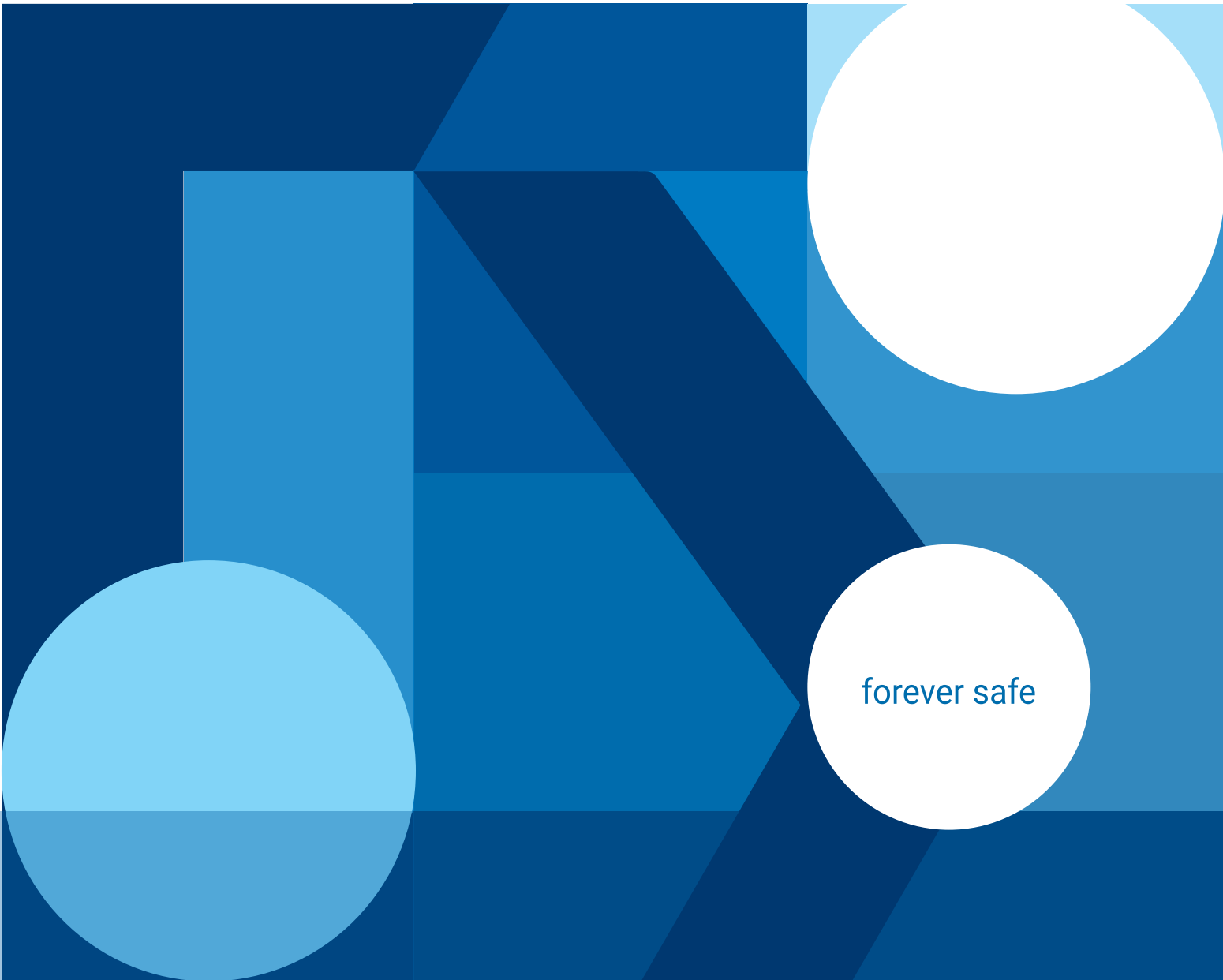
KOUVIDIS

CATALOGUE

2022

Plastic piping systems
for cable management and protection



We design
and produce
the safest plastic
piping systems
since 1979

KOUVIDIS

“Within the last decade we have substantially evolved our expertise in the plastics technology, introducing 7 different series of innovative products”

OUR HEADQUARTERS, 2022
Heraklion, Crete

Dear partners,

For one more year, we need to thank you for your trust towards KOUVIDIS and we pledge ourselves to continue serving your daily needs with the same passion.

Constant request to innovation constitutes an essential pillar for our development. Within the last decade we have substantially evolved our expertise in the plastics technology, introducing 7 different series of innovative products which were produced with the aim to provide safety to the installer, upgrade the installation and reduce the environmental footprint.

Having secured 23 patents and having invested, since 2012, more than 10 million euros in advanced mechanical equipment and building facilities, we pursue towards this direction and we keep seeking smart solutions for the cable protection management, sewage, and drainage.

In 2022, we had a dynamic start at KOUVIDIS with the relocation of our staff to our new modern offices, while at the same time a big part of our production has already been operating at our new premises. Simultaneously, we have been working intensively so that we will be able to complete all tasks and accommodate you in our new “smart factory”.

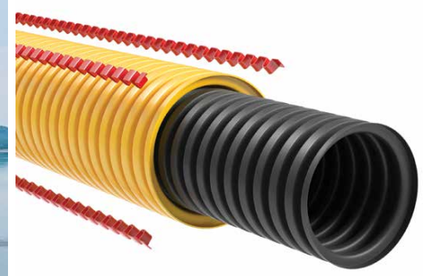
Finally, we don’t forget that we are up against an era with unprecedented economical conditions with unpredictable and escalating increases in key production figures such as the energy, raw materials, and the supply chain; all these challenges create an uncertain environment for all of us. Whilst we are striving to find our new balances, we remain restrained and optimistic and we truly hope that we will experience a de-escalation sooner rather than later. Thus, we will be able to return to normality and to a sustainable development with mutual benefit.

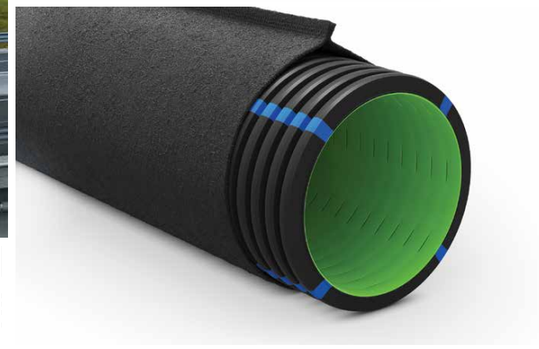
Konstantinos Kouvidis
CEO

Recent projects
2019 – 2022

14 Fraport Airports, Greece
Crete-Peloponnese electrical interconnection project
Faliriko Bay, Greece
Piraeus III Floating Dock, Greece
One & Only Resort, Greece
Athens, Underground Railway extension
Thessaloniki, Underground Railway
Leroy Merlin, Portugal
Solar Power Plants, Karaman & Nigde, Turkey
Costa Navarino, Greece
Marina of Ayia Napa, Cyprus
Egnatia Motorway, Greece
Athens, Tramway network extension
Six Student Residence, Cyprus
Robinson Club Hotel, Greece
Embassy of Luxembourg, Greece
Afi Park Mall, Brasov
One Mircea Eliade, Bucharest

Milestones
2020 – 2022





New upcoming premises

Our brand-new premises, increased by 7.000m^2, will be completed during 2022, marking a new era for our company. **New investments** in advanced mechanical equipment, **new innovative products** and **new career opportunities** will be soon available.

New certification body

Focusing on continuous improvement, KOUVIDIS has recently concluded a new collaboration with the certification body **BUREAU VERITAS**, for the supervision of its Quality Management Systems **ISO 9001, ISO 45001 & ISO 14001.**

KOUVIDIS has applied the above three quality management systems since 2006.

KLS® KOUVIDIS LOGISTICS

KOUVIDIS enters to the supply chain management industry

With just over 40 years of successful presence in the plastic conduits industry, KOUVIDIS enters to the supply chain management industry, establishing its new 100% subsidiary, **KLS KOUVIDIS Logistics**.

New technologies of plastic piping systems

Applying the technology of multilayer conduits, we have developed, over the last period, new innovative solutions to provide even more safety and flexibility to the installer's work. The manufacturing of **double structured wall conduits** in small diameters, the development of a **new anti-electromagnetic technology** and the use of **color marking** for the identification of networks, are some of our latest innovations, that you will find below. Additionally, we developed an innovative technology for welding geotextile around pipes and thus provide to the market a dynamic and viable solution to drainage installations.

KLS
KOUVIDIS LOGISTICS

OUR TRANSPORTATION COMPANY

- Safe transportations with respect to human and environment
- Daily itineraries to and from the destinations of Crete, Athens and Thessaloniki, Greece
- 59 privately owned low emission vehicles (KOUVIDIS & KLS group)

MANUFACTURING EXCELLENCE AWARDS 2021
Τα βραβεία της Ελληνικής Βιομηχανίας
BRONZE

SUPPLY CHAIN AWARDS 2022
GOLD

SUPPLY CHAIN AWARDS 2022
SILVER

PRODUCT INDEX

	Heavy type				Medium type								Light type							
	CONDUR®	CONFLEX®	CONDUR® HF	CONFLEX® HF	MEDISOL®	MEDIFLEX®	Available early 2023 MEDISOL® PLUS	MEDIFLEX® PLUS	MEDISOL® AM		MEDIFLEX® AM	DUROFLEX® PLUS	Available early 2023 SUPERSOL® PLUS	SUPERFLEX® PLUS	SILCOR®	SIFLEX®	GEONFLEX® bar	GEONFLEX®	GEOSUB® bar	GEOSUB®
CLASSIFICATION	44411	44412	44441	44442	33411	33412	33331	33332	33411		33412	33332	23331	23332	23411	22412	N750	N750	L450	L450
																				
SPECIFICATIONS																				
Material	U-PVC	U-PVC	PC	PC	U-PVC	U-PVC	PP	PP	U-PVC		U-PVC	PP	PP	PP	U-PVC	U-PVC	HDPE	HDPE	HDPE	HDPE
Compression strength	>1250Nt	>1250Nt	>1250Nt	>1250Nt	>750Nt	>750Nt	>750Nt	>750Nt	>750Nt		>750Nt	>750Nt	>320Nt	>320Nt	>320Nt	>320Nt	Type 750	Type 750	Type 450	Type 450
Impact strength	6J	6J	6J	6J	2J	2J	2J	2J	2J		2J	2J	2J	2J	2J	1J	Normal	Normal	Light	Light
Minimum temperature	-25°C	-25°C	-45°C	-45°C	-25°C	-25°C	-15°C	-15°C	-25°C		-25°C	-15°C	-15°C	-15°C	-25°C	-25°C	-5°C	-5°C	-5°C	-5°C
Maximum temperature	60°C	60°C	120°C	120°C	60°C	60°C	105°C	105°C	60°C		60°C	105°C	105°C	105°C	60°C	60°C	90°C	90°C	90°C	90°C
Resistance to flame propagation	Non flame propagating				Non flame propagating								Non flame propagating				Flame propagating			
Ingress protection	min IP65	min IP65	min IP65	min IP65	min IP65	min IP65	min IP65	min IP65	min IP65		min IP65	min IP65	min IP65	min IP65	min IP65	min IP65	IP44/IP68**	IP44/IP68**	IP40/IP68**	IP40/IP68**
Resistance to bending	Rigid	Pliable	Rigid	Pliable	Rigid	Pliable	Rigid	Pliable	Rigid		Pliable	Pliable	Rigid	Pliable	Rigid	Pliable	Rigid	Pliable	Rigid	Pliable
Dimensions	Ø16-Ø63	Ø16-Ø63	Ø16-Ø63	Ø16-Ø63	Ø16-Ø63	Ø16-Ø63	Ø16-Ø32	Ø16-Ø32	Ø16-Ø63		Ø16-Ø63	Ø20-Ø32	Ø16-Ø32	Ø16-Ø32	Ø16-Ø63	Ø16-Ø63	Ø75-Ø250	Ø32-Ø200	Ø75-Ø250	Ø32-Ø200
Certifications	CE/VDE	CE/VDE	CE/VDE	CE/VDE	CE/VDE	CE/VDE		CE/VDE*	CE/BIOCOTE		CE/BIOCOTE	CE/VDE		CE/VDE	CE/VDE	CE/VDE	CE/VDE	CE/VDE	CE/VDE	CE/VDE
INSTALLATION																				
Exposed	○	○	●	●	○	○	●	●	○		○	○	–	–	○	○	–	–	–	–
Concealed (dry walls)	○	○	○	○	○	○	○	○	○		○	○	●	●	○	○	–	–	–	–
Concealed (underplaster)	○	○	–	–	○	○	○	○	○		○	○	●	●	○	○	–	–	–	–
Concealed (floor, ceilings)	○	○	○	○	○	○	○	○	○		○	○	●	●	○	○	–	–	–	–
Underfloor in screed	○	○	–	–	●	●	●	●	●		●	●	○	○	–	–	●	●	○	○
Concrete	●	●	–	–	●	●	●	●	●		●	●	–	–	–	–	●	●	–	–
Outdoor	●	●	●	●	○	○	○	○	○		○	○	–	–	–	–	–	–	–	–
Buried underground	○	○	○	○	○	○	○	○	○		○	○	–	–	–	–	●	●	●	●
Wood	●	●	○	○	●	●	○	○	●		●	○	○	○	○	○	–	–	–	–
PAGES	22	23	36	37	24	25	38	39	50		51	40/74	42/76	41/75	26	27	62	63	64	65

○ Recommended – Not recommended • Best choice acc. to the manufacturer

The above Installation fields are only recommendations due to the technical specifications of KOUVIDIS products.
National or local restrictions and prohibitions must always be considered.

LEGEND

Nominal outer diameter (mm)

Nominal inner diameter(mm)

Packing (m/coil)

Packing (m/bundle)

Packing (pieces/box)

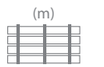
Bars (m))

Bar weight (kg)

Coil weight (Kg)

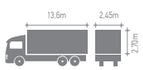
Bundle weight (kg)

Coils of pliable conduits on pallet (m)



Bundles of rigid conduits (m)

Bigger Packing for fittings (pieces)



Double wall conduits loaded on a truck (m)

Dimensions (mm)

Product with extra UV Stability

Halogen free product

Product with 99% antimicrobial technology

High impact strength in extreme temperatures of -45ºC

Double wall technology. Conduits with double walls make cable introduction faster and easier

Double layer technology makes the cable insertion faster and easier

Conduits with anti-electromagnetic technology

Low smoke product

Low acidity

Heavy Type
(According to EN 61386.01, compression strength)

Medium Type
(According to EN 61386.01, compression strength)

Light Type
(According to EN 61386.01, compression strength)

Installation Boxes

Normal
(According to EN 61386-24, impact test)

Light
(According to EN 61386-24, impact test)

TABLE OF CONTENTS

Experienced

KOUVIDIS has over 40 years of experience at the production of plastic conduit systems for cable management & protection while it was the first Greek company to introduce the heavy type conduits into the Greek market at the early 90's.

Awarded

CONDUR® - CONFLEX® conduit system has been awarded by the Greek Marketing Academy with the "Branded Industrial Product" Silver Award for its 30+ years of successful presence in the Greek and selected foreign electrical materials market.

Trusted

The heavy type CONDUR® - CONFLEX® conduit system has totally replaced metal conduits, counting more than 8 million of meters per year. It has been installed in the largest construction works in Greece and Cyprus with zero non conformities.

1

Plastic conduit systems

made from PVC

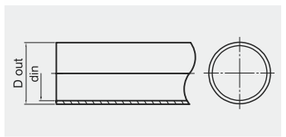
for outdoor/indoor installations of various mechanical strength in buildings

H M L

H

Heavy Type (1250Nt)

RAL 7035
light grey



Standards: EN 61386.21

Assembled with

CONDUR Bend
CONDUR Coupler
CONDUR Adaptor
CONDUR Clip

Patents Protected
1009810, EP2698792

CONDUR® IAS rigid conduit

44411

Properties		Class
Resistance to compression	1250Nt/5cm	4
Resistance to impact	6J (at -25^{0}C)	4
Lower temperature range	-25^{0}C	4
Upper temperature range	+60^{0}C	1
Resistance to bending	Rigid	1
Electrical characteristics	With electrical insulated characteristics	2
IP ingress protection	min IP65	6 5
Resistance against corrosion	Not applicable	0
Tensile strength	None declared	0
Resistance to flame propagating	Non flame propagating	1
Suspended load capacity	None declared	0

Additional properties

Raw material	Heavy metals free (RoHS), specially stabilized thermoplastic U-PVC
Ageing resistance	UV stabilized >10 years
Rodent repellent	Not attractive to rodents
Antistatic Technology	Protection against static electricity

+ Engraved with laser printing and packed with safety straps in blue color 100% recyclable polyethylene film.

Ideal for outdoor exposed installations which require increased safety measures and high mechanical requirements such as civil engineering (industrial buildings, infrastructure projects) and electric power stations. It doesn't attract rodents and is the ideal solution for outdoor installations through its exceptional resistance to UV radiation. Their high impact strength, at low temperature environments, make them also ideal for cold weather conditions.

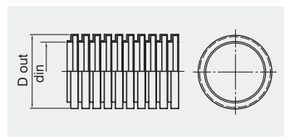
Type	Part number	D out	min din		kg	(m)
Ø16	1001016	16	12.1	30	3,31	6000
Ø20	1001020	20	16.0	30	4,52	5460
Ø25	1001025	25	20.9	15	3,08	2400
Ø32	1001032	32	27.4	15	4,20	1755
Ø40	1001040	40	35.1	9	3,41	1071
Ø50	1001050	50	44.7	9	4,51	702
Ø63	1001063	63	57.2	9	6,58	396

All product's certificates
are available at www.kouvidis.com

H

Heavy Type (1250Nt)

RAL 7035
light grey



Standards: EN 61386.22

Assembled with

CONDUR Bend
CONDUR Coupler
CONDUR Adaptor
CONDUR Clip

Patents Protected
1009810, EP2698792

CONFLEX® IAS pliable conduit

44412

Properties		Class
Resistance to compression	1250Nt/5cm	4
Resistance to impact	6J (at -25^{0}C)	4
Lower temperature range	-25^{0}C	4
Upper temperature range	+60^{0}C	1
Resistance to bending	Pliable	2
Electrical characteristics	With electrical insulated characteristics	2
IP ingress protection	min IP65	6 5
Resistance against corrosion	Not applicable	0
Tensile strength	None declared	0
Resistance to flame propagating	Non flame propagating	1
Suspended load capacity	None declared	0

Additional properties

Raw material	Heavy metals free (RoHS), specially stabilized thermoplastic U-PVC
Ageing resistance	UV stabilized >10 years
Rodent repellent	Not attractive to rodents
Antistatic Technology	Protection against static electricity

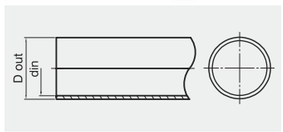
+ Marked using embossed printing and packed with 100% recyclable polyethylene film including safety straps and an informative blue color label.

Ideal for installations in concrete and outdoor exposed installations which require increased safety measures and high mechanical requirements such as civil engineering (industrial buildings, infrastructure projects) and electric power stations. Ideal solution for outdoor installations through its exceptional resistance to UV radiation. Their high impact strength, at low temperature environments, make them also ideal for cold weather conditions.

