



Environmental Product Declaration

In accordance with ISO 14025 and EN 15804:2012+A2:2019 for:

BUTT-FUSION (SPIGOT) FITTINGS

(The EPD covers multiple products, based on the average results of the product group as indicated on page 4)

from

NTG PLASTİK SAN. VE TİC. A.Ş



Programme

The International EPD® System,
www.environdec.com
EPD® Turkey, www.epdturkey.org

Programme Operator

EPD International AB

Geographical Scope

Global

Licensee

EPD Türkiye

EPD Registration Number

EPD-IES-0019557

Publication Date

2025-02-14

Valid Until

2030-02-13

Programme Information

Programme Information

Programme: The International EPD® System
Address: EPD® International AB Box 21060 SE-100 31
 Stockholm, Sweden **Website:** www.environdec.com
E-mail: info@environdec.com

Licensee: EPD Türkiye SÜRATAM Sürdürülebilirlik
 Danışmanlığı A.Ş.
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Information about verification and reference PCR:

CEN standard EN 15804 serves as the Core Product Category Rules (PCR)

Product category rules (PCR)
 PCR 2019:14 Construction products (EN 15804:A2) Version 1.3.4

PCR review was conducted by
 The Technical Committee of the International EPD® System. See www.environdec.com/TC for a list of members.
 Review chair: Claudia A. Peña, University of Concepción, Chile. The review panel may be contacted via the
 Secretariat
www.environdec.com/contact.

Independent verification of the declaration and data, according to ISO 14025:2021:

☐ EPD process verification

☒ EPD verification

Third party verifier
 SIPL Pvt Ltd, New Delhi, India -
sunil@sipl-sustainability.com

Approved by
 The International EPD®
 System Technical Committee, supported by the Secretariat

Procedure for follow-up of data during EPD validity involves third party verifier:

☐ Yes

☒ No

LCA Study & EPD Design Conducted by

Semtrio Sustainability Consulting
 BUDOTEK Teknopark, No 8/27
 Umraniye / Istanbul Turkey
www.semtrio.com



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Company Information

Owner of the EPD

NTG PLASTİK SAN. VE TİC. A.Ş

Yazılıgürge Mah. Fabrikalar Cad. No:49,
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Founded in 1978 to serve the construction sector, NTG Plastik started HDPE fitting production in 2005, focusing on solutions for water and gas pipelines. Today, NTG Plastik is a leading name in the HDPE fitting industry, delivering durable and reliable products for infrastructure, water management, gas distribution, and industrial applications across domestic and international markets.

Operating from a 32,000m² facility, NTG Plastik ensures the highest quality standards in every step.

Certified by management systems and other international bodies for product conformities such as DVGW, Nordic Poly Mark, BV, GasCert, WRAS, ACS... NTG Plastik emphasizes environmental sustainability and customer satisfaction. NTG Plastik stands out in the market by offering the products with a commitment to quality and high service standards. NTG Plastik stays one step ahead in the market as all of EF and Spigot production, design, R&D, and automation processes are integrated under one roof!

Electrofusion Production

NTG Plastik makes a difference in the market with the high-quality EF products, providing reliable solutions to the customers.

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Spigot Production

Innovative manufacturing techniques and product designs allow NTG Plastik to offer high-performance Spigot products.

Mold Design & Manufacturing

By offering customized product with the ability of mold design & manufacturing, NTG Plastik meets the customers' expectations at the highest level.

Automation Solutions

With the modern automation systems and manufacturing cells, NTG Plastik delivers high efficiency and quality together.

R&D Center

Through the advanced R&D center, NTG Plastik continuously develop innovative solutions.

Geographic Location

Thanks to the strategic location, NTG Plastik provides the fast and effective service to the customers strengthened with its logistics advantages.



Product Information

Product Name: Butt-Fusion Fittings

Product description and identification: the fittings are made of polyethylene, injection molded with long and short spigot end. The polyethylene compounds used are added at the origin with carbon black for UV stabilization, are suitable for drinking water and. The product (cod. 001 117/115 0020) can

The products included in the LCA study are:

- Elbow
 - Elbow 90° SDR11 (cod. 001 117 0021)
 - Elbow 90° SDR17 (cod. 001 115 0021)
 - Elbow 45° SDR11 (cod. 001 117 0022)
 - Elbow 45° SDR17 (cod. 001 115 0022)
 - Elbow 30° SDR11 (cod. 001 117 3027)
 - Elbow 30° SDR17 (cod. 001 115 3027)
 - Elbow 60° SDR11 (cod. 001 117 3028)
 - Elbow 60° SDR17 (cod. 001 115 3028)
- Tee
 - Wye TEE 45°SDR11 (cod. 001 117 0045)
 - Wye TEE 45°SDR17 (cod. 001 115 0045)
 - Equal TEE SDR11 (cod. 001 117 0041)
 - Equal TEE SDR17 (cod. 001 115 0041)
 - Reduced TEE SDR11 (cod. 001 117 0042)
 - Reduced TEE SDR17 (cod. 001 115 0042)
- Other Forms
 - Reducer SDR11 (cod. 001 117 0080)
 - Reducer SDR17 (cod. 001 115 0080)
 - Step Reducer SDR11 (cod. 001 117 1081)
 - Step Reducer SDR17 (cod. 001 115 1081)
 - End Cap SDR11 (cod. 001 117 0140)
 - End Cap SDR17 (cod. 001 115 0140)
 - Flange Adaptor SDR11 (cod. 001 117 0100)
 - Flange Adaptor SDR17 (cod. 001 115 0100)
 - Flange Adaptor (Suitable For Ansi Flange) SDR11 (cod. 001 117 0100/0103/5100/5103)
 - Flange Adaptor (Suitable For Ansi Flange) SDR17 (cod. 001 115 0100/0103/5100/5103)
 - Flange Adaptor (Short Spigot) SDR11 (cod. 001 117 1100)
 - Flange Adaptor (Short Spigot) SDR17 (cod. 001 115 1100)
 - Flange Adaptor (Short Spigot) (Suitable For Ansi Flange) SDR11 (cod. 001 117 1100/1103)
 - Flange Adaptor (Short Spigot) (Suitable For Ansi Flange) SDR17 (cod. 001 115 1100/1103)

UN CPC code: 36320 Tubes, pipes and hoses, and fittings therefor, of plastics

Technical Specifications

The technical features of PE100 are:

Features	Typical values	Unit	Methods test
Density	>950	kg/m ³	ISO 1183
Melt mass-flow rate (MFR) 5 kg/190°C	0,20 – 0,60	g/10 min	ISO 1133
Tensile strength at yield	>22	MPa	ISO 527
Tensile elongation at break	>600	%	ISO 527
Carbon black content	2,0 – 2,5	%	ISO 6964
Linear thermal expansion coefficient	2,0 x 10 ⁻⁴	m/m °C	
Temperature of brittleness	– 80	°C	ASTM D746

The NTG PLASTİK SAN. VE TİC. A.Ş. fittings are constantly monitored throughout the production process in accordance with the provisions of the internal self-control plans derived from EN 1555, EN 12201 and ISO 15494 standard for fittings.

The test activities are carried out continuously in full compliance with the standards established by the reference standards and include mechanical and physical tests, performed both on the fittings and on the raw material.

In particular, the production is subjected to the following tests:

- Melt Flow Ratio (MFR): EN ISO 1133-1
- Dimensional check - Examination of the appearance - Verification of marking
- Resistance to internal hydrostatic pressure at 20°C AND 80°C: EN ISO 1167
- Impact resistance: EN 1716
- Oxidation induction time (OIT): ISO 11357-6
- Tensile test: ISO 13953

Article code	Article description	Weight (kg)
001 117 0021 0020	20mm ELBOW 90° SDR11	0,020
001 117 0021 0025	25mm ELBOW 90° SDR11	0,020
001 117 0021 0032	32mm ELBOW 90° SDR11	0,040
001 117 0021 0040	40mm ELBOW 90° SDR11	0,070
001 117 0021 0050	50mm ELBOW 90° SDR11	0,140
001 117 0021 0063	63mm ELBOW 90° SDR11	0,250
001 117 0021 0075	75mm ELBOW 90° SDR11	0,430

Article code	Article description	Weight (kg)
001 117 0021 0090	90mm ELBOW 90° SDR11	0,670
001 117 0021 0110	110mm ELBOW 90° SDR11	1,080
001 117 0021 0125	125mm ELBOW 90° SDR11	1,470
001 117 0021 0140	140mm ELBOW 90° SDR11	2,160
001 117 0021 0160	160mm ELBOW 90° SDR11	2,900
001 117 0021 0180	180mm ELBOW 90° SDR11	4,230
001 117 0021 0200	200mm ELBOW 90° SDR11	5,970
001 117 0021 0225	225mm ELBOW 90° SDR11	7,300

