553.14.1	2710923	100 / 70 / 90	110	75	90	87,5	9,2	21,2	7,7	6,7	8,2	6,1	4,2	8,1
393.563.14.1	2710924	100 / 70 / 100	110	75	110	87,5	9,2	21,2	6,7	7,7	8,2	6,1	4,2	7,7

## Geberit Silent-Pro hörngrenrör 87,5°



### Användning

- För avledning av avloppsvatten inom byggnader
- För byggnader med höga krav på ljudisolering

### Egenskaper

- Ljudisolerande
- Packning av EPDM

### Tekniska data

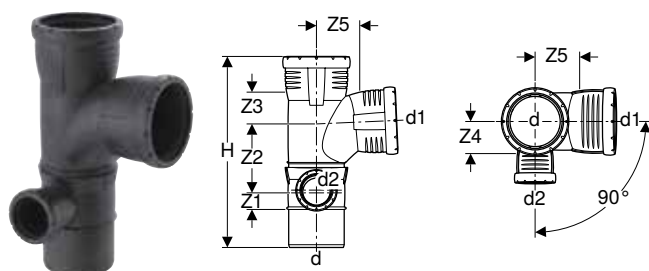
Installationstemperatur	-10 – +40 °C
Material	PP MX
Längdutvidgning	0,08 mm/(m·K)

Artikelnr	RSK nr.	DN	d, ø [mm]	d1, ø [mm]	d2, ø [mm]	arc [°]	H [cm]	Z1 [cm]	Z2 [cm]	Z3 [cm]
393.459.14.1	2710925	90 / 90 / 90	90	90	90	87,5	16	4,9	5	5,1
393.550.14.1	2710926	100 / 90 / 90	110	90	90	87,5	21,2	8,2	8,1	6,1
393.559.14.1	2710927	100 / 100 / 100	110	110	110	87,5	18,9	5,9	6	6,2
393.662.14.1	2710928	125 / 100 / 100	125	110	110	87,5	22,9	7,7	8,2	7,8



- Artikelnr 393.550.14.1 och 393.662.14.1 är svetsade formdelar med swept entry

## Geberit Silent-Pro kombinerad hörnförgrening 87,5°, vänster



### Användning

- För avledning av avloppsvatten inom byggnader
- För byggnader med höga krav på ljudisolering
- För anslutning till djupliggande avlopp från duschelement

### Egenskaper

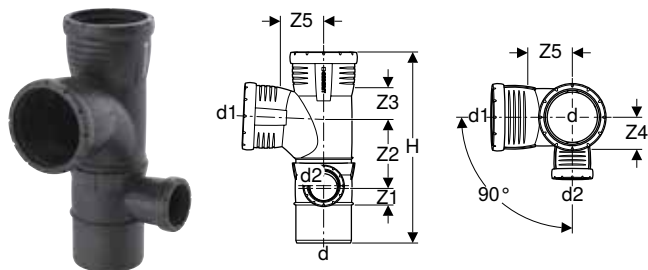
- Ljudisolerande
- Rördel svetsad
- Packning av EPDM

### Tekniska data

Installationstemperatur	-10 – +40 °C
Material	PP MX
Längdutvidgning	0,08 mm/(m·K)

Artikelnr	RSK nr.	DN	d, ø [mm]	d1, ø [mm]	d2, ø [mm]	arc [°]	H [cm]	Z1 [cm]	Z2 [cm]	Z3 [cm]	Z4 [cm]	Z5 [cm]
393.470.14.1	2710932	90 / 90 / 50	90	90	50	87,5	30,6	2,8	10,8	4,9	4,9	7
393.561.14.1	2710935	100 / 100 / 70	110	110	75	87,5	37,4	4	13,6	6,1	5,9	7,7
393.570.14.1	2710933	100 / 90 / 50	110	90	50	87,5	34,9	2,8	12,2	6,1	6	8,1
393.578.14.1	2710934	100 / 100 / 50	110	110	50	87,5	34,9	2,8	12,3	6,1	6	7,7

## Geberit Silent-Pro kombinerad hörnförgrening 87,5°, höger



### Användning

- För avledning av avloppsvatten inom byggnader
- För byggnader med höga krav på ljudisolering
- För anslutning till djupliggande avlopp från duschelement

### Egenskaper

- Ljudisolerande
- Rördel svetsad
- Packning av EPDM

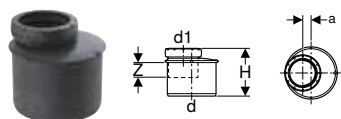
### Tekniska data

Installationstemperatur	-10 – +40 °C
Material	PP MX
Längdutvidgning	0,08 mm/(m·K)

Artikelnr	RSK nr.	DN	d, ø [mm]	d1, ø [mm]	d2, ø [mm]	arc [°]	H [cm]	Z1 [cm]	Z2 [cm]	Z3 [cm]	Z4 [cm]	Z5 [cm]
393.462.14.1	2710936	90 / 90 / 50	90	90	50	87,5	30,6	2,8	10,8	4,9	4,9	7
393.560.14.1	2710939	100 / 100 / 70	110	110	75	87,5	37,4	4	13,6	6,1	5,9	7,7
393.562.14.1	2710937	100 / 90 / 50	110	90	50	87,5	34,9	2,8	12,2	6,1	6	8,1
393.565.14.1	2710938	100 / 100 / 50	110	110	50	87,5	34,5	2,8	12,3	6,1	6	7,7

## Reduceringar

### Geberit Silent-Pro reducereing, excentrisk



### Användning

- För avledning av avloppsvatten inom byggnader
- För byggnader med höga krav på ljudisolering

### Egenskaper

- Excentrisk
- Ljudisolerande
- Packning av EPDM

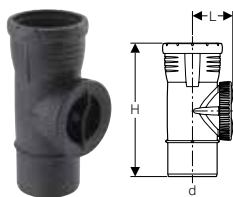
### Tekniska data

Installationstemperatur	-10 – +40 °C
Material	PP MX
Längdutvidgning	0,08 mm/(m·K)

