DRAINAGE AND SEWERAGE SYSTEMS



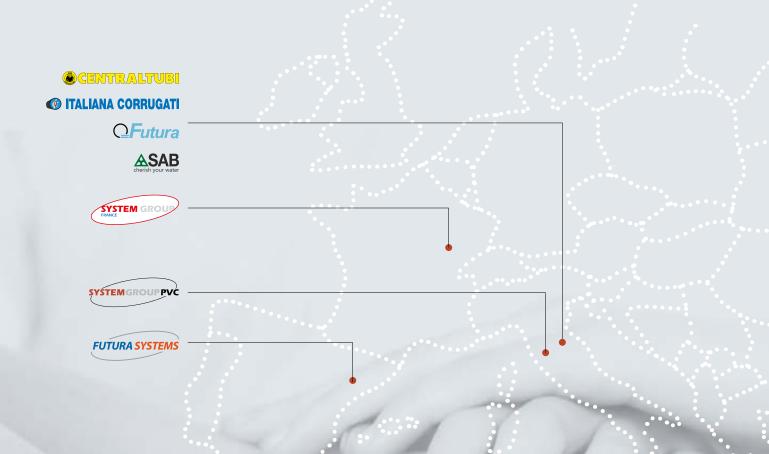




MADE IN ITALY



DRAINAGE AND SEWERAGE SYSTEM GROUP'S PLANTS



SYSTEM GROUP EXPORT



Lunano (PU) - ITALY













Belforte all'Isauro (PU) - ITALY



Is Sur Tille – Dijon - FRANCE

Sant'Angelo in Vado (PU) - ITALY

К



Rodonya' Tarragona - SPAIN

FUTURA SYSTEMS



SYSTEM GROUP can deliver anywhere from its production plants of Italy, France and Spain.



B) |



KNOW-HOW

Since 1979 we believe that abilities come from the right combination of education, constant training and (personal) experiences.

The knowledge of thermoplastic materials after more than 40 years of experience, combined with the strong roots settled down in civil and mechanical engineering, the latest production processes and environmental engineering make SG the preferred partner for infrastructure projects and much more.



QUALITY

Quality is our core value, and it starts from a constant investment of time and energy of our people, up to the meticulous supplier and material selection, constant upgrades in the production process, innovative product development, and a high standard customer care for all the clients who decide to trust us.



PRODUCTS RANGE

Our product ranges are made of the following materials: HDPE, MDPE, LDPE, PP and PVC for multiple applications.



INNOVATION

System Group is not just a family-owned company: we are one big family. Therefore, we keep growing, developing, sharing, dreaming, we are passionate about our job, we work hard, but we also find the time to play. We WILL bring you luck!



TECHNICAL SUPPORT

Thanks to its 40 years experience, System Group can also provide engineering and consultancy services. Our modern Technical Department offers solutions for a wide range of applications, also thanks to the creation and installation of new special customized products too, according to the client requirements.



SUSTAINABILITY

Environment and people are themes that really matter to us. Therefore, SG actively works on the continuous improvement of its environmental performances and takes part in different social initiatives.



ETHICS

Ethics makes an important part of our daily business, and our Core values extend to our Suppliers, Employees and Clients equally.





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16	- P V	'C P	212	

18 SPIRAL PIPES

20 FITTINGS

28 MANHOLES

32 DRAINAGE CHANNELS

34 PACKAGING AND TRANSPORT



CERTIFICATIONS

OF PRODUCT



PIPES PE, PP corrugated + PP triple wall + PVC (UNI) EN 13476 - 3 (UNI) EN 13476-2 (UNI) EN 1401

PE MANHOLES UNI EN 13598-1-2 DRAINAGE CHANNELS EN 1433

Nordic Poly Mark PIPES

Spiral wound PE DIN 16961

ABRASION RESISTANCE TEST

PIPES PE, PP corrugated DIN EN 295-3

sedapal

Corrugated PP SN16

PIPES



PIPES PE, PP corrugated + PVC (UNI) EN 13476 -3 (UNI) EN 1401

plastic

second life

FROM SEPARATE WASTE COLLECTION

CIRCULAR ECONOMY

Pipes made

PIPES

Corrugated PE

NF EN 13476-3

of recycled PE



PIPES

PE, PP corrugated

Triple wall PP SN12

n. 17.2/17-333 V1

Avis Technique

EN 13476 -3

CSTB

PIPES

PIPES PE corrugated EN 13476 -3



PIPES Corrugated PE and PP, triple wall, slotted GOST R54475-2011 TU 2248-001-63648699-2012



PIPES PE, PP corrugated EN 13476 -3

Applus[⊕]

PIPES Corrugated PE UNE EN 13476-1-3

Corrugated PP SN16 UNE EN 13476-1-3 with CorPress junction



PIPES Corrugated PE EN 13476-1-3



PIPES Corrugated PE IS n. 13476-3

Triple wall PP SN16 IS n. 13476-3

() ITALIANA CORRUGATI



for corrugated pipes UNE EN 1053 ISO 13254 UNE EN ISO 13254 (8h - 2 bar)

with CorPress junction Ti IS

_			_	_
CO	RP	NR	AT	F
~~		U 11		



©CENTRALTUBI

ISO 9001 ISO 14001 ISO 45001

ISO 9001

SYSTEMGROUPPVC

ISO 9001

ISO 14001



cherish your water









ISO 9001



MAIN STANDARD REFERENCES

DESIGN

EN 1295-1	Structural project of underground pipes
+ prEN 1295-3	submitted to different load conditions

CONSTRUCTION AND TESTING OF PIPELINES

EN 13476 Non-pressurized plastic pipes systems for underground drainage systems and sewerage. Structured wall pipelines of unplastified polyvinyl chloride (PVC-U), polypropylene (PP) and polyethylene (PE).Part 1: Specific for pipes, fittings and complete system.

INSTALLATION

ENV 1046 Plastic pipes and drainage systems. External systems for water collection or rehabilitation outside buildings. Installation practices above and underground.

