fitt sewer evo

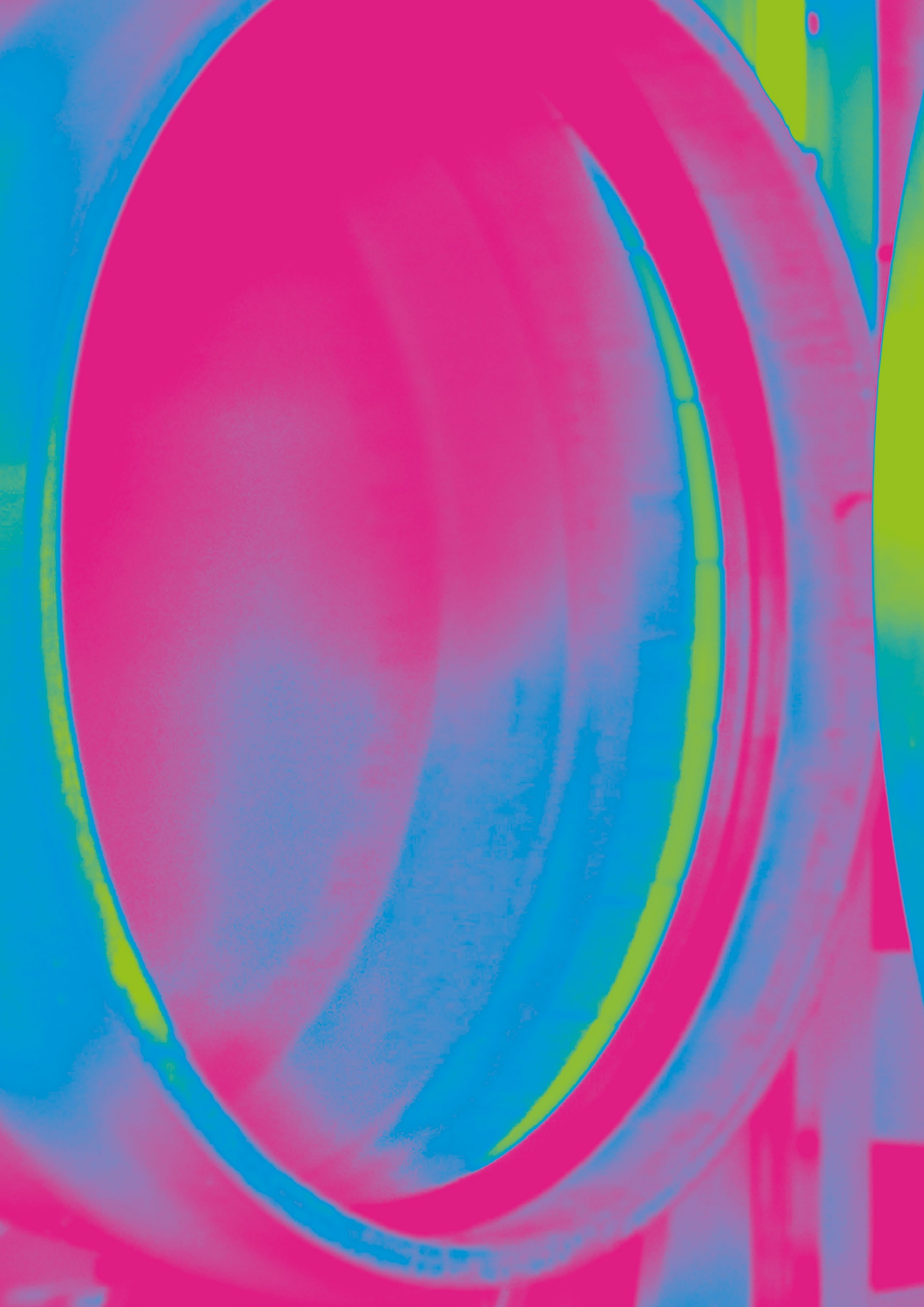
Sewer and underground drain system

VERS. 10/2024

Ingenious for life

Certified B Corporation

FITT.COM



fitt sewer evo

Sewer and underground drain system

FITT, a leading global group established in Italy in 1969 - and today a benefit company - is a pioneer in the production and development of solutions for the transfer of fluids for domestic, professional and industrial applications.