Technical Specifications

Article code	Article description	Weight (kg)
001 117 0021 0250	250mm ELBOW 90° SDR11	10,350
001 117 0021 0280	280mm ELBOW 90° SDR11	15,730
001 117 0021 0315	315mm ELBOW 90° SDR11	21,170
001 117 0021 0335	355mm ELBOW 90° SDR11	28,341
001 117 0021 0400	400mm ELBOW 90° SDR11	41,500
001 117 0021 0450	450mm ELBOW 90° SDR11	55,270
001 117 0021 0500	500mm ELBOW 90° SDR11	92,747
001 117 0021 0560	560mm ELBOW 90° SDR11	93,842
001 117 0021 0630	630mm ELBOW 90° SDR11	138,093
001 115 0021 0063	63mm ELBOW 90° SDR17	0,185
001 115 0021 0075	75mm ELBOW 90° SDR17	0,320
001 115 0021 0090	90mm ELBOW 90° SDR17	0,485
001 115 0021 0110	110mm ELBOW 90° SDR17	0,780
001 115 0021 0125	125mm ELBOW 90° SDR17	1,050
001 115 0021 0140	140mm ELBOW 90° SDR17	1,510
001 115 0021 0160	160mm ELBOW 90° SDR17	2,150
001 115 0021 0180	180mm ELBOW 90° SDR17	3,100
001 115 0021 0200	200mm ELBOW 90° SDR17	4,350
001 115 0021 0225	225mm ELBOW 90° SDR17	5,260
001 115 0021 0250	250mm ELBOW 90° SDR17	7,660
001 115 0021 0280	280mm ELBOW 90° SDR17	11,460
001 115 0021 0315	315mm ELBOW 90° SDR17	15,560
001 115 0021 0355	355mm ELBOW 90° SDR17	22,170
001 115 0021 0400	400mm ELBOW 90° SDR17	30,960
001 115 0021 0450	450mm ELBOW 90° SDR17	38,620
001 115 0021 0500	500mm ELBOW 90° SDR17	67,391
001 115 0021 0560	560mm ELBOW 90° SDR17	67,816
001 115 0021 0630	630mm ELBOW 90° SDR17	100,270
001 117 0022 0020	20mm ELBOW 45° SDR11	0,030
001 117 0022 0025	25mm ELBOW 45° SDR11	0,040
001 117 0022 0032	32mm ELBOW 45° SDR11	0,060

Article code	Article description	Weight (kg)
001 117 0022 0040	40mm ELBOW 45° SDR11	0,085
001 117 0022 0050	50mm ELBOW 45° SDR11	0,140
001 117 0022 0063	63mm ELBOW 45° SDR11	0,230
001 117 0022 0075	75mm ELBOW 45° SDR11	0,330
001 117 0022 0090	90mm ELBOW 45° SDR11	0,580
001 117 0022 0110	110mm ELBOW 45° SDR11	0,980
001 117 0022 0125	125mm ELBOW 45° SDR11	1,300
001 117 0022 0140	140mm ELBOW 45° SDR11	1,700
001 117 0022 0160	160mm ELBOW 45° SDR11	2,435
001 117 0022 0180	180mm ELBOW 45° SDR11	3,330
001 117 0022 0200	200mm ELBOW 45° SDR11	4,430
001 117 0022 0225	225mm ELBOW 45° SDR11	6,200
001 117 0022 0250	250mm ELBOW 45° SDR11	8,180
001 117 0022 0280	280mm ELBOW 45° SDR11	11,315
001 117 0022 0315	315mm ELBOW 45° SDR11	14,600
001 117 0022 0355	355mm ELBOW 45° SDR11	22,935
001 117 0022 0400	400mm ELBOW 45° SDR11	31,100
001 117 0022 0450	450mm ELBOW 45° SDR11	42,580
001 117 0022 0500	500mm ELBOW 45° SDR11	51,750
001 117 0022 0560	560mm ELBOW 45° SDR11	70,950
001 117 0022 0630	630mm ELBOW 45° SDR11	100,320
001 115 0022 0063	63mm ELBOW 45° SDR17	0,180
001 115 0022 0075	75mm ELBOW 45° SDR17	0,250
001 115 0022 0090	90mm ELBOW 45° SDR17	0,440
001 115 0022 0110	110mm ELBOW 45° SDR17	0,700
001 115 0022 0125	125mm ELBOW 45° SDR17	0,930
001 115 0022 0140	140mm ELBOW 45° SDR17	1,245
001 115 0022 0160	160mm ELBOW 45° SDR17	1,785
001 115 0022 0180	180mm ELBOW 45° SDR17	2,380
001 115 0022 0200	200mm ELBOW 45° SDR17	3,360
001 115 0022 0225	225mm ELBOW 45° SDR17	4,370

Technical Specifications

Article code	Article description	Weight (kg)
001 115 0022 0250	250mm ELBOW 45° SDR17	5,880
001 115 0022 0280	280mm ELBOW 45° SDR17	8,200
001 115 0022 0315	315mm ELBOW 45° SDR17	11,115
001 115 0022 0355	355mm ELBOW 45° SDR17	16,150
001 115 0022 0400	400mm ELBOW 45° SDR17	23,000
001 115 0022 0450	450mm ELBOW 45° SDR17	30,430
001 115 0022 0500	500mm ELBOW 45° SDR17	36,710
001 115 0022 0560	560mm ELBOW 45° SDR17	50,360
001 115 0022 0630	630mm ELBOW 45° SDR17	71,370
001 117 3027 0090	90mm ELBOW 30° SDR11	0,510
001 117 3027 0110	110mm ELBOW 30° SDR11	0,860
001 117 3027 0125	125mm ELBOW 30° SDR11	1,170
001 117 3027 0140	140mm ELBOW 30° SDR11	1,455
001 117 3027 0160	160mm ELBOW 30° SDR11	2,170
001 117 3027 0180	180mm ELBOW 30° SDR11	2,850
001 117 3027 0200	200mm ELBOW 30° SDR11	3,900
001 117 3027 0225	225mm ELBOW 30° SDR11	5,270
001 117 3027 0250	250mm ELBOW 30° SDR11	6,970
001 117 3027 0280	280mm ELBOW 30° SDR11	9,920
001 117 3027 0315	315mm ELBOW 30° SDR11	13,220
001 117 3027 0355	355mm ELBOW 30° SDR11	20,120
001 117 3027 0400	400mm ELBOW 30° SDR11	27,370
001 117 3027 0450	450mm ELBOW 30° SDR11	32,640
001 115 3027 0090	90mm ELBOW 30° SDR17	0,360
001 115 3027 0110	110mm ELBOW 30° SDR17	0,595
001 115 3027 0125	125mm ELBOW 30° SDR17	0,795
001 115 3027 0140	140mm ELBOW 30° SDR17	1,040
001 115 3027 0160	160mm ELBOW 30° SDR17	1,515
001 115 3027 0180	180mm ELBOW 30° SDR17	2,090
001 115 3027 0200	200mm ELBOW 30° SDR17	3,105
001 115 3027 0225	225mm ELBOW 30° SDR17	3,690

Article code	Article description	Weight (kg)
001 115 3027 0250	250mm ELBOW 30° SDR17	5,150
001 115 3027 0280	280mm ELBOW 30° SDR17	6,670
001 115 3027 0315	315mm ELBOW 30° SDR17	9,790
001 115 3027 0355	355mm ELBOW 30° SDR17	13,650
001 115 3027 0400	400mm ELBOW 30° SDR17	19,550
001 115 3027 0450	450mm ELBOW 30° SDR17	22,960
001 117 3028 0090	90mm ELBOW 60° SDR11	0,550
001 117 3028 0110	110mm ELBOW 60° SDR11	0,885
001 117 3028 0125	125mm ELBOW 60° SDR11	1,205
001 117 3028 0140	140mm ELBOW 60° SDR11	1,760
001 117 3028 0160	160mm ELBOW 60° SDR11	2,380
001 117 3028 0180	180mm ELBOW 60° SDR11	3,470
001 117 3028 0200	200mm ELBOW 60° SDR11	4,900
001 117 3028 0225	225mm ELBOW 60° SDR11	5,990
001 117 3028 0250	250mm ELBOW 60° SDR11	8,490
001 117 3028 0280	280mm ELBOW 60° SDR11	12,900
001 117 3028 0315	315mm ELBOW 60° SDR11	18,050
001 117 3028 0355	355mm ELBOW 60° SDR11	24,370
001 117 3028 0400	400mm ELBOW 60° SDR11	35,280
001 117 3028 0450	450mm ELBOW 60° SDR11	40,000
001 115 3028 0090	90mm ELBOW 60° SDR17	0,400
001 115 3028 0110	110mm ELBOW 60° SDR17	0,640
001 115 3028 0125	125mm ELBOW 60° SDR17	0,860
001 115 3028 0140	140mm ELBOW 60° SDR17	1,240
001 115 3028 0160	160mm ELBOW 60° SDR17	1,765
001 115 3028 0180	180mm ELBOW 60° SDR17	2,540
001 115 3028 0200	200mm ELBOW 60° SDR17	3,570
001 115 3028 0225	225mm ELBOW 60° SDR17	4,315
001 115 3028 0250	250mm ELBOW 60° SDR17	6,280
001 115 3028 0280	280mm ELBOW 60° SDR17	9,395
001 115 3028 0315	315mm ELBOW 60° SDR17	12,760