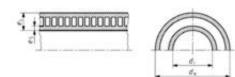
WORKING SITE TESTS

	Plastic pipes and drainage systems.					
EN 1610	External	systems	for	water	collection	or
	rehabilita	tion outsic	le bu	ildings.		
	Installatio	on practice	s abo	ove and	undergroun	ıd.

				min. wall	thicknes
DN/OD	$d_{_{\rm immin}}$	DN/ID	$d_{_{\rm immin}}$	e _{4 min}	$e_{_{5\rm min}}$
110	90	100	95	1.0	1.0
125	105			1.1	1.0
		125	120	1.2	1.0
160	134			1.2	1.0
		150	145	1.3	1.0
200	167			1.4	1.1
		200	195	1.5	1.1
250	209			1.7	1.4
		225	220	1.7	1.4
		250	245	1.8	1.5
315	236			1.9	1.6
		300	294	2.0	1.7
400	335			2.3	2.0
		400	392	2.5	2.3
500	418			2.8	2.8
		500	490	3.0	3.0
630	527			3.3	3.3
	660	600	588	3.5	3.5
800	669			4.1	4.1
		800	785	4.5	4.5
1000	834	4000	0.05	5.0	5.0
4200	1005	1000	985	5.0	5.0
1200	1005	4200	445	5.0	5.0
	4470	1200	115	5.0	5.0
1400	1173	4/00	4205	5.0	5.0
4600	12/0	1400	1385	5.0	5.0
1600	1340	4600	450/	5.0	5.0
1000	1500	1600	1584	5.0	5.0
1800	1508	1800	1782	5.0 5.0	5.0 5.0
2000	1675	1800	1/82	7.0	5.0
2000	1070	2000	1980	7.0	7.0
2200	1843	2000	1900	7.0	7.0
2200	1040	2200	2178	7.0	7.0
2400	2010	2200	21/0	7.0	7.0
2400	2010	2400	2376	7.0	7.0
2500	2094	2400	2370	7.0	7.0
2300	2034	2500	2475	7.0	7.0
2600	2178	2300	2475	7.0	7.0
2000	2170	2600	2574	7.0	7.0
2800	2345	2000	2314	7.0	7.0
2000	2343	2800	2772	7.0	7.0
3000	2513	2000	2112	10.0	10.0
2000	2313	3000	2970	10.0	10.0

TYPICAL SECTION OF STRUCTURED PROFILES

TYPE A Smooth inside and outside

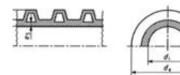


DN/OD nominal measure, referred to the outside diameter.**DN/ID** nominal measure, referred to the inside diameter.*d*_{im,min} inside minimum and medium diameter

d outside diameter

- **d**, inside diameter
- **d**_{im} inside medium diameter
- **e**_c construction height (profile)
- **e**₄ plain inner wall thickness (liquids sliding wall)
- **e**, wall thickness of the inside diameter under a hollow section

TYPE B Smooth inside, corrugated outisde





SUSTAINABILITY

In order to satisfy the environmental requirements and promote the approach to the energy transition, **CENTRALTUBI S.p.A. and ITALIANA CORRUGATI S.p.A.** obtained the **PSV** mark. This mark certify that the used PE material really comes from recycling processes. It also leads to the revaluation of waste and contributes to the reduction of higher waste and the environmental impact.

The standard range of black corrugated pipes for cable ducts applications has the PSV mark, which means they are made of recycled materials.

This product range has IMQ certification and marking which is in accordance with the CEI EN 61386 standard and the CE marking.

SUSTAINABILITY

ENVIRONMENTAL

CIRCULAR Economy

Economic system which has been thought for self-regeneration.

Plastic second life FROM SEPARATE WASTE COLLECTION



PE standard pipes for drainage and sewerage are made with materials that are committed to the existing technical standards.

The request of these pipes with **PSV** mark (recycled materials) does not validate these existing standards.



PE and PP are 100% recyclable materials

5

RAW MATERIALS

Double-wall corrugated pipes can be made of polyethylene (PE) or polypropylene (PP).

Both materials belong to the POLYOLEFINS category which can be easily distinguished from the traditional polyvinyl chloride (PVC) because they don't have the chlorine molecule.

Therefore, polyolefins are more sustainable because of the greater ability to recycle and a lower environmental impact, particularly in the case of combustion.

🧭 ADVANTAGES

THE MOST WELL KNOWN FEATURES OF POLYOLEFINS ARE:

- > LIGHTNESS (REDUCED SPECIFIC GRAVITY)
- > SMOTHNESS (REDUCED WALL ROUGHNESS)
- > HIGH DUCTILITY (RESISTANCE TO IMPACT AND LOW TEMPERATURES)
- > HIGH RESISTANCE TO ABRASION
- > HIGH CHEMICAL RESISTANCE (ISO/TR 10358)
- > HIGH ELECTRICAL RESISTANCE
- > RECYCLABLE

MATERIALS CHARACTERISTICS

CARATTERISTICHE	PP	PE	unit of measure
Elasticity modulus	≥ 1250	≥ 800	MPa
Average density	≈ 900	≈ 940	kg/m³
Average coefficient of linear thermal expansion	≈ 14 x 10 ⁻⁵	≈ 17 x 10 ⁻⁵	K-1
Thermal conductivity	≈ 0,2	≈ (0,36 a 0,50)	WK ⁻¹ m ⁻¹
Specific heat capacity	≈ 2000	≈ (2300 a 2900)	Jkg ⁻¹ K ⁻¹
Electric resistivity	> 10 ¹²	> 1013	Ω
Coefficient of Poisson	0,42	0,45	(-)

ROUGHNESS OF INSIDE WALLS typical values

TABLE OF PIPE HYDRAULIC ROUGHNESS

	-
Absolute roughness [mm]	0,002 - 0,004
Strickler [K _s]	90 - 95
Hazen-Williams [<i>C</i>]	140 - 150
Manning [<i>n</i>]	140 - 150

Values depend from the material.

It is recommended to get in contact with the pipes' manufacturer or to take a look at the documents for each value.



scan me

HYDR016 PP SN 16 kN/m²

MADE BY 🕜 ITALIANA CORRUGATI

PP CORRUGATED PIPES IN BARS, WITH HIGH RING STIFFNESS



				ien
DN/OD	d _{im}	DN/ID	d _e	г
200	172	-	-	6,
250	218	-	-	6,
315	272	-	-	6,
-	-	300	350	6,
400	347	-	-	6,
-	-	400	468	6,
500	433	-	-	6,
-	-	500	565	6,
630	546	-	-	6,
-	-	600	701	6,
800	678	-	-	6,
-	-	800	935	6,
1000	852	-	-	6,
-	-	1000	1200	6,
1200	1020	-	-	6,

Millimeters [mm]

Length tolerance: ±1%

Lengths are provided with socket (or coupler) and gasket The socket is part of the length TRANSPORT: see page 34

·O·Cor+

Connection system AVAILABLE (see page14)