Artikelnr	RSK nr.	DN	d, ø [mm]	d1, ø [mm]	a [cm]	H [cm]	Z [cm]
393.372.14.1	2710940	70 / 50	75	50	0,8	8,4	2,9
393.472.14.1	2710941	90 / 50	90	50	1,5	8,8	2,3
393.473.14.1	2710942	90 / 70	90	75	0,3	8,9	2,7
393.572.14.1	2710943	100 / 50	110	50	2,5	9,5	2,2
393.573.14.1	2710944	100 / 70	110	75	1,3	9,6	2,8
393.574.14.1	2710945	100 / 90	110	90	0,5	9,8	3,1
393.674.14.1	2710946	125 / 90	125	90	1,2	10,4	2,9
393.675.14.1	2710947	125 / 100	125	110	0,2	10,5	3,7
393.775.14.1	2710948	150 / 100	160	110	1,9	11,3	3,4
393.776.14.1	2710949	150 / 125	160	125	1,1	11,5	3,8

## Rensrör

### Geberit Silent-Pro rensrör 90° med rund serviceöppning



#### Användning

- För avledning av avloppsvatten inom byggnader
- För byggnader med höga krav på ljudisolering
- För horisontell montering
- För vertikal montering

#### Tekniska data

Installationstemperatur	-10 – +40 °C
Material	PP MX
Längdutvidgning	0,08 mm/(m·K)

#### Egenskaper

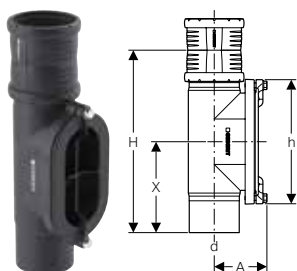
- Ljudisolerande
- Serviceöppning med förenklad förslutningsstyrning
- Förslutningsstycke flödesoptimerat
- Förslutningsstycke sluter tätt med rören
- Packning av EPDM

#### Leveransomfattning

- Lock av PP

Artikelnr	RSK nr.	DN	d, ø [mm]	arc [°]	L [cm]	H [cm]
393.227.14.1	2710950	50	50	90	4,6	18
393.327.14.1	2710951	70	75	90	6	21,6
393.427.14.1	2710952	90	90	90	7,2	24,4
393.527.14.1	2710953	100	110	90	8,7	28,4
393.627.14.1	2710954	125	125	90	9,5	28,9
393.727.14.1	2710955	150	160	90	11,4	30,5

### Geberit Silent-Pro rensrör 90° med oval serviceöppning



#### Användning

- För avledning av avloppsvatten inom byggnader
- För byggnader med höga krav på ljudisolering
- För horisontell montering
- För vertikal montering

#### Tekniska data

Installationstemperatur	-10 – +40 °C
Material	PP MX
Längdutvidgning	0,08 mm/(m·K)

#### Egenskaper

- Ljudisolerande
- Öppning oval
- Packning av EPDM

#### Leveransomfattning

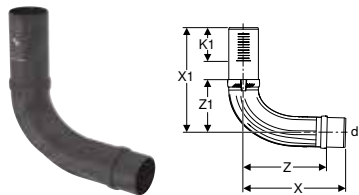
- Lock gjutjärn, svart dopplackerat
- Dubbel o-ringsmuff av PP, med läpptätningar

Artikelnr	RSK nr.	DN	d, ø [mm]	arc [°]	A [cm]	H [cm]	h [cm]	X [cm]
393.503.14.1	2710956	100	110	90	12	40,3	28	20
393.603.14.1	2710957	125	125	90	12,5	41,4	28	20,5
393.703.14.1	2710958	150	160	90	14	43,4	28	21,5

## Rördelar SuperTube

### Böjar

#### Geberit Silent-Pro BottomTurn-böj



##### Användning

- För avledning av avloppsvatten inom byggnader
- För byggnader med höga krav på ljudisolering
- Geberit Silent-Pro Carve grenrör med tre muffar
- För Geberit Silent-Pro dubbel o-ringsmuff

##### Egenskaper

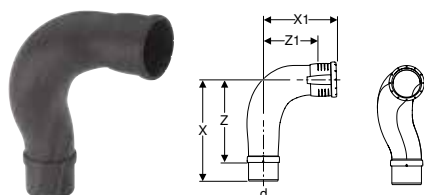
- Ljudisolerande
- Med SuperTube-teknik

##### Tekniska data

Installationstemperatur	-10 – +40 °C
Material	PP MX
Längdutvidgning	0,08 mm/(m·K)

Artikelnr	RSK nr.	DN	d, ø [mm]	arc [°]	X [cm]	X1 [cm]	Z [cm]	Z1 [cm]	K1 max. [cm]
393.525.14.1	2831844	100	110	90	37,9	39,1	31,1	18,9	12,4

#### Geberit Silent-Pro BackFlip-böj



##### Användning

- För avledning av avloppsvatten inom byggnader
- För byggnader med höga krav på ljudisolering

##### Egenskaper

- Ljudisolerande
- Packning av EPDM
- Med SuperTube-teknik

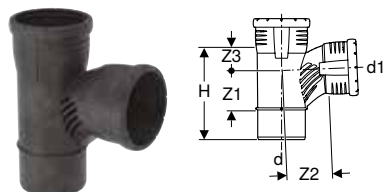
##### Tekniska data

Installationstemperatur	-10 – +40 °C
Material	PP MX
Längdutvidgning	0,08 mm/(m·K)

Artikelnr	RSK nr.	DN	d, ø [mm]	arc [°]	X [cm]	X1 [cm]	Z [cm]	Z1 [cm]
393.526.14.1	2831845	100	110	90	37,8	28,2	30,3	20,4

### Grenrör

#### Geberit Silent-Pro Carve grenrör 87.5°



##### Användning

- För avledning av avloppsvatten inom byggnader
- För byggnader med höga krav på ljudisolering

##### Egenskaper

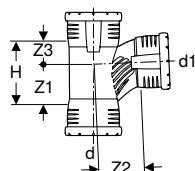
- Ljudisolerande
- Packning av EPDM
- Med SuperTube-teknik

#### Tekniska data

Installationstemperatur	-10 – +40 °C
Material	PP MX
Längdutvidgning	0,08 mm/(m·K)