Type	Part number	D out	min din		kg	(m)
Ø16	2001016	16	10.1	50	4,21	3600
Ø20	2001020	20	13.5	50	5,57	3200
Ø25	2001025	25	17.8	25	3,96	1800
Ø32	2001032	32	23.6	25	5,40	1400
Ø40	2001040	40	30.7	20	5,39	880
Ø50	2001050	50	39.0	20	7,05	400
Ø63	2001063	63	51.5	20	10,00	360

Medium Type (750Nt)

RAL 7035
light grey



Standards: EN 61386.21

Assembled with

MEDISOL Bend
CONDUR Coupler
CONDUR Adaptor
CONDUR Clip

Patent Protected
1009810

All product's certificates
are available at www.kouvidis.com

MEDISOL® IAS rigid conduit — 33411

Properties		Class
Resistance to compression	750Nt/5cm	3
Resistance to impact	2J (at -25°C)	3
Lower temperature range	-25°C	4
Upper temperature range	+60°C	1
Resistance to bending	Rigid	1
Electrical characteristics	With electrical insulated characteristics	2
IP ingress protection	min IP65	6 5
Resistance against corrosion	Not applicable	0
Tensile strength	None declared	0
Resistance to flame propagating	Non flame propagating	1
Suspended load capacity	None declared	0

Additional properties	
Raw material	Heavy metals free (RoHS), specially stabilized thermoplastic U-PVC
Ageing resistance	UV stabilized
Antistatic Technology	Protection against static electricity

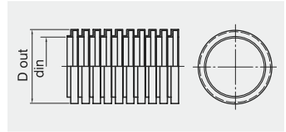
+ Engraved with laser printing and packed with safety straps in red color 100% recyclable polyethylene film.

Ideal for indoor exposed installations which require increased safety measures and standard mechanical requirements such as parking areas, commercial buildings, warehouses, wooden structures. Their high impact strength, at low temperature environments, make them also ideal for cold weather conditions.

Type	Part number	D out	min din		kg	(m)
Ø16	1002016	16	13.0	30	2,83	6000
Ø20	1002020	20	16.6	30	3,84	5460
Ø25	1002025	25	21.5	30	5,11	3300
Ø32	1002032	32	28.5	15	3,52	1755
Ø40	1002040	40	36.0	9	3,01	1071
Ø50	1002050	50	45.0	9	3,78	702
Ø63	1002063	63	57.7	9	5,67	396

Medium Type (750Nt)

RAL 7035
light grey



Standards: EN 61386.22

Assembled with

MEDISOL Bend
CONDUR Coupler
CONDUR Adaptor
CONDUR Clip

Patent Protected
1009810

MEDIFLEX® IAS pliable conduit — 33412

Properties		Class
Resistance to compression	750Nt/5cm	3
Resistance to impact	2J (at -25°C)	3
Lower temperature range	-25°C	4
Upper temperature range	+60°C	1
Resistance to bending	Pliable	2
Electrical characteristics	With electrical insulated characteristics	2
IP ingress protection	min IP65	6 5
Resistance against corrosion	Not applicable	0
Tensile strength	None declared	0
Resistance to flame propagating	Non flame propagating	1
Suspended load capacity	None declared	0

Additional properties	
Raw material	Heavy metals free (RoHS), specially stabilized thermoplastic U-PVC
Ageing resistance	UV stabilized
Antistatic Technology	Protection against static electricity

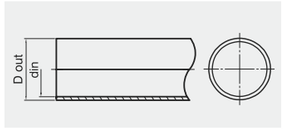
+ Marked using embossed printing and packed with 100% recyclable polyethylene film including safety straps and an informative red color label.

Ideal for installations in concrete/cavity walls and indoor exposed installations which require increased safety measures and standard mechanical requirements such as parking areas, commercial buildings, warehouses, wooden structures. Their high impact strength, at low temperature environments, make them also ideal for cold weather conditions.

Type	Part number	D out	min din		kg	(m)
Ø16	2002016	16	10.8	50	2,85	3600
Ø20	2002020	20	13.8	50	4,20	3200
Ø25	2002025	25	18.1	25	2,86	1800
Ø32	2002032	32	24.0	25	3,82	1400
Ø40	2002040	40	31.0	20	4,10	880
Ø50	2002050	50	39.6	20	4,99	400
Ø63	2002063	63	52.3	20	6,97	360

Light Type (320Nt)

RAL 7035
light grey



SILCOR® IAS rigid conduit

23411

Properties		Class
Resistance to compression	320Nt/5cm	2
Resistance to impact	2J (at -25°C)	3
Lower temperature range	-25°C	4
Upper temperature range	+60°C	1
Resistance to bending	Rigid	1
Electrical characteristics	With electrical insulated characteristics	2
IP ingress protection	min IP65	6 5
Resistance against corrosion	Not applicable	0
Tensile strength	None declared	0
Resistance to flame propagating	Non flame propagating	1
Suspended load capacity	None declared	0

Additional properties	
Raw material	Heavy metals free (RoHS), specially stabilized thermoplastic U-PVC
Antistatic Technology	Protection against static electricity

Standards: EN 61386.21

Assembled with
SILCOR Bend
CONDUR Coupler
CONDUR Clip
CONDUR Adaptor

+ Engraved with laser printing and packed with safety straps in light blue color 100% recyclable polyethylene film.

Ideal for indoor exposed installations with light mechanical requirements such as commercial buildings, residential buildings. Their high impact strength, at low temperature environments, make them also ideal for cold weather conditions.

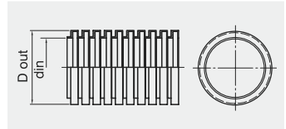
Patent Protected
1009810

Type	Part number	D out	min din		kg	(m)
Ø16	1003016	16	13.8	90	5,42	7920
Ø20	1003020	20	17.7	60	5,09	5400
Ø25	1003025	25	22.5	45	5,23	3240
Ø32	1003032	32	29.4	30	4,87	1890

All product's certificates
are available at www.kouvidis.com

Light Type (320Nt)

RAL 7035
light grey



SIFLEX® IAS pliable conduit

22412

Properties		Class
Resistance to compression	320Nt/5cm	2
Resistance to impact	1J (at -25°C)	2
Lower temperature range	-25°C	4
Upper temperature range	+60°C	1
Resistance to bending	Pliable	2
Electrical characteristics	With electrical insulated characteristics	2
IP ingress protection	min IP65	6 5
Resistance against corrosion	Not applicable	0
Tensile strength	None declared	0
Resistance to flame propagating	Non flame propagating	1
Suspended load capacity	None declared	0

Additional properties	
Raw material	Heavy metals free (RoHS), specially stabilized thermoplastic U-PVC
Antistatic Technology	Protection against static electricity

Standards: EN 61386.22

Assembled with
SILCOR Bend
CONDUR Coupler
CONDUR Clip
CONDUR Adaptor

+ Marked using embossed printing and packed with 100% recyclable polyethylene film including safety straps and an informative light blue color label.

Ideal for concealed installations, cavity walls and indoor exposed installations with light mechanical requirements such as commercial buildings, residential buildings. Their high impact strength, at low temperature environments, make them also ideal for cold weather conditions.

Patent Protected
1009810

Type	Part number	D out	min din		kg	(m)
Ø16	2003016	16	10.8	50	2,23	3600
Ø20	2003020	20	14.1	50	2,76	3200
Ø25	2003025	25	18.5	25	1,88	1700
Ø32	2003032	32	24.5	25	2,53	1300
Ø40	2003040	40	31.4	20	2,95	880
Ø50	2003050	50	39.6	20	3,77	400
Ø63	2003063	63	52.4	20	4,87	360

Heavy Type (1250Nt)

RAL 7035
light grey

Patents Protected
1009810, EP2698792

H CONDUR® IAS bend

Properties

Resistance to impact	6J (at -25°C)
Ageing resistance	UV stabilized > 10 years
Rodent repellent	Not attractive to rodents
Antistatic Technology	Protection against static electricity

Type	Part number	D out	min din	A	R		
Ø16	4007016	16	12.1	27	59	10	480
Ø20	4007020	20	16.0	35	74	10	480
Ø25	4007025	25	20.9	36.7	108	10	240
Ø32	4007032	32	27.4	47.6	142	6	48
Ø40	4007040	40	35.1	52.9	144	6	84
Ø50	4007050	50	44.7	62	175	4	40
Ø63	4007063	63	57.2	77	203	4	24

Medium Type (750Nt)

RAL 7035
light grey

Patent Protected
1009810

M MEDISOL® IAS bend

Properties

Resistance to impact	2J (at -25°C)
Ageing resistance	UV stabilized
Antistatic Technology	Protection against static electricity

Type	Part number	D out	min din	A	R		
Ø16	4009016	16	13.0	27	59	10	480
Ø20	4009020	20	16.6	35	74	10	480
Ø25	4009025	25	21.5	36.7	108	10	240
Ø32	4009032	32	28.5	47.6	142	6	48
Ø40	4009040	40	36.0	52.9	144	6	84
Ø50	4009050	50	45.0	62	175	4	40
Ø63	4009063	63	57.7	77	203	4	24

All product's certificates
are available at www.kouvidis.com

1 Plastic conduit systems **made from PVC**

Light Type (320Nt)

RAL 7035
light grey

Patent Protected
1009810

L SILCOR® IAS bend

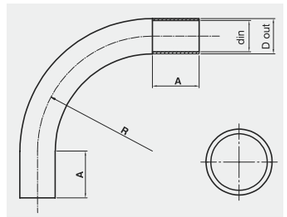
Properties

Resistance to impact	2J (at -25°C)
Antistatic Technology	Protection against static electricity

Type	Part number	D out	min din	A	R		
Ø16	4011016	16	13.8	27	59	40	680
Ø20	4011020	20	17.7	35	74	40	640
Ø25	4011025	25	22.5	36.7	108	20	280
Ø32	4011032	32	29.4	47.6	142	9	90

+ Engraved with laser printing and packed in 100% recyclable packaging for their maximum protection.

Standards: EN 61386.21



General properties for Bends	
Temperature range	-25°C to +60°C
IP ingress protection	min IP65
Raw material	Heavy metals free (RoHS), specially stabilized thermoplastic U-PVC
Electrical characteristics	With electrical insulated characteristics
Resistance to flame propagating	Non flame propagating

Note: Bends packaging do not contain coupler.

Junction Boxes

RAL 7035
light grey

CONDUR® IAS
plug in seals

CONDUR® IAS
plug in grommets

CONDUR® IAS
without seals

Standards:
EN 60670-22, EN 50642

CE GREEN PRODUCT KOUVIDIS

Patent Protected
1009810

Watertight with or without seals

Properties	CONDUR® IAS plug in seals	CONDUR® IAS plug in grommets	CONDUR® IAS without seals
Box raw material	PC (RoHS)	PS (RoHS)	PC (RoHS)
Temperature range	-25ºC to +60ºC		
Electrical characteristics	With electrical insulated characteristics		
Resistance to flame propagating	Non flame propagating		
Number of entries	7	7	-
Kind of entries	Plug in seals	Plug in grommets	-
Ingress protection	IP 55	IP 55	IP 65
Number of base knock outs	4	4	-
Conduit alignment	Yes	Yes	No
Condensation opening	Yes		
Flame retardant	650ºC		
Voltage	800V		
Halogen free	No toxic or corrosive gases in case of fire		
UV stability	Yes		
Antistatic Technology	Yes	Yes	Yes

* Cover plate and plug in seals are made of PE

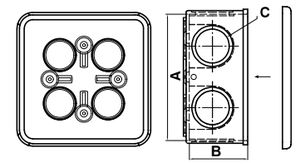
+ Watertight due to their elastic and directly mounted cover plate.

Junction boxes with seals: These boxes are provided with plug in seals or stepped grommets for easy positioning of cables, without the use of additional fittings, after cutting at the pre-marked points. CONDUR adaptors, of different diameters, can be easily fastened in the openings after pushing out the plug in seals/grommets.

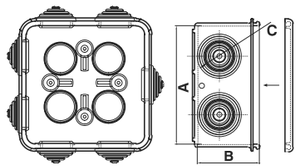
Junction boxes without seals: The installer can open any hole of every diameter according to the installation requirements.

All product's certificates
are available at www.kouvidis.com

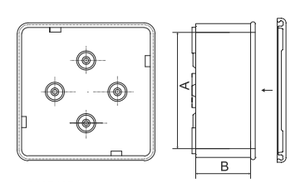
Junction Boxes



CONDUR® IAS
plug in seals



CONDUR® IAS
plug in grommets



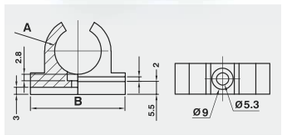
CONDUR® IAS
without seals

	Type	Part number	A mm	B mm	C mm		
plug in seals	Ø16/20	3001016	67	38	21.6	10	280
	Ø20/16	3001020	82	43	21.6	10	160
	Ø25/32	3001025	101	51	35.1	5	100
plug in grommets	Ø16/20	3005016	67	38	21.6	10	240
	Ø20/16	3005020	82	43	21.6	10	160
	Ø25/32	3005025	101	51	35.1	5	40
plug without seals	Ø16	3008016	62	32	-	10	230
	Ø20	3008020	82	36	-	10	240
	Ø25	3008025	91	41	-	10	160
	Ø32	3008032	101	51	-	5	100

All product's certificates
are available at www.kouvidis.com

Fittings

RAL 7035
light grey



GREEN PRODUCT KOUVIDIS

Patent Protected
1009810, EP2698792

CONDUR® IAS clips

Properties

Raw material	Halogen free, heavy metals free (RoHS) and specially stabilized thermoplastic PC

Installation guidelines

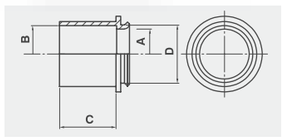
Recommended fastening space is 50cm for vertical and 40 cm for horizontal installations

\+ They can be mounted with the use of 4mm screws and plugs. They have side slots for easy positioning to rails.

Type	Part number	A mm	B mm		
Ø16	4003016	15.8	35	4x50	3400
Ø20	4003020	19.8	40	4x50	2000
Ø25	4003025	24.8	46	4x30	1920
Ø32	4003032	31.8	53	30	1440
Ø40	4003040	39.8	63	20	960
Ø50	4003050	49.8	74	20	960
Ø63	4003063	62.8	88	20	960

Fittings

RAL 7035
light grey



GREEN PRODUCT KOUVIDIS

Patent Protected
1009810, EP2698792

CONDUR® IAS adaptors

Properties

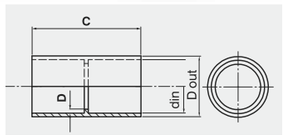
Raw material	Halogen free, heavy metals free (RoHS) and specially stabilized thermoplastic PE

\+ Assembled with CONDUR junction boxes after removing their seals or grommets. Adaptors with Part No. 4005016 and 4005020 can be mounted on junction boxes with type 16/20 and 20/16 while 4005025 and 4005032 can me mounted with the type Ø25/32.

Type	Part number	A mm	B mm	C mm	D mm		
Ø16	4005016	13	16	18.5	20	4x30	1920
Ø20	4005020	16.5	20	22.5	20	4x30	1200
Ø25	4005025	21.5	25	32	33	20	1260
Ø32	4005032	27.5	32	35	33	20	960

Fittings

RAL 7035
light grey



GREEN PRODUCT KOUVIDIS

Patent Protected
1009810, EP2698792

CONDUR® IAS couplers

Properties

Raw material	Halogen free, heavy metals free (RoHS) and specially stabilized thermoplastic PE
Ingress protection	min IP65

Type	Part number	D out	min din	C mm	D mm		
Ø16	4001016	20.0	16	51.0	1.5	30	2280
Ø20	4001020	23.5	20	52.5	1.5	30	1890
Ø25	4001025	28.5	25	51.5	1.5	30	1440
Ø32	4001032	37.0	32	65.0	2	20	560
Ø40	4001040	44.5	40	85.0	2	15	420
Ø50	4001050	55.6	50	105	2.5	10	200
Ø63	4001063	69.8	63	126	2.8	8	64

Standards: EN 61386.1, EN 50642

General properties for Fittings

Temperature range	-25°C to +120°C
Electrical characteristics	With electrical insulated characteristics
Ageing resistance	UV stabilized
Resistance to flame propagating	Non flame propagating
Halogen free	No toxic or corrosive gases in case of fire
Antistatic Technology	Protection against static electricity

Why halogen free?

In case of a fire accident, the chlorine released from conventional plastics (halogenated) reacts with the humidity of the atmosphere producing hydrochloric acid which is dangerous and harmful to both people and the environment.

Ensure your safety

During combustion halogens produce gases, soot and chemical residues that generate dark and dense smoke waves which reduce the visibility of escape routes and hinder evacuation operations by rescue crews.

Protect your equipment

The corrosive gases that will result from the combustion of halogenated plastic materials can damage all areas exposed to smoke and cause severe corrosion in a particularly short time.

KOUVIDIS has a manufacturing experience since 2006 in the production of halogen free plastic conduit systems and is one of the precious few manufacturers in Europe that offers double structured wall conduits in small diameters of Ø20, Ø25, Ø32, double layer conduits with anti electromagnetic technology and conduits with very high impact strength in low temperatures.

2

Plastic conduit systems

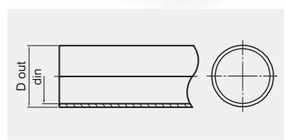
made from halogen free raw materials

for indoor areas intended to accommodate increased people traffic or industrial equipment

H M L

Heavy Type (1250Nt)

RAL 7035
light grey



Standards:
EN 61386.21, EN 50642, EN 60754-2

Assembled with
CONDUR HF Bend
CONDUR Coupler
CONDUR Adaptor
CONDUR Clip

Patent Protected
1009810

CONDUR HF conduit is being tested by KOUVIDIS quality control lab for its impact resistance (6J) at -45ºC

All product's certificates
are available at www.kouvidis.com

CONDUR® HF IAS rigid conduit — 44441

Properties		Class
Resistance to compression	1250Nt/5cm	4
Resistance to impact	6J (at -25ºC)	4
Lower temperature range	-25ºC	4
Upper temperature range	+120ºC	4
Resistance to bending	Rigid	1
Electrical characteristics	With electrical insulated characteristics	2
IP ingress protection	min IP 65	6 5
Resistance against corrosion	Not applicable	0
Tensile strength	None declared	0
Resistance to flame propagating	Non flame propagating	1
Suspended load capacity	None declared	0

Additional properties

Raw material	Halogen free, heavy metals free (RoHS) and specially stabilized thermoplastic PC
Ageing resistance	UV stabilized
Halogen free	No toxic or corrosive gases in case of fire
Rodent repellent	Not attractive to rodents
Antistatic Technology	Protection against static electricity

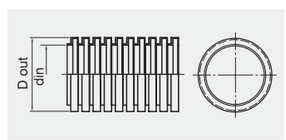
+ Printed with indelible green color and packed with safety straps in blue color 100% recyclable polyethylene film.

Ideal for outdoor/indoor exposed installations which require increased safety measures and high mechanical requirements such as public gathering places (airports, hotels, tunnels, malls, theaters, subways etc,) and places with costly mechanical equipment (engine rooms, industrial spaces, computer rooms, etc.).