Standard length

10110011	
m	
6,00	
6,00	
6,25	
6,25	
6,25	
6,25	
6,25	
6,25	
6,25	
6,25	
6,25	
6,25	
6,25	
6,25	
6,25	

MAIN FEATURES

- > WIDE RANGE OF DIAMETERS
- > HIGH RING STIFFNESS: SN 16
- > SMOOTH INNER WALL AND CORRUGATED OUTER WALL
- > SOCKET OR COUPLING CONNECTIONS WITH GASKET
- > LIGHTWEIGHT AND EASY TO INSTALL
- > HIGH CHEMICAL AND ABRASION RESISTANCE
- > INERT TO STRAY CURRENTS
- > RECYCLABLE







MADE BY 🕜 ITALIANA CORRUGATI

HDPE CORRUGATED PIPES IN BARS, FOR SEWERAGE



醫

				lei
DN/OD	d _{im}	DN/ID	d _e	
125	105	-	-	6,00
160	137	-	-	6,00
200	172	-	-	6,00
250	218	-	-	6
-	-	250	284	6
315	272	-	-	6
-	-	300	350	6
400	347	-	-	6
-	-	400	468	6
500	433	-	-	6
-	-	500	565	6
630	546	-	-	6
-	-	600	701	6,25
800	678	-	-	6,25
-	-	800	935	6,25
1000	852	-	-	6,25
-	-	1000	1200	6,25
1200	1020	-	-	6,25
	-			

Millimeters [mm]

Length tolerance: ±1%

Lengths are provided with socket (or coupler) and gasket The socket is part of the length TRANSPORT: see page 34

O Cor+

Connection system AVAILABLE (see page14) Standard length

6,00/6,25 6,00/6,25
6,00/6,25
6,25
6,25
6,25
6,25
6,25
6,25
6,25
6,25
6,25
6,25/6,75
6,25/6,75
6,25/6,75
6,25/6,75
6,25/6,75
6,25/6,75

ζ	
	MAIN FEATURES
	> WIDE RANGE OF DIAMETERS
	> RING STIFFNESS: SN 4-8
	> SMOOTH ON THE INSIDE AND CORRUGATED ON THE OUTSIDE
	> SOCKET OR COUPLING CONNECTIONS WITH SEALING GASKET
	> LIGHTWEIGHT AND EASY INSTALLATIO
	> HIGH CHEMICAL AND ABRASION RESISTANCE

- > INERT TO STRAY CURRENTS
- > RECYCLABLE







MADE BY **()** ITALIANA CORRUGATI

HDPE CORRUGATED PIPES **IN BARS** FOR WATER FLOW VELOCITY REDUCTION



		Standard length
DN/OD	d _{im}	m
200	172	6,00
250	218	6,00
315	272	6,00
400	347	6,00
500	433	6,00

Millimeters [mm]

Bar length: 6 m TRANSPORT: see page 36





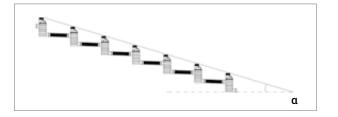
The system of water flow reduction inside the network is provided with the SLOW FLOW AMR pipe and also vortexwells:

- they reduce the speed of water in the manhole
- they reduce the risk of occlusion and spit up of the exit pipe
- self cleaning of the manhole's base

MAIN FEATURES

- > RING STIFFNESS: SN 8
- > CORRUGATED OUTER WALL AND WAVY INNER SURFACE
- > ABILITY TO SLOW DOWN THE SPEED OF WATER (< 3 M/SEC) UP TO SLOPES OF 20%
- > REDUCTION OF HEIGHT AND NUMBER OF **DROP MANHOLES**
- > SOCKET OR COUPLING CONNECTIONS WITH SEALING GASKET
- > LIGHTWEIGHT AND EASY TO INSTALL
- > HIGH CHEMICAL AND ABRASION RESISTANCE
- > INERT TO STRAY CURRENTS
- > RECYCLABLE

A TRADITIONAL system with cascading manholes



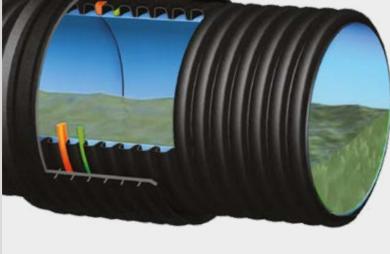
SLOW FLOW AMR system with vortex manholes



12



MADE BY 🕜 ITALIANA CORRUGATI



HYDRO EXPANDING ADDITIONAL GASKET

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CORRUGATED SEWER PIPES (UNI EN 13476)

with additional bentonite gasket

DN/OD	$d_{_{\mathrm{im}}}$	DN/ID	d _e
160	137	-	-
200	172	-	-
250	218	-	-
315	272	-	-
-	-	300	350
400	347	-	-
-	-	400	468
500	433	-	-
-	-	500	565
630	546	-	-
-	-	600	701
800	678	-	_
-	-	800	935
1000	852	-	-
1200	1000	-	_
1200	1020	-	-

Millimeters [mm]



BENEFITS

- > ADDITIONAL SEALING SECURITY
- > COMPLETE RANGE OF DIAMETERS
- > PRE INSTALLATION POSSIBILITY

DESCRIPTION

Traditional jointing systems for corrugated pipes (sockets/couplings with EPDM gaskets), can be equipped with an additional bentonite gasket to increase hydraulic sealing in extreme or delicate conditions (e.g. high level of ground water). Bentonite is an hydro expanding material that, in contact with water, increases slowly its volume up to 300%, adding tightness safety to the joint system. EXPANDER can be applied (on demand) on all types of corrugated pipes: PE and PP, SN 4 - 8 - 10 - 12 - 16, and can be delivered pre-installed or free for autonomous installation.







CON MR

MADE BY 🕜 ITALIANA CORRUGATI

SYSTEM OF SEWERAGE CORRUGATED PIPES PROVIDED WITH THE CORPRESS JOINT



Double shell mechanical joint with high sealing performances, for corrugated pipes (PE and PP).

The outer wall is made of polypropylene (PP), and the inner one, which is made of TPE, has a specific shape designed to adhere to the entire outer surface of the pipes that need to be connected.

This feature increases the hydraulic sealing performances (compared to the traditional ones) and adds an anti-slip ability, both particularly useful in specific applications and installation techniques.

The joining between the two shells that compose the joint takes place on the construction site with stainless steel screws and bolts, which need to be fitted and tightened following the specifications submitted by the producer.