Ingenious for life

The mission of the FITT group is to improve the performance of its customers by providing pipes, hoses and systems for the transport of liquid, gaseous and solid substances, with products at the forefront of technology, design and sustainability.

Ongoing progress

FITT, currently led by Alessandro Mezzalira, was founded in 1969 by his father Rinaldo. With headquarters in Sandrigo, in the province of Vicenza, FITT – an international reference point in its industry – currently has 14 production sites, 5 commercial branches and 15 logistic centres in Europe and worldwide.

FITT SOLUTIONS

Gardening Solutions

Industrial Solutions

Marine Solutions

Food & Beverage Solutions

Innovative and pioneering technology

FITT strongly believes in Open Innovation and works with an international network of partners, universities and research bodies, taking advantage of external organisations for the validation of its own quality tests and protocols, defining the impact of its products.

Multiplant production and logistics

Flexible logistics, automated and customised, capable of meeting the requests of the various sales channels served by our organisation: from large customers to the single individual purchasing on line.
The network of logistics centers of FITT, strategically located throughout Europe, allows to deliver in 48/72 h in the main European markets.

FITT Solutions

FITT develops state of the art solutions for the handling of fluids, ensuring reliability, safety, performance and ease of use applicable to 9 dedicated and specialised business units.


Building Solutions


Pool & SPA Solutions


Ventilation Solution


Agricolture Solutions


Infrastructure Solutions

«the task that we are called to fulfil must contribute to make this world a better place, for us and for future generations»

Alessandro Mezzalira
CEO

Certified
This company meets high standards of social and environmental impact.
Corporation

THE RESPONSIBLE FLOW: FITT'S SUSTAINABILITY STRATEGY FOR 2030

The FITT journey

In FITT's vision, being a responsible company means transforming its business model to achieve an ideal balance, with the objective of **creating economic value and having a positive impact on the planet and on people's lives.**

FITT is a "**Società Benefit**", and in addition to the object of making a profit, it has added in its statute the public and official commitment of a positive impact on society and the biosphere, operating in a sustainable and transparent manner.

Corporate responsibility

FITT is committed to producing state-of-theart products, providing its customers with the best technologies in the field of fluid handling.

Investing in innovation, scientifically measuring the impact of its offering and adopting a supply chain approach that aims at minimising negative effects throughout the product life cycle, enables FITT to create an increasingly sustainable business model.

THE 7 OBJECTIVES SELECTED BY FITT

Environment:

FITT is engaged on two parallel fronts: the management of energy, water and waste, and the development of innovative products.

In the area of processes, the most important objective is **decarbonisation**, with the aim of setting **CO2e reduction** targets (scopes 1-2-3), to be reached by the FITT GROUP by 2025. With this in mind, in 2023 FITT has started measuring its **Carbon Footprint** in accordance with the ISO 14064 GHG inventory. As far as sustainable development is concerned, the aim is to make sure that by 2025 10% of our turnover is from innovative products with lower impact, producing 10% less Co2eq than their traditional equivalents.

Social:

FITT is engaged again on two complementary fronts, one internal and one external.

The first includes the **creation of wellbeing, inclusion and security for the FITT People**. The second concentrates on support of social and environmental initiatives, both local and international, mainly in the fields of health, women, youth and people with special needs, creating partnerships with the stakeholders.

Governance:

Act as a responsible company by rewriting a new business model that creates shared value, thus contributing to bring about a positive impact in the life of people and the environment.

fitt sewer evo

Scan the QR-Code
to find out more!

SUPERIOR PERFORMANCE THANKS TO THE INTEGRATED JOINTING SYSTEM

The **UNI EN 1401-1:2019** compliant **FITT Sewer EVO** pipe for non-pressurised sewage and industrial drains guarantees superior performance thanks to its unique jointing system with integrated non-removable gasket.

Sewer networks for the collection and conveyance of waste water are of considerable importance in modern society, as they contribute significantly to the protection of the environment.

In view of the stresses to which they are subjected and their underground installation, these systems must be built using high-quality products.

UNI EN 1401-1:2019 PVC pipes have proven their reliability over the years.
FITT has decided to further increase the quality of its product by improving the jointing system, to ensure perfect hydraulic tightness and therefore protect the surrounding environment from possible dispersions of pollutants in the underground and the aquifers.