Artikelnr	RSK nr.	DN	d, ø [mm]	d1, ø [mm]	arc [°]	H [cm]	Z1 [cm]	Z2 [cm]	Z3 [cm]
393.544.14.1	2831841	100 / 50	110	50	87,5	12,9	4,7	8,9	1,4
393.545.14.1	2831842	100 / 70	110	75	87,5	15,2	5,2	8,9	3,2
393.541.14.1	2831846	100 / 90	110	90	87,5	18,3	7,3	10,4	4,2
393.540.14.1	2831839	100 / 100	110	110	87,5	21,2	9,2	10,7	5,2

### Geberit Silent-Pro Carve grenrör 87.5° med tre muffar



#### Användning

- För avledning av avloppsvatten inom byggnader
- För byggnader med höga krav på ljudisolering

#### Tekniska data

Installationstemperatur	-10 – +40 °C
Material	PP MX
Längdutvidgning	0,08 mm/(m·K)

Artikelnr	RSK nr.	DN	d, ø [mm]	d1, ø [mm]	arc [°]	H [cm]	Z1 [cm]	Z2 [cm]	Z3 [cm]
393.546.14.1	2831843	100 / 50	110	50	87,5	6,6	5,2	8,9	1,4
393.543.14.1	2831847	100 / 90	110	90	87,5	11,9	7,7	10,4	4,2
393.542.14.1	2831840	100 / 100	110	110	87,5	14,9	9,7	10,7	5,2

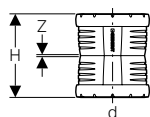
#### Egenskaper

- Ljudisolerande
- Packning av EPDM
- Med SuperTube-teknik

## Kopplingar

### Muffar

### Geberit Silent-Pro dubbel o-ringsmuff



#### Användning

- För avledning av avloppsvatten inom byggnader
- För byggnader med höga krav på ljudisolering

#### Tekniska data

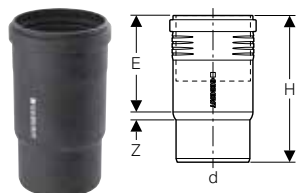
Installationstemperatur	-10 – +40 °C
Material	PP MX
Längdutvidgning	0,08 mm/(m·K)

Artikelnr	RSK nr.	DN	d, ø [mm]	H [cm]	Z [cm]
393.216.14.1	2671761	50	50	10,3	0,1
393.316.14.1	2671762	70	75	11,3	0,2
393.416.14.1	2671763	90	90	12,4	0,2
393.516.14.1	2671764	100	110	13,9	0,3
393.616.14.1	2671765	125	125	15,2	0,4
393.716.14.1	2671766	150	160	16,5	0,4

#### Egenskaper

- Ljudisolerande
- Packning av EPDM

## Geberit Silent-Pro expansionsmuff



### Användning

- För avledning av avloppsvatten inom byggnader
- För byggnader med höga krav på ljudisolering
- För reparation av skadade Geberit Silent-Pro rör

### Egenskaper

- Ljudisolerande
- Med utvidgningskompensation
- Packning av EPDM

### Tekniska data

Installationstemperatur	-10 – +40 °C
Material	PP MX
Längdutvidgning	0,08 mm/(m·K)

Artikelnr	RSK nr.	DN	d, ø [mm]	E [cm]	H [cm]	Z [cm]
393.218.14.1	2671773	50	50	4,8–11,4	17	0,3
393.318.14.1	2671774	70	75	5,6–12,1	18,4	0,6
393.418.14.1	2671775	90	90	6–13,6	20,2	0,3
393.518.14.1	2671776	100	110	6,6–15	22,5	0,5

## Geberit Silent-Pro skjutmuff



### Användning

- För avledning av avloppsvatten inom byggnader
- För byggnader med höga krav på ljudisolering
- För reparation av skadade Geberit Silent-Pro rör

### Egenskaper

- Ljudisolerande
- Packning av EPDM

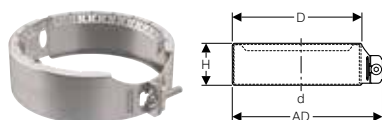
### Tekniska data

Installationstemperatur	-10 – +40 °C
Material	PP MX
Längdutvidgning	0,08 mm/(m·K)

Artikelnr	RSK nr.	DN	d, ø [mm]	H [cm]
393.217.14.1	2671767	50	50	10,3
393.317.14.1	2671768	70	75	11,3
393.417.14.1	2671769	90	90	12,4
393.517.14.1	2671770	100	110	13,9
393.617.14.1	2671771	125	125	15,2
393.717.14.1	2671772	150	160	16,5

## Övergångskoppling

### Geberit klokoppling



### Användning

- För Geberit Silent-PP
- För Geberit Silent-Pro
- För regnvattenledningar
- För upprättande av längskraftbundna instickskopplingar
- För byggnadsavlopp

### Egenskaper

- Kan eftermonteras
- Kan lossas

# ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH  
EN 15804+A2+AC,  
ISO 14025,  
ISO 21930

## **GEBERIT SILENT-PRO PIPE**

Geberit International AG

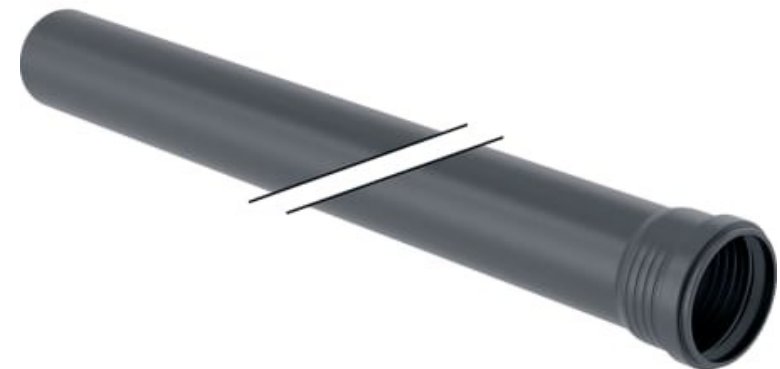
### **EPD HUB, HUB-0939**

Published: 24 January 2024

Last updated: 24 January 2024

Valid until: 24 January 2029

Created with One Click LCA 



## GENERAL INFORMATION

### MANUFACTURER

Manufacturer	Geberit International AG
Address	Schachenstrasse 77, CH-8645 Jona
Contact details	sustainability@geberit.com
Website	www.geberit.com