PLEASE NOTE:

the corrugated shape of the TPE inner wall of CorPress joints, was designed and made following the external shapes of corrugated pipes made by System Group companies mentioned in the current product page.

Therefore, we cannot supply any tightness guarantee in case of usage on corrugated pipes manufactured by other producers.

MAIN FEATURES

- > HIGH TIGHTNESS RELIABILITY
- > EASY TO INSTALL
- > ANTI-SLIP ABILITY
- > POSSIBILITY OF USING AS REPAIR KIT
- > ELIGIBLE FOR VERTICAL WALL OR UNDER ROOF INSTALLATIONS (EX. BRIDGES AND VIADUCTS)
- > HIGH SHOCK ABSORPTION CAPACITY

STANDARDS

UNI EN 13476

CorPress FITTING UNE EN 1053 – ISO 13254 UNE EN ISO 13254 (8 h at 2 bar)

THE SYSTEM CONSISTS OF PE/PP CORRUGATED PIPES + CORPRESS DOUBLE SHELL CONNECTION FITTINGS. IT HAS A HIGH HYDRAULIC TIGHTNESS AND AN ANTI-SLIPPING ABILITY. IT FINDS APPLICATION IN THE CONSTRUCTION OF SEWERAGE AND DRAINAGE NETWORKS.







Replacement of the accidental damaged parts of pipe





For pipes with DN/OD: 160 / 200 / 250 / 315 / 400 / 500 / 630 / 800



MAIN FEATURES

- > HIGHER HYDRAULIC TIGHTNESS PERFORMANCE
- > HIGH ANTI-SLIPPING PERFORMANCE
- > AVAILABLE FOR PE AND PP CORRUGATED PIPES
- > WALL FIXING COST SAVING
- > INSTALLATION SAVING (ONLY 1 PERSON REQUIRED)



SG-PVC SEWER

SG-PVC SEWER

MADE BY SYSTEMGROUPPVC

RIRIGID PVC U PIPES FOR DRAINAGE AND SEWERAGE NETWORKS



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MAIN FEATURES

- > RING STIFFNESS: SN 2 4 8
- > "ICE" CERTIFICATION (IMPACT RESISTANCE TEST AT -10°C FOR INSTALLATION IN COLD CLIMATES) WITH MARKING
- > SOCKET CONNECTIONS WITH LIP SEAL MADE OF EPDM (EN 681)
- > SOCKET CONNECTIONS WITH DINLOCK GASKET TYPE (WITH RIGID INSERT MADE OF PP)
- > COLD INSERTION (EN 681)

- > SOCKET CONNECTIONS WITH POWERLOCK GASKET TYPE (WITH RIGID INSERT MADE OF PP)
- > WARM INSERTION (EN 681)
- > GLUE SOCKET CONNECTIONS
- > WIDE RANGE OF STANDARD MOULDED FITTINGS
- > HIGH CHEMICAL AND ABRASION RESISTANCE
- > INERT TO STRAY CURRENTS

Ø est.	SDR41 SN4 thickness	SDR34 SN8 thickness	pipes per pallet n.
110	3,2	3,2	67
125	3,2	3,7	60
160	4,0	4,7	33
200	4,9	5,9	23
250	6,2	7,3	11
315	7,7	9,2	8
400	9,8	11,7	6
500	12,3	14,6	4

Millimeters [mm]



BRIEF DESCRIPTION

Solid wall pipes made of polyvinyl chloride (PVC) with a smooth inner and outer surface, available in brickred colour (RAL 8023), produced in compliance with EN 1401 standard. The diameters range (DN/OD) goes from 110 up to 500 mm. Pipes are delivered in bars of 3 or 6 m with a built-in socket for glue connection or provided with a gasket. They are used for the construction of nonpressurized waste water systems outside the buildings (application code: "U") or buried inside the building (application code: "D").

TYPES OF GASKET



EPDM

The male-female plug-in connection consists of a tightened gasket, in accordance with the UNI EN 681-1, made of thermoplastic elastomer.



DINLOCK

The male-female plug-in connection consists of a tightened gasket combined through lip and compression, in accordance with the UNI EN 681-1, made of thermoplastic elastomer with a reinforcement element made of polypropylene in order to guarantee higher security of the gasket pre-installed in the pipe socket.



POWERLOCK

The male-female plug-in connection consists of a tightened gasket, in accordance with the UNI EN 681-1, made of flexible rubber with a reinforcement element made of polypropylene, installed during the phase of socket creation. The elements are part of the pipe in order to avoid any movement during the handling phase.

Elasticity modulus	E(1mln) > 3200 MPa
Average coefficient of linear thermal expansion	~ 0,08 mm/mK
Thermal conductivity	~ 0,16 WK ⁻¹ m ⁻¹
Surface resistance	x >10 ¹²
Poisson ratio	0,35
Creep ratio	EN ISO 9967 < 2







MADE BY OCENTRALTUB

HDPE SPIRAL PIPES IN LARGE DIAMETERS FOR:

- DRAINAGE
- SEWERAGE
- EMBANKMENT CROSSINGS
- TANKS
- RETENTIONING SYSTEMS
- OIL AND SAND SEPARATORS





MAIN FEATURES

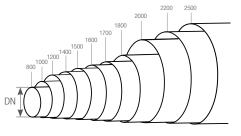
- > WIDE RANGE OF DIAMETERS
- > SMOOTH OR PROFILED OUTER SURFACE
- > WIDE RANGE OF STRUCTURED PROFILES (MOMENT OF INERTIA – RING STIFFNESS)
- > SOCKET CONNECTIONS WITH ELECTROFUSION TECHNOLOGY (OR WITH SEALING GASKET)
- > HIGH RELIABILITY OF CONNECTIONS TIGHTNESS
- > LIGHTWEIGHT AND EASY TO INSTALL
- > HIGH CHEMICAL AND ABRASION RESISTANCE
- > INERT TO STRAY CURRENTS
- > RECYCLABLE



RANGE OF DIAMETERS



All sizes (DN/ID) can be used for both drainage, storage, purification and inspection manhole systems



INSPECTION SYSTEMS



normal inspection grafted onto external corrugated profile *pipe*

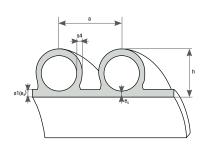
normal inspection grafted onto external *smooth profile pipe*