The **FITT Sewer EVO pipes**, which meet the **UNI EN 1401-1:2019** standard, are produced with the exclusive Sewer Lock®, a socket based jointing system with integrated non-removable gasket, developed in collaboration with Trelleborg Forsheda.
Moreover, the use of OBS organic stabilizers free of heavy metals ensures the compliance of FITT Sewer EVO with the most stringent environmental protection regulatory standards of the main European markets.

certifications

IT-DT-Ki0410

UNI EN 1401
Kiwa – UNI - KIP-104693

The **UNI EN 1401-1:2019** European standard has set common rules for all EU countries regarding the quality and performance requirements for sewage system pipes, replacing the types of pipes of the previous standard with those provided for by the current one, also defining the areas of application for the different types of pipes:

- U: Underground pipes installed more than 1 metres from dwellings
- D: Underground pipes inside dwellings and up to 1 metre away from them, capable of withstanding hot waste
- UD: Pipes suitable for both applications.

The use of state-of-the-art technologies and increasingly sophisticated product quality checks ensure that the performance standards of the sewage system PVC pipe are the highest of its class. **FITT Sewer EVO** complies with the **KIWA UNI EN 1401 certification** and meets the quality and performance requirements of the main industry certification bodies (**ZIK**).

On the basis of the type tests and the regular inspections carried out by **Kiwa, FITT Sewer EVO** (PVC-U pipes for underground non-pressurised sewage systems and drains) is considered as compliant with the requirements of **Annex K03 of technical document Ki-0410** based on the **UNI EN 1401:2019 standard**, and therefore comes with the **Kiwa-UNI** mark.

the fitt sewer evo epd® - environmental product declaration

EPD®

The FITT Sewer range provides industry professionals with a comprehensive choice of solutions for sewage and non-pressurised industrial drains, with certified information on the environmental footprint of the product.

FITT Sewer e FITT Sewer Evo meet the requirements for green procurement of Public Administrations (Green Public Procurement) and the Minimum Environmental Criteria for the road and building construction and maintenance sectors.

The EPD® is referred to as a useful tool for providing evidence of the recycled material content, and for some other environmental parameters required for building components by the Minimum Environmental Criteria pursuant to the Decree of the Ministry for the Environment and Protection of Land and Sea (MATTM of 11-10-2017) for the design and the works for the construction of new buildings, the renovation of existing ones, and their maintenance.

Moreover, it is also a useful tool required by the main environmental sustainability protocols for buildings (e.g. LEED) or infrastructures (e.g. Envision), as regards to the characteristics of building components.

EPD®, what is it?

The EPD® is a voluntary certification program that started in Sweden and soon took on an international value as part of the EU environmental policy.

The EPD® follows the requirements of the **UNI EN ISO 14025:2010** standard (Environmental declarations and labels - Type III environmental declarations) and is a tool for providing objective, comparable and reliable information on the environmental performance of products and services.

On one side, this declaration allows manufacturers to demonstrate their commitment to environmental issues, by analysing and describing their products in terms of their environmental impacts, while on the other side it gives customers, designers and contractors the possibility of obtaining detailed information regarding the environmental characteristics of the product itself.

This means that the EPD® of the Sewer range can provide relevant, checked and comparable information on the environmental impact of the non-pressurised industrial sewer and drain piping system proposed by FITT.

The advantages of the EPD® certification

It’s international

The EPD® of FITT Sewer and FITT Sewer EVO is a certified Environmental Product Declaration (EPD) that lists environmental data regarding the life cycle of products, in accordance with international standard ISO 14025.

It’s reliable

The FITT Sewer and FITT Sewer EVO EPD® is based on the scientific principles of the Life Cycle Assessment (LCA), and is awarded following an independent assessment. .

It’s transparent

The FITT Sewer range environmental product declaration data are calculated and presented following the standard calculation rules contemplated for the product category of construction materials.

SGS Italia S.p.a.

EPD®

A	B
A Third Party Verifier in accordance with: **ISO 14025:2006.**	**B** **ISO 14025** **EN 15804:2012 +A2:2019** **Reg. nr. S-P-04909** environdec.com

How is the environmental performance of the FITT Sewer range calculated?

The environmental performance of the Sewer range indicated in the EPD® is based on the **Life Cycle Assessment (LCA)**, in accordance with the **ISO 14040** standard, the methodological foundation that ensures the objectivity of the information supplied, taking into account the specific calculation parameters for the product category (PCR) of construction materials following the **UNI EN 15804:2012+A2:2019** European Standard

The new study adopts the “cradle to grave” approach: it quantifies the impacts from the extraction of raw materials to the end of life of the finished product and its disposal. In the EPD®, the results are split into the following stages:

A1: production of raw materials and energy carriers;

A2: transport of raw materials;

A3: manufacturing process at the FITT plants.