### EPD STANDARDS, SCOPE AND VERIFICATION

Programme operator	EPD Hub, hub@epdhub.com
Reference standards	EN 15804+A2:2019+AC:2021 ISO 14025 ISO 21930
PCR	EPD Hub Core PCR version 1.0, 1 Feb 2022
Sector	Construction product
Category of EPD	Third-party-verified EPD
Scope of the EPD	Cradle to gate with options, A4-A5, and modules C1-C4 and D
EPD author	Georg Nauenburg
EPD verification	Independent verification of this EPD and data according to ISO 14025 <input type="checkbox"/> Internal certification <input checked="" type="checkbox"/> External verification
EPD verifier	Magaly González Vázquez, as an authorised verifier acting for EPD Hub Limited

The manufacturer retains the sole ownership of, liability and responsibility for the EPD. EPDs within the same product category but from different programmes may not be comparable. EPDs of construction products may not be comparable if they do not comply with EN 15804 and if they are not compared in a building context.

### PRODUCT

Product name	Geberit Silent-Pro pipe
Additional labels	-
Product reference	393.504.14.1
Place of production	Villadose, Italy
Period for data	2022
Averaging in EPD	No averaging
Variation in GWP-fossil for A1-A3	%

### ENVIRONMENTAL DATA SUMMARY

Declared unit	1 kg Geberit Silent-Pro pipe
Declared unit mass	1 kg
GWP-fossil, A1-A3 (kgCO <sub>2</sub> e)	1.21
GWP-total, A1-A3 (kgCO <sub>2</sub> e)	0.98
Secondary material, inputs (%)	0.14
Secondary material, outputs (%)	40.8
Total energy use, A1-A3 (kWh)	6.91
Total water use, A1-A3 (m <sup>3</sup> e)	0.03

## PRODUCT AND MANUFACTURER

### ABOUT THE MANUFACTURER

Geberit wants to play a leading role in the transition towards a sustainable sanitary industry. Sustainability has formed an integral component of the corporate strategy for more than 30 years. The Geberit Group has a group ISO certificate in accordance with ISO 9001 (quality), ISO 14001 (environment) and ISO 45001 (occupational health and safety). The company prepared life cycle assessments for key products from an early stage, and eco-design has been an integral part of the product development process since 2007. You can find comprehensive information on sustainability in the current annual report or at <https://www.geberit.com/company/sustainability>

### PRODUCT DESCRIPTION

The Geberit Silent-Pro drainage system reduces unwanted noise. The sound insulation is achieved by the high inherent weight of the product material as well as a consistent decoupling from the building structure. It can be inserted easily, thus making it easier to install highly sound-absorbing drainage systems.

Intended use:

- For draining off wastewater within buildings
- For buildings with increased sound insulation requirements
- For pressure pipes of faeces lifting units according to EN 12050-2 and EN 12050-3, use dimensions DN 50 only.

Further information is available in the local online product catalogue.

### PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	0	-
Minerals	59	Europe
Fossil materials	41	Europe
Bio-based materials	0	-

### BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	0
Biogenic carbon content in packaging, kg C	0.065

### FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 kg Geberit Silent-Pro pipe
Mass per declared unit	1 kg
Functional unit	-
Reference service life	50 years

### REACH – SUBSTANCES OF VERY HIGH CONCERN (SVHC)

The product does not contain any REACH SVHC substances in amounts greater than 0.1 % (1,000 ppm).

# PRODUCT LIFE CYCLE

## SYSTEM BOUNDARY

This EPD covers the life cycle modules listed in the following table.

Product stage			Construction stage		Use stage								End-of-life stage				Beyond system boundaries		
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D			
x	x	x	x	x	MND	MND	MND	MND	MND	MND	MND	x	x	x	x	x			
Raw materials	Transport	Manufacturing	Transport	Installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstr./demol.	Transport	Waste processing	Disposal	Reuse	Recovery	Recycling	

MND = Modules not declared.

## MANUFACTURING AND PACKAGING (A1-A3)

The environmental impacts considered for the product stage cover the manufacturing of raw materials used in the production as well as packaging materials and other ancillary materials. The energy used by machines, and handling of waste formed in the production processes at the manufacturing facilities are also included in this stage. Furthermore, the study considers the material losses occurring during the manufacturing processes as well as losses during electricity transmission.

The product is made of extruded polypropylene (PP) and barium sulphate. The pipe has a coupling with an EPDM sealing. The share of external secondary materials in the product is about 0 %. The product does not contain any volatile organic compounds (VOC) or formaldehyde. For the supply of raw materials, the total input of raw materials was mapped with corresponding European data. Further information on supply chain sustainability can be found in Geberit Annual Reports.

The transports from suppliers to Geberit are modelled based on material-class-specific transport distances. The individual transport distances of

each supplier are averaged according to the corresponding sales volumes. All A2 transports are carried out by lorry. Transport by rail, air and sea freight is not considered due to lack of relevance. On average, the transport distance from suppliers of raw and semifinished materials is about 770 km.

The production and packaging of the Geberit Silent-Pro pipe takes place at the production site in Villadose (IT). The Geberit plant is certified according to ISO 9001, ISO 14001 and ISO 45001. The current Group ISO certificate can be downloaded from <https://www.geberit.com>. A high share of production waste from plastic extrusion is recycled internally. The material and production-related waste going to external treatment is < 1 % of the material input. The sources of electricity consumed in the Villadose plant for the manufacturing process are modelled with Italian average. The consumption of additives is negligible, i.e. it falls under the cut-off rules.

The production and provision of packaging material are modelled in A3. The finished product is packaged with special wood pallets and plastic pipe holders. Other packaging materials (e.g. straps) fall under the cut-off rules.

## TRANSPORT AND INSTALLATION (A4-A5)

Transportation impacts resulting from final products delivery to construction site (A4) cover direct fuel exhaust emissions and environmental impacts of fuel production, as well as related infrastructure emissions.