> offset inspections

out-of-gauge tangential inspection

big traditional manhole

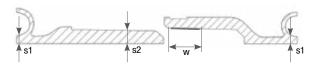
MAIN PROFILES





EF ≈ 70 mm

ELECTROFUSION JOINTS



Electrofusion socket joint system: reliable / 100% watertight / easy and fast

TANKS - RETENTIONING SYSTEMS - OIL AND SAND SEPARATORS



FITTINGS



PE-PP FORMED FITTINGS

MADE BY OFutura

FOR ALL RANGE OF PE - PP CORRUGATED PIPES FOR SEWEAGE, DRAINAGE (INCLUDING SLOTTED PIPES)







JUNCTION KIT (sleeve and gaskets) Not included



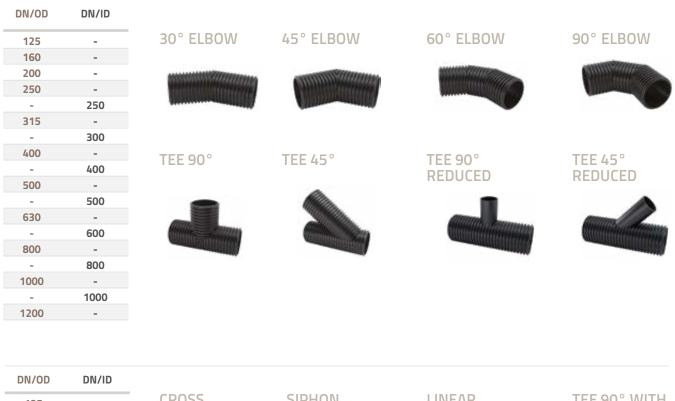
Inspection (welded on fitting) D110 D90 D50

MAIN FEATURES

- > COMPLETE RANGE OF DIAMETERS AND SHAPES
- > CUSTOMIZED SHAPES
- > RING STIFFNESS: PE SN4/8 PP SN10 12 16
- > CONNECTION WIH COUPLER OR CORPRESS SYSTEMS
- > LIGHTWEIGHT AND QUICK TO INSTALL
- > HIGH CHEMICAL AND ABRASION RESISTANCE
- > INERT TO STRAY CURRENTS
- > RECYCLABLE

FORMED FITTINGS M/M

Connection kit (coupler + gaskets) not included



125 160 200	-	CROSS	SIPHON DN 110 INSPECTION	LINEAR INSPECTION 110	TEE 90° WITH FLANGING
250	-				
-	250	summer Quan			
315	-			and the country	and the second
-	300				all all the set of the
400	-				
-	400				
500	-				
-	500				
630	-				

DN/OD	DN/ID				
125	-	ECCENTRIC	ECCENTRIC	M CAP	F CA
160	-	INCREASE	INCREASE		
200	-	M/M	F/F		
250	-	Allenda.	all the	hanna	_
-	250			a de la de la de la de	
315	-	111 Manuar	1111 -		
-	300				
400	-				
-	400				
500	-				
-	500				
630	-				
-	600				
800	-				
-	800				
1000	-				
-	1000				
1200	-				



CORRUGATED PIPE



DN/OD	DN/ID
125	-
160	-
200	-
250	-
-	250
315	-
-	300
400	-
-	400
500	-
-	500
630	-
-	600
800	-
-	800
1000	-
-	1000
1200	-

GASKET	
\sim	>
SLEEVE	
anth	



DN/OD	DN/ID

125	-
160	-
200	-
250	-
-	250
315	-
-	300
400	-
-	400
500	-
-	500
630	-
-	600
800	-
-	800
1000	-
-	1000
1200	-

22

TEE 90°

MAIN FEATURES

> INERT TO STRAY CURRENTS

> RELIABILITY

> RECYCLABLE

> WIDE RANGE OF SHAPES AND DIAMETERS

> HIGH CHEMICAL RESISTANCE (ISO/TR 10358)

> HIGH SHOCK ABSORPTION CAPACITY







90° ELBOW











BRIEF DESCRIPTION

Special fittings for connections through CorPress joint, to solve various problems of connection between corrugated and/or smooth pipes and special pieces.

MAIN FEATURES

> ABILITY TO THE SYSTEM WITH SMOOTH PIPES ALSO

DN
160
200
250
315
400
500

PE STUB END FOR FLANGED CONNECTION



PE STUB END WITH (OR WITHOUT) STEEL FLANGE



TRANSITION MODULE FOR SMOOTH PIPES END CAP





For corrugated pipes DN/OD series

Please note that the connection system CorPress is recommended for corrugated pipes made by ITALIANA CORRUGATI S.p.A. AND FUTURA SYSTEMS SL.

The usage of CorPress on other pipes does not guarantee the performances declared on this document





BRIEF DESCRIPTION

Injection moulded PVC fittings for smooth PVC pipe networks operating without pressure, complying with the EN 1401 standard. They are equipped with socket and spigot in the opposite ends. Every socket is equipped with a sealing gasket.

MAIN FEATURES

- > WIDE RANGE OF SHAPES AND DIAMETERS
- > RELIABILITY
- > INERT TO STRAY CURRENTS
- > HIGH CHEMICAL RESISTANCE (ISO/TR 10358)
- > RECYCLABLE

15° ELBOW WITH O-RING



315

400

500

Ømm	
110	
125	
160	
200	
250	

30° ELBOW WITH O-RING

> **Ø mm** 110

> > 125

160

200

250

315

400 500



45° ELBOW

WITH O-RING

315

400

500

67° ELBOW WITH O-RING



Ø mm 110 125

125	
160	
200	

87° ELBOW WITH O-RING

Ømm

110

125

160

200

250

315

400

500

45° BRANCH WITH O-RING



Ømm

110	
125	
160	
200	
250	
315	
400	
500	

87° BRANCH WITH O-RING



Ømm	
110	
125	
160	
200	
250	
315	
400	
500	



45° REDUCING



Ømm 125/110 160/125 200/110 200/125 200/160 250/100 250/125 250/160 315/110 315/125 315/160





Ømm 125/110 160/125 200/125 200/125 200/160 250/125 250/125 250/160 250/200 315/110 315/125 315/160 DOUBLE SOCKET COUPLING WITHOUT CENTRE STOP



MALE SCREW CAP

Ømm

110

125

160

200

250

315

45° DOUBLE TEE WITH O-RING



Ø mm 110 125 160

MALE END CAP



Ømm 110 125 160 200 250 315 400





Ømm 110 125 160 200 250 315 400

500





```
Ø mm
110
125
160
200
250
315
```

90° MECHANICAL CLIP (SADDLE) WITH O-RING



```
Ømm

110/125

110/160

125/160

125/200

160/200

200/250

250/315
```

315/400

ECCENTRIC ENLARGER COUPLING WITH O-RING



Ømm 110/125 110/160 125/160 125/200 160/200 200/250

250/315

315/400

45° SADDLE COUPLING WITH O-RING



Ømm

160/125
200/125
200/160
250/125
250/160
315/160
315/200
400/160
400/200
500/125
500/160