A4: Transport of the pipe to the installation site;

A5: Pipe installation;

C1: Removal of the pipe from the installation site;

C2: Transport of materials to the disposal and/or recovery centre;

C3: Waste treatment processes;

C4: Waste disposal.

The environmental information obtained through the LCA is included in the environmental product declaration, which after being assessed by **SGS Italia**, an independent credited body, becomes available at **Environdec.com**, the portal of the International **EPD® System**, the international Program Operator selected by FITT that manages the processes for the writing of the Product Category Rules (PCR), with a presence in over 45 countries all over the world (to date the **Environdec.com** portal lists more than 1100 EPDs).

ENVIRONMENTAL PERFORMANCE AND USE OF RESOURCES

The Sewer range EPD® contains an analysis of a set of impact categories, therefore offering a wide view of the potential environmental impacts, from climate changes to impacts associated with the use of water.

- **Depletion of abiotic resources**
  The Abiotic depletion potential (ADP) assesses the impact of the activity on the various non-renewable natural resources, such as minerals containing metals, oil, raw materials, and so on. It takes into account two indicators: ADP-mineral&metals (abiotic depletion potential - minerals and metals, expressed in kg Sb eq.) and ADP-fossil (abiotic depletion potential - fossils, expressed in MJ, net calorific value).
- **Acidification**
  Acidification Potential (AP), expressed in mol H+eq. This category quantifies the impact of the emissions of nitrogen and sulphur oxides into the atmosphere, soil and water, where acidity can be altered, affecting flora and fauna as well as human health and building materials.
- **Depletion of the ozone layer**
  Ozone Depletion Potential (ODP), expressed in kgCFC11eq. This category refers to the degradation of the ozone layer in the stratosphere, reducing its ability to prevent ultraviolet light from entering the Earth’s atmosphere.

the fitt sewer evo epd® - environmental product declaration

- **Climate change**
  Global Warming Potential (GWP), expressed in kgCO2eq. This category quantifies how the process contributes to greenhouse gas emissions, based on the model developed by the Intergovernmental Panel on Climate Change (IPCC). The results are presented through the following indicators: GWP-total, GWP-fossil, GWP-biogenic, GWP-luluc (land use and land use change). Based on the PCRs used, the additional GWP-GHG indicator will be presented. The indicator includes all greenhouse gases included in the total GWP, but excludes biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product.
- **Eutrophication**
  Eutrophication potential (EP) refers to nutrient enrichment, which leads to an imbalance in ecosystems, causing negative effects on flora and fauna. It takes into consideration: EP-freshwater (freshwater eutrophication potential, expressed in kg PO4eq and kg Peq), EP-marine (marine eutrophication potential, expressed in kg Neq) and EP-terrestrial (terrestrial eutrophication potential, expressed in mol N eq).
- **Photochemical ozone formation**
  Formation potential of tropospheric ozone (POCP, photochemical ozone creation potential), expressed in kg NMVOC (non-methane volatile organic compounds) eq.
  Photochemical ozone creation occurs in the atmosphere through the degradation of volatile organic compounds, in the presence of light radiation and nitrogen oxides. This phenomenon is harmful to both plants and humans, causing irritation, respiratory problems and damage to the respiratory system.
- **Water use**
  Water (user) deprivation potential (WDP), expressed in m^3 world eq. private. This indicator assesses the potential deprivation of water resources, both for humans and ecosystems, based on the assumption that the less water is available, the more likely it is that a further user, human or ecosystem, will be deprived of it.

FITT's PVC-U pipes support recyclability:

- FITT's PVC-U pipes contain no plasticisers - therefore, no phthalates;
- FITT's PVC-U pipes contain no dioxins;
- FITT's PVC-U pipes contain no heavy metal additives - therefore, no lead and cadmium.

FITT's PVC-U pipes are 100% recyclable and can be reintroduced into the production cycle of other PVC-U pipes.

Scan the QR Code to view the Sewer EPD!