Technical Specifications

Article code	Article description	Weight (kg)
001 115 3028 0355	355mm ELBOW 60° SDR17	18,180
001 115 3028 0400	400mm ELBOW 60° SDR17	25,390
001 115 3028 0450	450 mm ELBOW 60° SDR17	28,700
001 117 0045 0063	63mm WYE TEE 45° SDR11	0,455
001 117 0045 0075	75mm WYE TEE 45° SDR11	0,710
001 117 0045 0090	90mm WYE TEE 45° SDR11	1,140
001 117 0045 0110	110mm WYE TEE 45° SDR11	1,980
001 117 0045 0125	125mm WYE TEE 45° SDR11	2,930
001 117 0045 0160	160mm WYE TEE 45° SDR11	6,105
001 117 0045 0180	180mm WYE TEE 45° SDR11	8,610
001 117 0045 0200	200mm WYE TEE 45° SDR11	11,430
001 117 0045 0225	225mm WYE TEE 45° SDR11	15,950
001 117 0045 0250	250mm WYE TEE 45° SDR11	19,680
001 115 0045 0063	63mm WYE TEE 45° SDR17	0,370
001 115 0045 0075	75mm WYE TEE 45° SDR17	0,540
001 115 0045 0090	90mm WYE TEE 45° SDR17	0,830
001 115 0045 0110	110mm WYE TEE 45° SDR17	1,450
001 115 0045 0125	125mm WYE TEE 45° SDR17	2,130
001 115 0045 0160	160mm WYE TEE 45° SDR17	4,560
001 115 0045 0180	180mm WYE TEE 45° SDR17	6,390
001 115 0045 0200	200mm WYE TEE 45° SDR17	8,350
001 115 0045 0225	225mm WYE TEE 45° SDR17	11,860
001 115 0045 0250	250mm WYE TEE 45° SDR17	15,480
001 117 0041 0020	20mm EQUAL TEE SDR11	0,040
001 117 0041 0025	25mm EQUAL TEE SDR11	0,050
001 117 0041 0032	32mm EQUAL TEE SDR11	0,090
001 117 0041 0040	40mm EQUAL TEE SDR11	0,100
001 117 0041 0050	50mm EQUAL TEE SDR11	0,250
001 117 0041 0063	63mm EQUAL TEE SDR11	0,380
001 117 0041 0075	75mm EQUAL TEE SDR11	0,590
001 117 0041 0090	90mm EQUAL TEE SDR11	0,920
001 117 0041 0110	110mm EQUAL TEE SDR11	1,570

Article code	Article description	Weight (kg)
001 117 0041 0125	125mm EQUAL TEE SDR11	2,260
001 117 0041 0140	140mm EQUAL TEE SDR11	2,790
001 117 0041 0160	160mm EQUAL TEE SDR11	4,250
001 117 0041 0180	180mm EQUAL TEE SDR11	5,850
001 117 0041 0200	200mm EQUAL TEE SDR11	7,495
001 117 0041 0225	225mm EQUAL TEE SDR11	10,270
001 117 0041 0250	250mm EQUAL TEE SDR11	14,030
001 117 0041 0280	280mm EQUAL TEE SDR11	21,600
001 117 0041 0315	315mm EQUAL TEE SDR11	26,650
001 117 0041 0355	355mm EQUAL TEE SDR11	39,260
001 117 0041 0400	400mm EQUAL TEE SDR11	54,000
001 117 0041 0450	450mm EQUAL TEE SDR11	69,050
001 117 0041 0500	500mm EQUAL TEE SDR11	92,747
001 117 0041 0560	560mm EQUAL TEE SDR11	129,170
001 117 0041 0630	630mm EQUAL TEE SDR11	191,410
001 115 0041 0063	63mm EQUAL TEE SDR17	0,260
001 115 0041 0075	75mm EQUAL TEE SDR17	0,435
001 115 0041 0090	90mm EQUAL TEE SDR17	0,690
001 115 0041 0110	110mm EQUAL TEE SDR17	1,120
001 115 0041 0125	125mm EQUAL TEE SDR17	1,610
001 115 0041 0140	140mm EQUAL TEE SDR17	1,970
001 115 0041 0160	160mm EQUAL TEE SDR17	3,090
001 115 0041 0180	180mm EQUAL TEE SDR17	4,090
001 115 0041 0200	200mm EQUAL TEE SDR17	5,280
001 115 0041 0225	225mm EQUAL TEE SDR17	7,450
001 115 0041 0250	250mm EQUAL TEE SDR17	9,930
001 115 0041 0280	280mm EQUAL TEE SDR17	15,490
001 115 0041 0315	315mm EQUAL TEE SDR17	19,280
001 115 0041 0355	355mm EQUAL TEE SDR17	29,000
001 115 0041 0400	400mm EQUAL TEE SDR17	40,340
001 115 0041 0450	450mm EQUAL TEE SDR17	53,000

Technical Specifications

Article code	Article description	Weight (kg)
001 115 0041 0500	500mm EQUAL TEE SDR17	67,391
001 115 0041 0560	560mm EQUAL TEE SDR17	93,770
001 115 0041 0630	630mm EQUAL TEE SDR17	139,760
001 117 0042 0052	50-32mm REDUCED TEE SDR11	0,190
001 117 0042 0064	63-50mm REDUCED TEE SDR11	0,330
001 117 0042 0065	63-40mm REDUCED TEE SDR11	0,280
001 117 0042 0066	63-32mm REDUCED TEE SDR11	0,310
001 117 0042 0076	75-63mm REDUCED TEE SDR11	0,530
001 117 0042 0077	75-50mm REDUCED TEE SDR11	0,470
001 117 0042 0079	75-32mm REDUCED TEE SDR11	0,450
001 117 0042 0091	90-75mm REDUCED TEE SDR11	0,850
001 117 0042 0092	90-63mm REDUCED TEE SDR11	0,800
001 117 0042 0093	90-50mm REDUCED TEE SDR11	0,780
001 117 0042 0111	110-90mm REDUCED TEE SDR11	1,420
001 117 0042 0112	110-75mm REDUCED TEE SDR11	1,360
001 117 0042 0113	110-63mm REDUCED TEE SDR11	1,330
001 117 0042 0114	110-50mm REDUCED TEE SDR11	1,280
001 117 0042 0126	125-110mm REDUCED TEE SDR11	2,140
001 117 0042 0127	125-90mm REDUCED TEE SDR11	2,040
001 117 0042 0142	140-110mm REDUCED TEE SDR11	2,540
001 117 0042 0143	140-90mm REDUCED TEE SDR11	2,400
001 117 0042 0161	160-140mm REDUCED TEE SDR11	3,840
001 117 0042 0162	160-125mm REDUCED TEE SDR11	3,750
001 117 0042 0163	160-110mm REDUCED TEE SDR11	3,670
001 117 0042 0164	160-90mm REDUCED TEE SDR11	3,540
001 117 0042 0165	160-75mm REDUCED TEE SDR11	3,500
001 117 0042 0166	160-63mm REDUCED TEE SDR11	3,420
001 117 0042 0181	180-160mm REDUCED TEE SDR11	5,380
001 117 0042 0183	180-125mm REDUCED TEE SDR11	5,140
001 117 0042 0184	180-110mm REDUCED TEE SDR11	4,980
001 117 0042 0185	180-90mm REDUCED TEE SDR11	5,000

Article code	Article description	Weight (kg)
001 117 0042 0202	200-160mm REDUCED TEE SDR11	6,900
001 117 0042 0204	200-125mm REDUCED TEE SDR11	6,700
001 117 0042 0205	200-110mm REDUCED TEE SDR11	6,440
001 117 0042 0206	200-90mm REDUCED TEE SDR11	6,300
001 117 0042 0208	200-63mm REDUCED TEE SDR11	6,240
001 117 0042 0228	225-160mm REDUCED TEE SDR11	9,220
001 117 0042 0230	225-125mm REDUCED TEE SDR11	8,780
001 117 0042 0231	225-110mm REDUCED TEE SDR11	8,780
001 117 0042 0232	225-90mm REDUCED TEE SDR11	8,620
001 117 0042 0252	250-200mm REDUCED TEE SDR11	12,810
001 117 0042 0254	250-160mm REDUCED TEE SDR11	12,250
001 117 0042 0256	250-125mm REDUCED TEE SDR11	11,735
001 117 0042 0257	250-110mm REDUCED TEE SDR11	11,730
001 117 0042 0258	250-90mm REDUCED TEE SDR11	11,510
001 117 0042 0285	280-160mm REDUCED TEE SDR11	18,640
001 117 0042 0288	280-110mm REDUCED TEE SDR11	17,965
001 117 0042 0317	315-250mm REDUCED TEE SDR11	25,320
001 117 0042 0318	315-225mm REDUCED TEE SDR11	23,700
001 117 0042 0319	315-200mm REDUCED TEE SDR11	23,050
001 117 0042 0321	315-160mm REDUCED TEE SDR11	22,600
001 117 0042 0324	315-110mm REDUCED TEE SDR11	22,000
001 117 0042 0362	355-160mm REDUCED TEE SDR11	20,380
001 117 0042 0365	355-110mm REDUCED TEE SDR11	20,305
001 117 0042 0408	400-160mm REDUCED TEE SDR11	29,870
001 117 0042 0411	400-110mm REDUCED TEE SDR11	30,060
001 115 0042 0092	90-63mm REDUCED TEE SDR17	0,590
001 115 0042 0111	110-90mm REDUCED TEE SDR17	1,090
001 115 0042 0112	110-75mm REDUCED TEE SDR17	1,050
001 115 0042 0113	110-63mm REDUCED TEE SDR17	0,975
001 115 0042 0127	125-90mm REDUCED TEE SDR17	1,400
001 115 0042 0143	140-90mm REDUCED TEE SDR17	1,730