MALE END CAP







315

TYPE SYPHON WITH O-RING WITH TWO CAPS



Ømm	
110	
125	
160	
200	
250	
315	

GASKETS

STANDARD DINLOCK

Ømm	
110	
125	
160	
200	
250	
315	
400	
500	



NON PRESSURED SEWER SYSTEMS

EN 12666 U Ø X SP. PE/AD SN ... LINE SHIFT DATE

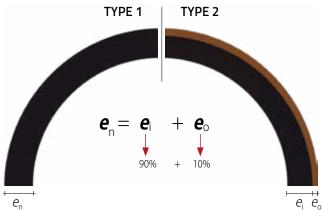
MADE BY OCENTRALTUBI

BLACK HDPE PIPES, WITH OR WITHOUT BROWN STRIPES FOR GRAVITY UNDERGROUND SEWERAGE SYSTEM



	SDR 33 SN2	SDR 26 SN 4	SDR 21 SN 8
Ømm	e _n	e _n	e _n
160	4,9	6,2	7,7
200	6,2	7,7	9,6
250	7,7	9,6	11,9
315	9,7	12,1	15,0
355	10,9	13,6	16,9
400	12,3	15,3	19,1
450	13,8	17,2	21,5
500	15,3	19,1	23,9
630	19,3	24,1	30,0
800	24,5	30,6	38,1
1000	30,6	38,2	47,7
1200	36,7	45,9	57,2

Millimeters [mm]



Visual safety of carving degree measurement of the external wall

MAIN FEATURES

- > 100% PERMANENT WATER TIGHTNESS
- > HIGH BENDING RADIUS
- > LOW MODULUS OF ELASTICITY
- > PLASTIC BEHAVIOUR IN UNSTABLE SITUATIONS
- > WIDE RANGE OF FITTINGS AND FABRICATED FITTINGS, STANDARD AND CUSTOMIZED
- > INERT TO STRAY CURRENTS
- > HIGH CHEMICAL RESISTANCE (ISO/TR 10358)
- > HIGH ABRASION RESISTANCE
- > HIGH SHOCK ABSORPTION CAPACITY
- > RECYCLABLE



SYSTEM GROUP ALSO PROVIDES PRODUCTS (PIPES, FITTINGS AND FABRICATED FITTINGS) FOR

PRESSURE SEWER SYSTEMS





PE MANHOLES

MODULAR Composition



MAIN FEATURES

- > COMPLIANCE WITH (UNI) EN 13598-1-2 STANDARDS
- > DESIGN VERSATILITY HIGH NUMBER OF POSSIBLE TECHNICAL AND DESIGN SOLUTIONS
- > FREE BIM LIBRARY AND TECHNICAL SUPPORT AVAILABLE
- > FLEXIBILITY OPTIMAL PLASTIC BEHAVIOUR IN SEISMIC AND UNSTABLE AREAS
- > CHEMICAL, ELECTRICAL, BIOLOGICAL RESISTANCE DURABILITY, EVEN AGAINST AGGRESSIVE LIQUIDS
- > RESISTANCE OF THE SYSTEM TO VERTICAL LOADS (RIGID DISTRIBUTION PLATE RELIEVES LOAD STRAIN ON THE MANHOLE)

- > SYSTEM UNIFORMITY (THE SAME BEHAVIOUR AND DURABILITY OF CONNECTED PLASTIC PIPES)
- > RELIABILITY OF SEAL SAME TYPE OF JOINT USED (BETWEEN THE PIPES AND THE MANHOLE)
- > LIGHTNESS EASE AND SPEED OF INSTALLATION
- > COSTS REDUCTION OF SAFETY AND HEALTH IN THE WORKING SITE
- > SAVINGS ON INSTALLATION AND SAFETY COSTS, INCREASING DURABILITY AND EFFICIENCY SYSTEM
- > RECYCLABILITY

APPLICATION

INSPECTION MANHOLE

VERTEX MANHOLE

INTERSECTION MANHOLE





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VORTEX MANHOLE



CASCADE MANHOLE



MADE WITH COMPACT PROFILE PIPE BODY



CHARACTERISTICS AND APPLICATIONS

- > HIGH DESIGN FLEXIBILITY
- > THICKNESSES CAN BE DIMENSIONED ACCORDING TO TECHNICAL NEEDS
- > SUITABLE FOR INSTALLATION WITH AQUIFER LEVELS
- > HIGH RESISTANCE TO POINT LOAD
- > BASE WITH DOUBLE BOTTOM WELDED AVAILABLE
- > WIDE DIAMETERS RANGE (up to ID 2500 mm)
- > SUITABLE FOR GREATER DEPTH INSTALLATION



MADE WITH STRUCTURED CORRUGATED PIPE BODY

CHARACTERISTICS AND APPLICATIONS

- > SUITABLE FOR NORMAL SITUATIONS
- > LIGHTWEIGHT AND EASE OF TRANSPORTATION (MANUAL TOO) AND INSTALLATION
- > PREFERRED IN LAYING SITUATIONS WITH CONFINED SPACE
- > AQUIFER ABSENT OR 2 m MAXIMUM
- > (UNI) EN 13598-1-2 AND PRODUCT QUALITY MARK
- > CORRUGATED PIPE WITH HIGH RING STIFNESS



MADE WITH STRUCTURED SPIRAL PIPE BODY

CHARACTERISTICS AND APPLICATIONS

- > HIGH DESIGN FLEXIBILITY
- > STRUCTURED PROFILES (SMOOTH OR NOT OUTSIDE)
- > SUITABLE FOR AQUIFER INSTALLATION
- > HIGH RESISTANCE TO LOAD POINTS
- > POSSIBILITY TO CONNECT THE BODY'S ELEMENTS THROUGH THE ELECTRO-FUSION TECHNOLOGY ELEMENTS USING THE MALE AND FEMALE SYSTEM
- > DIAMETERS RANGE FROM DN-ID 800 (up to 2500 mm)





CERTIFICATIONS

DVS 2212-2 Manual weldings by personnel certified according to (UNI) EN 13067 – class 3

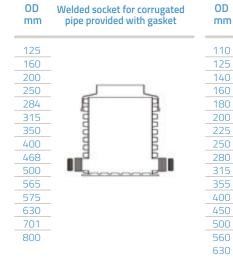
MAIN FEATURES

- > EASE OF INSTALLATION
- > CUSTOMIZED SOLUTIONS
- > COST-EFFECTIVE
- > FLEXIBILITY

ROCK MANHOLE

DE/OD mm	H manhole
	1200
1000	2200
	3200
	1200
1200	2200
	3200

INLET-OUTLET



Other heights available on demand with or without ladder

nnnnnnnn

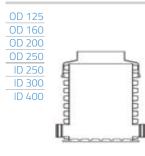
Welded socket for PE smooth pipe/ PE stub pipe S PVC/PP provided with gasket smooth pip



anananan

12

DN Welded socket for TECH3 mm pipe provided with gasket







BRIEF DESCRIPTION

Channels for road surface drainage made of PP (polypropylene), provided with heel guard grids made of various materials, suitable for all loading classes from A15 (pedestrians) up to F900 (airports).