View the product data sheet at **FITT.COM** and download the new environmental declaration based on **ISO 14025** and **EN 15804:2012+A2:2019** standards.

advantages of the integrated seal

SEWER LOCK® ENSURES EASY INSTALLATION AND ABSOLUTE HYDRAULIC TIGHTNESS

FITT Sewer EVO features a socket based jointing system with integrated gasket, mechanically pre-inserted during the hot formation of the socket based joint. The Sewer Lock® gasket consists of a sealing element according to **UNI EN 681**, co-moulded and with stiffening ring made of fibre-reinforced polypropylene.

This jointing system makes the gasket absolutely impossible to remove and guarantees superior performance:

- Optimum hydraulic tightness both in case of negative and positive pressure. Sealing performance proven by the tests carried out by IIP with higher pressure levels and much more demanding stress conditions (diameter deformation and angular deflection) than required by the reference standards;
- Perfect functionality even in case of high offsets: Up to 3° on the joint.

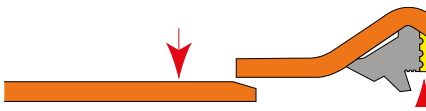
FITT Sewer EVO is superior to the traditional system because:

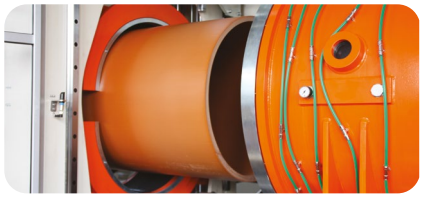
- It eliminates the operations for inserting the gasket in the socket based joint and the marking of the maximum insertion point (the pipes reach the site already ready for installation and marked);
- It guarantees quick and easy installation;
- It reduces the assembly force required;
- It ensures that the running test is always successful.
- The integrated socket based jointing system ensures better safety of use because:
- It prevents the loss of the gasket;
- It prevents damage to the gasket, wrong insertion or movements during the assembly of the pipes.

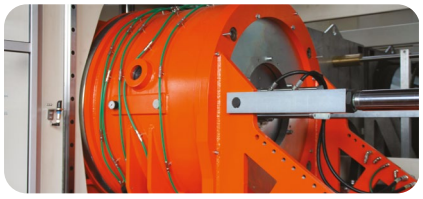
Innovative machinery enables the belling process with the formation of the socket directly on the mandrel with the simultaneous hot insertion of the gasket.

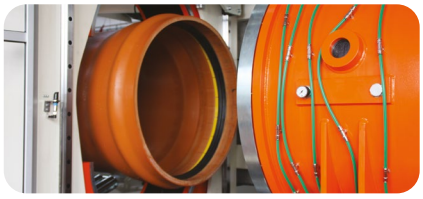
In this way, the tube and gasket become one, definitively eliminating the tolerances found in standard products.

This **guarantees** the absolute immovability of the gasket and greater ease of assembling the pipe during installation.







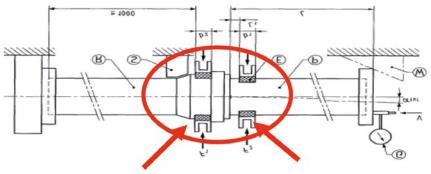


test report

TIGHTNESS TEST ON A JOINT WITH ELASTOMER SEAL
(Test conducted by **IIP Istituto Italiano dei Plastici**)

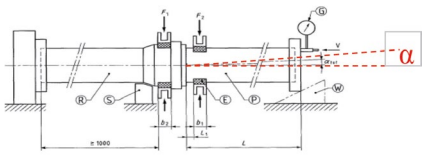
SHANK-SOCKET BASED JOINT DEFORMATION TEST
UNI EN 1277* method, condition B

		Test Report No. 1622/2014
UNI EN 1277* test method	**Requirements**	**Result**
Test temperature (23 ± 5°C)	-	22°C
Shank deformation (≥ 10%)	-	16,4%
Socket based joint deformation (≥ 5%)	-	7,8%
Difference (≥ 5%)	-	8,6%
Water pressure (0,05 bar)	No leakage	0,05 bar (no leakage)
Water pressure (0,5 bar)	No leakage	1,5 bar (no leakage)
Air pressure (-0,3 bar)	≤ -0,27 bar	-0,6 bar (0,4% leakage)