Type	Part number	D out	min din		kg	(m)
Ø16	1004016	16	12.5	30	2,66	6000
Ø20	1004020	20	16.2	30	3,55	5460
Ø25	1004025	25	20.8	15	2,32	2400
Ø32	1004032	32	27.5	15	3,29	1755
Ø40	1004040	40	34.8	9	2,51	1071
Ø50	1004050	50	45.1	9	3,97	702
Ø63	1004063	63	57.0	9	5,60	396

Heavy Type (1250Nt)

RAL 7035
light grey



Standards:
EN 61386.22, EN 50642, EN 60754-2

Assembled with
CONDUR HF Bend
CONDUR Coupler
CONDUR Adaptor
CONDUR Clip

Patent Protected
1009810

CONFLEX HF conduit is being tested by KOUVIDIS quality control lab for its impact resistance (6J) at -45ºC

CONFLEX® HF IAS pliable conduit — 44442

Properties		Class
Resistance to compression	1250Nt/5cm	4
Resistance to impact	6J (at -25ºC)	4
Lower temperature range	-25ºC	4
Upper temperature range	+120ºC	4
Resistance to bending	Pliable	2
Electrical characteristics	With electrical insulated characteristics	2
IP ingress protection	min IP65	6 5
Resistance against corrosion	Not applicable	0
Tensile strength	None declared	0
Resistance to flame propagating	Non flame propagating	1
Suspended load capacity	None declared	0

Additional properties

Raw material	Halogen free, heavy metals free (RoHS) and specially stabilized thermoplastic PC
Ageing resistance	UV stabilized
Halogen free	No toxic or corrosive gases in case of fire
Rodent repellent	Not attractive to rodents
Antistatic Technology	Protection against static electricity

+ Marked using embossed printing and packed with 100% recyclable polyethylene film including safety straps and an informative green /blue color label.

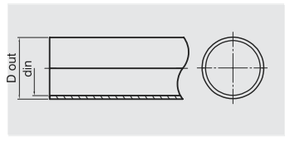
Ideal for outdoor/indoor exposed installations which require increased safety measures and high mechanical requirements such as public gathering places (airports, hotels, tunnels, malls, theaters, subways etc.) and places with costly mechanical equipment (engine rooms, industrial spaces, computer rooms, etc.).

Type	Part number	D out	min din		kg	(m)
Ø16	2004016	16	10.8	50	2,39	3600
Ø20	2004020	20	13.6	50	3,44	3200
Ø25	2004025	25	18.3	25	2,63	1800
Ø32	2004032	32	23.2	25	3,37	1400
Ø40	2004040	40	30.7	20	3,42	880
Ø50	2004050	50	38.8	20	5,34	400
Ø63	2004063	63	51.5	20	7,18	360

NEW PRODUCT
Available early 2023

Medium Type (750Nt)

RAL 9004 black / inner layer | RAL 7035 light grey / outer layer



MEDISOL® PLUS IAS rigid conduit — 33331

Properties		Class
Resistance to compression	750Nt	3
Resistance to impact	2J (at -15ºC)	3
Lower temperature range	-15ºC	3
Upper temperature range	+105ºC	3
Resistance to bending	Rigid	1
Electrical characteristics	With electrical insulated characteristics	2
Protection against ingress of solid objects Protection against ingress of water	min IP65	6 5
Resistance against corrosion	Not applicable	0
Tensile strength	None declared	0
Resistance to flame propagating	Non flame propagating	1
Suspended load capacity	None declared	0

Additional properties

Raw material	Halogen free, heavy metals free (RoHS) and specially stabilized thermoplastic PP
Low friction (internal layer)	Special material (slip) speeds up the routing of cables
Anti - electromagnetic technology	Absorbs a part of the electromagnetic radiation emitted by the cables
Rodent repellent	Not attractive to rodents
Halogen free	No toxic or corrosive gases in case of fire
Low smoke	Better visibility of escape ways
Antistatic Technology	Protection against static electricity

+ Two layer consists of consists two structured walls. Engraved with laser printing and packed with safety straps in red color 100% recyclable polyethylene film.

Exposed and concealed type installations in concrete. A special slip material is added on its internal layer, facilitating the smooth insertion of the cables.

Type	Part number	D out	min din		kg	(m)
Ø16	1019016	16	13.1	30	2,18	6000
Ø20	1019020	20	16.8	30	3,02	3900
Ø25	1019025	25	21.7	30	4,40	2310
Ø32	1019032	32	27.9	15	2,85	1755

The above values are approximate.

CE

Application Standards: EN 61386.22, EN 50642, EN 60754-2, EN 61034-2

Assembled with
Connection couplers for DUROFLEX PLUS / SUPERFLEX PLUS / MEDIFLEX PLUS conduits

GREEN PRODUCT KOUVIDIS

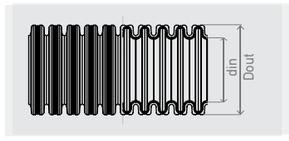
Patents Protected:
1009810, EP2698792, 1009975

All product's certificates are available at www.kouvidis.com

NEW PRODUCT

Medium Type (750Nt)

RAL 9004 black / inner layer | RAL 7035 light grey / outer layer



CE DVE

Application Standards: EN 61386.22, EN 50642, EN 60754-2, EN 61034-2

Assembled with
Connection couplers for DUROFLEX PLUS / SUPERFLEX PLUS / MEDIFLEX PLUS conduits

GREEN PRODUCT KOUVIDIS

Patents Protected:
1009810, EP2698792, 1009975

MEDIFLEX® PLUS IAS pliable conduit — 33332

Properties		Class
Resistance to compression	750Nt	3
Resistance to impact	2J (at -15ºC)	3
Lower temperature range	-15ºC	3
Upper temperature range	+105ºC	3
Resistance to bending	Pliable	2
Electrical characteristics	With electrical insulated characteristics	2
Protection against ingress of solid objects Protection against ingress of water	min IP65	6 5
Resistance against corrosion	Not applicable	0
Tensile strength	None declared	0
Resistance to flame propagating	Non flame propagating	1
Suspended load capacity	None declared	0

Additional properties

Raw material	Halogen free, heavy metals free (RoHS) and specially stabilized thermoplastic PP
Low friction (internal layer)	Special material (slip) speeds up the routing of cables
Anti - electromagnetic technology	Absorbs a part of the electromagnetic radiation emitted by the cables
Rodent repellent	Not attractive to rodents
Halogen free	No toxic or corrosive gases in case of fire
Low smoke	Better visibility of escape ways
Antistatic Technology	Protection against static electricity

+ Two layer conduit consists of a corrugated external wall, and internal layer that follows the geometry of the outer wall. Marked using embossed printing and packed with 100% recyclable polyethylene film including safety straps.

Exposed and concealed type installations in concrete. A special slip material is added on its internal layer, facilitating the smooth insertion of the cables.

Type	Part number	D out	min din		kg	(m)
Ø16	2036016	16	10,5	50	2,82	5860
Ø20	2036020	20	13,1	100	8,10	5600
Ø25	2036025	25	18,0	50	5,60	2600
Ø32	2036032	32	23,5	25	3,73	1100

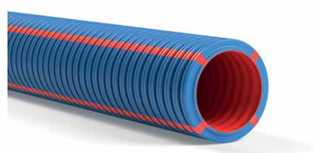
NEW PRODUCT

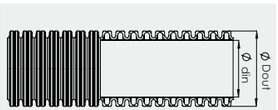
M

Medium Type (750Nt)

RAL 3020 red / inner layer

RAL 5019 blue / outer layer





Application Standards: EN 61386.22, EN 50642, EN 60754-2, EN 61034-2

Reference Standards: NF P 98-332

Assembled with
Connection couplers for DUROFLEX PLUS / SUPERFLEX PLUS / MEDIFLEX PLUS conduits

Patents Protected: 1009810, 1009144, EP2698792, 1009158

DUROFLEX® PLUS IAS pliable conduit

33332

Properties		Class
Resistance to compression	750 Nt	3
Resistance to impact	2J (at -15°C)	3
Lower temperature range	-15°C	3
Upper temperature range	+105°C	3
Resistance to bending	Pliable	2
Electrical characteristics	With electrical insulated characteristics	2
Protection against ingress of solid objects Protection against ingress of water	min IP65	6 5
Resistance against corrosion	Not applicable	0
Tensile strength	None declared	0
Resistance to flame propagating	Non flame propagating	1
Suspended load capacity	None declared	0

Additional properties

Raw material	Halogen free, heavy metals free (RoHS) and specially stabilized thermoplastic PP
Ageing resistance	UV stabilized (≥ 5 years)
Low friction (internal layer)	Special material (slip) speeds up the routing of cables
Rodent repellent	Not attractive to rodents (the internal layer incorporates rodent repellent)
Color marking	Longitudinal stripes of indelible color indicate the power of the protected cables
Halogen free	No toxic or corrosive gases in case of fire
Low smoke	Better visibility of escape ways
Antistatic Technology	Protection against static electricity

+ Structured wall conduits. The external wall of the conduit is corrugated and the internal wall is smooth. Marked using embossed printing and packed with 100% recyclable polyethylene film including safety straps and an informative blue color label.

Ideal for concealed type installations in concrete, hollow walls and underplaster.

Type	Part number red / green	D out	din		kg	(m)
Ø20	2009020 / 2016020	20	13,2	50	3,78	3200
Ø25	2009025 / 2016025	25	18,1	25	2,53	1800
Ø32	2009032 / 2016032	32	23,7	25	3,49	1400

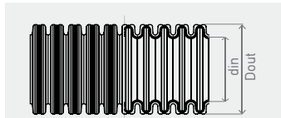
NEW PRODUCT

L

Light Type (320Nt)

RAL 9004 black / inner layer

RAL 1023 yellow / outer layer



Application Standards: EN 61386.22, EN 50642, EN 60754-2, EN 61034-2

Reference Standards: NF P 98-332

Assembled with
Connection couplers for DUROFLEX PLUS / SUPERFLEX PLUS / MEDIFLEX PLUS conduits

Patents Protected: 1009810, EP2698792, 1009975

SUPERFLEX® PLUS IAS pliable conduit

23332

Properties		Class
Resistance to compression	320 Nt	2
Resistance to impact	2J (at -15°C)	3
Lower temperature range	-15°C	3
Upper temperature range	+105°C	3
Resistance to bending	Pliable	2
Electrical characteristics	With electrical insulated characteristics	2
Protection against ingress of solid objects Protection against ingress of water	min IP65	6 5
Resistance against corrosion	Not applicable	0
Tensile strength	None declared	0
Resistance to flame propagating	Non flame propagating	1
Suspended load capacity	None declared	0

Additional properties

Raw material	Halogen free, heavy metals free (RoHS) and specially stabilized thermoplastic PP
Low friction (internal layer)	Special material (slip) speeds up the routing of cables
Anti - electromagnetic technology	Absorbs a part of the electromagnetic radiation emitted by the cables
Rodent repellent	Not attractive to rodents
Color marking / Longitudinal lines	Longitudinal stripes of indelible color indicate the power of the protected cables
Halogen free	No toxic or corrosive gases in case of fire
Low smoke	Better visibility of escape ways
Antistatic Technology	Protection against static electricity

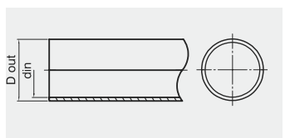
+ Three layer conduit consists of a corrugated external wall, an internal layer that follows the geometry of the outer wall and a third independent layer of longitudinal lines. Marked using embossed printing and packed with 100% recyclable polyethylene film including safety straps.

Ideal for concealed type installations in plasterboard, cavity wall and sub-ceiling. A special slip material is added on its internal layer, facilitating the smooth insertion of the cables.

Type	Part number red / green	D out	min din		kg	(m)
Ø16	2010016 / 2017016	16	10,9	50	2,34	5860
Ø20	2010020 / 2017020	20	14,2	100	5,60	5600
Ø25	2010025 / 2017025	25	18,8	50	3,59	2600
Ø32	2010032 / 2017032	32	24,9	25	2,31	1100

Light Type (320Nt)

RAL 9004 black / inner layer | RAL 1023 yellow / outer layer



CE

Application Standards: EN 61386.22, EN 50642, EN 60754-2, EN 61034-2

Reference Standards: NF P 98-332

Assembled with
Connection couplers for DUROFLEX PLUS / SUPERFLEX PLUS / MEDIFLEX PLUS conduits

GREEN PRODUCT KOUVIDIS

Patents Protected:
1009810, EP2698792, 1009975

All product's certificates are available at www.kouvidis.com

SUPERSOL® PLUS IAS rigid conduit

23331

Properties		Class
Resistance to compression	320 Nt	2
Resistance to impact	2J (at -15°C)	3
Lower temperature range	-15°C	3
Upper temperature range	+105°C	3
Resistance to bending	Rigid	1
Electrical characteristics	With electrical insulated characteristics	2
Protection against ingress of solid objects Protection against ingress of water	min IP65	6 5
Resistance against corrosion	Not applicable	0
Tensile strength	None declared	0
Resistance to flame propagating	Non flame propagating	1
Suspended load capacity	None declared	0

Additional properties

Raw material	Halogen free, heavy metals free (RoHS) and specially stabilized thermoplastic PP
Low friction (internal layer)	Special material (slip) speeds up the routing of cables
Anti - electromagnetic technology	Absorbs a part of the electromagnetic radiation emitted by the cables
Rodent repellent	Not attractive to rodents
Color marking / Longitudinal lines	Longitudinal stripes of indelible color indicate the power of the protected cables
Halogen free	No toxic or corrosive gases in case of fire
Low smoke	Better visibility of escape ways
Antistatic Technology	Protection against static electricity

+ Three layer conduit consists of two structured walls and a third independent layer of longitudinal lines. Engraved with laser printing and packed with safety straps in red color 100% recyclable polyethylene film.

Ideal for concealed type installations in plasterboard, cavity wall and sub-ceiling. A special slip material is added on its internal layer, facilitating the smooth insertion of the cables.

Type	Part number red / green	D out	min din		kg	(m)
Ø16	1017016/1018016	16	13.1	30	2,18	6000
Ø20	1017020/1018020	20	16.8	30	3,02	3900
Ø25	1017025/1018025	25	21.7	30	4,40	2310
Ø32	1017032/1018032	32	27.9	15	2,85	1755

The above values are approximate.

2 Plastic conduit systems **made from halogen free materials**
Appropriate for product families 1 & 2

Heavy Type (1250Nt)

RAL 7035 light grey

Standards: EN 61386.21

GREEN PRODUCT KOUVIDIS

Patent Protected: 1009810

H CONDUR® HF bend
for CONDUR HF/CONFLEX HF conduit system

Properties	
Resistance to impact	6J (at -45°C)
Ageing resistance	UV stabilized
Rodent repellent	Not attractive to rodents

Type	Part number	D out	min din	A	R		
Ø16	4013016	16	12.5	27	55	10	460
Ø20	4013020	20	16.2	35	65	10	420
Ø25	4013025	25	20.8	36.7	90	10	170
Ø32	4013032	32	27.5	47.6	125	6	48
Ø40	4013040	40	34.8	52.9	130	6	84
Ø50	4013050	50	45.1	62	163	4	36
Ø63	4013063	63	57.0	77	191	4	16

Medium Type (750Nt)

RAL 7035 light grey

GREEN PRODUCT KOUVIDIS

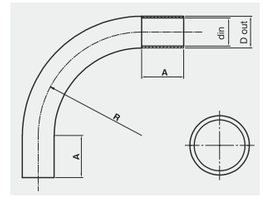
Patent Protected: 1009810

M MEDISOL® HF IAS bend
for MEDISOL PLUS/MEDIFLEX PLUS conduit system

Properties	
Resistance to impact	6J (at -25°C)
Ageing resistance	UV stabilized
Antistatic Technology	Protection against static electricity

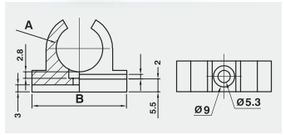
Type	Part number	D out	min din	A	R		
Ø16	4015016	16	13.0	27	59	10	480
Ø20	4015020	20	16.7	35	74	10	480
Ø25	4015025	25	21.4	36.7	108	10	240
Ø32	4015032	32	27.6	47.6	142	6	48

Note: Bends packaging do not contain coupler.



Fittings

RAL 7035
light grey



Patent Protected: 1009810
EP2698792

CONDUR® IAS clip

Properties

Raw material	Halogen free, heavy metals free (RoHS) and specially stabilized thermoplastic PC

Installation guidelines

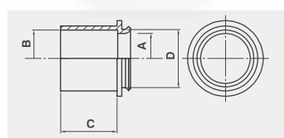
Recommended fastening space is 50cm for vertical and 40cm for horizontal installations

+ They can be mounted with the use of 4mm screws and plugs. They have side slots for easy positioning to rails.

Type	Part number	A mm	B mm		
Ø16	4003016	15.8	35	4x50	2800
Ø20	4003020	19.8	40	4x50	2000
Ø25	4003025	24.8	46	4x30	1800
Ø32	4003032	31.8	53	30	1380
Ø40	4003040	39.8	63	20	920
Ø50	4003050	49.8	74	20	840
Ø63	4003063	62.8	88	20	840

Fittings

RAL 7035
light grey



Patent Protected: 1009810
EP2698792

CONDUR® IAS adaptor

Properties

Raw material	Halogen free, heavy metals free (RoHS) and specially stabilized thermoplastic PE

+ Assembled with CONDUR junction boxes after removing their seals or grommets. Adaptors with Part No. 4005016 and 4005020 can be mounted on junction boxes with type 16/20 and 20/16 while 4005025 and 4005032 can me mounted with the type Ø25/32.

Type	Part number	A mm	B mm	C mm	D mm		
Ø16	4005016	13	16	16	20	4x30	1800
Ø20	4005020	16.5	20	20	20	4x30	1200
Ø25	4005025	21.5	25	32	33	20	1080
Ø32	4025032	27.5	32	35	33	20	840

Fittings

RAL 7035
light grey

Standards: EN 61386.1, EN 60754-1, EN 60754-2

Patent Protected: 1009810
EP2698792

CONDUR® IAS coupler

Properties

Raw material	Halogen free, heavy metals free (RoHS) and specially stabilized thermoplastic PE
Protection against ingress of solid objects Protection against ingress of water	min IP65
Temperature range	-45°C to +120°C

Type	Part number	D out	min din	C mm	D mm		
Ø16	4001016	20.0	16	51	1.5	30	2280
Ø20	4001020	23.5	20	51.5	1.5	30	1620
Ø25	4001025	28.5	25	51.5	1.5	30	1260
Ø32	4001032	37.0	32	65	2	20	480
Ø40	4001040	44.5	40	81.4	2	15	360
Ø50	4001050	55.6	50	100.5	2.5	10	200
Ø63	4001063	69.8	63	121	2.8	8	64

Fittings

RAL 7035
light grey

Application Standards: EN 61386.01
Reference Standards: EN 50642

Assembled with
SUPERFLEX PLUS
DUROFLEX PLUS
MEDIFLEX PLUS

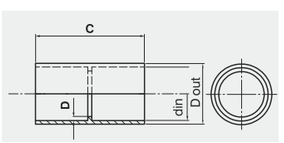
Patent Protected: 1009810
EP2698792

Coupler for DUROFLEX®PLUS IAS / SUPERFLEX®PLUS IAS / MEDIFLEX®PLUS IAS conduits

Properties

Raw material	Halogen free, heavy metals free (RoHS) and specially stabilized thermoplastic HDPE
Protection against ingress of solid objects Protection against ingress of water	min IP65
Temperature range	-25°C to +60°C

Type	Part number	D out	din	C mm		
Ø16	4017016	17.7	16.0	52.3	40	1920
Ø20	4017020	23.5	20.0	51.5	30	1890
Ø25	4017025	28.5	25.0	51.5	30	1440
Ø32	4017032	37.0	32.0	65.0	20	560



Junction Boxes

RAL 7035
light grey

CONDUR® IAS
plug in seals

CE

CONDUR® IAS
plug in grommets

CE

CONDUR® IAS
without seals

CE

Standards: EN 60670-22, EN 60754-1, EN 60754-2

GREEN PRODUCT KOUVIDIS

Patent Protected 1009810

Watertight with or without seals

Properties	CONDUR® IAS plug in seals	CONDUR® IAS plug in grommets	CONDUR® IAS without seals
Box raw material	PC (RoHS)	PS (RoHS)	PC (RoHS)
Temperature range	-25°C to +60°C		
Electrical characteristics	With electrical insulated characteristics		
Resistance to flame propagating	Non flame propagating		
Number of entries	7	7	-
Kind of entries	Plug in seals	Plug in grommets	-
Ingress protection	IP 55	IP 55	IP 65
Number of base knock outs	4	4	-
Conduit alignment	Yes	Yes	No
Condensation opening	Yes		
Flame retardant	650°C		
Voltage	800V		
Halogen free	No toxic or corrosive gases in case of fire		
UV stability	Yes		
Less smoke than PVC	Better visibility of escape ways		

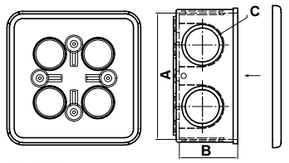
* Cover plate and plug in seals are made of PE

+ Watertight due to their elastic and directly mounted cover plate.