Technical Specifications

Article code	Article description	Weight (kg)
001 115 0042 0163	160-110mm REDUCED TEE SDR17	2,700
001 115 0042 0164	160-90mm REDUCED TEE SDR17	2,600
001 115 0042 0165	160-75mm REDUCED TEE SDR17	2,650
001 115 0042 0166	160-63mm REDUCED TEE SDR17	2,550
001 115 0042 0184	180-110mm REDUCED TEE SDR17	3,630
001 115 0042 0202	200-160mm REDUCED TEE SDR17	4,910
001 115 0042 0205	200-110mm REDUCED TEE SDR17	4,650
001 115 0042 0206	200-90mm REDUCED TEE SDR17	4,550
001 115 0042 0208	200-63mm REDUCED TEE SDR17	4,480
001 115 0042 0228	225-160mm REDUCED TEE SDR17	6,690
001 115 0042 0231	225-110mm REDUCED TEE SDR17	6,500
001 115 0042 0232	225-90mm REDUCED TEE SDR17	6,380
001 115 0042 0254	250-160mm REDUCED TEE SDR17	8,710
001 115 0042 0257	250-110mm REDUCED TEE SDR17	8,450
001 115 0042 0285	280-160mm REDUCED TEE SDR17	13,760
001 115 0042 0288	280-110mm REDUCED TEE SDR17	13,280
001 115 0042 0318	315-225mm REDUCED TEE SDR17	17,220
001 115 0042 0321	315-160mm REDUCED TEE SDR17	16,730
001 115 0042 0324	315-110mm REDUCED TEE SDR17	16,350
001 115 0042 0362	355-160mm REDUCED TEE SDR17	13,830
001 115 0042 0365	355-110mm REDUCED TEE SDR17	13,830
001 115 0042 0408	400-160mm REDUCED TEE SDR17	18,375
001 115 0042 0411	400-110mm REDUCED TEE SDR17	18,390
001 117 0080 0026	25-20mm REDUCER SDR11	0,030
001 117 0080 0033	32-25mm REDUCER SDR11	0,030
001 117 0080 0034	32-20mm REDUCER SDR11	0,030
001 117 0080 0041	40-32mm REDUCER SDR11	0,050
001 117 0080 0042	40-25mm REDUCER SDR11	0,040
001 117 0080 0051	50-40mm REDUCER SDR11	0,080
001 117 0080 0052	50-32mm REDUCER SDR11	0,070
001 117 0080 0053	50-25mm REDUCER SDR11	0,070

Article code	Article description	Weight (kg)
001 117 0080 0064	63-50mm REDUCER SDR11	0,140
001 117 0080 0065	63-40mm REDUCER SDR11	0,120
001 117 0080 0066	63-32mm REDUCER SDR11	0,110
001 117 0080 0067	63-25mm REDUCER SDR11	0,110
001 117 0080 0076	75-63mm REDUCER SDR11	0,210
001 117 0080 0077	75-50mm REDUCER SDR11	0,190
001 117 0080 0078	75-40mm REDUCER SDR11	0,170
001 117 0080 0079	75-32mm REDUCER SDR11	0,170
001 117 0080 0091	90-75mm REDUCER SDR11	0,390
001 117 0080 0092	90-63mm REDUCER SDR11	0,330
001 117 0080 0093	90-50mm REDUCER SDR11	0,300
001 117 0080 0111	110-90mm REDUCER SDR11	0,600
001 117 0080 0112	110-75mm REDUCER SDR11	0,506
001 117 0080 0113	110-63mm REDUCER SDR11	0,500
001 117 0080 0114	110-50mm REDUCER SDR11	0,460
001 117 0080 0126	125-110mm REDUCER SDR11	0,860
001 117 0080 0127	125-90mm REDUCER SDR11	0,740
001 117 0080 0128	125-75mm REDUCER SDR11	0,650
001 117 0080 0129	125-63mm REDUCER SDR11	0,620
001 117 0080 0141	140-125mm REDUCER SDR11	1,120
001 117 0080 0142	140-110mm REDUCER SDR11	1,020
001 117 0080 0143	140-90mm REDUCER SDR11	0,840
001 117 0080 0144	140-75mm REDUCER SDR11	0,850
001 117 0080 0161	160-140mm REDUCER SDR11	1,450
001 117 0080 0162	160-125mm REDUCER SDR11	1,460
001 117 0080 0163	160-110mm REDUCER SDR11	1,310
001 117 0080 0164	160-90mm REDUCER SDR11	1,236
001 117 0080 0181	180-160mm REDUCER SDR11	2,080
001 117 0080 0182	180-140mm REDUCER SDR11	1,820
001 117 0080 0183	180-125mm REDUCER SDR11	1,670
001 117 0080 0184	180-110mm REDUCER SDR11	1,620

Technical Specifications

Article code	Article description	Weight (kg)
001 117 0080 0201	200-180mm REDUCER SDR11	2,700
001 117 0080 0202	200-160mm REDUCER SDR11	2,380
001 117 0080 0203	200-140mm REDUCER SDR11	2,360
001 117 0080 0205	200-110mm REDUCER SDR11	2,160
001 117 0080 0226	225-200mm REDUCER SDR11	3,780
001 117 0080 0227	225-180mm REDUCER SDR11	3,450
001 117 0080 0228	225-160mm REDUCER SDR11	3,060
001 117 0080 0231	225-110mm REDUCER SDR11	2,860
001 117 0080 0251	250-225mm REDUCER SDR11	4,750
001 117 0080 0252	250-200mm REDUCER SDR11	4,430
001 117 0080 0253	250-180mm REDUCER SDR11	4,240
001 117 0080 0254	250-160mm REDUCER SDR11	3,600
001 117 0080 0281	280-250mm REDUCER SDR11	6,970
001 117 0080 0282	280-225mm REDUCER SDR11	6,000
001 117 0080 0283	280-200mm REDUCER SDR11	5,540
001 117 0080 0284	280-180mm REDUCER SDR11	5,340
001 117 0080 0316	315-280mm REDUCER SDR11	8,400
001 117 0080 0317	315-250mm REDUCER SDR11	8,300
001 117 0080 0318	315-225mm REDUCER SDR11	7,750
001 117 0080 0319	315-200mm REDUCER SDR11	7,000
001 117 0080 0356	355-315mm REDUCER SDR11	11,760
001 117 0080 0401	400-355mm REDUCER SDR11	16,200
001 117 0080 0402	400-315mm REDUCER SDR11	15,600
001 117 0080 0451	450-400mm REDUCER SDR11	21,618
001 117 0080 0452	450-355mm REDUCER SDR11	19,463
001 117 0080 0453	450-315mm REDUCER SDR11	18,520
001 117 0080 0632	630-500mm REDUCER SDR11	51,667
001 117 0080 0633	630-450mm REDUCER SDR11	48,000
001 117 0080 0634	630-400mm REDUCER SDR11	44,840
001 117 0080 0635	630-355mm REDUCER SDR11	42,450
001 115 0080 0076	75-63mm REDUCER SDR17	0,190

Article code	Article description	Weight (kg)
001 115 0080 0091	90-75mm REDUCER SDR17	0,295
001 115 0080 0092	90-63mm REDUCER SDR17	0,255
001 115 0080 0111	110-90mm REDUCER SDR17	0,455
001 115 0080 0112	110-75mm REDUCER SDR17	0,410
001 115 0080 0113	110-63mm REDUCER SDR17	0,390
001 115 0080 0126	125-110mm REDUCER SDR17	0,625
001 115 0080 0127	125-90mm REDUCER SDR17	0,575
001 115 0080 0128	125-75mm REDUCER SDR17	0,520
001 115 0080 0129	125-63mm REDUCER SDR17	0,460
001 115 0080 0141	140-125mm REDUCER SDR17	0,785
001 115 0080 0142	140-110mm REDUCER SDR17	0,780
001 115 0080 0143	140-90mm REDUCER SDR17	0,665
001 115 0080 0144	140-75mm REDUCER SDR17	0,665
001 115 0080 0161	160-140mm REDUCER SDR17	1,090
001 115 0080 0162	160-125mm REDUCER SDR17	1,080
001 115 0080 0163	160-110mm REDUCER SDR17	0,970
001 115 0080 0164	160-90mm REDUCER SDR17	0,935
001 115 0080 0181	180-160mm REDUCER SDR17	1,490
001 115 0080 0182	180-140mm REDUCER SDR17	1,365
001 115 0080 0183	180-125mm REDUCER SDR17	1,320
001 115 0080 0184	180-110mm REDUCER SDR17	1,245
001 115 0080 0201	200-180mm REDUCER SDR17	2,020
001 115 0080 0202	200-160mm REDUCER SDR17	1,860
001 115 0080 0203	200-140mm REDUCER SDR17	1,760
001 115 0080 0205	200-110mm REDUCER SDR17	1,710
001 115 0080 0226	225-200mm REDUCER SDR17	2,750
001 115 0080 0227	225-180mm REDUCER SDR17	2,440
001 115 0080 0228	225-160mm REDUCER SDR17	2,325
001 115 0080 0231	225-110mm REDUCER SDR17	2,320
001 115 0080 0251	250-225mm REDUCER SDR17	3,560
001 115 0080 0252	250-200mm REDUCER SDR17	3,450