ANGULAR DEFLECTION TEST
UNI EN 1277* method, condition C

		Test Report No. 1623/2014
UNI EN 1277* test method	**Requirements**	**Result**
Test temperature (23 ± 5°C)		22°C
Angular deflection:		
dn ≤ 315 mm (2°)		4°
315 mm < dn ≤ 630 mm (1,5°)		
dn > 630 mm (1°)		
Water pressure (0,05 bar)	No leakage	0,05 bar (No leakage)
Water pressure (0,5 bar)	No leakage	1,5 bar (No leakage)
Air pressure (-0,3 bar)	≤ -0,27 bar	-0,6 bar (1% leakage)



(*) Now UNI EN ISO 13259:2018

specification item

Supply and installation of PVC-U pipes in accordance with **UNI EN 1401-01:2019** STANDARD, RAL 8023 brown-orange colour, for pipelines for the transfer of wastewater from civil, industrial and agricultural sewers.

The stabilisers used must be organic (OBS) and therefore totally free of heavy metals.

Socket based joint system with integrated gasket pre-inserted during the socket formation stage, consisting of a sealing element in accordance with UNI EN 681 coupled with a polypropylene reinforcement ring free of metal elements.

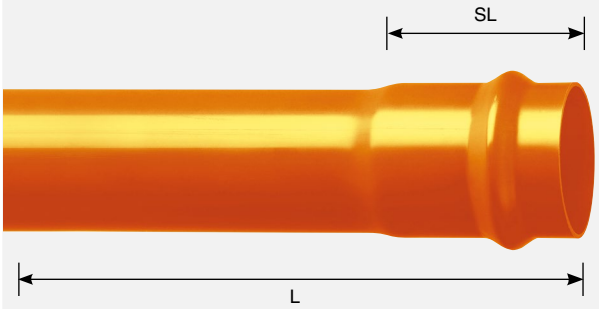
The joint system must be able to successfully pass the tightness tests conducted and certified by an accredited third party in accordance with conditions B and C of **UNI EN 1277:2005 (now UNI EN ISO 13259:2018)**, with the following test parameters: hydrostatic pressure 1.5 bar and negative air pressure - 0.6 bar.

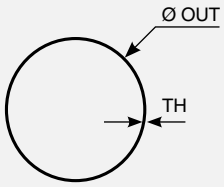
Pipes must be produced by companies operating in accordance with a Company Quality System conforming to **UNI EN ISO 9001**.

Scan the QR Code! BIM READY

BIM files of all **FITT Sewer Evo** products are available. **Scan the QR Code** to view the **BIM** object catalogue!

pipes price list





Ø OUT = outer diameter
L = length
SL = socket based joint length
TH = thickness

SN4 / FITT SEWER EVO

Ø Out [mm]	Thickness [mm]	SL [cm]	6 m [€/m]	6 m [€/Pc.]	5 m [€/Pc.]	3 m [€/Pc.]	2 m [€/Pc.]	1 m [€/Pc.]	Pcs/pallet
110*	3,2	8	6,75	40,50	37,13	23,29	16,88	9,11	105
125*	3,2	9	7,75	46,50	42,63	26,74	19,38	10,46	94
160*	4,0	10	12,08	72,50	66,46	41,69	30,21	16,31	52
200*	4,9	11	18,50	111,00	101,75	63,83	46,25	24,98	30
250*	6,2	13	29,50	177,00	162,25	101,78	73,75	39,83	20
315	7,7	16	46,67	280,00	256,67	161,00	116,67	63,00	9
400	9,8	19	75,83	455,00	417,08	261,63	-	-	9
500	12,3	22	120,33	722,00	-	415,15	-	-	2
630	15,4	23	200,00	1.200,00	-	690,00	-	-	2
710	17,4	25	348,33	2.090,00	-	1.201,75	-	-	2
800	19,6	30	444,17	2.665,00	-	1.532,38	-	-	2

SN8 / FITT SEWER EVO

Ø Out [mm]	Thickness [mm]	SL [cm]	6 m [€/m]	6 m [€/Pc.]	3 m [€/Pc.]	Pcs/pallet
110*	3,2	8	6,75	40,50	23,29	105
125*	3,7	9	8,83	53,00	30,48	94
160	4,7	10	14,50	87,00	50,03	52
200	5,9	11	22,25	133,50	76,76	30
250	7,3	13	34,67	208,00	119,60	20
315	9,2	16	56,17	337,00	193,78	9
400	11,7	19	92,33	554,00	318,55	9
500	14,6	22	142,33	854,00	491,05	2
630	18,4	23	243,00	1.458,00	838,35	2
710	20,8	25	413,33	2.480,00	1.426,00	2
800	23,4	30	524,17	3.145,00	1.808,38	2