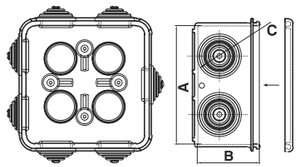
Junction boxes with seals: These boxes are provided with plug in seals or stepped grommets for easy positioning of cables, without the use of additional fittings, after cutting at the pre-marked points. CONDUR adaptors, of different diameters, can be easily fastened in the openings after pushing out the plug in seals/grommets.

Junction boxes without seals: The installer can open any hole of every diameter according to the installation requirements.

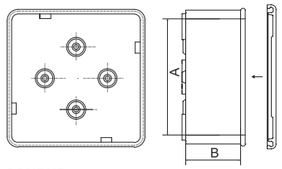
Junction Boxes



CONDUR® IAS
plug in seals



CONDUR® IAS
plug in grommets



CONDUR® IAS
without seals

	Type	Part number	A mm	B mm	C mm		
plug in seals	Ø16/20	3001016	67	38	21.6	10	240
	Ø20/16	3001020	82	43	21.6	10	150
	Ø25/32	3001025	101	51	35.1	5	100
plug in grommets	Ø16/20	3005016	67	38	21.6	10	170
	Ø20/16	3005020	82	43	21.6	10	150
	Ø25/32	3005025	101	51	35.1	5	40
plug without seals	Ø16	3008016	62	32	-	10	210
	Ø20	3008020	82	36	-	10	170
	Ø25	3008025	91	41	-	10	150
	Ø32	3008032	101	51	-	5	100

Antimicrobial technology

Even in the cleanest environments microbial contamination will occur because of factors like air circulation and human contact. Once microbes are present on surfaces there is an undesirable risk for cross contamination.

Why use an antimicrobial protected conduit?

Antimicrobial technology ensures a reduction of up to 99% of the most dangerous bacteria within 24 hours. Being incorporated in the material which the product is made of, it guarantees a long-lasting bactericidal action.

Where to use it?

In sanitary areas such hospitals or laboratories, public gathering places such as schools or nursing homes and places where HACCP & ISO 22000 management systems are required such as food industries, professional cuisines, restaurants, etc.

Antimicrobial efficacy is tested according to the international standard ISO 22196 and is controlled by the British laboratory BIOCOTE.

3

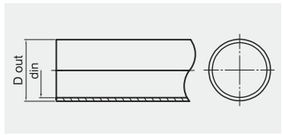
Plastic conduit systems

with antimicrobial technology

for places where HACCP & ISO 22000 are applicable or hygiene is priority

Medium Type (750Nt)

RAL 9003
signal white



Standards: EN 61386.21, ISO 22196

Assembled with

MEDISOL AM Bend
MEDISOL AM Coupler
MEDISOL AM Adaptor
MEDISOL AM Clip

Patent No: 1007372
Hellenic Industrial Property Organization

All product's certificates
are available at www.kouvidis.com

MEDISOL® AM rigid conduit 33411

Properties		Class
Resistance to compression	750Nt/5cm	3
Resistance to impact	2J (at -25ºC)	3
Lower temperature range	-25ºC	4
Upper temperature range	+60ºC	1
Resistance to bending	Rigid	1
Electrical characteristics	With electrical insulated characteristics	2
IP ingress protection	min IP65	6 5
Resistance against corrosion	Not applicable	0
Tensile strength	None declared	0
Resistance to flame propagating	Non flame propagating	1
Suspended load capacity	None declared	0

Additional properties	
Raw material	Heavy metals free (RoHS), specially stabilized thermoplastic U-PVC
Antimicrobial technology	Resist the growth of bacteria by up to 99% within 24 hours
Ageing resistance	UV stabilized
Rodent repellent	Not attractive to rodents

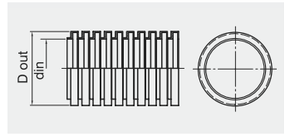
+ Engraved with laser printing and packed with safety straps in red color 100% recyclable polyethylene film. Harmonized with European directive 98/8/EC is ideal for sanitary areas (hospitals, medical centers & laboratories) and public spaces (schools, nursery homes/rooms & sport centers) and areas requiring implementation of HACCP & ISO 22000 systems such as food industries/warehouses, restaurants, etc.

Type	Part number	D out	min din		kg	(m)
Ø16	1044116	16	13.0	30	2,91	6000
Ø20	1044120	20	16.8	30	3,94	5460
Ø25	1044125	25	21.5	30	5,34	3300
Ø32	1044132	32	28.3	15	3,64	1755
Ø40	1044140	40	36.0	9	3,05	1071
Ø50	1044150	50	45.0	9	3,97	702
Ø63	1044163	63	57.8	9	5,77	396

3 Plastic conduit systems **made with antimicrobial technology**

Medium Type (750Nt)

RAL 9003
signal white



Standards: EN 61386.22, ISO 22196

Assembled with

MEDISOL AM Bend
MEDISOL AM Coupler
MEDISOL AM Adaptor
MEDISOL AM Clip

Patent No: 1007372
Hellenic Industrial Property Organization

MEDIFLEX® AM pliable conduit 33412

Properties		Class
Resistance to compression	750Nt/5cm	3
Resistance to impact	2J (at -25ºC)	3
Lower temperature range	-25ºC	4
Upper temperature range	+60ºC	1
Resistance to bending	Pliable	2
Electrical characteristics	With electrical insulated characteristics	2
IP ingress protection	min IP65	6 5
Resistance against corrosion	Not applicable	0
Tensile strength	None declared	0
Resistance to flame propagating	Non flame propagating	1
Suspended load capacity	None declared	0

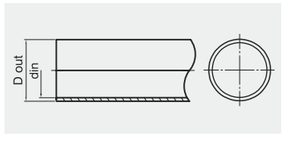
Additional properties	
Raw material	Heavy metals free (RoHS), specially stabilized thermoplastic U-PVC
Antimicrobial technology	Resist the growth of bacteria by up to 99% within 24 hours
Ageing resistance	UV stabilized
Rodent repellent	Not attractive to rodents

+ Marked using embossed printing and packed with 100% recyclable polyethylene film including safety straps and an informative red color label. Harmonized with European directive 98/8/EC is ideal for sanitary areas (hospitals, medical centers & laboratories) and public spaces (schools, nursery homes/rooms & sport centers) and areas requiring implementation of HACCP & ISO 22000 systems such as food industries/warehouses, restaurants, etc.

Type	Part number	D out	min din		kg	(m)
Ø16	2044116	16	10.7	50	2,87	3600
Ø20	2044120	20	14.1	50	3,95	3200
Ø25	2044125	25	18.3	25	2,74	1800
Ø32	2044132	32	24.0	25	3,87	1400
Ø40	2044140	40	31.0	20	4,05	880
Ø50	2044150	50	39.0	20	5,27	400
Ø63	2044163	63	52.0	20	7,12	360

Medium Type (750Nt)

RAL 9003
signal white



Standards: EN 61386.21, ISO 22196, EN 50642

Assembled with
MEDISOL AMHF Bend
MEDISOL AM Coupler
MEDISOL AM Adaptor
MEDISOL AM Clip

Patent No: 1007372
Hellenic Industrial Property Organization

MEDISOL AMHF conduit is being tested by KOUVIDIS quality control lab for its impact resistance (6J) at -45ºC

All product's certificates
are available at www.kouvidis.com

MEDISOL® AMHF rigid conduit

34441

Properties		Class
Resistance to compression	750Nt/5cm	3
Resistance to impact	6J (at -25ºC)	4
Lower temperature range	-25ºC	4
Upper temperature range	+120ºC	4
Resistance to bending	Rigid	1
Electrical characteristics	With electrical insulated characteristics	2
IP ingress protection	min IP65	6 5
Resistance against corrosion	Not applicable	0
Tensile strength	None declared	0
Resistance to flame propagating	Non flame propagating	1
Suspended load capacity	None declared	0

Additional properties	
Raw material	Halogen free, heavy metals free (RoHS) and specially stabilized thermoplastic PC
Antimicrobial technology	Resist the growth of bacteria by up to 99% within 24 hours
Halogen free	No toxic or corrosive gases in case of fire
Ageing resistance	UV stabilized
Rodent repellent	Not attractive to rodents

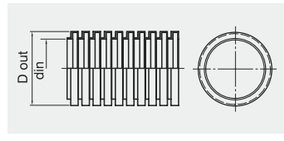
+ Printed with indelible green color and packed with safety straps in red color 100% recyclable polyethylene film. Harmonized with European directive 98/8/EC is ideal for sanitary areas (hospitals, medical centers & laboratories) and public spaces (schools, nursery homes/rooms & sport centers) and areas requiring implementation of HACCP & ISO 22000 systems such as food industries/warehouses, restaurants, etc.

Type	Part number	D out	min din		kg	(m)
Ø16	1044016	16	13.1	30	2.18	6000
Ø20	1044020	20	16.8	30	3.02	5460
Ø25	1044025	25	21.7	30	4.40	3300
Ø32	1044032	32	27.9	15	2.85	1755
Ø40	1044040	40	35.8	9	2.51	1071
Ø50	1044050	50	45.5	9	3.66	702
Ø63	1044063	63	57.8	9	5.40	396

Note: Product with minimum order quantity requirement

Medium Type (750Nt)

RAL 9003
signal white



Standards: EN 61386.22, ISO 22196, EN 50642

Assembled with
MEDISOL AMHF Bend
MEDISOL AM Coupler
MEDISOL AM Adaptor
MEDISOL AM Clip

Patent No: 1007372
Hellenic Industrial Property Organization

MEDIFLEX AMHF conduit is being tested by KOUVIDIS quality control lab for its impact resistance (2J) at -45ºC

MEDIFLEX® AMHF pliable conduit

33442

Properties		Class
Resistance to compression	750Nt/5cm	3
Resistance to impact	2J (at -25ºC)	3
Lower temperature range	-25ºC	4
Upper temperature range	+120ºC	4
Resistance to bending	Pliable	2
Electrical characteristics	With electrical insulated characteristics	2
IP ingress protection	min IP65	6 5
Resistance against corrosion	Not applicable	0
Tensile strength	None declared	0
Resistance to flame propagating	Non flame propagating	1
Suspended load capacity	None declared	0

Additional properties	
Raw material	Halogen free, heavy metals free (RoHS) and specially stabilized thermoplastic PC
Antimicrobial technology	Resist the growth of bacteria by up to 99% within 24 hours
Halogen free	No toxic or corrosive gases in case of fire
Ageing resistance	UV stabilized
Rodent repellent	Not attractive to rodents

+ Embossed with its basic properties (marking) and packed with 100% recyclable polyethylene film including safety straps and an informative red color label. Harmonized with European directive 98/8/EC is ideal for sanitary areas (hospitals, medical centers & laboratories) and public spaces and areas requiring implementation of HACCP & ISO 22000 systems such as food industries/warehouses, restaurants, etc.

Type	Part number	D out	min din		kg	(m)
Ø16	2044016	16	11.1	50	2.40	3600
Ø20	2044020	20	14,0	50	3.10	3200
Ø25	2044025	25	18.6	25	1.90	1800
Ø32	2044032	32	24.1	25	2.90	1400
Ø40	2044040	40	31.2	20	3.10	880
Ø50	2044050	50	39.3	20	4.00	400
Ø63	2044063	63	51.3	20	5.40	360

Note: Product with minimum order quantity requirement

Medium Type (750Nt)

RAL 9003
signal white

MEDISOL® AM bend

Properties

Resistance to impact	2J (at -25°C)
Temperature range	-25°C to +60°C

Additional properties

Raw material	Heavy metals free (RoHS), specially stabilized thermoplastic U-PVC

Type	Part number	D out	min din	A	R		
Ø16	4344116	16	13.0	27	59	10	480
Ø20	4344120	20	16.8	35	74	10	480
Ø25	4344125	25	21.5	36.7	108	10	240
Ø32	4344132	32	28.3	47.6	142	6	48
Ø40	4344140	40	36.0	52.9	144	6	84
Ø50	4344150	50	45.0	62	175	4	40
Ø63	4344163	63	57.8	77	203	4	24

Medium Type (750Nt)

RAL 9003
signal white

MEDISOL® AMHF bend

Properties

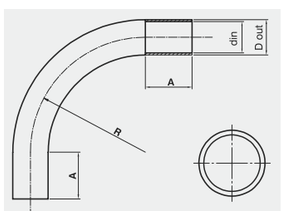
Resistance to impact	6J (at -25°C)
Temperature range	-25°C to +120°C

Additional properties

Raw material	Halogen free, heavy metals free (RoHS) and specially stabilized thermoplastic PC
Halogen free	No toxic or corrosive gases in case of fire
Less smoke than PVC	Better visibility of escape ways

Type	Part number	D out	min din	A	R		
Ø16	4344016	16	13.1	27	59	10	480
Ø20	4344020	20	16.8	35	74	10	480
Ø25	4344025	25	21.7	36.7	108	10	240
Ø32	4344032	32	27.9	47.6	142	6	48
Ø40	4344040	40	35.8	52.9	144	6	84
Ø50	4344050	50	45.5	62	175	4	40
Ø63	4344063	63	57.8	77	203	4	24

Standards & Directives:
EN 61386.21, ISO 22196



Note: Bends do not contain coupler within their packages.

+ Marked using embossed printing and packed in 100% recyclable packaging for their maximum protection.

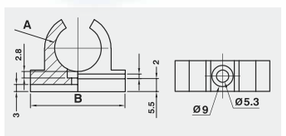
Basic properties for Bends

Antimicrobial technology	Resist the growth of bacteria by up to 99% within 24 hours
Electrical characteristics	With electrical insulated characteristics
Ageing resistance	UV stabilized
Resistance to flame propagating	Non flame propagating
Ingress protection	min IP65
Rodent repellent	Not attractive to rodents

All product's certificates are available at www.kouvidis.com

Fittings

RAL 9003
signal white



MEDISOL® AM clips

Properties

Raw material	Halogen free, heavy metals free (RoHS) and specially stabilized thermoplastic PC

Installation guidelines

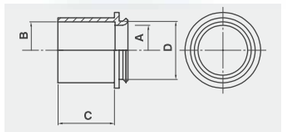
Recommended fastening space is 50cm for vertical and 40cm for horizontal installations

\+ They can be mounted with the use of 5mm screws and plugs. They have side slots for easy positioning to rails.

Type	Part number	A mm	B mm		
Ø16	4144016	15.8	35	4x50	3400
Ø20	4144020	19.8	40	4x50	2000
Ø25	4144025	24.8	46	4x30	1920
Ø32	4144032	31.8	53	30	1440
Ø40	4144040	39.8	63	20	960
Ø50	4144050	49.8	74	20	960
Ø63	4144063	62.8	88	20	960

Fittings

RAL 9003
signal white



MEDISOL® AM adaptors

Properties

Raw material	Halogen free, heavy metals free (RoHS) and specially stabilized thermoplastic PE

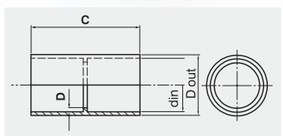
\+ Assembled with MEDISOL AM junction boxes after removing their seals. Adaptors with Part No. 4044016 and 4044020 can be mounted on junction boxes with type Ø16/20 and Ø20/16 while 4044025 and 4044032 can be mounted with the type Ø25/32.

Type	Part number	A mm	B mm	C mm	D mm		
Ø16	4044016	13	16	18.5	20	4x30	1920
Ø20	4044020	16.5	20	22.5	20	4X30	1200
Ø25	4044025	21.5	25	35	33	20	1260
Ø32	4044032	27.5	32	35	33	20	960

3 Plastic conduit systems **made with antimicrobial technology**

Fittings

RAL 9003
signal white



MEDISOL® AM couplers

Properties

Raw material	Halogen free, heavy metals free (RoHS) and specially stabilized thermoplastic PE
Ingress protection	min IP65

Type	Part number	D out	min din	C mm	D mm		
Ø16	4244016	20	16	51	1.5	30	2280
Ø20	4244020	23.5	20	52.5	1.5	30	1890
Ø25	4244025	28.5	25	51.5	1.5	30	1440
Ø32	4244032	37	32	65	2	20	560
Ø40	4244040	44.5	40	85	2	15	420
Ø50	4244050	55.6	50	105	2.5	10	200
Ø63	4244063	69.8	63	126	2.8	8	64

Standards & Directives:

EN 61386.1, ISO 22196, EN 50642,
EU 98/8/EC (BPD)

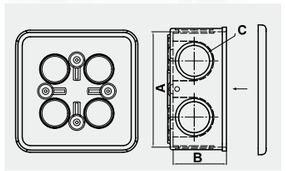
General properties for Fittings

Temperature range	-25ºC to +120ºC
Electrical characteristics	With electrical insulated characteristics
Ageing resistance	UV stabilized
Resistance to flame propagating	Non flame propagating
Antimicrobial technology	Resist the growth of bacteria by up to 99% within 24 hours
Halogen free	No toxic or corrosive gases in case of fire

All product's certificates are available at www.kouvidis.com

Junction boxes

RAL 9003
signal white



Standards & Directives:

EN 60670-22, ISO 22196, EN 50642, EU 98/8/EC (BPD)

MEDISOL® AM watertight with seals

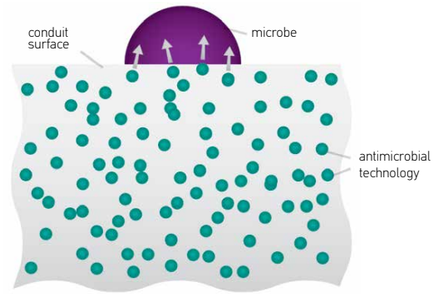
Properties	MEDISOL® AM
Raw material*	PC (RoHS)
Temperature range	-25°C to +60°C
Electrical characteristics	With electrical insulated characteristics
Resistance to flame propagating	Non flame propagating
Number of entries	7
Seals	Plug in seals
Ingress protection	IP55
Number of base knock outs	4
Conduit alignment	Yes
Condensation opening	Yes
Flame retardant	650°C
Voltage	800V
UV stability	Yes
Halogen free	No toxic or corrosive gases in case of fire
Antimicrobial technology	Resist the growth of bacteria by up to 99% within 24 hours

* Cover plate and plug in seals are made of PE.