Technical Specifications

Article code	Article description	Weight (kg)
001 115 0080 0253	250-180mm REDUCER SDR17	3,250
001 115 0080 0254	250-160mm REDUCER SDR17	2,815
001 115 0080 0281	280-250mm REDUCER SDR17	4,940
001 115 0080 0282	280-225mm REDUCER SDR17	4,560
001 115 0080 0283	280-200mm REDUCER SDR17	4,435
001 115 0080 0284	280-180mm REDUCER SDR17	4,190
001 115 0080 0316	315-280mm REDUCER SDR17	6,350
001 115 0080 0317	315-250mm REDUCER SDR17	6,430
001 115 0080 0318	315-225mm REDUCER SDR17	6,125
001 115 0080 0319	315-200mm REDUCER SDR17	6,900
001 115 0080 0356	355-315mm REDUCER SDR17	8,680
001 115 0080 0401	400-355mm REDUCER SDR17	11,930
001 115 0080 0402	400-315mm REDUCER SDR17	11,500
001 115 0080 0451	450-400mm REDUCER SDR17	14,615
001 115 0080 0452	450-355mm REDUCER SDR17	13,185
001 115 0080 0453	450-315mm REDUCER SDR17	12,746
001 115 0080 0632	630-500mm REDUCER SDR17	35,011
001 115 0080 0633	630-450mm REDUCER SDR17	32,526
001 115 0080 0634	630-400mm REDUCER SDR17	30,404
001 115 0080 0635	630-355mm REDUCER SDR17	28,823
001 117 1081 0228	225-160mm STEP REDUCER SDR11	1,730
001 117 1081 0318	315-225mm STEP REDUCER SDR11	3,800
001 117 1081 0453	450-315mm STEP REDUCER SDR11	8,515
001 117 1081 0633	630-450mm STEP REDUCER SDR11	19,740
001 115 1081 1228	225-160mm STEP REDUCER SDR17	1,245
001 115 1081 0318	315-225mm STEP REDUCER SDR17	2,510
001 115 1081 0453	450-315mm STEP REDUCER SDR17	5,930
001 115 1081 0633	630-450mm STEP REDUCER SDR17	13,895
001 115 1081 0903	900-630mm STEP REDUCER SDR17	31,300
001 117 0140 0020	20mm END CAP SDR11	0,010
001 117 0140 0025	25mm END CAP SDR11	0,010

Article code	Article description	Weight (kg)
001 117 0140 0032	32mm END CAP SDR11	0,020
001 117 0140 0040	40mm END CAP SDR11	0,040
001 117 0140 0050	50mm END CAP SDR11	0,050
001 117 0140 0063	63mm END CAP SDR11	0,090
001 117 0140 0075	75mm END CAP SDR11	0,140
001 117 0140 0090	90mm END CAP SDR11	0,230
001 117 0140 0110	110mm END CAP SDR11	0,350
001 117 0140 0125	125mm END CAP SDR11	0,550
001 117 0140 0140	140mm END CAP SDR11	0,760
001 117 0140 0160	160mm END CAP SDR1111	1,040
001 117 0140 0180	180mm END CAP SDR11	1,400
001 117 0140 0200	200mm END CAP SDR11	1,890
001 117 0140 0225	225mm END CAP SDR11	2,600
001 117 0140 0250	250mm END CAP SDR11	3,290
001 117 0140 0280	280mm END CAP SDR11	4,630
001 117 0140 0315	315mm END CAP SDR11	6,120
001 117 0140 0355	355mm END CAP SDR11	8,980
001 117 0140 0400	400mm END CAP SDR11	12,590
001 117 0140 0450	450mm END CAP SDR11	16,380
001 117 0140 0500	500mm END CAP SDR11	22,110
001 117 0140 0560	560mm END CAP SDR11	30,387
001 117 0140 0630	630mm END CAP SDR11	42,617
001 115 0140 0063	63mm END CAP SDR17	0,075
001 115 0140 0075	75mm END CAP SDR17	0,115
001 115 0140 0090	90mm END CAP SDR17	0,170
001 115 0140 0110	110mm END CAP SDR17	0,260
001 115 0140 0125	125mm END CAP SDR17	0,430
001 115 0140 0140	140mm END CAP SDR17	0,640
001 115 0140 0160	160mm END CAP SDR17	0,815
001 115 0140 0180	180mm END CAP SDR17	1,105
001 115 0140 0200	200mm END CAP SDR17	1,505

Technical Specifications

Article code	Article description	Weight (kg)
001 115 0140 0225	225mm END CAP SDR17	2,055
001 115 0140 0250	250mm END CAP SDR17	2,600
001 115 0140 0280	280mm END CAP SDR17	3,725
001 115 0140 0315	315mm END CAP SDR17	5,020
001 115 0140 0355	355mm END CAP SDR17	7,605
001 115 0140 0400	400mm END CAP SDR17	10,345
001 115 0140 0450	450mm END CAP SDR17	11,230
001 115 0140 0500	500mm END CAP SDR17	15,140
001 115 0140 0560	560mm END CAP SDR17	20,810
001 115 0140 0630	630mm END CAP SDR17	28,697
001 117 0100 0020	20mm FLANGE ADAPTOR SDR11	0,025
001 117 0100 0025	25mm FLANGE ADAPTOR SDR11	0,037
001 117 0100 0032	32mm FLANGE ADAPTOR SDR11	0,058
001 117 0100 0040	40mm FLANGE ADAPTOR SDR11	0,085
001 117 0100 0050	50mm FLANGE ADAPTOR SDR11	0,125
001 117 0100 0063	63mm FLANGE ADAPTOR SDR11	0,220
001 117 0100 0075	75mm FLANGE ADAPTOR SDR11	0,330
001 117 0100 0090	90mm FLANGE ADAPTOR SDR11	0,460
001 117 0100 0110	110mm FLANGE ADAPTOR SDR11	0,690
001 117 0100 0125	125mm FLANGE ADAPTOR SDR11	0,820
001 117 0100 0140	140mm FLANGE ADAPTOR SDR11	1,330
001 117 0100 0160	160mm FLANGE ADAPTOR SDR11	1,680
001 117 0100 0180	180mm FLANGE ADAPTOR SDR11	2,020
001 117 0100 0200	200mm FLANGE ADAPTOR SDR11	2,850
001 117 0100 0225	225mm FLANGE ADAPTOR SDR11	2,840
001 117 0100 0250	250mm FLANGE ADAPTOR SDR11	3,970
001 117 0100 0280	280mm FLANGE ADAPTOR SDR11	5,000
001 117 0100 0315	315mm FLANGE ADAPTOR SDR11	6,360
001 117 0100 0355	355mm FLANGE ADAPTOR SDR11	9,490
001 117 0100 0400	400mm FLANGE ADAPTOR SDR11	13,160
001 117 0100 0450	450mm FLANGE ADAPTOR SDR11	20,630
001 117 0100 0500	500mm FLANGE ADAPTOR SDR11	25,650
001 117 0100 0560	560mm FLANGE ADAPTOR SDR11	40,150

Article code	Article description	Weight (kg)
001 117 5100 0630	630mm FLANGE ADAPTOR SDR11	43,300
001 117 5100 0710	710mm FLANGE ADAPTOR SDR11	61,700
001 117 0100 0020	20mm FLANGE ADAPTOR SDR11 (SUITABLE FOR ANSI FLANGE)	0,025
001 117 0103 0025	25mm FLANGE ADAPTOR SDR11 (SUITABLE FOR ANSI FLANGE)	0,030
001 117 0103 0032	32mm FLANGE ADAPTOR SDR11 (SUITABLE FOR ANSI FLANGE)	0,052
001 117 0103 0040	40mm FLANGE ADAPTOR SDR11 (SUITABLE FOR ANSI FLANGE)	0,072
001 117 0103 0050	50mm FLANGE ADAPTOR SDR11 (SUITABLE FOR ANSI FLANGE)	0,100
001 117 0103 0063	63mm FLANGE ADAPTOR SDR11 (SUITABLE FOR ANSI FLANGE)	0,190
001 117 0103 0075	75mm FLANGE ADAPTOR SDR11 (SUITABLE FOR ANSI FLANGE)	0,300
001 117 0103 0090	90mm FLANGE ADAPTOR SDR11 (SUITABLE FOR ANSI FLANGE)	0,420
001 117 0100 0110	110mm FLANGE ADAPTOR SDR11 (SUITABLE FOR ANSI FLANGE)	0,690
001 117 0100 0125	125mm FLANGE ADAPTOR SDR11 (SUITABLE FOR ANSI FLANGE)	0,820
001 117 0100 0140	140mm FLANGE ADAPTOR SDR11 (SUITABLE FOR ANSI FLANGE)	1,330
001 117 0100 0160	160mm FLANGE ADAPTOR SDR11 (SUITABLE FOR ANSI FLANGE)	1,680
001 117 0100 0180	180 mm FLANGE ADAPTOR SDR11 (SUITABLE FOR ANSI FLANGE)	2,020
001 117 0100 0200	200mm FLANGE ADAPTOR SDR11 (SUITABLE FOR ANSI FLANGE)	2,850
001 117 0100 0225	225mm FLANGE ADAPTOR SDR11 (SUITABLE FOR ANSI FLANGE)	2,840
001 117 0100 0250	250mm FLANGE ADAPTOR SDR11 (SUITABLE FOR ANSI FLANGE)	3,970
001 117 0100 0280	280mm FLANGE ADAPTOR SDR11 (SUITABLE FOR ANSI FLANGE)	5,000
001 117 0100 0315	315mm FLANGE ADAPTOR SDR11 (SUITABLE FOR ANSI FLANGE)	6,360
001 117 0100 0355	355mm FLANGE ADAPTOR SDR11 (SUITABLE FOR ANSI FLANGE)	9,490
001 117 0100 0400	400mm FLANGE ADAPTOR SDR11 (SUITABLE FOR ANSI FLANGE)	13,160
001 117 5100 0450	450mm FLANGE ADAPTOR SDR11 (SUITABLE FOR ANSI FLANGE)	20,630
001 117 5100 0500	500mm FLANGE ADAPTOR SDR11 (SUITABLE FOR ANSI FLANGE)	25,650
001 117 5103 0560	560mm FLANGE ADAPTOR SDR11 (SUITABLE FOR ANSI FLANGE)	38,400
001 117 5103 0630	630mm FLANGE ADAPTOR SDR11 (SUITABLE FOR ANSI FLANGE)	43,500
001 115 0100 0063	63mm FLANGE ADAPTOR SDR17	0,182
001 115 0100 0075	75mm FLANGE ADAPTOR SDR17	0,280
001 115 0100 0090	90mm FLANGE ADAPTOR SDR17	0,372