Transport from Geberit to customers within Europe is carried out by logistics partners via the modern, efficient Logistics Centre in Pfullendorf (DE) which is certified according to ISO 9001, ISO 14001 and ISO 45001. Distribution to countries outside Europe is not taken into account due to lack of relevance.

The following information has been considered:

- The majority of transports within Europe are carried out by lorry. Therefore, intercontinental transport by sea and air is not considered.
- The majority of vehicles in use are > 32 t Euro 6 class (> 85 %).

- The average transport distance in Europe from the production site to the Logistics Centre and to the consumer is approximately 580 km.

Further information on logistics and how we consider ecological aspects of transport can be found in the Geberit Annual Report.

In A5, there are no relevant environmental impacts during installation. Therefore, only the preparation of the waste treatment of packaging materials is taken into account in A5. Wooden pallets are assumed to be disposed of in the municipal waste incineration plant. Plastics are assumed to be disposed of in the municipal waste incineration plant.

### **PRODUCT USE AND MAINTENANCE (B1-B7)**

The product use and maintenance phases are not considered. Air, soil and water impacts during the use phase have not been studied.

The product does not consume any electricity in use and has no moving parts. Periodic maintenance is not necessary.

The resistance to aging depends on the strength of the mechanical, thermal and chemical stress, the resistance of the material and the wall thickness of the pipe and its proper functioning. Under conditions normally encountered in wastewater pipes in buildings, Geberit Silent-Pro has a service life of at least 50 years.

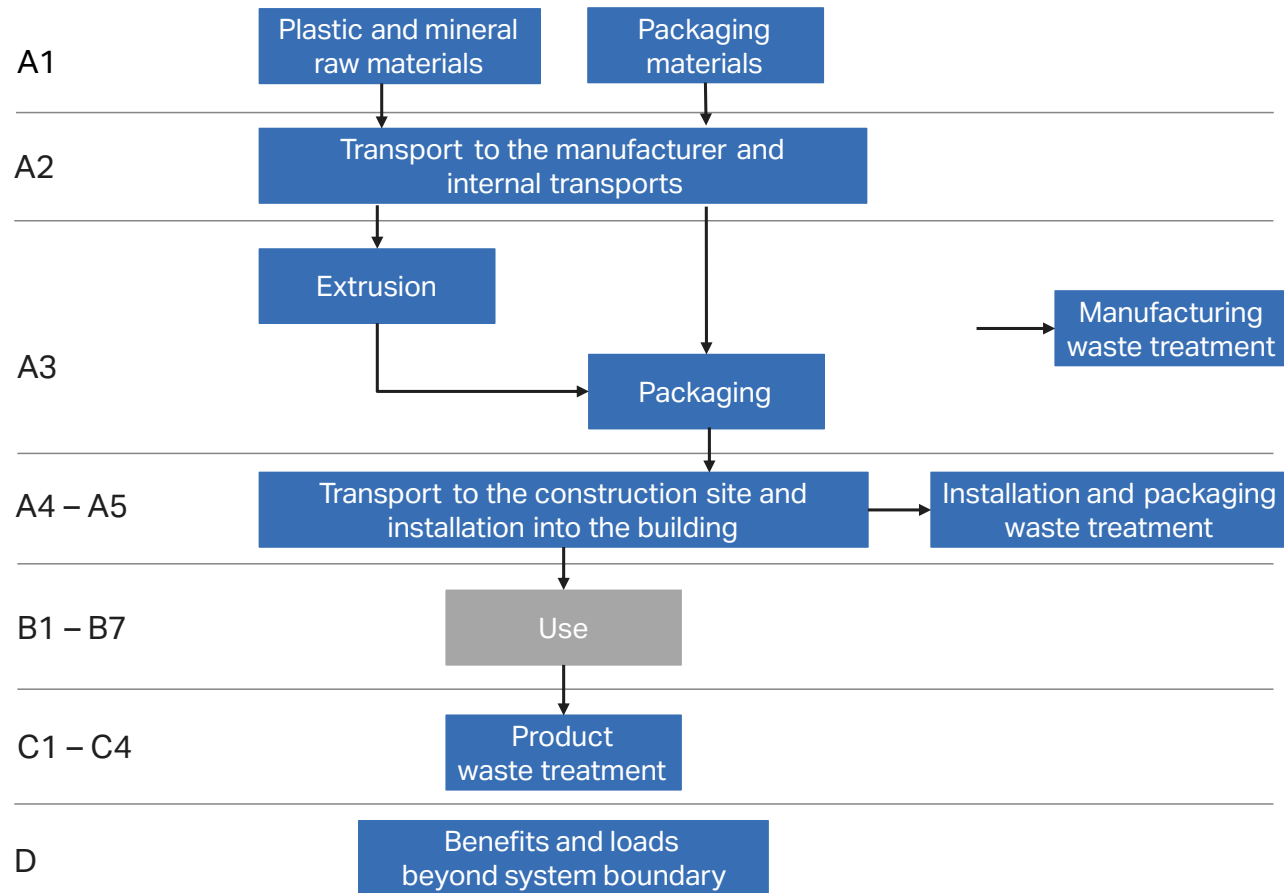
### **PRODUCT END-OF-LIFE (C1-C4, D)**

As the consumption of energy and natural resources is negligible for disassembling the end-of-life product, the impacts of demolition are assumed to be zero (C1). The end-of-life product is assumed to be sent to the closest waste disposal facilities by lorry, which is estimated to be 50 km away (C2). It is generally assumed that all waste is collected and professionally separated after demolition on the construction site. The type of waste treatment is determined on the basis of the material class. Plastics are disposed of in the municipal waste incineration plant. Although the plastic components of the product are basically suitable for

recycling due to their material properties, they are conservatively modelled with thermal energy recovery. The mineral material of the product is assumed to be disposed of in the inert material landfill. The product is not biodegradable.

In module D, the thermal treatment of plastics generates benefits. This covers energy and heat produced from the incineration in a waste incineration plant. Waste of packaging materials in A5 have benefits and loads that are also considered.