Channels are provided with:

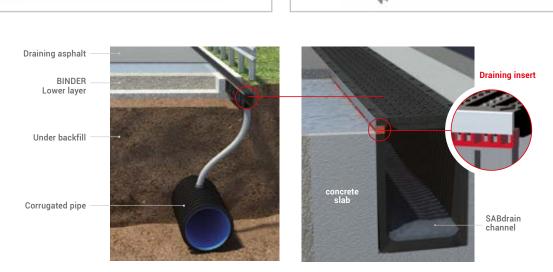
inline connection system of interlocking channels, available with a lateral inclination up to 2° predisposition to orthogonal connection system between channels predisposition to exit pipes connection, both sideways and on the floor.

MAIN FEATURES

> LIGHTWEIGHT

 \bigcirc

- > EASY AND QUICK TO INSTALL
- > HIGH CHEMICAL RESISTANCE
- > HIGH ABRASION RESISTANCE
- > HIGH THERMAL SHOCK RESISTANCE
- > LOW ROUGHNESS (EXCELLENT HYDRAULIC BEHAVIOUR)
- > EXCELLENT MECHANICAL RESISTANCE
- > WIDE RANGE OF LOADING CLASSES



33 33





PAGF GRID

900 kN

F900

90000 kg





Airports, army bases, heavy loading areas

Millimeters [mm]

LxH	L1 x H1
100 x 50	150 x 100
100 x 100	150 x 150
100 x 150	150 x 200
150 x 100	200 x 150
150 x 150	200 x 200
200 x 50	250 x 100
200 x 100	250 x 150
200 x 150	250 x 200
200 x 200	250 x 250
200 x 250	250 x 300
200 x 300	250 x 350
300 x 200	390 x 260
300 x 300	390 x 360
500 x 500	590 x 560

CL	CLASS		TANCE	USE			
Ŷ	A15	15 kN	1500 kg	Pedestrian, precincts, cycle-lanes, parks			
P	B125	125 kN	12500 kg	Sidewalks, lay by, multilevel car parks			
	C250	250 kN	25000 kg	Strip that extends from 50 cm of the carriageway to 20cm on the sidewalk			
	D400	400 kN	40000 kg	Carriageway of roads and highways			
	E600	600 kN	60000 kg	Industrial and harbour sites used for heav loading			

CLASSES

PACKAGING AND TRANSPORT

STANDARD TRANSPORT

TRUCK

Vehicles with load platform length = 13,6 m

_	PE SMOOTH PIPES					PVC SMOOTH PIPES				
ø	pipe length	truck	PALLET details			pipe length	truck	PAI	LET deta	ils
m	m	m	n./truck	bars n.	m	m	m	n./truck	bars n.	m
90										
110	12	4.608	8	48	576	6	5.472	12	76	456
125	12	3.600	10	30	360	6	4.320	12	60	360
160	12	2.400	10	20	240	6	2.808	12	39	234
200	12	1.488	8	31	372	6	1.680	12	45	270
250	12	900	8	31	372	6	1.056	12	28	168
315	12	576	8	6	144	6	648	12	9	54
355	12	576	loose	48	576					
400	12	420	loose	35	420	6	432	12	6	36
500	12	288	loose	24	288	6	240	12	6	36
630	12	180	loose	15	180					
800	12	108	loose	9	108					
1000	12	60	loose	5	60					

Pipe bars can be tailor-made in any transportable length

		PE-PP CORRUGATED PIPES						
ø		pipe length	truck	PALLET details				
OD	ID	m	m	n./truck	bars n.	m		
90		6		8				
110		6	5.952	8	124	744		
125		6	4.512	8	94	564		
160		6	2.832	8	59	354		
200		6	1.680	8	35	210		
250		6	960	8	20	120		
	250	6,25	900	8	18	112,5		
	300	6,25	500	8	10	62,5		
315		6,25	600	8	12	75		
400		6,25	400	8	8	50		
	400	6,25	300	8	6	37,5		
500		6,25	250	8	5	31,25		
	500	6,25	250	loose	40	250		
	600	6,75	150	loose	24	150		
630		6,25	200	loose	32	200		
	800	6,75	75	loose	12	75		
800		6,75	112,5	loose	18	112,5		
1000		6,75	62,5	loose	10	62,5		
1200		6,75	54	loose	8	54		

	PE SPIRAL PIPES			
DN/OD	Pipes		truck	
m	length [m]	n.	m	
800	6	12	72	
1000	6	8	48	
1200	6	6	36	
1400	6	2/4	12/24	
1500	6	2	12	
1600	6	2	12	
1700	6	2	12	
1800	6	2	12	
2000	6	2	12	
2200*	6	2	12	
2500*	6	2	12	

* exceptional transports

STANDARD TRANSPORT

CONTAINER

40' HC with load platform length = 12 m

-	PE SMOOTH PIPES			PVC SMOOTH PIPES		
ø	m/bar	bars n.	m	m/bar	bars n.	m
110	11,8	540	6.372	5,75	912	5.244
125	11,8	410	4.838	5,75	750	4.312,5
140	11,8	320	3.776	5,75	600	3.450
160	11,8	238	2.808,4	5,75	473	2.719,75
180	11,8	182	2.147,6	5,75	312	1.794
200	11,8	154	1.817,2	5,75	294	1.690,5
225	11,8	120	1.416	5,75	228	1.311
250	11,8	99	1.168,2	5,75	188	1.081
280	11,8	80	944	5,75	120	690
315	11,8	63	743,4	5,75	118	678,5
355	11,8	48	566,4	5,75	76	437
400	11,8	35	413	5,75	60	345
450	11,8	29	342,2	5,75	52	299
500	11,8	24	283,2	5,75	48	276
560	11,8	18	212,4			
630	11,8	15	177	5,75	24	138
710	11,8	11	129,8	*		
800	11,8	9	106,2	*		
900	11,8	6	70,8	*		
1000	11,8	5	59			