+ Watertight due to their elastic and directly mounted cover plate.
MEDISOL AM adaptors, of different diameters, can be easily fastened in the openings after pushing out the plug in seals.

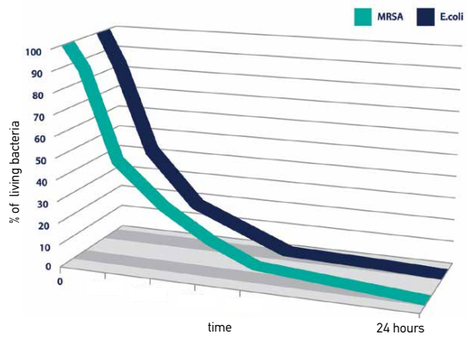
Type	Part number	A mm	B mm	C mm		
Ø16/20	3044016	67	38	21.6	10	280
Ø20/16	3044020	82	43	21.6	10	160
Ø25/32	3044025	101	51	35.1	5	100

All product's certificates
are available at www.kouvidis.com



ANTIMICROBIAL TECHNOLOGY

The antimicrobial technology is incorporated in the material which MEDISOL® AM - MEDIFLEX® AM plastic conduit system is made of during the manufacturing process to ensure a continuous antimicrobial protection. The active ingredients, contained in the surface of the antimicrobial system of plastic pipes, come in contact with the deposited microbes and after intervening in their cellular structure they achieve to prevent their reproduction and after that their significant reduction.



Moreover, the neutralization time of microbes is 24 hours, where a significant reduction of bacteria can be observed compared to an unprotected surface whereas a microbe can be proliferated and replicated endangering generating infections.

Double wall technology

GEONFLEX® & GEOSUB® double wall conduits are two of the most precious products in KOUVIDIS history because they have changed the management & protection of cables in buried underground installations. After 10 years in the market they have been placed in hundreds of construction projects with great success gaining installers and engineers respect due to their high quality and their distinctive advantages.

The successful presence of GEONFLEX® & GEOSUB® led to a stellar distinction at the recent Made in Greece Awards 2022. The innovative and high-quality conduits received the Gold award at the "Branded Industrial Product" category, placing them among the most reputable industrial products that are manufactured in Greece.

Our double structured wall conduits GEONFLEX® & GEOSUB® incorporate, during the production process, a third independent layer of longitudinal lines, of indelible color, on the outer of their corrugated wall creating a long lasting color marking between electrical installations and communication systems. In this way, they protect the personnel performing technical installation or maintenance tasks by warning them about the riskiness of the buried underground conduits. At the same time, they facilitate engineer's work providing a better and safer way of networking.

KOUVIDIS is the first purely Greek company engaged, from 2012, in the manufacture of double wall conduits for underground power and telecommunication networks **and the only European company that produces plastic conduits for buried underground networks in diameters of Ø32 - Ø250**.

4

Plastic conduit systems

buried underground

for installation of buried underground power and telecommunication networks

N L

Double wall conduits

Red color coding protection of cables in **electrical installations**

Green color coding protection of cables in **communication systems**

The color identification of GEONFLEX® & GEOSUB® conduits follows the rules set by the Standard NF P 98-332 which specifies the pipeline coloring according to the application field and the minimum distances buried pipes should have between each other.

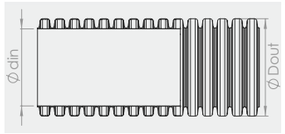
N

Normal Type (N750)

RAL 3020 red / inner layer

RAL 9004 black / outer layer

RAL 3020 Indelible red / Longitudinal lines



Standards: EN 61386-24

Reference Standards: NF P 98-332, EN 12613 & EN 50520

More feauters for GEONFLEX® bars and coils

Assembled with
Connection coupler with hooks
End caps

Red color coding protection of cables in **electrical installations**

Green color coding protection of cables in **communication systems**

Patent Protected: 1009810, 1009158, EP2698792, 1008090

All product's certificates are available at www.kouvidis.com

GEONFLEX® IAS (in bars)

Properties

Resistance to compression	750Nt (type 750)
Resistance to impact	Normal
Lower temperature range	-5ºC
Upper temperature range	+90ºC
Resistance to bending	Rigid
Electrical characteristics	With electrical insulated characteristics
IP ingress protection	IP44 (coupler connected) IP 68 (Coupler bonded with KOUVIDIS sealant)
Resistance to flame propagating	Flame propagating

Additional properties

Raw material	Halogen free, heavy metals free (RoHS) and specially stabilized thermoplastic HDPE
Ageing resistance	UV stabilized (≥ 5 years)
Low friction (internal layer)	Special material (slip) speeds up the routing of cables
Rodent repellent	Not attractive to rodents (the internal layer incorporates rodent repellent)
Color marking	Longitudinal stripes of **HIGH** thickness and indelible color indicate the power of the protected cables
Antistatic Technology	Protection against static electricity

+ Double structured wall conduits, corrugated outside and smooth inside, printed with indelible color with their basic properties and affixed with an informative waterproof indelible green label. Ideal for buried underground power and telecommunication networks, urban development projects, RES urban development projects and construction projects.
Their special design ensures higher mechanical resistance, over 750Nt in compression.

Type	Part number	D out	min din	m	kg	m 13.6m
Ø75	1007075	75	60.0	6	2,90	10080
Ø90	1007090	90	74.0	6	3,60	6912
Ø110	1007110	110	92.0	6	4,30	4800
Ø125	1007125	125	104.5	6	5,30	3072
Ø160	1007160	160	136.0	6	8,30	2520
Ø200	1007200	200	167.5	6	9,70	1800
Ø250	1007250	250	212.0	6	16,70	960

Product with minimum order quantity requirement (also with green stripes)
See page 99 for max. loading quantities.

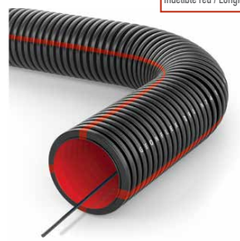
N

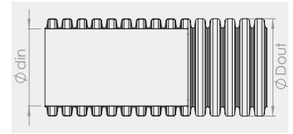
Normal Type (N750)

RAL 3020 red / inner layer

RAL 9004 black / outer layer

RAL 3020 Indelible red / Longitudinal lines





Standards: EN 61386-24

Reference Standards: NF P 98-332, EN 12613 & EN 50520

NOTE: GEONFLEX conduits come with a cable guide and two protective caps at each conduit's edge

In 50m coil packaging and internal safety strap is placed on the 25th meter to keep the initial shape of the coil unchanged when its external straps are snipped off.

Patent Protected: 1009810, 1009158, EP2698792, 1008090

GEONFLEX® IAS (in coils)

Properties

Resistance to compression	750Nt (type 750)
Resistance to impact	Normal
Lower temperature range	-5ºC
Upper temperature range	+90ºC
Resistance to bending	Pliable
Electrical characteristics	With electrical insulated characteristics
IP ingress protection	IP44 (coupler connected) IP 68 (Coupler bonded with KOUVIDIS sealant)
Resistance to flame propagating	Flame propagating

Additional properties

Raw material	Halogen free, heavy metals free (RoHS) and specially stabilized thermoplastic HDPE
Ageing resistance	UV stabilized (≥ 5 years)
Low friction (internal layer)	Special material (slip) speeds up the routing of cables
Rodent repellent	Not attractive to rodents (the internal layer incorporates animal repellent)
Internal guide	Cable guide with minimum tensile strength 650Nt
Color marking	Longitudinal stripes of **HIGH** thickness and indelible color indicate the power of the protected cables
Antistatic Technology	Protection against static electricity

+ Double structured wall conduits, corrugated outside and smooth inside, printed with indelible color with their basic properties, packed with **WHITE** safety straps and affixed with an informative waterproof indelible green label. Ideal for buried underground power and telecommunication networks, urban development projects, RES urban development projects and construction projects.

Type	Part number 25m / 50m	D out	min din		kg 25/50m	m 25/50m 13.6m
Ø32	2007032/2008032	32	24.0	25m/50m	2,58/5,15	33750/40000
Ø40	2007040/2008040	40	30.0	25m/50m	3,80/7,72	26250/31500
Ø50	2007050/2008050	50	37.0	25m/50m	4,40/9,80	16250/21000
Ø63	2007063/2008063	63	47.0	25m/50m	6,40/14,29	11500/14000
Ø75	2007075/2008075	75	61.5	25m/50m	9,13/18,20	6250/7750
Ø90	2007090/2008090	90	76.3	25m/50m	14,43/28,92	3750/5500
Ø110	2007110/2008110	110	92.7	25m/50m	16,98/34,01	3000/4000
Ø125	2007125/2008125	125	106.1	25m/50m	21,13/42,41	3125/3500
Ø160	2007160-	160	138.4	25m	32,84	1900/-
Ø200	2007200/-	200	171.1	25m	39,13	1225/-

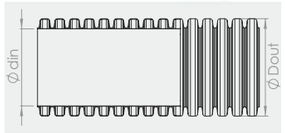
See page 99 for max. loading quantities.

Light Type (L450)

RAL 3020 red / inner layer

RAL 9004 black / outer layer

RAL 3020 Indelible red / Longitudinal lines



Standards: EN 61386-24

Reference Standards: NF P 98-332, EN 12613 & EN 50520

More feauters for GEOSUB® bars and coils

Assembled with
Connection coupler with hooks
End caps

Red color coding protection of cables in **electrical installations**

Green color coding protection of cables in **communication systems**

Patents Protected: 1009810, 1009158, EP2698792, 1008090

GEOSUB® IAS (in bars)

Properties

Resistance to compression	450Nt (type 450)
Resistance to impact	Light
Lower temperature range	-5°C
Upper temperature range	+90°C
Resistance to bending	Rigid
Electrical characteristics	With electrical insulated characteristics
IP ingress protection	IP40 (coupler connected) IP 68 (coupler bonded with KOUVIDIS sealant)
Resistance to flame propagating	Flame propagating

Additional properties

Raw material	Halogen free, heavy metals free (RoHS) and specially stabilized thermoplastic HDPE
Ageing resistance	UV stabilized (≥ 5 years)
Color marking	Longitudinal stripes of **LOW** thickness and indelible color indicate the power of the protected cables
Antistatic Technology	Protection against static electricity

+ Double structured wall conduits, corrugated outside and smooth inside, printed with their basic properties and affixed with an informative waterproof indelible mauve label.

Ideal for buried underground power and telecommunication networks, urban development projects, urban development and construction projects.

Type	Part number	D out	min din	m	kg	m 13,6m
Ø75	1006075	75	61.0	6	1,95	10080
Ø90	1006090	90	75.8	6	2,75	6912
Ø110	1006110	110	92.0	6	3,57	4800
Ø125	1006125	125	105.5	6	4,45	3072
Ø160	1006160	160	137.5	6	6,30	2520
Ø200	1006200	200	169.3	6	7,65	1800
Ø250	1006250	250	212.0	6	10,80	960

Note: Product with minimum order quantity requirement (also with green stripes)
See page 99 for max. loading quantities.

All product's certificates are available at www.kouvidis.com

4 Plastic conduit systems **buried underground**

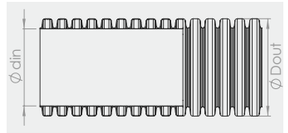
L

Light Type (L450)

RAL 3020 red / inner layer

RAL 9004 black / outer layer

RAL 3020 Indelible red / Longitudinal lines



Standards: EN 61386-24

Reference Standards: NF P 98-332, EN 12613 & EN 50520

NOTE: GEOSUB conduits come with a cable guide and two protective caps at each conduit's edge.

In 50m coil packaging an internal safety strap is placed on the 25th meter to keep the initial shape of the coil unchanged when its external straps are snipped off.

Patents Protected: 1009810, 1009158, EP2698792, 1008090

GEOSUB® IAS (in coils)

Properties

Resistance to compression	450Nt (type 450)
Resistance to impact	Light
Lower temperature range	-5°C
Upper temperature range	+90°C
Resistance to bending	Pliable
Electrical characteristics	With electrical insulated characteristics
IP ingress protection	IP40 (coupler connected) IP 68 (coupler bonded with KOUVIDIS sealant)
Resistance to flame propagating	Flame propagating

Additional properties

Raw material	Halogen free, heavy metals free (RoHS) and specially stabilized thermoplastic HDPE
Ageing resistance	UV stabilized (≥ 5years)
Internal guide	Cable guide with minimum tensile strength 650Nt
Color marking	Longitudinal stripes of **LOW** thickness and indelible color indicate the power of the protected cables
Antistatic Technology	Protection against static electricity

+ Double structured wall conduits, corrugated outside and smooth inside, printed with their basic properties, packed with special **BLACK** safety straps and affixed with an informative waterproof indelible mauve label.

Ideal for buried underground power and telecommunication networks, urban development projects, urban development and construction projects.

Type	Part number	D out	min din		kg	m 13,6m
Ø32	2006032	32	24.0	50	4,20	40000
Ø40	2006040	40	30.0	50	5,86	31500
Ø50	2006050	50	37.0	50	6,99	21000
Ø63	2006063	63	47.0	50	10,59	14000
Ø75	2006075	75	61.5	50	14,21	10000
Ø90	2006090	90	76.3	50	20,05	7000
Ø110	2006110	110	92.7	50	26,09	4500
Ø125	2006125	125	106.1	50	30,57	3500
Ø160	2006160	160	138.4	25	25,19	1900
Ø200	2006200	200	171.1	25	32,43	1225

See page 99 for max. loading quantities.

Fittings

RAL 9004
black

Standards: EN 61386-24

Connection couplers with hooks

Properties

Raw material	Halogen free, heavy metals free (RoHS) and specially stabilized thermoplastic HDPE
Temperature range	-5°C to +90°C
IP ingress protection	IP 40 (coupler connected to GEOSUB conduit) IP 44 (coupler connected to GEONFLEX conduit) IP 68 (coupler bonded with KOUVIDIS sealant)
Ageing resistance	UV stabilized

+ They carry three perimetric internal double hooks on each side and an inner lip for the proper conduits fixing and assembling.

Type	Part number		
Ø32	6101032	12	756
Ø40	6101040	12	576
Ø50	6101050	12	192
Ø63	6101063	15	150
Ø75	6101075	15	15
Ø90	6101090	10	10
Ø110	6101110	5	5
Ø125	6101125	5	5
Ø160	6101160	2	2
Ø200	6101200	3	3

Packaging parts

RAL 9004
black

All product's certificates
are available at www.kouvidis.com

End caps

Properties

Raw material	Halogen free, heavy metals free (RoHS) and specially stabilized thermoplastic HDPE
Ageing resistance	UV stabilized

+ Ideal for the protection of the internal side of conduits. Caps offered with a ventilation hole.

Type	Part number		
Ø32	6100032	40	2520
Ø40	6100040	30	1620
Ø50	6100050	30	720
Ø63	6100063	30	510
Ø75	6100075	15	210
Ø90	6100090	15	120
Ø110	6100110	8	80
Ø125	6100125	8	64
Ø160	6100160	6	6
Ø200	6100200	6	6

Required materials

Adhesive & Sealant

Properties

Consistency	Paste
Cured 2mm after	18 hours
Toxic	No
Solubility in water	Insoluble
Skin over time	Approx. 10 minutes
Expansion	No
Color	White
Working temperature	+5°C to +40°C
Shelf conditions	12-18 months

+ Capable to provide IP68 ingress protection. Free of silicone, isocyanides, solvents and halogens.

Part number		
6001004	6x310ml	-

Required materials

Lubricant for plastic pipes and fittings

Properties

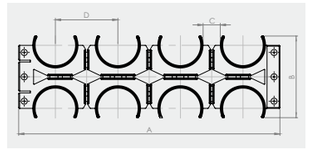
Consistency	Paste
Solubility in water	Insoluble
Color	White
Working temperature	+15°C to +40°C
Ph value	8.5 - 9.5
Shelf conditions	+5°C to +25°C

+ Based on synthetic raw materials, is water miscible and fulfills the current requirements of the German DVGW institute after the basis of type examination VP641.

Part number		
6001005	5kg	-

Fittings

RAL 9004 black



Patents Protected: 1009734

Spacer (8 folded)

Properties

Raw material	Specially stabilized thermoplastic PP, halogen free and heavy metals free (RoHS)
Electrical characteristics	With electrical insulated characteristics
Resistance to flame propagating	Flame propagating
Temperature resistance range	-5^{0}C to +90^{0}C
Compatibility (conduit nominal outer diameter)	Ø50 Ø63 Ø75 Ø90 Ø110 Ø125 Ø160

Instructions for Installation

It is recommended that spacers should be placed at 1.5 meters intervals, so that the appropriate distance between them can be maintained.

+ Spacers have two rows of support points (four support points each). They can also be easily joined, thanks to their intelligent connection system. Moreover, their special construction allows them to be easily separated in a single move, in one row or in fewer positions, depending on the requirements of the specific installation. Finally, there is sufficient support width at each position to prevent the creation of point loads on the conduits.

Type	No. of Positions	Part Numper	A mm	B mm	C mm	D mm		
Ø50	8(4x2)	6121050	323	101	28	78	45	4500
Ø63	8(4x2)	6121063	376	116	28	91	25	2400
Ø75	8(4x2)	6121075	425	131	28	103	20	1920
Ø90	8(4x2)	6121090	484	147	28	118	72	2016
Ø110	8(4x2)	6121110	575	210	30	140	42	672
Ø125	8(4x2)	6121125	664	233	38	163	32	384
Ø160	4(2x2)	6121160	452	299	60	219	39	468

Multi layer conduits

Multi-layer conduits are fully adapted to the new technology of plastics, ensure greater mechanical strength, facilitate installation due to their multiple benefits and guarantee an improved environmental footprint. KOUVIDIS has been active in the multi-layer conduit market since 2011, having developed innovative products for various applications.