Technical Specifications

Article code	Article description	Weight (kg)
001 115 0100 0180	180mm FLANGE ADAPTOR SDR17	1,145
001 115 0100 0200	200mm FLANGE ADAPTOR SDR17	1,960
001 115 0100 0225	225mm FLANGE ADAPTOR SDR17	2,360
001 115 0100 0250	250mm FLANGE ADAPTOR SDR17	2,600
001 115 0100 0280	280mm FLANGE ADAPTOR SDR17	3,620
001 115 0100 0315	315mm FLANGE ADAPTOR SDR17	4,780
001 115 0100 0355	355mm FLANGE ADAPTOR SDR17	6,550
001 115 0100 0400	400mm FLANGE ADAPTOR SDR17	8,785
001 115 5100 0450	450mm FLANGE ADAPTOR SDR17	14,270
001 115 5100 0500	500mm FLANGE ADAPTOR SDR17	17,530
001 115 5100 0560	560mm FLANGE ADAPTOR SDR17	24,500
001 115 5100 0630	630mm FLANGE ADAPTOR SDR17	29,250
001 115 5100 0710	710mm FLANGE ADAPTOR SDR17	42,220
001 115 5100 0800	800mm FLANGE ADAPTOR SDR17	54,550
001 115 5100 0900	900mm FLANGE ADAPTOR SDR17	74,500
001 115 5100 1000	1000mm FLANGE ADAPTOR SDR17	100,500
001 115 0103 0063	63mm FLANGE ADAPTOR SDR17 (SUITABLE FOR ANSI FLANGE)	0,160
001 115 0103 0075	75mm FLANGE ADAPTOR SDR17 (SUITABLE FOR ANSI FLANGE)	0,240
001 115 0103 0090	90mm FLANGE ADAPTOR SDR17 (SUITABLE FOR ANSI FLANGE)	0,330
001 115 0100 0110	110mm FLANGE ADAPTOR SDR17 (SUITABLE FOR ANSI FLANGE)	0,550
001 115 0100 0125	125mm FLANGE ADAPTOR SDR17 (SUITABLE FOR ANSI FLANGE)	0,640
001 115 0100 0140	140mm FLANGE ADAPTOR SDR17 (SUITABLE FOR ANSI FLANGE)	1,040
001 115 0100 0160	160mm FLANGE ADAPTOR SDR17 (SUITABLE FOR ANSI FLANGE)	1,130
001 115 0100 0180	180mm FLANGE ADAPTOR SDR17 (SUITABLE FOR ANSI FLANGE)	1,145
001 115 0100 0200	200mm FLANGE ADAPTOR SDR17 (SUITABLE FOR ANSI FLANGE)	1,960
001 115 0100 0225	225mm FLANGE ADAPTOR SDR17 (SUITABLE FOR ANSI FLANGE)	2,360
001 115 0100 0250	250mm FLANGE ADAPTOR SDR17 (SUITABLE FOR ANSI FLANGE)	2,600
001 115 0100 0280	280mm FLANGE ADAPTOR SDR17 (SUITABLE FOR ANSI FLANGE)	3,620
001 115 0100 0315	315mm FLANGE ADAPTOR SDR17 (SUITABLE FOR ANSI FLANGE)	4,780
001 115 0100 0355	355mm FLANGE ADAPTOR SDR17 (SUITABLE FOR ANSI FLANGE)	6,550
001 115 0100 0400	400mm FLANGE ADAPTOR SDR17 (SUITABLE FOR ANSI FLANGE)	8,785
001 115 5100 0450	450mm FLANGE ADAPTOR SDR17 (SUITABLE FOR ANSI FLANGE)	14,270
001 115 5100 0500	500mm FLANGE ADAPTOR SDR17 (SUITABLE FOR ANSI FLANGE)	17,530

Article code	Article description	Weight (kg)
001 115 5103 0560	560mm FLANGE ADAPTOR SDR17 (SUITABLE FOR ANSI FLANGE)	24,170
001 115 5103 0630	630mm FLANGE ADAPTOR SDR17 (SUITABLE FOR ANSI FLANGE)	30,800
001 117 1100 0200	200mm FLANGE ADAPTOR SDR11	1,835
001 117 1100 0225	225mm FLANGE ADAPTOR SDR11	2,010
001 117 1100 0250	250mm FLANGE ADAPTOR SDR11	2,640
001 117 1100 0280	280mm FLANGE ADAPTOR SDR11	2,990
001 117 1100 0315	315mm FLANGE ADAPTOR SDR11	3,855
001 117 1100 0355	355mm FLANGE ADAPTOR SDR11	5,590
001 117 1100 0400	400mm FLANGE ADAPTOR SDR11	7,640
001 117 1100 0450	450mm FLANGE ADAPTOR SDR11	10,075
001 117 1100 0500	500mm FLANGE ADAPTOR SDR11	11,305
001 117 1100 0560	560mm FLANGE ADAPTOR SDR11	20,565
001 117 1100 0630	630mm FLANGE ADAPTOR SDR11	16,450
001 117 1100 0710	710mm FLANGE ADAPTOR SDR11	22,350
001 117 1100 0200	200mm FLANGE ADAPTOR SDR11 (SUITABLE FOR ANSI FLANGE)	1,835
001 117 1100 0225	225mm FLANGE ADAPTOR SDR11 (SUITABLE FOR ANSI FLANGE)	2,010
001 117 1100 0250	250mm FLANGE ADAPTOR SDR11 (SUITABLE FOR ANSI FLANGE)	2,640
001 117 1100 0280	280mm FLANGE ADAPTOR SDR11 (SUITABLE FOR ANSI FLANGE)	2,990
001 117 1100 0315	315mm FLANGE ADAPTOR SDR11 (SUITABLE FOR ANSI FLANGE)	3,855
001 117 1100 0355	355mm FLANGE ADAPTOR SDR11 (SUITABLE FOR ANSI FLANGE)	5,590
001 117 1100 0400	400mm FLANGE ADAPTOR SDR11 (SUITABLE FOR ANSI FLANGE)	7,640
001 117 1100 0450	450mm FLANGE ADAPTOR SDR11 (SUITABLE FOR ANSI FLANGE)	10,075
001 117 1100 0500	500mm FLANGE ADAPTOR SDR11 (SUITABLE FOR ANSI FLANGE)	11,305
001 117 1103 0560	560mm FLANGE ADAPTOR SDR11 (SUITABLE FOR ANSI FLANGE)	19,200
001 117 1103 0630	630mm FLANGE ADAPTOR SDR11 (SUITABLE FOR ANSI FLANGE)	17,500
001 115 1100 0200	200mm FLANGE ADAPTOR SDR17	1,420
001 115 1100 0225	225mm FLANGE ADAPTOR SDR17	1,520
001 115 1100 0250	250mm FLANGE ADAPTOR SDR17	1,900
001 115 1100 0280	280mm FLANGE ADAPTOR SDR17	2,230
001 115 1100 0315	315mm FLANGE ADAPTOR SDR17	2,850
001 115 1100 0355	355mm FLANGE ADAPTOR SDR17	3,980
001 115 1100 0400	400mm FLANGE ADAPTOR SDR17	4,890
001 115 1100 0450	450mm FLANGE ADAPTOR SDR17	6,555