# MANUFACTURING PROCESS



# LIFE CYCLE ASSESSMENT

## CUT-OFF CRITERIA

The study does not exclude any modules or processes that are stated as mandatory in the reference standard and the applied PCR. The study does not exclude any hazardous materials or substances. The study includes all major raw material and energy consumption. All inputs and outputs of the unit processes for which data is available are included in the calculation. There is no neglected unit process with more than 1 % of total mass or energy flows. The module-specific total neglected input and output flows also do not exceed 5 % of energy use or mass.

## ALLOCATION, ESTIMATES AND ASSUMPTIONS

Allocation is required if some material, energy, and waste data cannot be measured separately for the product under investigation. All allocations are made as per the reference standards and the applied PCR. In this study, allocations have been made in the following ways:

Data type	Allocation
Raw materials	No allocation
Packaging materials	No allocation
Ancillary materials	No allocation
Manufacturing energy and waste	Allocated by mass or volume

## AVERAGES AND VARIABILITY

Type of average	No averaging
Averaging method	-
Variation in GWP-fossil for A1-A3	-

This EPD is product and factory-specific and does not contain average calculations. Primary data refers to the manufacturing site in Villadose (IT). The data of a Geberit Silent-Pro pipe d110 with a length of 1 m (article number 393.504.14.1) was chosen as a reference product. The results can be scaled linearly for articles listed in Annex.

## LCA SOFTWARE AND BIBLIOGRAPHY

This EPD has been created using the One Click LCA EPD Generator. The LCA and EPD have been prepared according to the reference standards, ISO 14040 and ISO 14044. Ecoinvent 3.8 and One Click LCA databases were used as sources of environmental data.

# ENVIRONMENTAL IMPACT DATA

## CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP <sup>1)</sup> -total	kg CO <sub>2</sub> e	8,43E-01	7,83E-02	5,35E-02	9,75E-01	6,13E-02	2,89E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,49E-03	1,11E+00	3,07E-03	-8,69E-01
GWP-fossil	kg CO <sub>2</sub> e	8,42E-01	7,82E-02	2,93E-01	1,21E+00	6,13E-02	4,91E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,49E-03	1,12E+00	3,12E-03	-8,68E-01
GWP-biogenic	kg CO <sub>2</sub> e	1,08E-03	0,00E+00	-2,40E-01	-2,39E-01	0,00E+00	2,40E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	-1,01E-03	-4,93E-05	0,00E+00
GWP-luluc <sup>2)</sup>	kg CO <sub>2</sub> e	2,27E-04	2,93E-05	2,48E-04	5,04E-04	2,30E-05	2,89E-06	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,67E-06	4,53E-05	2,94E-06	-5,66E-04
Ozone depletion pot.	kg CFC-11e	2,69E-08	1,95E-08	3,62E-08	8,26E-08	1,53E-08	5,37E-10	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,08E-09	2,29E-09	1,26E-09	-4,65E-08
Acidification potential	mol H <sup>+</sup> e	3,09E-03	2,49E-04	1,39E-03	4,73E-03	1,95E-04	7,59E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,63E-05	2,50E-04	2,93E-05	-6,75E-03
EP <sup>3)</sup> -freshwater	kg Pe	1,15E-05	5,59E-07	9,04E-06	2,11E-05	4,38E-07	8,25E-08	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,41E-08	1,01E-06	3,27E-08	-4,73E-05
EP-marine	kg Ne	5,30E-04	5,50E-05	2,50E-04	8,35E-04	4,31E-05	3,41E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,22E-06	9,72E-05	1,01E-05	-7,86E-04
EP-terrestrial	mol Ne	5,81E-03	6,10E-04	2,85E-03	9,27E-03	4,78E-04	3,87E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,67E-05	1,04E-03	1,12E-04	-9,15E-03
POCP <sup>4)</sup> ('smog')	kg NMVOCe	2,69E-03	2,40E-04	9,08E-04	3,84E-03	1,88E-04	1,02E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,64E-05	2,73E-04	3,25E-05	-2,54E-03
ADP-minerals & metals	kg Sbe	1,18E-05	1,92E-07	1,07E-06	1,31E-05	1,50E-07	2,86E-08	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,08E-08	4,37E-07	7,16E-09	-6,54E-07
ADP <sup>5)</sup> -fossil resources	MJ	2,98E+01	1,25E+00	5,19E+00	3,62E+01	9,79E-01	4,63E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	6,99E-02	3,04E-01	8,55E-02	-1,04E+01
Water use	m <sup>3</sup> e depr.	1,09E+00	5,77E-03	1,76E-01	1,27E+00	4,52E-03	5,91E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,18E-04	4,42E-02	2,71E-04	-1,49E-01

1) GWP = Global warming potential; 2) luluc = land use and land use change; 3) EP = Eutrophication potential; 4) POCP = Photochemical ozone creation potential; 5) ADP = Abiotic depletion potential

## ADDITIONAL (OPTIONAL) ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Particulate matter	Incidence	3,49E-08	9,08E-09	9,26E-09	5,33E-08	7,11E-09	7,66E-10	MND	MND	MND	MND	MND	MND	MND	0,00E+00	5,19E-10	3,75E-09	5,90E-10	-5,91E-08
Ionizing radiation	kBq U235e	4,99E-02	6,44E-03	3,64E-02	9,28E-02	5,05E-03	2,42E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,49E-04	2,39E-03	3,87E-04	-1,27E-01
Ecotoxicity, freshwater	CTUe	5,02E+00	1,04E+00	3,34E+00	9,40E+00	8,14E-01	9,25E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	6,01E-02	8,92E-01	5,58E-02	-1,91E+01
Human toxicity, cancer	CTUh	2,33E-10	2,70E-11	3,67E-10	6,27E-10	2,12E-11	6,45E-11	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,52E-12	1,30E-10	1,39E-12	-2,65E-10
Human tox. non-cancer	CTUh	5,96E-09	1,06E-09	3,15E-09	1,02E-08	8,29E-10	2,76E-10	MND	MND	MND	MND	MND	MND	MND	0,00E+00	6,04E-11	2,15E-09	3,65E-11	-8,75E-09
SQP <sup>6)</sup>	-	1,02E+00	1,46E+00	1,98E+01	2,23E+01	1,14E+00	4,07E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	8,11E-02	4,23E-01	1,83E-01	-6,38E+00