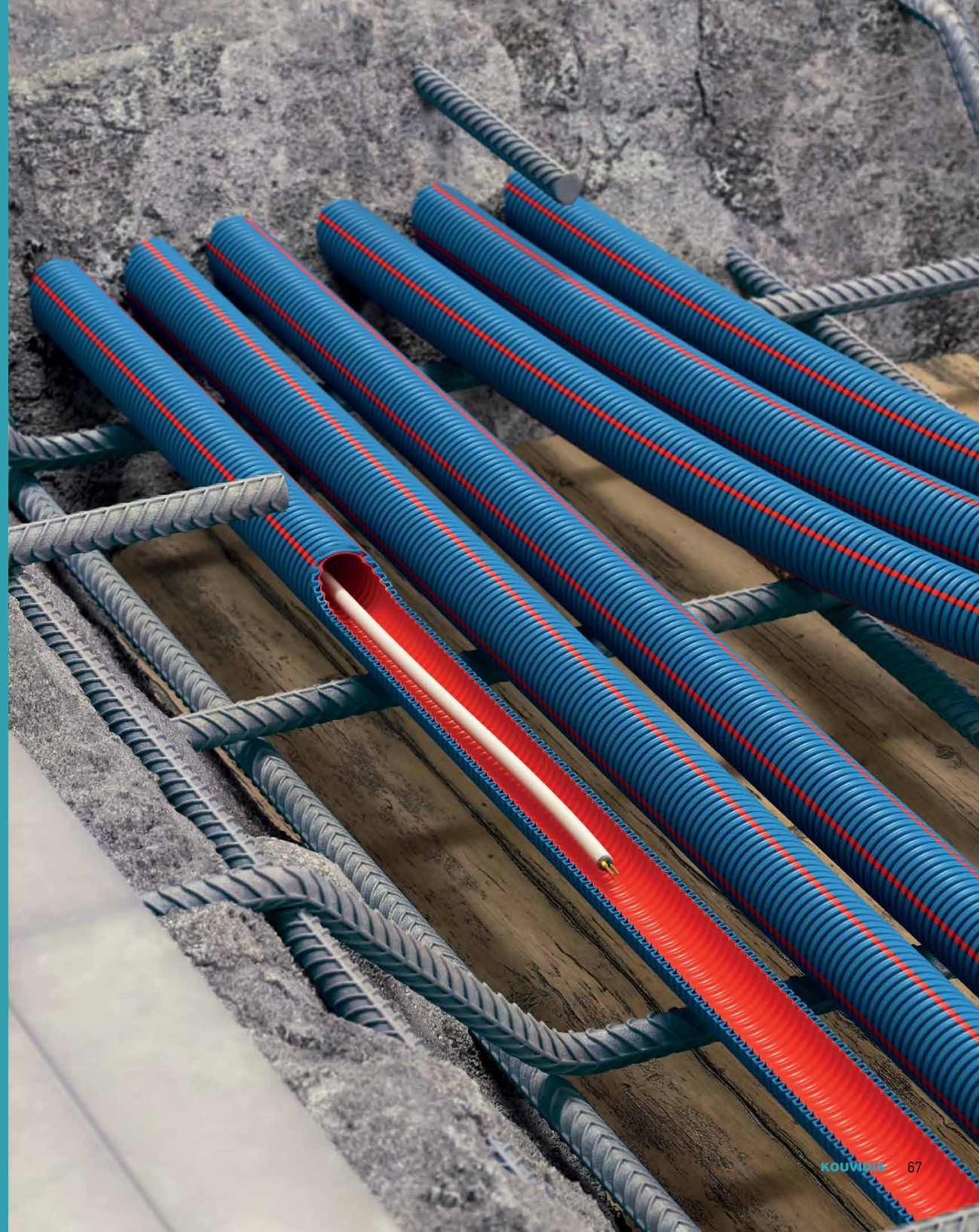
The technology of multi-layer conduits that has been adapted by KOUVIDIS has led to numerous developments and significant recognitions both at product and total production & packaging level.

5

Plastic conduit systems

for concealed type installations

M L B



KOUVIDIS
multi - layer pipes

Faster and easier than ever before

DUROFLEX® PLUS

Applying its manufacturing know-how on double structured wall conduits, KOUVIDIS becomes the 1st company in Europe daring such an investment by manufacturing double wall conduits in small diameters Ø20, Ø25 and Ø32.

Following the method of co-extrusion of 3 layers along with the use of special stabilized and halogen free raw materials, DUROFLEX® PLUS conduits achieve high mechanical and chemical resistance and make electrician's work easier and safer in concealed installations especially in concrete.

The corrugated external wall provides the necessary flexibility while the internal smooth wall ensures easier cable insertion. The third independent layer of longitudinal lines creates a long-lasting color marking between electrical installations and communication systems.

A special slip material is also added in the smooth internal layer of DUROFLEX® PLUS conduits, reducing by **50% the friction** (acc. to IEC/TR 62470) and thus the applied force that is required for cable routing.

The ideal solution for concealed installations in plasterboard

KOUVIDIS EMR

SUPERFLEX® PLUS

KOUVIDIS launches SUPERFLEX® PLUS, a new generation of 3layer conduits (320Nt) with anti-electromagnetic technology, for concealed type installations in plasterboard, sub-ceiling and cavity walls.

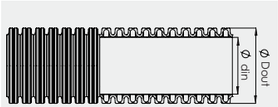
SUPERFLEX® PLUS new 3layer conduits consist of 3layers. The outer corrugated layer ensures the conduit's necessary flexibility and mechanical strength. The inner layer, ensures the smooth insertion of cables. A third independent layer of longitudinal lines creates a long lasting color marking between electrical and telecommunication cables. The inner layer of SUPERFLEX® PLUS plastic conduit incorporates a new innovative anti - electromagnetic technology which absorbs a part of the electromagnetic radiation emitted by the cables.

A special slip material is added in the internal layer of SUPERFLEX® PLUS conduits, reducing by 40% the friction (test conducted according to IEC/TR 62470) and thus the applied force that is required for cable routing.

NEW PRODUCT M

Medium Type (750Nt)

RAL 3020 red / inner layer | RAL 5019 blue / outer layer



Application Standards: EN 61386.22, EN 50642, EN 60754-2, EN 61034-2

Reference Standards: NF P 98-332

Assembled with
Connection couplers for DUROFLEX PLUS / SUPERFLEX PLUS conduits / MEDIFLEX PLUS

Patents Protected: 1009810, 1009144, EP2698792, 1009158

DUROFLEX® PLUS IAS pliable conduit — 33332

Properties		Class
Resistance to compression	750 Nt	3
Resistance to impact	2J (at -15°C)	3
Lower temperature range	-15°C	3
Upper temperature range	+105°C	3
Resistance to bending	Pliable	2
Electrical characteristics	With electrical insulated characteristics	2
Protection against ingress of solid objects Protection against ingress of water	min IP65	6 5
Resistance against corrosion	Not applicable	0
Tensile strength	None declared	0
Resistance to flame propagating	Non flame propagating	1
Suspended load capacity	None declared	0

Additional properties

Raw material	Halogen free, heavy metals free (RoHS) and specially stabilized thermoplastic PP
Ageing resistance	UV stabilized (≥ 5 years)
Low friction (internal layer)	Special material (slip) speeds up the routing of cables
Rodent repellent	Not attractive to rodents (the internal layer incorporates rodent repellent)
Color marking	Longitudinal stripes of indelible color indicate the power of the protected cables
Halogen free	No toxic or corrosive gases in case of fire
Low smoke	Better visibility of escape ways
Antistatic Technology	Protection against static electricity

+ Structured wall conduits. The external wall of the conduit is corrugated and the internal wall is smooth. Marked using embossed printing and packed with 100% recyclable polyethylene film including safety straps and an informative blue color label.

Ideal for concealed type installations in concrete, hollow walls and underplaster.

Type	Part number red / green	D out	din		kg	(m)
Ø20	2009020 / 2016020	20	13,2	50	3,78	3200
Ø25	2009025 / 2016025	25	18,1	25	2,53	1800
Ø32	2009032 / 2016032	32	23,7	25	3,49	1400

NEW PRODUCT L

Light Type (320Nt)

RAL 9004 black / inner layer | RAL 1023 yellow / outer layer

Application Standards: EN 61386.22, EN 50642, EN 60754-2, EN 61034-2

Reference Standards: NF P 98-332

Assembled with
Connection couplers for DUROFLEX PLUS / SUPERFLEX PLUS conduits / MEDIFLEX PLUS

Patents Protected: 1009810, EP2698792, 1009975

SUPERFLEX® PLUS IAS pliable conduit — 23332

Properties		Class
Resistance to compression	320 Nt	2
Resistance to impact	2J (at -15°C)	3
Lower temperature range	-15°C	3
Upper temperature range	+105°C	3
Resistance to bending	Pliable	2
Electrical characteristics	With electrical insulated characteristics	2
Protection against ingress of solid objects Protection against ingress of water	min IP65	6 5
Resistance against corrosion	Not applicable	0
Tensile strength	None declared	0
Resistance to flame propagating	Non flame propagating	1
Suspended load capacity	None declared	0

Additional properties

Raw material	Halogen free, heavy metals free (RoHS) and specially stabilized thermoplastic PP
Low friction (internal layer)	Special material (slip) speeds up the routing of cables
Anti - electromagnetic technology	Absorbs a part of the electromagnetic radiation emitted by the cables
Rodent repellent	Not attractive to rodents
Color marking / Longitudinal lines	Longitudinal stripes of indelible color indicate the power of the protected cables
Halogen free	No toxic or corrosive gases in case of fire
Low smoke	Better visibility of escape ways
Antistatic Technology	Protection against static electricity

+ Three layer conduit consists of a corrugated external wall, an internal layer that follows the geometry of the outer wall and a third independent layer of longitudinal lines. Marked using embossed printing and packed with 100% recyclable polyethylene film including safety straps.

Ideal for concealed type installations in plasterboard, cavity wall and sub-ceiling. A special slip material is added on its internal layer, facilitating the smooth insertion of the cables.

Type	Part number red / green	D out	min din		kg	(m)
Ø16	2010016 / 2017016	16	10,9	50	2,34	5860
Ø20	2010020 / 2017020	20	14,2	100	5,60	5600
Ø25	2010025 / 2017025	25	18,8	50	3,59	2600
Ø32	2010032 / 2017032	32	24,9	25	2,31	1100

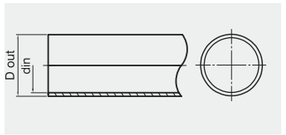
NEW PRODUCT
Available early 2023

L

Light Type (320Nt)

RAL 9004 black / inner layer

RAL 1023 yellow / outer layer



CE

Application Standards: EN 61386.22, EN 50642, EN 60754-2, EN 61034-2

Reference Standards: NF P 98-332

Assembled with
Connection couplers for DUROFLEX PLUS / SUPERFLEX PLUS / MEDIFLEX PLUS conduits

GREEN PRODUCT KOUVIDIS

Patents Protected: 1009810, EP2698792, 1009975

All product's certificates are available at www.kouvidis.com

SUPERSOL® PLUS IAS rigid conduit

23331

Properties		Class
Resistance to compression	320 Nt	2
Resistance to impact	2J (at -15°C)	3
Lower temperature range	-15°C	3
Upper temperature range	+105°C	3
Resistance to bending	Rigid	1
Electrical characteristics	With electrical insulated characteristics	2
Protection against ingress of solid objects Protection against ingress of water	min IP65	6 5
Resistance against corrosion	Not applicable	0
Tensile strength	None declared	0
Resistance to flame propagating	Non flame propagating	1
Suspended load capacity	None declared	0

Additional properties

Raw material	Halogen free, heavy metals free (RoHS) and specially stabilized thermoplastic PP
Low friction (internal layer)	Special material (slip) speeds up the routing of cables
Anti - electromagnetic technology	Absorbs a part of the electromagnetic radiation emitted by the cables
Rodent repellent	Not attractive to rodents
Color marking / Longitudinal lines	Longitudinal stripes of indelible color indicate the power of the protected cables
Halogen free	No toxic or corrosive gases in case of fire
Low smoke	Better visibility of escape ways
Antistatic Technology	Protection against static electricity

+ Three layer conduit consists of two structured walls and a third independent layer of longitudinal lines. Engraved with laser printing and packed with safety straps in red color 100% recyclable polyethylene film.

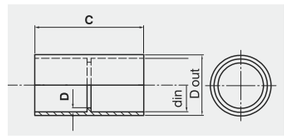
Ideal for concealed type installations in plasterboard, cavity wall and sub-ceiling. A special slip material is added on its internal layer, facilitating the smooth insertion of the cables.

Type	Part number red / green	D out	min din		kg	(m)
Ø16	1017016/1018016	16	13.1	30	2,18	6000
Ø20	1017020/1018020	20	16.8	30	3,02	3900
Ø25	1017025/1018025	25	21.7	30	4,40	2310
Ø32	1017032/1018032	32	27.9	15	2,85	1755

The above values are approximate.

Fittings

RAL 7035 Light grey



Application Standards: EN 61386.01

Reference Standards: EN 50642

Assembled with
SUPERFLEX PLUS IAS
DUROFLEX PLUS IAS
MEDIFLEX PLUS IAS

CE GREEN PRODUCT KOUVIDIS

Patent Protected: 1009810

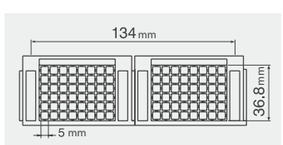
Coupler for DUROFLEX® PLUS IAS / SUPERFLEX® PLUS IAS / MEDIFLEX® PLUS IAS conduits

Properties	
Raw material	Halogen free, heavy metals free (RoHS) and specially stabilized thermoplastic HDPE
Protection against ingress of solid objects Protection against ingress of water	min IP65
Temperature range	-25°C to +60°C
Electrical characteristics	With electrical insulated characteristics
Resistance to flame propagating	Non flame propagating
Halogen free	No toxic or corrosive gases in case of fire
Antistatic Technology	Protection against static electricity

Type	Part number	D out	din	C mm		
Ø16	4017016	17.7	16.0	52.3	40	1920
Ø20	4017020	23.5	20.0	51.5	30	1890
Ø25	4017025	28.5	25.0	51.5	30	1440
Ø32	4017032	37.0	32.0	65.0	20	560

Junction boxes

RAL 9016 White | RAL 5019 blue



MULTIBOX®

Properties

Lower temperature range	-15°C
Upper temperature range	+60°C
Resistance to heat	650°C
Electrical characteristics	With electrical insulated characteristics
IP ingress protection	IP30
Resistance to flame propagating	Non flame propagating

Additional Properties

Raw material	Heavy metals free (RoHS), specially stabilized thermoplastic HIPS (base and separator) and PP (cover plate)
Conduit entries	All side walls (2 at the base)

+ Ideal for flush mounting and cavity wall installations. It can be extended to all directions (horizontal, vertical, diagonal). All sides consist of small 5x5mm removable square knock outs permitting the entry of cable or conduits of different dimensions up to Ø35 while special separators can define different electrical circuits.

Standards: EN 60670-22, EN 50642

CE

Patent No.: 1006882
Hellenic Industrial Property Organization

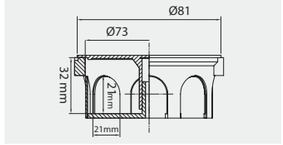
Type	Part number		
10x6	3012004	36	-
10x13	3012005	18	-
Cover plate	3112001	36	-
Separators	3012002	36	-

Packaging do not contain cover plates.

All product's certificates
are available at www.kouvidis.com

Junction boxes

RAL 9016 White | RAL 5019 blue



ASSEMBLED ROUND Ø73

Properties

Lower temperature range	-15°C
Upper temperature range	+60°C
Resistance to heat	650°C
Electrical characteristics	With electrical insulated characteristics
IP ingress protection	IP2X
Resistance to flame propagating	Non flame propagating

Additional Properties

Raw material	Heavy metals free (RoHS), specially stabilized thermoplastic HIPS (base) and PP (cover plate)
Conduit entries	8 up to Ø21

+ Ideal for flush mounting and cavity wall installations. Junction boxes can be assembled lengthwise.

Standards: EN 60670-22, EN 50642

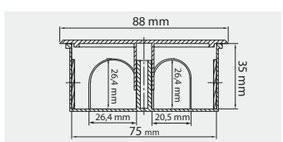
CE

Type	Part number		
Junction box	3010101	100	-
Cover plate	3110001	100	-

Packaging do not contain cover plates.

Junction boxes

RAL 9016 White | RAL 5019 blue



Standards: EN 60670-22, EN 50642

CE

SQUARE 7,5 x 7,5

Properties

Lower temperature range	-15^{0}C
Upper temperature range	+60^{0}C
Resistance to heat	650^{0}C
Electrical characteristics	With electrical insulated characteristics
IP ingress protection	IP2X
Resistance to flame propagating	Non flame propagating

Additional Properties

Raw material	Heavy metals free (RoHS), specially stabilized thermoplastic HIPS (base) and PP (cover plate)
Conduit entries	6 up to Ø25, 2 up to Ø20

+ Ideal for flush mounting and cavity wall installations.

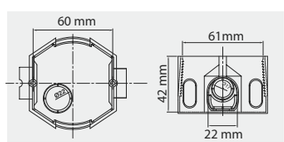
Type	Part number		
Junction box	3010102	50	-
Cover plate	3110002	50	-

Packaging do not contain cover plates.

All product's certificates
are available at www.kouvidis.com

Switch boxes

RAL 1018 Yellow | RAL 5019 blue



Standards: EN 60670-22, EN 50642

CE

MULTI COMBINATION GANG

Properties

Lower temperature range	-15^{0}C
Upper temperature range	+60^{0}C
Resistance to heat	650^{0}C
Electrical characteristics	With electrical insulated characteristics
IP ingress protection	IP2X
Resistance to flame propagating	Non flame propagating

Additional Properties

Raw material	Heavy metals free (RoHS), specially stabilized thermoplastic PP
Conduit entries	7 up to Ø18 (1 of them at the base up to Ø22)
No of screws dome	2 of 15mm screw length

+ Ideal for flush mounting installations. Designed with serrated inner surface, to ensure perfect mechanism mounting. The special spouts allow faultless boxes alignment and the 41mm depth creates the right installation space for switches with dimmer. Standardized combination distance 71mm which can be extended to 91 with the use of distance adaptors.

Type	Part number		
Multi combination gang	3011002	100	-
Distance adaptor	3211002	50	2700

Screw specification: plastic screw 3.3mm with minimum length 15mm.

info

Technical information

SIGNS EXPLANATION

All the below mentioned signs can be found on packagings, labels or on the company's technical documentation.

Product Conformity to all requirements of relative European Directives.

The product and its production process are inspected and approved by VDE German institute

Certification body of Quality Management System EN ISO 9001

Certification body of Environmental Management System EN ISO 14001

Certification body of Occupational Health and Safety Management System ISO 45001

The product does not contain hazardous substances acc. to 2011/65/EU RoHS Directive. Certification body VDE

Compliance with REACH Regulation EC/1907/2006 about chemicals

Product with extra UV stability

Halogen free product

Product with up to 99,9% antimicrobial protection

High impact resistance in extreme temperature conditions (-45°C)

Double wall technology. Pipes with double walls make cable introduction faster and easier.

Faster and easier cable insertion

Conduits with anti - electromagnetic technology

Low acidity

Compliance with Biocidal Products Directive 98/8/EC (BPD) concerning the placing of biocidal products on the market

Min-max permanent application temperature

Non flame propagating product

Product that propagates flame

Minimum compression strength

Minimum impact strength

Product with extra UV stability

Ingress protection against solid objects and water (EN 60529)

Friction reduction at the internal wall of double walls conduits

Product is not an attractive food to rodents

Low smoke during combustion (EN 61034-2)

Product is made of halogen free raw materials – absence of fluorine, iodine, bromine, chlorine, etc EN 50642

Antimicrobial product that inhibits by up to 99.9% the growth of harmful bacteria.