(*) Pipes supplied with elastomeric lip seal.

fittings price list

15° BEND	
Ø [mm]	**€/Pz.**
110	2,70
125	4,29
160	6,14
200	12,02
250	30,67
315	44,17
400	85,89

30° BEND	
Ø [mm]	**€/Pz.**
110	2,83
125	4,54
160	6,38
200	13,26
250	30,92
315	55,21
400	94,47

45° BEND	
Ø [mm]	**€/Pz.**
110	2,83
125	4,54
160	6,88
200	13,50
250	26,99
315	55,21
400	98,15

87° BEND	
Ø [mm]	**€/Pz.**
110	3,81
125	4,91
160	8,10
200	17,42
250	35,59
315	60,85
400	125,15

fittings price list

45° PIPE BRANCH	
Ø [mm]	**€/Pz.**
110	6,14
125	9,57
160	15,21
200	29,45
250	55,46
315	109,93
400	515,31

45° RED. PIPE BRANCH	
Ø [mm]	**€/Pz.**
125/110	10,31
160/110	10,43
160/125	11,78
200/110	19,38
200/125	20,37
200/160	22,09
250/110	40,98
250/125	40,49
250/160	39,75
250/200	44,17
315/110	65,03
315/125	60,12
315/160	61,35
315/200	74,84
315/250	89,56
400/110	212,26
400/125	238,02
400/160	121,46
400/200	125,15
400/250	269,92
400/315	576,65

87° PIPE BRANCH

Ø [mm]	€/Pz.
110	5,76
125	11,04
160	12,76
200	27,48
250	51,54
315	88,34
400	211,54

87° RED. PIPE BRANCH

Ø [mm]	€/Pz.
125/110	7,12
160/110	11,04
160/125	11,53
200/110	17,67
200/125	18,65
200/160	20,37
250/110	37,79
250/125	36,07
250/160	37,54
250/200	41,97
315/110	63,80
315/160	56,93
315/200	78,52
315/250	83,44
400/110	211,04
400/160	169,31
400/200	188,95
400/250	202,44
400/315	265,01

fittings price list

SCREW CAP

Ø [mm]	€/Pz.
110	5,03
125	6,38
160	14,96
200	16,31
250	28,22
315*	19,64
400*	38,78

(*) Tappo di chiusura

SLEEVE

Ø [mm]	€/Pz.
110	3,31
125	4,05
160	6,26
200	11,04
250	26,99
315	42,94
400	101,84

REDUCERS

Ø [mm]	€/Pz.
110/125	3,07
110/160	4,79
125/160	4,91
160/200	9,81
200/250	18,65
250/315	34,35
315/400	62,57
400/500	211,04

insurance certificate

FITT guarantees its products with a specific insurance cover for all damage that may be caused to third parties.

FITT products are covered by a specific policy with the following conditions:

- **MAXIMUM LIABILITY: EURO 15,000,000**
- **VALIDITY: WORLDWIDE**
- **VALIDITY OF THE COVER FROM THE DATE OF SALE**

The cover for damages also includes the following, insofar as they occur or are presumed to occur: repair, meaning the modification or rectification of the defective product and the installation of the product free of any defects; replacement, i.e. the removal of the defective product and the installation of a corresponding product free of defects.

certified company quality

FITT implements a business management policy aimed at ensuring the highest quality in terms of technology, products and services, in full respect of the environment in which it operates.

The certification of the quality system obtained by the company ensures compliance with the requirements of **UNI EN ISO 9001:2015** for the following categories:

1) Design, manufacture, storage and distribution of:

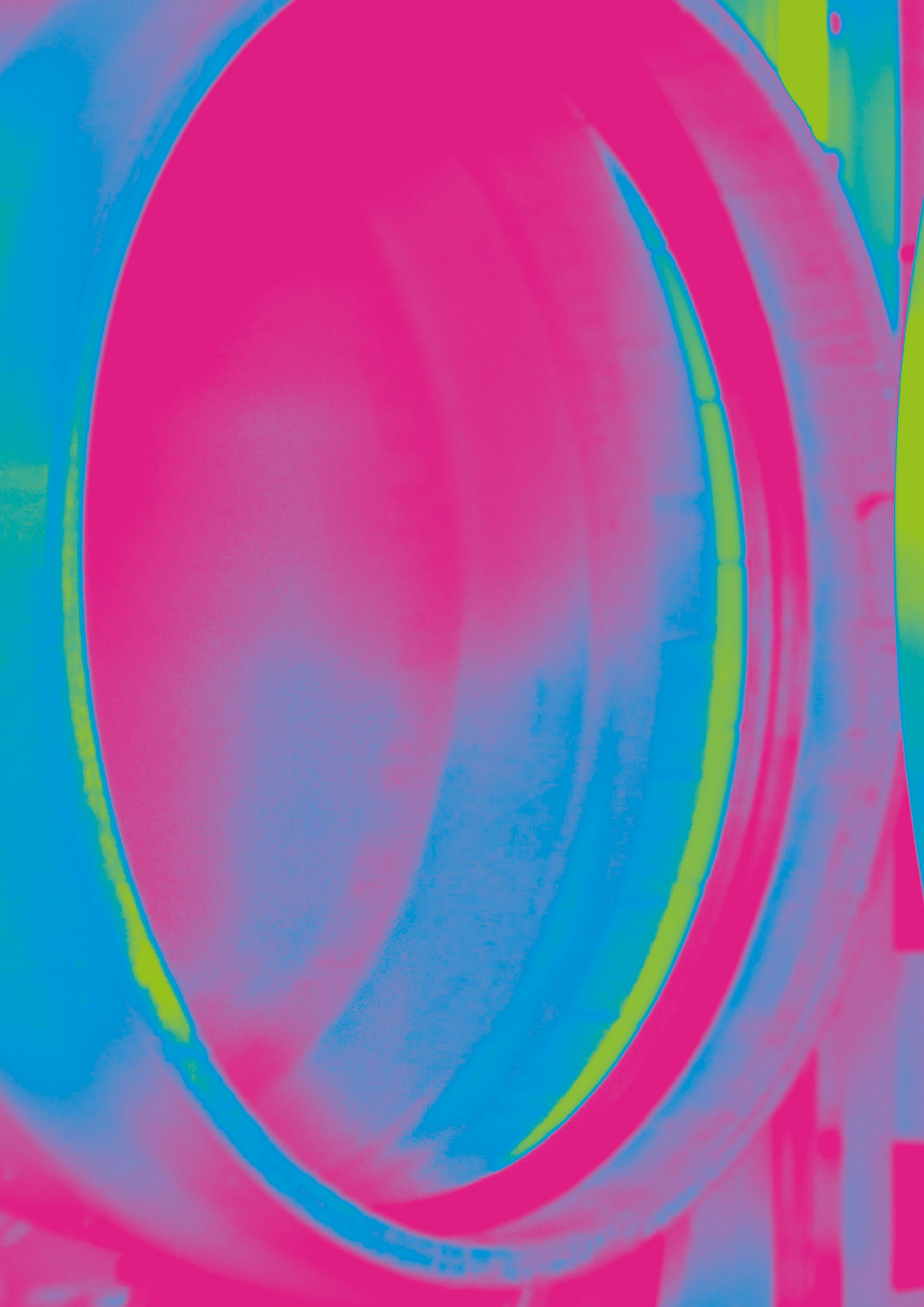
- Pipes, hoses and systems in plastic material, also suitable for food use, for Garden, Industrial and Building applications, obtained by extrusion and moulding.
- Extruded plastic film.
- Virgin and regenerated PVC granules, obtained through mixing and granulation.

2) Marketing of pipes and systems.

CERTIFIED PROCESSES

FITT implements an integrated management system focused on both product and process approval and control, acting on risk prevention and variability reduction.

On request, FITT can provide a new product approval plan based on the PPAP (Production Part Approval Process) method.



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FITT BUILDING SOLUTIONS
This is the business area of the FITT Group that designs, manufactures and develops pipes and hoses, profiles, fittings and accessories for the construction industry, dedicated to the flow of fluids and the installation of cables, for various applications, such as rainwater and sanitary water drainage.

FITT INFRASTRUCTURE SOLUTIONS
This is the business area of the FITT Group that produces and develops complete piping, hose and fitting solutions for the pressure and gravity management of fluids intended for the integrated water service management utilities, such as drinking water and sewerage networks.

For more information:

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