6) SQP = Potential soil quality index

## USE OF NATURAL RESOURCES

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Renew. PER <sup>7)</sup> as energy	MJ	4,65E-01	1,62E-02	2,30E+00	2,78E+00	1,27E-02	2,10E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	8,56E-04	2,66E-02	7,42E-04	-1,95E+00
Renew. PER as material	MJ	0,00E+00	0,00E+00	2,10E+00	2,10E+00	0,00E+00	-2,10E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of renew. PER	MJ	4,65E-01	1,62E-02	4,40E+00	4,88E+00	1,27E-02	-2,10E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	8,56E-04	2,66E-02	7,42E-04	-1,95E+00
Non-ren. PER as energy	MJ	1,63E+01	1,25E+00	4,49E+00	2,20E+01	9,79E-01	4,63E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	6,99E-02	3,04E-01	8,55E-02	-1,04E+01
Non-ren. PER as material	MJ	1,35E+01	0,00E+00	4,86E-01	1,40E+01	0,00E+00	-6,96E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	-1,33E+01	0,00E+00	0,00E+00
Total use of non-ren. PER	MJ	2,98E+01	1,25E+00	4,98E+00	3,60E+01	9,79E-01	-6,50E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	6,99E-02	-1,30E+01	8,55E-02	-1,04E+01
Secondary materials	kg	1,38E-03	3,52E-04	8,27E-03	1,00E-02	2,76E-04	1,29E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,96E-05	1,52E-03	1,80E-05	-8,65E-04
Renew. secondary fuels	MJ	2,16E-04	3,11E-06	7,09E-02	7,11E-02	2,43E-06	6,10E-07	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,83E-07	1,18E-05	4,69E-07	-5,46E-06
Non-ren. secondary fuels	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m <sup>3</sup>	2,62E-02	1,66E-04	5,00E-03	3,14E-02	1,30E-04	1,10E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	9,18E-06	3,13E-04	9,36E-05	-8,11E-03

7) PER = Primary energy resources

## END-OF-LIFE – WASTE

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Hazardous waste	kg	2,06E-02	1,34E-03	2,10E-02	4,30E-02	1,05E-03	2,03E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	8,22E-05	4,40E-03	0,00E+00	-6,89E-02
Non-hazardous waste	kg	4,97E-01	2,33E-02	3,61E-01	8,82E-01	1,83E-02	2,18E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,39E-03	4,72E-01	5,92E-01	-3,29E+00
Radioactive waste	kg	2,00E-05	8,62E-06	1,26E-05	4,12E-05	6,75E-06	1,40E-07	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,76E-07	9,25E-07	0,00E+00	-4,68E-05

## END-OF-LIFE – OUTPUT FLOWS

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Components for reuse	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for energy rec.	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,35E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	9,60E+00	0,00E+00	0,00E+00

### ENVIRONMENTAL IMPACTS – EN 15804+A1, CML / ISO 21930

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Global warming pot.	kg CO <sub>2</sub> e	7,97E-01	7,75E-02	2,87E-01	1,16E+00	6,07E-02	4,90E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,45E-03	1,11E+00	3,05E-03	-8,53E-01
Ozone depletion pot.	kg CFC-11e	2,23E-08	1,55E-08	3,12E-08	6,89E-08	1,21E-08	4,56E-10	MND	MND	MND	MND	MND	MND	MND	0,00E+00	8,57E-10	1,99E-09	9,98E-10	-3,80E-08
Acidification	kg SO <sub>2</sub> e	2,58E-03	2,02E-04	1,14E-03	3,93E-03	1,58E-04	5,23E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,30E-05	1,84E-04	2,21E-05	-5,77E-03
Eutrophication	kg PO <sub>4</sub> <sup>3</sup> e	5,92E-04	4,29E-05	5,33E-04	1,17E-03	3,36E-05	7,21E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,84E-06	3,13E-04	4,78E-06	-1,67E-03
POCP ('smog')	kg C <sub>2</sub> H <sub>4</sub> e	1,63E-04	9,42E-06	7,22E-05	2,45E-04	7,38E-06	2,16E-06	MND	MND	MND	MND	MND	MND	MND	0,00E+00	5,56E-07	8,73E-06	9,29E-07	-2,47E-04
ADP-elements	kg Sbe	1,18E-05	1,86E-07	1,05E-06	1,30E-05	1,46E-07	2,65E-08	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,05E-08	4,28E-07	7,06E-09	-6,51E-07
ADP-fossil	MJ	2,98E+01	1,25E+00	5,19E+00	3,62E+01	9,79E-01	4,62E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	6,99E-02	3,04E-01	8,55E-02	-1,04E+01