Product Certificate for its antimicrobial effectiveness from the BIOCOTE British Institute (ISO 22196)

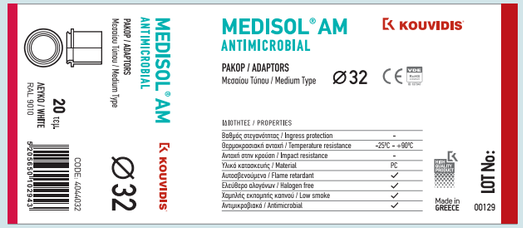
Patent protected product

Environmentally friendly product. Halogen free, heavy metals free (RoHS), low smoke, SVHC-free (REACH) with 100% eco-friendly packaging

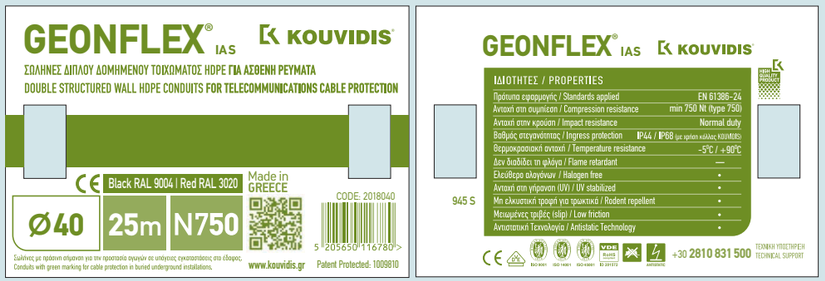
PRODUCT LABEL EXPLANATION

All KOUVIDIS products have distinctive labelling on their packaging and are easily traceable. The color of the label indicates the type of the product while the information mentioned refer to its characteristics and mechanical strengths.

Label found on conduit bundles or coils



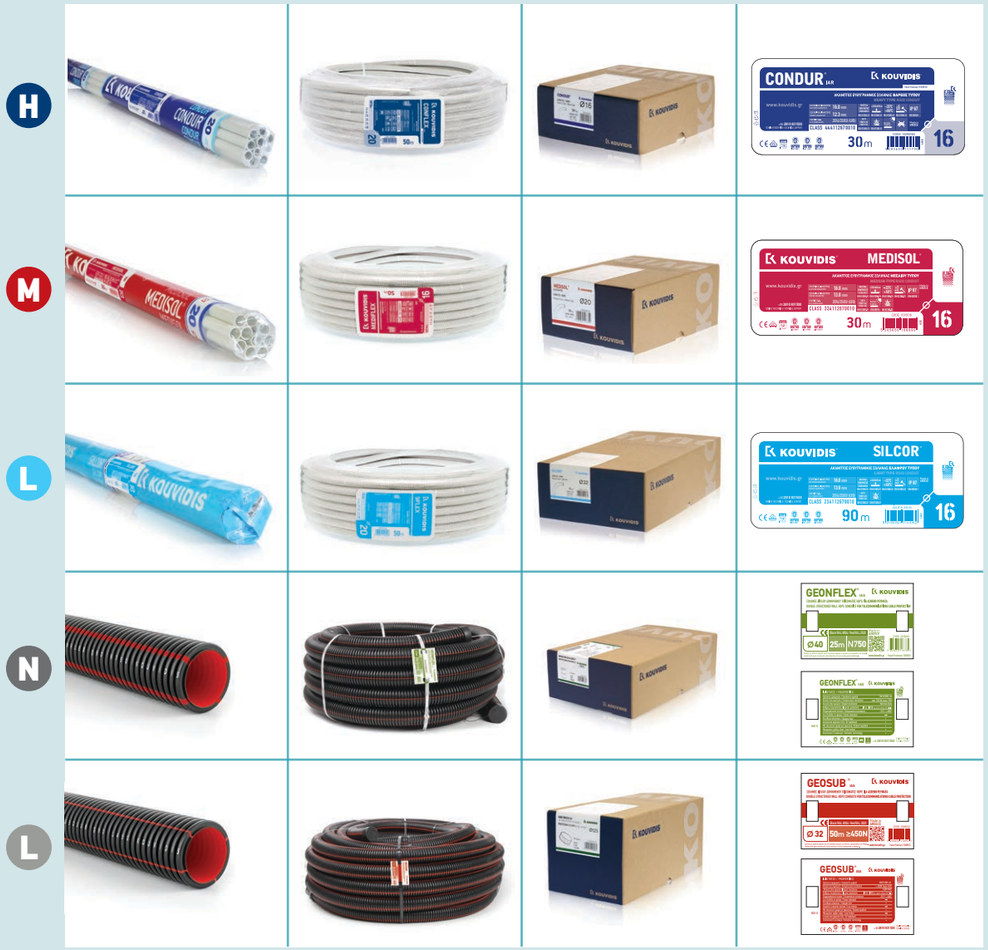
Label affixed on fittings packaging



Label affixed on double wall conduits (double side label)

COLOR IDENTITY (LABEL COLOR EXPLANATION)

KOUVIDIS has developed a very helpful color identity for each product family in order to facilitate installer and retailer work. The color identity provides easiness when identifying, storing and distributing while it secures recognition and uniformity of each product family.



EUROPEAN LEGISLATION

All Product's declarations for the below mentioned Directives are available at www.kouvidis.gr

Low Voltage Directive 2014/35/EU (LVD)
supersedes 2006/95/EC

LVD is applied to electrical equipment designed for the use with a voltage rating of between 50 to 1000 V for AC and between 75 and 1500 V for DC.

Electrical equipment may be placed on the market under the conditions that it has been manufactured in accordance with the safety LVD objectives, that it does not endanger the safety of persons, domestic animals or property when properly installed, maintained and used in applications for which it was made. Electrical products are presumed to conform to the safety LVD objectives when manufactured in compliance with Harmonized Standards or with the safety provisions of Electrical Equipment Commission or International Electrotechnical Commission.

In order to be placed on the EU market, an established Technical Documentation and a Declaration of Conformity must be drawn up and they should be affixed with the CE Marking. When electrical equipment is subject to other Directives, apart from LVD, which also provide CE Marking, then the CE label indicates the Conformity to the requirements of those Directives. The new LVD directive keeps the same scope and safety objectives.

KOUVIDIS was the first Greek company to have had all of its products affixed with the CE marking in the Greek market at the early 1990's.

Restriction of Hazardous Substances Directive 2015/863/EU amending Annex II to Directive 2011/65/EU (RoHS)

The RoHS 1 Directive (2002/95/EC) for the restriction of the use of certain hazardous substances in electrical and electronic equipment (commonly referred as Restriction of Hazardous Substances or RoHS) was adopted in February 2003, by the European Union and was implemented in a legislation form, on the 1st July 2006 by all Member States. RoHS2 Directive was published on 1 July 2011 in order to increase the e-waste amount that is appropriately treated, to reduce the volume that goes to disposal and to reduce the administrative burdens ensuring coherency with newer policies and legislation. The RoHS 3 (EU Directive 2015/863) adds Category 11 (catch-all) products and adds four new restricted substances - all phthalates. Category 11 products include all other electronic and electrical equipment not covered under the other categories. The expanded list for RoHS 3 is thus as follows: Lead (Pb), Mercury (Hg), Cadmium (Cd), Hexavalent Chromium (Cr (VI)), Polybrominated biphenyls (PBB), Polybrominated diphenlys ether (PBDE), Bis(2-ethylhexyl) phthalate (DEHP), Butyl benzyl phthalate (BBP), Dibutyl phthalate (DBP), Diisobutyl phthalate (DIBP). The above mentioned substances should not be used or contained beyond the specific allowed limits which are defined by the Directive. KOUVIDIS has adopted RoHS Directive since 2006 by using heavy metals free raw materials in all of its products.

REACH Regulation EC/1907/2006

REACH Regulation EC/1907/2006 concerns the Registration, Evaluation, Authorisation and Restriction of chemical substances. It has been valid since 2 June of 2007 and basically it improves and simplifies the past European legislation in chemicals. It concerns all chemicals and aims to ensure a high level of protection of human health and environment from the risks that can be posed by chemicals.

This Regulation also promotes the development of alternative test methods for the assessment of hazards posed by chemical substances. Chemical manufacturers and importers should identify and manage accordingly the hazards of the produced and traded in the market chemical substances.

KOUVIDIS, being fully compliant with REACH regulation since 2011, designs and manufactures products for electrical applications, which, when used within their specification, shall not release any harmful substances.

Directive 98/8/EC (BPD)

The Biocidal Products Directive was first published in 1998 and entered in force on 14 May 2000 aiming to harmonize the European market for biocidal products and their active substances, to provide a high level of protection for people, animals and environment through risk assessment, and to ensure that products are sufficiently effective against the target species. Biocidal products are any chemical substances intended to control unwanted, render harmless, and prevent the action of any harmful organism such as insects, bacteria, virus and fungi. The directive is applicable to 23 different product types relevant to the footwear and leather industries and human hygiene covering fiber, leather, rubber, and polymerized materials. The BPD can be seen as a precursor to the REACH legislation, as this followed a similar pattern of identification, assessment and authorization.

KOUVIDIS antimicrobial conduit system MEDISOL AM - MEDIFLEX AM is fully compliant with the BPD Directive.

EUROPEAN NORMS

EN 61386.01

The Standard specifies the general requirements and tests for Conduit Systems, including conduits and conduit fittings, for the protection and management of insulated conductors and/or cables in electrical installations or in communication systems up to 1000V AC and/or 1500V DC. This Standard applies to metallic, non-metallic, and composite Conduit Systems, including threaded and non-threaded entries which terminate the system. This Standard does not apply to Enclosures and Connecting Boxes which come within the scope of EN 60670.

EN 61386.21

Part 2-1 specifies the requirements for Rigid Conduit Systems. Rigid Conduits cannot be bent or bent only with the use of mechanical aids, with or with-out special treatment.

EN 61386.22

Part 2-2 specifies the requirements for Pliable Conduit Systems. Pliable Conduits can be bent by hand with reasonable force, but are not intended for frequent flexing.

EN 61386-24

This standard specifies requirements and tests for conduit systems buried underground including conduits and conduit fittings for the protection and management of insulated conductors and/or cables in electrical installations or in communication systems.

EN 50642

The European Standard EN 50642 specifies a method for the determination of the content of halogens in Cable Management System (CMS) components or products made of polymeric material(s). The determination is made by combustion and subsequent analysis of the combustion product by Ion Chromatography. This standard specifies how CMS components or products can be declared as halogen free. This European Standard is for environmental performance only.

EN 61034-1

Measurement of smoke density of cables burning under defined conditions. The standard contains test procedures and requirements. Smoke density test is combustion of an important aspect of performance evaluation, as it relates to the degree of difficulty for personnel evacuation.

EN 60754-1

The General Standard EN 60754 specifies the test methods on gases evolved during combustion of materials from cables. Part 1 specifies the apparatus and procedure for the determination of the amount of halogen acid gas, other than hydrofluoric acid, evolved during the combustion of compounds based on halogenated polymers and compounds containing halogenated additives taken from electric or optical fibre cable constructions.

EN 60754-2

Part 2 specifies the apparatus and procedure for the determination of the potential corrosivity of gases evolved during the combustion of materials taken from electric or optical fibre cable constructions by measuring the acidity (pH) and conductivity of an aqueous solution resulting from the gases evolved during the combustion.

EN 60670-1

This part of IEC 60670 Standard applies to Boxes, Enclosures and parts of enclosures for electrical accessories with a rated voltage not exceeding 1000 V AC and 1500 V DC intended for household or similar fixed electrical installations, either indoors or outdoors.

EN 60670-22

This Part specifies the particular requirements for connecting boxes, for junction(s) and tapping(s).

EN 61034-2

Measurement of smoke density of cables burning under defined conditions. The standard contains test procedures and requirements. Smoke density test is combustion of an important aspect of performance evaluation, as it relates to the degree of difficulty for personnel evacuation.

ISO 22196

ISO 22196 test method is used to evaluate the antibacterial activity of antibacterial plastic surfaces inhibiting or killing the growth of test microorganisms. The Standard describes the test procedure for Staphylococcus aureus and E.coli microorganisms. Additional pathogen bacteria like, Salmonella, Listeria monokytogenes, Pseudomonas aeruginosa, Klebsiella Pneumoniae, Lactobacilli, Streptococcus pyogenes and Legionella can also be tested by this method.

DEGREES OF PROTECTION (IP CODE)

According to EN 60529

The IP international protection code consists of two digits (e.g. IP67). The first digit stands for resistance to ingress of solid objects and dust, denominated from 0 to 6. The second digit stands for resistance against ingress of water and is denominated from 0 to 8. The IP international protection index digits are shown in the following table:

1st Digit
Protection against ingress of solid objects

IP 6 7

2st Digit
Protection against ingress of water

1st Digit		Protection against ingress of solid objects	2st Digit		Protection against ingress of water
IP 0X		Non protected	IP X0		Non protected
IP 1X	∅50mm	Protected against solid foreign objects of 50mm and greater (e.g. accidental touch by hands)	IP X1		Protected against vertically falling drops of water
IP 2X	∅12,5mm	Protected against solid foreign objects of 12.5mm and greater (e.g. contact with finger)	IP X2	15°	Protected against direct sprays of water up to 15° from vertical
IP 3X	∅2,5mm	Protected against solid foreign objects over 2.5mm (e.g. tools, cables)	IP X3	60°	Protected against direct sprays of water up to 60° from vertical
IP 4X	∅1mm	Protected against solid foreign objects over 1.0mm (e.g. thin tools, small wires)	IP X4		Protected against water splashing from all directions
IP 5X		Protected against dust (permeable only to visible particles)	IP X5		Protected against low pressure jets of water from all directions
IP 6X		Dust - tight	IP X6		Protected against powerful pressure jets of water from all directions
			IP X7	1m / 15cm mini	Protected against the effect of immersion in water between 15cm and 1m
			IP X8	h	Protected against long periods of immersion in water

CLASSIFICATION CODE FOR CONDUIT SYSTEMS

According to EN 61386.01

The classification code is made of 12 digits, according to EN 61386.01, and determines conduits main properties. The first 5 digits are the most usually displayed at marking and classify conduits according to their compression resistance, impact resistance, minimum and maximum operating temperature and bending resistance. Classification code is demonstrated on the below table:

Product example
CONDUR® rigid conduit
(pg 20)

Digits	Class	0	1	2	3	4	5	6	7	
1	Resistance to compression	None declared	Very light (125Nt)	Light (320Nt)	Medium (750Nt)	Heavy (1250Nt)	Very heavy (4000Nt)			4
2	Resistance to impact	None declared	Very light (0.5 kg/100 mm - 0.5J)	Light (1.0 kg/100 mm - 1J)	Medium (2.0 kg/100 mm - 2J)	Heavy (2.0 kg/300 mm - 6J)	Very heavy (6.8 kg/300 mm - 20.4J)			4
3	Lower temperature range	None declared	+5°C	-5°C	-15°C	-25°C	-45°C			4
4	Upper temperature range	None declared	+60°C	+90°C	+105°C	+120°C	+150°C	+250°C	+400°C	1
5	Resistance to bending		Rigid	Pliable	Pliable/Self recovering	Flexible				1
6	Electrical characteristics	None declared	With electrical continuity characteristics	With electrical insulating characteristics	With electrical continuity and insulating characteristics					2
7	Protection against ingress of solid objects				Solid foreign objects over 2.5mm (e.g. tools, cables)	Solid foreign objects over 1.0mm (e.g. thin tools, small wires)	Dust (permeable only to visible particles)	Dust - tight		6
8	Protection against ingress of water	None declared	Vertically falling water drops	Direct sprays of water up to 15° from vertical	Direct sprays of water up to 60° from vertical	Water splashing from all directions	Low pressure jets of water from all directions	Powerful pressure jets of water from all directions	Immersion in water between 15cm and 1m	5
9	Resistance against corrosion	Not applicable	Low protection inside and outside	Medium protection inside and outside	Medium protection inside, high protection outside	High protection inside and outside				0
10	Tensile strength	None declared	Very light	Light	Medium	Heavy	Very Heavy			0
11	Resistance to flame propagation		Non flame propagating	Flame propagating						1
12	Suspended load capacity	None declared	Very light	Light	Medium	Heavy				0

CLASSIFICATION CODE FOR CONDUIT SYSTEMS BURIED UNDERGROUND

According to EN 61386-24

The classification code for buried underground conduits is made of 2 elements according to EN 61386-24 and determines the conduit's main properties. The first element is the letter "L" or "N" which classifies the conduit according to its impact resistance whereas the second one is a three digid number 250 or 450 or 750 which classifies it according to its compression resistance. Classification code is demonstrated on the table below:

Resistance to impact

Light Duty (L)	Normal Duty (N)
≤Ø60 – (3Kg/100mm – 3J)	≤Ø60 – (5Kg/300mm - 15J)
≤Ø90 – (3Kg/200mm – 6J)	≤Ø90 – (5Kg/400mm – 20J)
≤Ø140 – (3Kg/400mm – 12J)	≤Ø140 – (5Kg/570mm – 28J)
>Ø140 – (3Kg/500mm – 15J)	>Ø140 – (5Kg/800mm - 40J)

Example of GEONFLEX Ø90 conduit

N 750

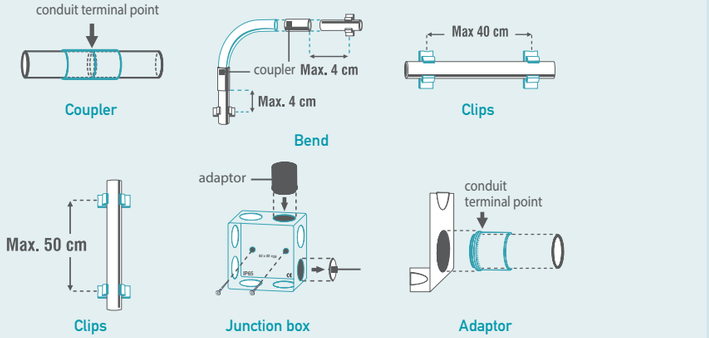
Resistance to compression

Type 250	Type 450	Type 750
≥250Nt	≥450Nt	≥750Nt

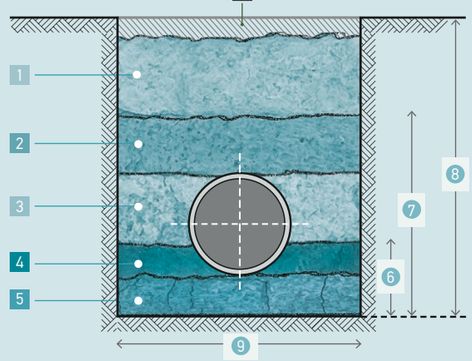
INSTALLATION GUIDE

Below you can find the installation guidelines in order ensure an appropriate structure of your conduit systems.

Exposed Installations



Buried Underground Installations (acc. to EN 1610)



Description of filling trench zones

1. Main backfill
2. Initial backfill
3. Sidefill
4. Upper bedding
5. Lower bedding
6. Depth of bedding
7. Depth of embedment
8. Trench depth
9. Trench width
10. Bottom of road construction, if any

Minimum recommended width of trench in relation to outside diameter of conduit	
Nominal Diameter (DN)	Minimum trench width (OD + Xm)
≤ 225	OD + 0,4

OD: Outside diameter

More about trench dimensions, trench materials, installation, storage, laying, connection, trenching and inspection of buried underground conduit systems can be found on double wall conduits technical manual at www.kouvidis.com

Minimum recommended width of trench in relation to trench depth	
Trench Depth (m)	Minimum trench width (m)
< 1	No minimum width required
≥ 1 ≤ 1.75	0.80
> 1.75 ≤ 4.00	0.90
> 4.00	1.00

Conduits with outside diameter OD up to 200 mm

RAW MATERIALS GUIDE

The information contained below is typical values intended for reference and comparison purposes only. They should not be used as a basis for design specifications or quality control.