Technical Specifications

Article code	Article description	Weight (kg)
001 115 1100 0500	500mm FLANGE ADAPTOR SDR17	7,835
001 115 1100 0560	560mm FLANGE ADAPTOR SDR17	11,450
001 115 1100 0630	630mm FLANGE ADAPTOR SDR17	10,700
001 115 1100 0710	710mm FLANGE ADAPTOR SDR17	15,640
001 115 1100 0800	800mm FLANGE ADAPTOR SDR17	20,840
001 115 1100 0900	900mm FLANGE ADAPTOR SDR17	25,950
001 115 1100 1000	1000mm FLANGE ADAPTOR SDR17	34,875
001 115 1100 0200	200mm FLANGE ADAPTOR SDR17 (SUITABLE FOR ANSI FLANGE)	1,420
001 115 1100 0225	225mm FLANGE ADAPTOR SDR17 (SUITABLE FOR ANSI FLANGE)	1,520
001 115 1100 0250	250mm FLANGE ADAPTOR SDR17 (SUITABLE FOR ANSI FLANGE)	1,900
001 115 1100 0280	280mm FLANGE ADAPTOR SDR17 (SUITABLE FOR ANSI FLANGE)	2,230
001 115 1100 0315	315mm FLANGE ADAPTOR SDR17 (SUITABLE FOR ANSI FLANGE)	2,850
001 115 1100 0355	355mm FLANGE ADAPTOR SDR17 (SUITABLE FOR ANSI FLANGE)	3,980
001 115 1100 0400	400mm FLANGE ADAPTOR SDR17 (SUITABLE FOR ANSI FLANGE)	4,890
001 115 1100 0450	450mm FLANGE ADAPTOR SDR17 (SUITABLE FOR ANSI FLANGE)	6,555
001 115 1100 0500	500mm FLANGE ADAPTOR SDR17 (SUITABLE FOR ANSI FLANGE)	7,835
001 115 1103 0560	560mm FLANGE ADAPTOR SDR17 (SUITABLE FOR ANSI FLANGE)	12,930
001 115 1103 0630	630mm FLANGE ADAPTOR SDR17 (SUITABLE FOR ANSI FLANGE)	11,300
001 117 0045 0280	280mm WYE TEE 45° SDR11	29,642
001 117 0045 0315	315mm WYE TEE 45° SDR11	41,970
001 115 0045 0280	280mm WYE TEE 45° SDR17	21,976
001 115 0045 0315	315mm WYE TEE 45° SDR17	30,810
001 117 0042 0459	450-160mm REDUCED TEE SDR11	42,400
001 117 0042 0456	450-225mm REDUCED TEE SDR11	52,800
001 117 0042 0453	450-315mm REDUCED TEE SDR11	63,400
001 117 0042 0510	500-160mm REDUCED TEE SDR11	55,400
001 117 0042 0506	500-250mm REDUCED TEE SDR11	64,600
001 117 0042 0504	500-315mm REDUCED TEE SDR11	78,400
001 117 0042 0567	560-250mm REDUCED TEE SDR11	96,800
001 117 0042 0642	630-160mm REDUCED TEE SDR11	95,000
001 117 0042 0638	630-250mm REDUCED TEE SDR11	104,000
001 117 0042 0636	630-315mm REDUCED TEE SDR11	124,600
001 115 0042 0459	450-160mm REDUCED TEE SDR17	32,400
001 115 0042 0456	450-225mm REDUCED TEE SDR17	39,800

Article code	Article description	Weight (kg)
001 115 0042 0453	450-315mm REDUCED TEE SDR17	48,600
001 115 0042 0510	500-160mm REDUCED TEE SDR17	41,400
001 115 0042 0506	500-250mm REDUCED TEE SDR17	48,800
001 115 0042 0504	500-315mm REDUCED TEE SDR17	58,200
001 115 0042 0567	560-250mm REDUCED TEE SDR17	69,800
001 115 0042 0642	630-160mm REDUCED TEE SDR17	68,200
001 115 0042 0638	630-250mm REDUCED TEE SDR17	75,800
001 115 0042 0636	630-315mm REDUCED TEE SDR17	92,000

LCA Information

Declared Unit

The declared unit is a 1 kg of Butt-Fusion (Spigot) Fitting

Reference Service Life

Not applicable.

Time Representativeness

The production data in this LCA study represents the period of 1 January - 31 December 2023.

Database(s) and LCA software used

SimaPro LCA v9.6.0.1 software with Ecoinvent v3.10

Description of System Boundaries

Cradle to gate with options, modules C1–C4, module D and with optional modules A4–A5 (A1–A3 + C + D and A4-5).

Data Quality and Data Collection

According to EN 15804:2012+A2:2019 specific data was used for module A3 (Processes the manufacturer has influence over) and was gathered from the manufacturing plant. Specific data includes actual product weights, amounts of raw materials used, product content, energy consumption, transport figures and amounts of wastes. For A1 and A2 modules, according to EN 15804:2012+A2:2019, generic data was applied and was obtained from Ecoinvent v3.10

Allocation

Consumption of electricity and diesel is allocated based on products that are being produced.

Cut-off Rules

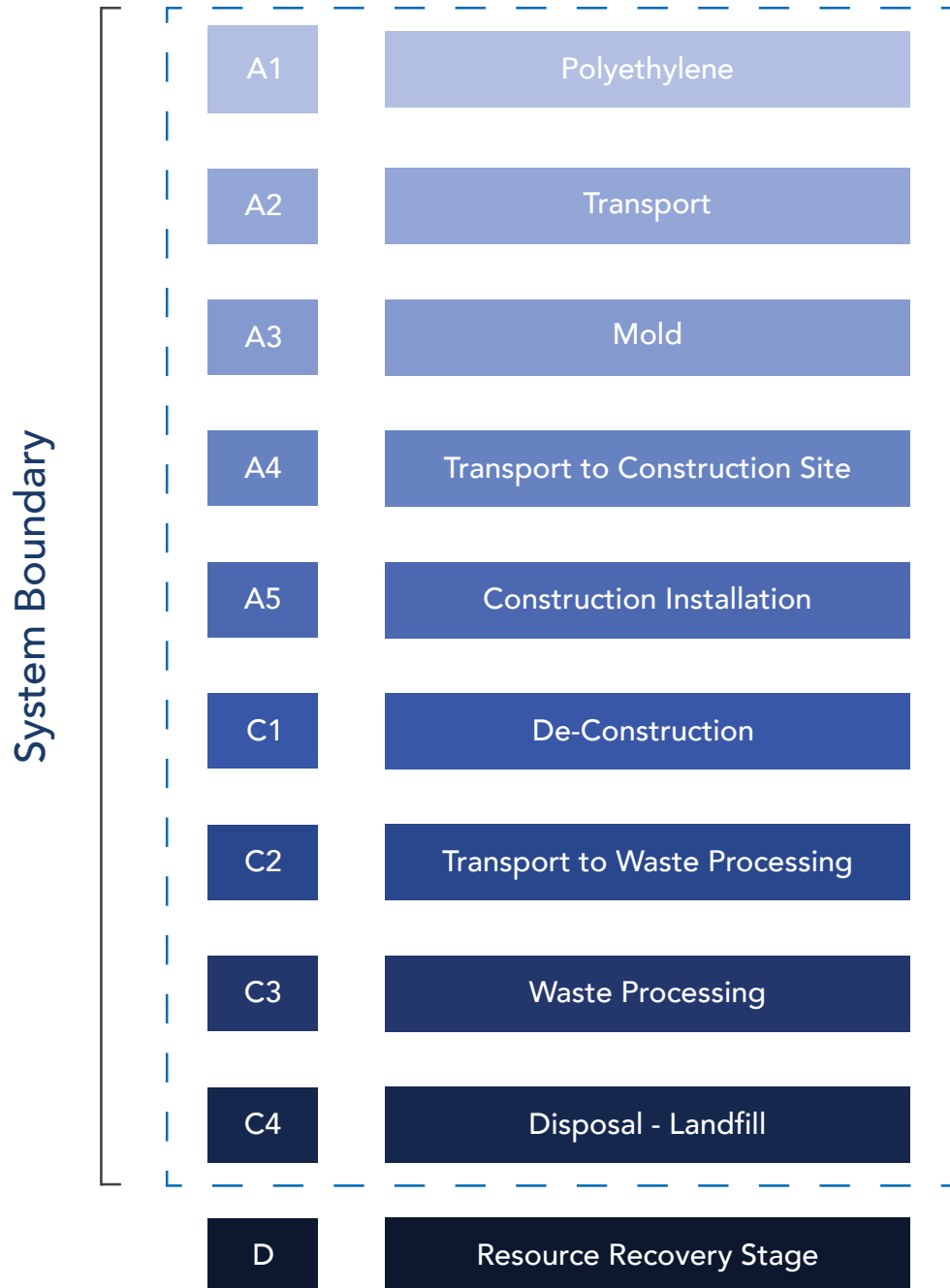
Life Cycle Inventory data for a minimum of 99 % of total inflows to the three life cycle stages have been included and a cut-off rule of 1% regarding energy, mass, and environmental relevance was applied.

Modules declared, geographical scope, share of specific data (in GWP-GHG indicator) and data variation:

	PRODUCT STAGE			CONSTRUCTION PROCESS STAGE				USE STAGE				END OF LIFE STAGE				RESOURCE RECOVERY STAGE	
	Raw material supply	Transport	Manufacturing	Transport	Construction installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Recycling Potential
Module	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Modules declared	X	X	X	X	X	ND	ND	ND	ND	ND	ND	ND	X	X	X	X	X
Geography	GLO	GLO	TR	GLO	GLO	-	-	-	-	-	-	-	GLO	GLO	GLO	GLO	GLO
Specific data used	>30%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation-products	<10%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation-sites	0%			-	-	-	-	-	-	-	-	-	-	-	-	-	-

X: Declared, ND: Not declared.

System Diagram



Description of Declared Modules

A1 - Raw Materials Supply

This module represents raw material extraction, processing and energy used in the production process.

A2 - Transport to the Manufacturer

This module includes transportation of the raw materials from supplier to factory gate. Transportation methods are considered as roadway and seaway.

A3 - Manufacturing

This stage includes energy during the manufacturing process. Furthermore, this module also addresses packaging materials and includes the management of any waste generated during this stage. The parameter "Electricity, medium voltage {TR}| market for electricity, medium voltage | EN15804, S" was used in modeling for electricity. For 1 kWh of electricity, 0.56728081 kgCO_{2e} emissions are released.

A1-3 - Cradle to gate – Mandatory Module

The aggregation of the modules A1, A2 and A3 is allowed by EN 15804:2012+A2:2019. This rule is applied in this EPD and denoted by A1-3. This module encompasses the extraction and processing of raw materials, their transportation to production facilities, as well as the manufacturing and packaging processes.