## ANNEX: ARTICLES COVERED BY THIS EPD

Article number	Product description	d / outer diameter [mm]	DN / inner diameter [mm]	L / Length [m]	Specific net weight [kg per m]	Net weight [kg per item]	GWP-fossil, A1-A3 [kg CO <sub>2</sub> e/kg]	GWP-fossil, A1-A3 [kg CO <sub>2</sub> e/m]	GWP-fossil, A1-A3 [kg CO <sub>2</sub> e/item]
393.200.14.1	pipe with socket PP MX d50x3 L15	50	44	0.15	1.11	0.17	1.21	1.35	0.20
393.300.14.1	pipe with socket PP MX d75x3.8 L15	75	67.4	0.15	2.19	0.33	1.21	2.65	0.40
393.400.14.1	pipe with socket PP MX d90x4.3 L15	90	81.4	0.15	3.00	0.45	1.21	3.63	0.54
393.500.14.1	pipe with socket PP MX d90x4.3 L25	110	101	0.15	4.10	0.62	1.21	4.96	0.74
393.600.14.1	pipe with socket PP MX d110x4.5 L25	125	115	0.15	5.33	0.80	1.21	6.45	0.97
393.700.14.1	pipe with socket PP MX d125x5 L25	160	148	0.15	8.45	1.27	1.21	10.23	1.53
393.201.14.1	pipe with socket PP MX d50x3 L15	50	44	0.25	1.00	0.25	1.21	1.21	0.30
393.301.14.1	pipe with socket PP MX d75x3.8 L15	75	67.4	0.25	1.91	0.48	1.21	2.31	0.58
393.401.14.1	pipe with socket PP MX d90x4.3 L15	90	81.4	0.25	2.66	0.66	1.21	3.21	0.80
393.501.14.1	pipe with socket PP MX d110x4.5 L25	110	101	0.25	3.50	0.88	1.21	4.24	1.06
393.601.14.1	pipe with socket PP MX d125x5 L25	125	115	0.25	4.52	1.13	1.21	5.46	1.37
393.701.14.1	pipe with socket PP MX d160x6 L25	160	148	0.25	7.10	1.78	1.21	8.60	2.15
393.202.14.1	pipe with socket PP MX d50x3 L15	50	44	0.5	0.88	0.44	1.21	1.06	0.53
393.302.14.1	pipe with socket PP MX d75x3.8 L15	75	67.4	0.5	1.70	0.85	1.21	2.06	1.03
393.402.14.1	pipe with socket PP MX d90x4.3 L15	90	81.4	0.5	2.52	1.26	1.21	3.05	1.53
393.502.14.1	pipe with socket PP MX d110x4.5 L25	110	101	0.5	3.06	1.53	1.21	3.70	1.85
393.602.14.1	pipe with socket PP MX d125x5 L25	125	115	0.5	3.91	1.95	1.21	4.73	2.36
393.702.14.1	pipe with socket PP MX d160x6 L25	160	148	0.5	6.20	3.10	1.21	7.50	3.75
393.204.14.1	pipe with socket PP MX d50x3 L15	50	44	1	0.83	0.83	1.21	1.00	1.00
393.304.14.1	pipe with socket PP MX d75x3.8 L15	75	67.4	1	1.60	1.60	1.21	1.93	1.93

393.404.14.1	pipe with socket PP MX d90x4.3 L15	90	81.4	1	2.19	2.19	1.21	2.64	2.64
393.504.14.1	pipe with socket PP MX d110x4.5 L25	110	101	1	2.84	2.84	1.21	3.43	3.43
393.604.14.1	pipe with socket PP MX d125x5 L25	125	115	1	3.60	3.60	1.21	4.36	4.36
393.704.14.1	pipe with socket PP MX d160x6 L25	160	148	1	5.59	5.59	1.21	6.76	6.76
393.205.14.1	pipe with socket PP MX d50x3 L15	50	44	1.5	0.81	1.22	1.21	0.98	1.47
393.305.14.1	pipe with socket PP MX d75x3.8 L15	75	67.4	1.5	1.56	2.34	1.21	1.89	2.83
393.405.14.1	pipe with socket PP MX d90x4.3 L150	90	81.4	1.5	2.13	3.20	1.21	2.58	3.87
393.505.14.1	pipe with socket PP MX d110x4.5 L25	110	101	1.5	2.76	4.14	1.21	3.34	5.01
393.605.14.1	pipe with socket PP MX d125x5 L25	125	115	1.5	3.50	5.25	1.21	4.24	6.36
393.705.14.1	pipe with socket PP MX d160x6 L25	160	148	1.5	5.42	8.13	1.21	6.56	9.84
393.206.14.1	pipe with socket PP MX d50x3 L15	50	44	2	0.80	1.60	1.21	0.97	1.94
393.306.14.1	pipe with socket PP MX d75x3.8 L15	75	67.4	2	1.54	3.09	1.21	1.87	3.73
393.406.14.1	pipe with socket PP MX d90x4.3 L25	90	81.4	2	2.11	4.21	1.21	2.55	5.10
393.506.14.1	pipe with socket PP MX d110x4.5 L25	110	101	2	2.72	5.45	1.21	3.30	6.59
393.606.14.1	pipe with socket PP MX d125x5 L25	125	115	2	3.45	6.90	1.21	4.18	8.35
393.706.14.1	pipe with socket PP MX d160x6 L25	160	148	2	5.34	10.67	1.21	6.46	12.91
393.207.14.1	pipe with socket PP MX d50x3 L15	50	44	3	0.79	2.38	1.21	0.96	2.88
393.307.14.1	pipe with socket PP MX d75x3.8 L15	75	67.4	3	1.53	4.58	1.21	1.85	5.54
393.407.14.1	pipe with socket PP MX d90x4.3 L25	90	81.4	3	2.08	6.24	1.21	2.52	7.55
393.507.14.1	pipe with socket PP MX d110x4.5 L25	110	101	3	2.69	8.06	1.21	3.25	9.75
393.607.14.1	pipe with socket PP MX d125x5 L25	125	115	3	3.40	10.20	1.21	4.12	12.35
393.707.14.1	pipe with socket PP MX d160x6 L25	160	148	3	5.25	15.75	1.21	6.35	19.06

## VERIFICATION STATEMENT

### VERIFICATION PROCESS FOR THIS EPD

This EPD has been verified in accordance with ISO 14025 by an independent, third-party verifier. The process involved reviewing results, documents and compliance with the reference standards, ISO 14025, ISO 14040 and ISO 14044 following the process and checklists of the programme operator for:

- This Environmental Product Declaration
- The Life Cycle Assessment used in this EPD
- The digital background data for this EPD

Why does verification transparency matter? [Read more online.](#)

This EPD has been generated by the One Click LCA EPD generator, which has been verified and approved by the EPD Hub.

### THIRD-PARTY VERIFICATION STATEMENT

I hereby confirm that, following detailed examination, I have not established any relevant deviations by the studied Environmental Product Declaration (EPD), its LCA and project report, in terms of the data collected and used in the LCA calculations, the way the LCA-based calculations have been carried out, the presentation of environmental data in the EPD, and other additional environmental information, as present with respect to the procedural and methodological requirements in ISO 14025:2010 and reference standard.

I confirm that the company-specific data has been examined as regards plausibility and consistency; the declaration owner is responsible for its factual integrity and legal compliance.

I confirm that I have sufficient knowledge and experience of construction products, this specific product category, the construction industry, relevant standards, and the geographical area of the EPD to carry out this verification.

I confirm my independence in my role as verifier; I have not been involved in the execution of the LCA or in the development of the declaration and have no conflicts of interest regarding this verification.

Magaly González Vázquez, as an authorised verifier acting for EPD Hub Limited

24 January 2024