Properties	PVC	PP	HDPE	HIPS	PC	PC/ABS
Temperature Resistance (°C)	- 25 +70	-30 +135	-100 +120	- -	-40 +140	- -
Impact Resistance (Kj/m²)	2.0 - 45 Kj/m²	3.0 - 30.0 Kj/m²	-	10.0 - 20.0 Kj/m²	60 - 80 Kj/m²	55 Kj/m²
Flammability UL 94	V0	V2	HB	HB	V0-V2	HB 0.85mm
Water Absorption (%) - 24 hours	0.06	0.08	0.01	0.20	0.15	0.25
Free of Halogen	No	Yes	Yes	Yes	Yes	Yes

PVC	Compatibility with many different kinds of additives - PVC can be clear or colored, rigid or flexible, formulation of the compound is the key to PVC's "added value".
PP	Rigid, opaque, good dimensional stability at high temperature and humidity conditions, difficult to process (blended to ease injection molding), tough.
HDPE	Flexible, translucent / waxy, weatherproof, good low temperature toughness, easy to process by most methods, low cost, good chemical resistance.
HIPS	Hard, rigid, brittle, low shrinkage translucent, impact strength up to 7 x PS, easy to process.
PC	Polycarbonates are strong, stiff, hard, tough, transparent engineering thermoplastics that can maintain rigidity up to 140°C and toughness down to -20°C or special grades even lower.

PVC	Polyvinyl chloride
PP	Polypropylene
HDPE	High density Polyethylene
HIPS	High impact Polystyrene
PC	Polycarbonate

CHEMICAL RESISTANCE

Table below is an informational guide only with general chemical characteristics of the raw materials used in KOUVIDIS products and it should not be considered as a substitute for testing under your specific conditions.

	PP		HDPE		PVC		PC		PS	
	25°C	60°C	25°C	60°C	25°C	60°C	25°C	60°C	25°C	60°C
Acetaldehyde	•	-	•	○	-	-	•	•	-	-
Acetic Acid	•	•	•	•	•	•	○	○	○	-
Acetone	•	•	•	•	-	-	-	-	-	-
Acetyl Chloride	-	-	-	-	-	-	-	-	-	-
Ammonium Chloride	•	•	•	•	•	•	•	•	•	•
Ammonium Hydroxide	•	•	•	•	•	•	-	-	•	•
Aniline	•	•	•	•	-	-	-	-	-	-
Benzene	•	○	•	•	-	-	-	-	-	-
Benzoic Acid	•	•	•	•	•	•	-	-	•	•
Boric acid (10%)	•	•	•	•	•	•	•	•	•	•
Bromine Gas	-	-	○	-	○	○	○	-	-	-
Bromine Water	-	-	○	-	•	○	○	-	-	-
Butyl Alcohol	•	•	•	•	•	•	•	○	•	•
Calcium Hydroxide		•	•	•	•	•	-	-	•	•
Carbon Disulphide	-	-	-	-	-	-	-	-	-	-
Carbon Tetrachloride	○	-	○	○	○	-	○	-	-	-
Chlorine Water	○	○	-	-	•	○	•	○	-	-
Chlorinated Gas	-	-	○	-	-	-	•	•	-	-
Citric Acid	•	•	•	•	•	•	•	•	•	•
Cyclohexanol	○	-	•	•	•	-	•	○	-	-
Diethylene Glycol	•	•	•	•	○	-	•	○	•	•
Diethyl Ether	•	-	○	-	○		-	-	-	-
Dioxin	•	○	•	•	-	-	-	-	-	-
Diesel Oil	•	•	•		•	•	•	-	○	-
Ethylene Chloride	○	-	-	-	-	-	-	-	-	-
Ethylene Oxide GAS	○	○	○	○	-	-	○	-	N	N
Fluorine GAS	-	-	-	-	-	-	○	○	N	N
Formic Acid	•	•	•	•	•	○	-	-	○	-
Glycerin	•	•	•	•	•	•	•	•	•	•
Hydrochloric Acid (30%)	•	•	•	•	•	•	-	-	•	○
Hydrofluoric Acid (25%)	•	•	•	•	•	•	-	-	-	-
Hydrogen	•	•	•	•	•	•	•	•	•	•
Hexane	•	○	•	-	•	-	○	-	-	-
Methyl Alcohol	•	•	•	•	•	○	•	○	•	○
Mineral oil	•	○	•	•	•	•	•	•	•	•
Nitric Acid (<25%)	•	•	•	•	•	•	•	•	○	○
Oxalic Acid	•	○	•	•	•	•	•	•	•	-
Petroleum	•	○	•	•	•	○	•	○	-	-
Phosphoric Acid (50%)	•	•	•	•	•	•	•	•	•	•
Seawater	•	•	•	•	•	•	•	-	•	•
Sodium Chloride	•	•	•	•	•	•	-	-	•	•
Sulfuric Acid (<10%)	•	•	•	•	•	•	•	•	•	○
Sulfuric Acid (<90%)	○	○	○	○	-	-	-	-	-	-
Toluene	○	-	○	-	-	-	-	-	-	-
Vegetable Oil	•	•	•	○	•	•	•	•	•	•
Xylene	○	○	○	○	-	-	-	-	-	-

• = Resistant against chemical attack
○ = Limited Resistant against chemical attack
- = Poor resistance, not recommended
N = No Data available

Application Field

	Heavy type				Medium type								Light type							
	CONDUR®	CONFLEX®	CONDUR® HF	CONFLEX® HF	MEDISOL®	MEDIFLEX®	Available early 2023 MEDISOL® PLUS	MEDIFLEX® PLUS	MEDISOL® AM		MEDIFLEX® AM	DUROFLEX® PLUS	Available early 2023 SUPERSOL® PLUS	SUPERFLEX® PLUS	SILCOR®	SIFLEX®	GEONFLEX® bar	GEONFLEX®	GEOSUB® bar	GEOSUB®
CLASSIFICATION	44411	44412	44441	44442	33411	33412	33331	33332	33411		33412	33332	23331	23332	23411	22412	N750	N750	L450	L450
TECHNOLOGY																				
Halogen free	–	–	•	•	–	–	•	•	–		–	•	•	•	–	–	•	•	•	•
Low smoke	–	–	–	–	–	–	•	•	–		–	•	•	•	–	–	–	–	–	–
Low acidity	–	–	–	–	–	–	•	•	–		–	•	•	•	–	–	–	–	–	–
Antimicrobial	–	–	–	–	–	–	–	–	•		•	–	–	–	–	–	–	–	–	–
Anti - electromagnetic	–	–	–	–	–	–	•	•	–		–	–	•	•	–	–	–	–	–	–
Low friction	–	–	–	–	–	–	•	•	–		–	•	•	•	–	–	•	•	–	–
UV Stability	•	•	•	•	•	•	•	•	–		–	•	–	–	–	–	•	•	•	•
Anti-rodent	•	•	•	•	–	–	•	•	•		•	•	•	•	–	–	•	•	–	–
Multiple layers	–	–	–	–	–	–	2	2	–		–	3	3	3	–	–	3	3	3	3
SPECIFICATIONS																				
Material	U-PVC	U-PVC	PC	PC	U-PVC	U-PVC	PP	PP	U-PVC		U-PVC	PP	PP	PP	U-PVC	U-PVC	HDPE	HDPE	HDPE	HDPE
Compression strength	>1250Nt	>1250Nt	>1250Nt	>1250Nt	>750Nt	>750Nt	>750Nt	>750Nt	>750Nt		>750Nt	>750Nt	>320Nt	>320Nt	>320Nt	>320Nt	Type 750	Type 750	Type 450	Type 450
Impact strength	6J	6J	6J	6J	2J	2J	2J	2J	2J		2J	2J	2J	2J	2J	1J	Normal	Normal	Light	Light
Minimum temperature	-25ºC	-25ºC	-45ºC	-45ºC	-25ºC	-25ºC	-15ºC	-15ºC	-25ºC		-25ºC	-15ºC	-15ºC	-15ºC	-25ºC	-25ºC	-5ºC	-5ºC	-5ºC	-5ºC
Maximum temperature	60ºC	60ºC	120ºC	120ºC	60ºC	60ºC	105ºC	105ºC	60ºC		60ºC	105ºC	105ºC	105ºC	60ºC	60ºC	90ºC	90ºC	90ºC	90ºC
Resistance to flame propagation	Non flame propagating				Non flame propagating								Non flame propagating				Flame propagating			
Ingress protection	min IP65	min IP65	min IP65	min IP65	min IP65	min IP65	min IP65	min IP65	min IP65		min IP65	min IP65	min IP65	min IP65	min IP65	min IP65	IP44/IP68**	IP44/IP68**	IP40/IP68**	IP40/IP68**
Resistance to bending	Rigid	Pliable	Rigid	Pliable	Rigid	Pliable	Rigid	Pliable	Rigid		Pliable	Pliable	Rigid	Pliable	Rigid	Pliable	Rigid	Pliable	Rigid	Pliable
Dimensions	Ø16-Ø63	Ø16-Ø63	Ø16-Ø63	Ø16-Ø63	Ø16-Ø63	Ø16-Ø63	Ø16-Ø32	Ø16-Ø32	Ø16-Ø63		Ø16-Ø63	Ø20-Ø32	Ø16-Ø32	Ø16-Ø32	Ø16-Ø63	Ø16-Ø63	Ø75-Ø250	Ø32-Ø200	Ø75-Ø250	Ø32-Ø200
Certifications	CE/VDE	CE/VDE	CE/VDE	CE/VDE	CE/VDE	CE/VDE		CE/VDE*	CE/BIOCOTE		CE/BIOCOTE	CE/VDE		CE/VDE	CE/VDE	CE/VDE	CE/VDE	CE/VDE	CE/VDE	CE/VDE
INSTALLATION																				
Exposed	○	○	•	•	○	○	•	•	○		○	○	–	–	○	○	–	–	–	–
Concealed (dry walls)	○	○	○	○	○	○	○	○	○		○	○	•	•	○	○	–	–	–	–
Concealed (underplaster)	○	○	–	–	○	○	○	○	○		○	○	•	•	○	○	–	–	–	–
Concealed (floor, ceilings)	○	○	○	○	○	○	○	○	○		○	○	•	•	○	○	–	–	–	–
Underfloor in screed	○	○	–	–	•	•	•	•	•		•	•	○	○	–	–	•	•	○	○
Concrete	•	•	–	–	•	•	•	•	•		•	•	–	–	–	–	•	•	–	–
Outdoor	•	•	•	•	○	○	○	○	○		○	○	–	–	–	–	–	–	–	–
Buried underground	○	○	○	○	○	○	○	○	○		○	○	–	–	–	–	•	•	•	•
Wood	•	•	○	○	•	•	○	○	•		•	○	○	○	○	○	–	–	–	–
PAGE	22	23	36	37	24	25	38	39	50		51	40	42	41	26	27	62	63	64	65

TECHNOLOGY EXPLANATION

Halogen free conduits acc. to EN 50642

Low smoke density of conduits burning acc. to EN 61034-2

Low acidity of gas content during combustion acc. to EN 60754-2

Antimicrobial protection on plastics acc. to ISO 22196

UV stability for at least 5 years

Anti-electromagnetic technology which absorbs a part of the electromagnetic radiation emitted by the cables

Low friction in the internal layer of conduit acc. to IEC/TR 62470

Anti-rodent technology repels rodents (European Patent EP2698792)

Multilayers facilitate installation due to their multiple benefits and guarantee an improved environmental footprint
Two layers (2): internal and external layers. Three layers (3): internal/external layers and a layer of longitudinal lines. Four layers (4): internal/external layers, a layer of longitudinal lines and a layer of geotextile

* VDE Certificate pending
**IP68 when pipe is bonded to its coupler with the use of KOUVIDIS sealant

SPECIFICATIONS EXPLANATION

CLASSIFICATION for cable protection conduit systems is according to EN 61386.01 and EN 61386.24 and for drainage piping systems is according to EN ISO 9969

Materials are specially stabilized heavy metals free (RoHs) thermoplastics

Compression strength for cable protection conduit systems refers to resistance to compression (EN 61386.01) and for drainage piping systems refers to ring stiffness (EN ISO 9969) and ring flexibility (EN ISO 13968 for GEOSAN pipes)

Impact strength for cable protection conduit systems refers to resistance to impact (EN 61386.01) and for GEOSAN pipes refers to impact strength (EN 744)

Ingress protection for cable protection conduit systems refers to protection against solid objects and water (EN 60529) and for GEOSAN pipes refers to permanent leak tightness (EN 1277)

Diameters refer to pipe's outside diameters

○ Recommended
– Not recommended
• Best choice acc. to the manufacturer

The above Installation fields are only recommendations due to the technical specifications of KOUVIDIS products. National or local restrictions and prohibitions must always be considered.

LOADING GUIDELINES

Means of loading

At the below table you can find the maximum loading conditions regarding the pallets and the means of transportation that KOUVIDIS uses for deliveries abroad:

	(m) 3,0 x 1,15 x 0,65m	left space m^2	left space m^3	(m) 1,15 x 1,15 x 2,20m	left space m^2	left space m^3	(m) 1,15 x 1,15 x 2,60m	left space m^2	left space m^3	(pcs) 1.20 x 0.80 x 2.20	left space m^2	left space m^3	(pcs) 1.20 x 0.80 x 2.60	left space m^2	left space m^3
20HC	6	6,68	18,51	10	-	-	-			11	2,79	6,56	-		
40HC	24	7,00	18,52	-			20	1,16	3,08	-			25	3,96	10,49
13,6m	32	3,87	10,06	-			22	2,30	5,97	-			32	6,03	15,68

Loading 3m conduits

In regards to the loading of conduit pallets the following information should be considered in order to secure the safety of the people and the products. There are two ways to lift and store/load the conduits pallets:

1. You can lift the pallet from the one side by placing the forks along the middle wooden frame. Ensure that the forks are fully under the pallet before lifting.

2. You can lift the pallet from its edge by placing the forks in the pallet's openings. In this case you will need larger pallet forks with minimum length 1,70m. Ensure that the forks are fully under the pallet laying under the first two wooden frames before lifting.

The below table depicts the maximum loading capacity (m) of double wall pipes GEONFLEX® & GEOSUB® in different means of transportation.

PRODUCT	Part Number	Coils/ bundles (m)	Truck (13,6 m)	Container 20t (m)	Container 40t HC (m)
GEONFLEX® N750 in coils (pg. 63)	2007040	25	26250	8750	21250
	2007050	25	16250	5700	13000
	2007063	25	11500	4000	9300
	2007075	25	6250	2100	4800
	2007090	25	3750	1200	2900
	2007110	25	3000	1000	2300
	2007125	25	3125	1125	2500
	2007160	25	1900	525	1375
	2007200	25	1225	450	1050
	2008032	50	40000	N/A	N/A
	2008040	50	31500	10000	24000
	2008050	50	21000	7000	16500
	2008063	50	14000	4750	11000
	2009075	50	7750	2500	6000
	2008090	50	5500	1750	4000
	2008110	50	4000	1250	3000
	2008125	50	3500	1200	2750
GEONFLEX® N750 in bars (pg. 62)	1007075	6	10080	-	-
	1007090	6	6912	-	-
	1007110	6	4800	-	-
	1007125	6	3072	-	-
	1007160	6	2520	-	-
	1007200	6	1800	-	-
	1007250	6	960	-	-
GEOSUB® L450 in coils (pg. 65)	2006032/2014032	50	40000	N/A	N/A
	2006040/2014040	50	31500	10000	24000
	2006050/2014050	50	21000	7000	16500
	2006063/2014063	50	14000	4750	11000
	2006075/2014075	50	10000	3250	8000
	2006090/2014090	50	7000	2000	5500
	2006110/2014110	50	4500	1500	3500
	2006125/2014125	50	3500	1000	2750
	2006160/2014160	25	1900	525	1375
	2006200/2014200	25	1225	450	1050
GEOSUB® L450 in bars (pg. 64)	1006075	6	10080	-	-
	1006090	6	6912	-	-
	1006110	6	4800	-	-
	1006125	6	3072	-	-
	1006160	6	2520	-	-
	1006200	6	1800	-	-
	1006250	6	960	-	-

PRODUCT INDEX

Product name	Part No	Page
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CONDUR adaptor	40030XX	28/40
CONDUR bend	40070XX	24
CONDUR clip	40030XX	28/40
CONDUR coupler	40010XX	29/41
CONDUR boxes with seals	30010XX	26/42
CONDUR boxes with grommets	30050XX	26/42
CONDUR boxes without seals	30080XX	26/42
CONDUR HF	10040XX	32
CONDUR HF bend	40130XX	39
CONNECTION coupler	6101XXX	62
CONFLEX	20010XX	19
CONFLEX HF	20040XX	33
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MEDIFLEX AMHF	20440XX	49
MEDIFLEX PLUS	20360XX	35
MEDIFLEX PLUS coupler	40170XX	73
MEDISOL	10020XX	20
MEDISOL bend	40090XX	24
MEDISOL AM	10441XX	46
MEDISOL AM adaptor	40440XX	52
MEDISOL AM bend	43441XX	50
MEDISOL AM coupler	42440XX	53
MEDISOL AM clips	41440XX	52
MEDISOL AM junction box	30440XX	54
MEDISOL AMHF	10440XX	48
MEDISOL AMHF bend	43440XX	50
MEDISOL HF bend	40150XX	39
MEDISOL PLUS	1019XXX	34
MULTIBOX junction box	301200X	74
MULTI COMBINATION GANG	3011002	77
ASSEMBLED ROUND junction box	3010101	75
SIFLEX	20030XX	23
SILCOR	10030XX	22
SILCOR bend	40110XX	25
SPACERS	6121XXX	65
SQUARE junction box	3010102	76
SUPERFLEX PLUS	20100XX	37/71
SUPERFLEX PLUS coupler	40170XX	41/73
SUPERSOL PLUS	1017XXX	38/72

PATENT DEGREES (FOR CABLE PROTECTION PRODUCTS)

No Patent 1009810	Antistatic technology
No Patent EP2698792	Anti-rodent protection
No Patent 1007372	Antimicrobial technology
No Patent 1009158	Color marking for electrical and telecommunication systems
No Patent 1008090	Double wall conduits
No Patent 1009144	Double wall conduits in small diameters
No Patent 1006882	MULTIBOX junction box
No Patent 1009734	Spacers for buried underground networks
No Patent 1003838	Extended junction box for concealed type electrical installations
No Patent 1007270	Plastic conduit system for cable protection
No Patent 1009774	Plastic conduit with corrugated internal layer for lower frictions
No Patent 1009975	Anti-electromagnetic technology

SUPPORT

Technical support

You can contact KOUVIDIS Technical Support department at +30 2810 831 500 daily from Monday to Friday 8 am to 4 pm Eastern Time. Our highly trained people can offer responsible technical support for any interested person, professional or individual, for the right and safe use of our products.

Documentation

Learn more about the properties and the proper installation of our plastic conduit systems through our technical manuals that are available, free of charge, at our's retailers stores that belong at our authorized network. Alternatively, you can download it directly from our website www.kouvidis.com or we can arrange to send it at your place (just contact us at +30 2810 831 500 daily from Monday to Friday 8 am to 4 pm Eastern time).

Web

The whole content of this Catalogue together with our product and company certificates and our technical manuals are available on our company's website www.kouvidis.com.

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KOUVIDIS has always been committed to providing correct and reliable information to the engineer/designer. This Catalogue is a useful technical guide to the company's plastic conduit systems for electrical installation. It is considered useful to make a brief reference to the legal framework covering these products. For this reason, there are also references to control Standards, so that the user may quickly and safely select the appropriate product for each use. It is obvious that the information provided in this manual does not in any case substitute the content of the Standards or any other documents to which it refers. It is understood that the user must always check if the products are fit for purpose. In any case, you may consult our company's experts before each use.

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