ø		PE-PP CORRUGATED PIPES			
OD	ID	m/bar	bars n.	m	
90		5,9	1.508	8.897,2	
110		5,9	1.002	5.911,8	
125		5,9	756	4.460,4	
160		5,9	412	2.430,8	
200		5,9	256	1.510,4	
	250	5,75	144	828	
250		5,9	174	1.026,6	
	300	5,75	84	483	
315		5,9	112	660,8	
400		5,9	68	401,2	
	400	5.9	40		
500		5,75	46	264,5	
	500	5,75	32	184	
	600	5,75	24	138	
630		5,75	30	172,5	
800		5,75	16	92	
	800	5,75	10	57,5	
1000		5,75	10	57,5	
1200		5,75	6	34,5	

* on request

DN	PE SPIRAL PIPES				
ID	m/bar	bars n.	m		
800	5,8	10	58		
1000	5,8	6-8	34,8-46,4		
1200	5,8	4	23,2		
1400	5,8	2	11,6		
1500	5,8	2	11,6		
1600	5,8	2	11,6		
1700	5,8	2	11,6		
1800	5,8	2	11,6		
2000	5,8	2	11,6		
2200	5,8	2	11,6		



TRUCK:

vehicle with load platform length = 13,6 m

CONTAINER:

40' HC with load platform length = 12 m

Other loading solutions are available on request, in standard or exceptional dimensions too.

The picture shows a truck with 20 m HDPE smooth pipe lengths.

UNILINE is the SYSTEM GROUP logistic Company, operating and certified according to UNI ISO 28000



TECHNICAL SUPPORT



SYSTEM GROUP OFFERS ITS CLIENTS THE FOLLOWING SERVICES AS PART OF ITS RELATIONSHIP:

- Technical portal for different calculations, manuals and direct contact with our Engineering and R&D Department, easily accessible from the website too
- Technical support during the design phase
- BIM libraries, in Revit and IFC format for open software
- Working site welding services
- Welding machine renting
- Video inspection services
- and more



SOME OF OUR WORKS



AL MAFRAQ (JORDAN 2016): WWTP UPGRADE

MAGNUM PE CORRUGATED PIPES WITH BIG PE MANHOLES MADE FROM SPIRAL PIPES



STOCKHOLM (SWEDEN 2019): PRESSURE SEWERAGE SYSTEM FOR SUBMARINE CHANNEL CROSSING IN THE CITY

PE100 SMOOTH SOLID WALL PIPES Ø 1000 mm PN16



GENOA (ITALY 2020): SAN GIORGIO NEW BRIDGE RECONSTRUCTION

PE SGK *SPIRAL* PIPES SYSTEM (PIPES + INTEGRATED MANHOLES) DN 2000 – 2500 mm



KONZA (KENYA 2019): 1° AFRICAN SMART CITY CONSTRUCTION

PE SGK SPIRAL AND MAGNUM CORRUGATED PIPES



REALIZATION OF DRAINAGE SYSTEM WITH TAILOR-MADE CASCADE MANHOLES

PE DOUBLE WALL **MAGNUM** CORRUGATED PIPES JOINED WITH **CORPRESS** JUNCTION SYSTEM



SVITTO CANTON (SWITZERLAND 2019): MOUNTAIN HARVESTING WATER SYSTEM

SGK *TANK* PROGRAM, MADE BY 36 m LENGTH OF DN 2000 mm SN4 PE SPIRAL PIPES



JERASH (JORDAN 2016): RAINWATER DRAINAGE CHANNELS REPLACEMENT IN SERVICE STATIONS

SABDRAIN DRAINAGE CHANNELS 200X200 mm WITH STEEL EDGES AND D400 CAST IRON GRIDS



FLORENSAC (FRANCE 2009): DAMAGED CONCRETE CHANNEL REHABILITATION WITH PIPE INSERTION

SGK PE *SPIRAL* PIPES DN 1200 mm SN8 WITH INTEGRATED ELECTROFUSION SOCKET



RICCIONE (ITALY 2012): NO-FIRE SYSTEM FOR ENVIRONMENTAL PROTECTION AND ANTI-SPREAD OF FIRE IN THE COLLECTOR OF THE ROAD TUNNEL

HYDR016 PP DOUBLE WALL CORRUGATED PIPES Ø 400 mm SN16 (WITH NO-FIRE TRAP GULLY)



MÉRIDA – BADAJOZ (SPAIN 2021): DRAINAGE SYSTEM CONSTRUCTION FOR AMAZON STORAGE BUILDING

N. 160 **ROCK** PE MANHOLES



CROATIA 2006: STORM WATERS DRAINAGE SYSTEM CONSTRUCTION FOR A NEW MOTORWAY

FUTURA PE MANHOLES MADE BY MOLDED MODULAR ELEMENTS



NERUNGRI (RUSSIA 2021): AIRPORT DRAINAGE SYSTEM CONSTRUCTION

MAGNUM PE DOUBLE WALL CORRUGATED PIPES, DOUBLE PIPES SYSTEM WITH THERMAL MIDDLE INSULATION LAYER



TAILOR MADE SPECIAL PIECES REALIZATIONS



SKI ALPINE REFUGEE IN ZILLERTAL (AUSTRIA 2009)

40 M³ POTABLE WATER **STORAGE TANK**, INSTALLED AT 2400 M ON SEA LEVEL MODULAR TANK MADE WITH HDPE SGK SPIRAL PIPES DN 2000 MM



DUIKER SLENERSTROOM PROJECT (THE NETHERLANDS 2023)

SUBMERGED CULVERTS, MADE BY **PE SPIRAL PIPES** DN 2000 MM SN8 WITH ENDS CUTTED AND FINISHED IN "FLUTE BEAK" SHAPE



IRBID (GIORDANIA)

CONSTRUCTION OF COLLECTION SYSTEMS AND RELATED GRAVITY TRUNK LINES FOR WEST IRBID TOWNS (JORDAN 2023-2024) **PE MANHOLES** AND CORRUGATED PIPES







OTHER PRODUCTS FROM SYSTEM GROUP





Note

Software design tools and technical documentation available on **www.tubi.net**

SYSTEM GROUP EXPORT

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