A4 - Transport to construction site – Voluntary Optional Module

An average distance of 100 km has been assumed for transportation to the construction site. The calculation is based on a scenario using the parameters outlined in the table below.

Parameters A4 Module	
Transport by road*	Lorry >32 metric ton
Distance (km)	100
Database	Ecoinvent v3.10

A5 - Construction installation - Voluntary Optional Module

An average installation machine electricity consumption assumed. It is calculated on the basis of a scenario with the parameters described in the table below.

Parameters A5 Module	
Electricity, kWh	1.7

C1 - De-construction

The demolition of butt-fusion (spigot) fittings from the base construction is assumed to be carried out manually. Based on the assumed scenario, the environmental impact of the deconstruction process is excluded from the scope of this study.

C2 - Transport to Waste Processing – Mandatory Module

It has been assumed that the transportation to the sorting facility covers an average distance of 100 km. Transport is calculated on the basis of a scenario with the parameters described in the attached table.

Parameters C2 Module	
Transport by road*	Lorry >32 metric ton
Distance (km)	100
Database	Ecoinvent v3.10

*Technology is Euro 6

C3 - Waste Processing for Reuse, Recovery and/or Recycling – Mandatory Module

This module covers the energy consumption needed for sorting spigot fittings during the recycling process.

C4 - Final Disposal – Mandatory Module

All end-of-life products will be collected and recycled back into the production system, including the spigot fitting. A total of 76.60% of these products are recycled and reused in construction projects or material production, while the remaining 23.4% are sent to landfill. The recovery rates for plastics are based on data from the AF Plastics, assuming a 76.6% recovery rate and 23.4% going to landfill.

D - Reuse, recovery or recycling – Mandatory Module

Module D includes the environmental aspects of recycled material generated at the end-of-life minus that used Module A1, which stands for the extraction and processing during the production stage. Module D reports the environmental aspects of recycled material generated at the end of life minus that used at the production stage.

This LCA and the EPD only cover the Cradle to Gate A1-3, A4-5 and C1-4 and D stages because other stages are very dependent on particular scenarios and are better developed.

Content Declaration Including Packaging

Material	Weight, kg
Polyethylene	0.99-1
Others	<0.01
Biogenic carbon	0

Material	Weight, kg	Biogenic Carbon, kg
Wood	0-0.05	0-0.05
Kraft Paper	0-0.10	0-0.05
Plastic	0-0.05	-

Environmental Information

Potential Environmental Impact –

Mandatory Indicators According to EN 15804:2012+A2:2019/AC:2021

Results for 1 kg of Spigot Fitting									
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
GWP-fossil	kg CO ₂ eq.	4.53	0.011	0.560	0	0.011	0.265	0.033	-2.30
GWP -biogenic	kg CO ₂ eq.	0.347	5.16E-05	0.086	0	5.16E-05	0.008	5.24E-05	-0.063
GWP-luluc	kg CO ₂ eq.	0.014	4.40E-06	0.002	0	4.40E-06	0.003	1.53E-06	-0.001
GWP-total	kg CO ₂ eq.	4.89	0.011	0.648	0	0.011	0.276	0.033	-2.36
ODP	kg CFC 11eq.	1.37E-07	1.65E-10	9.46E-09	0	1.65E-10	1.52E-09	6.70E-11	-9.67E-08
AP	mol H ⁺ eq.	0.018	2.65E-05	0.003	0	2.65E-05	0.002	1.86E-05	-0.007
EP-freshwater	kg P eq.	1.94E-04	9.78E-08	5.25E-05	0	9.78E-08	2.84E-05	3.23E-08	-4.60E-05
EP-marine	kg N eq.	0.003	6.56E-06	3.73E-04	0	6.56E-06	2.48E-04	9.16E-06	-0.001
EP-terrestrial	mol N eq.	0.035	7.27E-05	0.004	0	7.27E-05	0.003	7.60E-05	-0.014
POCP	kg NMVOC eq.	0.021	4.01E-05	0.001	0	4.01E-05	0.001	3.30E-05	-0.012
ADP minerals & metals*	kg Sb eq.	2.70E-05	2.93E-08	0.000	0	2.93E-08	2.92E-07	5.72E-09	-1.91E-05
ADP-fossil*	MJ	106	0.156	13.01	0	0.156	2.89	0.058	-68.4
WDP*	m ³	1.31	0.001	0.422	0	0.001	0.092	-0.037	-0.632

Acronyms

GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption

* Disclaimer: The results of this environmental impact indicator shall be used with care as the uncertainties of these results are high or as there is limited experience with the indicator.

** The estimated impact results are only relative statements, which do not indicate the endpoints of the impact categories, exceeding threshold values, safety margins and/or risks.

Environmental Information

Potential Environmental Impact –

Mandatory Indicators According to EN 15804:2012+A2:2019/AC:2021

Results according to PCR2019:14 for 1 kg of Spigot Fitting									
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
GWP-GHG ¹	kg CO ₂ eq.	4.89	0.011	0.648	0	0.011	0.276	0.033	-2.36
Results according to EN 15804+A2 for 1 kg of Spigot Fitting									
PM	[disease inc.]	1.16E-07	1.02E-09	8.27E-09	0	1.02E-09	7.55E-09	4.14E-10	-5.20E-08
IRP	[kBq U235 eq]	0.085	5.37E-05	0.115	0	5.37E-05	0.001	2.25E-05	-0.058
ETP-fw	[CTUe]	109	0.167	13.8	0	0.167	6.61	0.170	-52.4
HT-C	[CTUh]	1.36E-08	5.34E-11	1.12E-09	0	5.34E-11	3.07E-10	1.53E-11	-8.63E-09
HT-nc	[CTUh]	4.32E-08	1.29E-10	5.65E-09	0	1.29E-10	2.10E-09	7.89E-10	-2.27E-08
SQP	[pt]	27.6	0.157	2.21	0	0.157	0.359	0.136	-6.13

Acronyms

GWP-GHG = Global Warming Potential total excl. biogenic carbon following IPCC AR5 methodology; PM = Potential incidence of disease due to PM emissions; IRP = Potential Human exposure efficiency relative to U235; ETP-fw = Potential Comparative Toxic Unit for ecosystems; HT-C = Potential Comparative Toxic Unit for humans; HT-nc = Potential Comparative Toxic Unit for humans; SQP = Potential soil quality index (SQP)

* Disclaimer: The results of this environmental impact indicator shall be used with care as the uncertainties of these results are high or as there is limited experience with the indicator.

** The estimated impact results are only relative statements, which do not indicate the endpoints of the impact categories, exceeding threshold values, safety margins and/or risks.

Environmental Information

Use of Resources

Results for 1 kg of Spigot Fitting									
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
PERE	MJ	10.9	0.002	3.04	0	0.002	1.22	0.001	-1.87
PERM	MJ	0	0	0	0	0	0	0	0
PERT	MJ	10.9	0.002	3.04	0	0.002	1.22	0.001	-1.87
PENRE	MJ	113	0.166	13.5	0	0.166	3.10	0.062	-73.5
PENRM	MJ	0	0	0	0	0	0	0	0
PENRT	MJ	113	0.166	13.5	0	0.166	3.10	0.062	-73.5
SM	kg	0	0	0	0	0	0	0	0
RSF	MJ	0	0	0	0	0	0	0	0
NRSF	MJ	0	0	0	0	0	0	0	0
FW	m ³	0.328	1.47E-04	0.096	0	1.47E-04	0.016	1.15E-04	-0.186

Acronyms

PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy re-sources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water

* Disclaimer: The results of this environmental impact indicator shall be used with care as the uncertainties of these results are high or as there is limited experience with the indicator.

** The estimated impact results are only relative statements, which do not indicate the endpoints of the impact categories, exceeding threshold values, safety margins and/or risks.

Environmental Information

Waste Production

Results for 1 kg of Spigot Fitting									
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
Hazardous waste disposed	kg	0	0	0	0	0	0	0	0
Non-hazardous waste disposed	kg	0	0	0	0	0	0	0	0
Radioactive waste disposed	kg	0	0	0	0	0	0	0	0

Output Flows

Results for 1 kg of Spigot Fitting									
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
Components for re-use	kg	0	0	0	0	0	0	0	0
Material for recycling	kg	0.188	0	0	0	0	0	0	0
Materials for energy recovery	kg	0.002	0	0	0	0	0	0	0
Exported energy, electricity	MJ	0	0	0	0	0	0	0	0
Exported energy, thermal	MJ	0	0	0	0	0	0	0	0

References

- ISO 14040 Environmental management - Life cycle assessment - Principles and framework
- ISO 14044 2006 Environmental management - Life cycle assessment - Requirements and guidelines
- ISO 14025 2006 Environmental labels and declarations - Type III environmental declarations - Principles and procedures
- ISO 14021 2016 Environmental labels and declarations
- ISO 14020 2000 Environmental labels and declarations - General principles
- EN 15804:2012+A2:2019 Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products
- The International EPD® System www.environdec.com
- The International EPD® System The General Programme Instructions v5.0.0
<https://www.environdec.com/resources/documentation#generalprogrammeinstructions>
- Ecoinvent 3.10 www.ecoinvent.org
- SimaPro LCA Software www.simapro.com
- NTG Plastik www.ntgplastik.com
- EN 15804 reference package based on EF 3.1 eplca.jrc.ec.europa.eu

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