KOUVIDIS

CATALOGUE

2018

PLASTIC PIPING SYSTEMS
FOR CABLE MANAGEMENT & PROTECTION

LEGEND

Nominal outer diameter (mm)

Minimum nominal inner diameter (mm)

Packing (m/coil)

Packing (m/bundle)

Packing (pieces/box)

Bars (m)

Bar weight (kg)

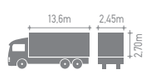
Coil weight (Kg)

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)

H Heavy Type
(According to EN 61386-01, compression strength)

M Medium Type
(According to EN 61386-01, compression strength)

L Light Type
(According to EN 61386-01, compression strength)

B Installation Boxes

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

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

PLASTIC CONDUIT SYSTEMS

1 MADE FROM PVC 6

2 MADE FROM HALOGEN FREE RAW MATERIALS 16

3 WITH ANTIMICROBIAL TECHNOLOGY 28

4 FOR BURIED UNDERGROUND NETWORKS 40

5 FOR CONCEALED TYPE INSTALLATIONS 48

TECHNICAL INFORMATION 54

CONTACT US 74

Plastic piping systems since1979

CE DVE TÜV AUSTRIA ISO 9001 TÜV AUSTRIA ISO 14001 TÜV AUSTRIA OHSAS 18001 VDE RoHS compliant ID 137347 GREAT PLACE TO WORK Best Workplaces 2017 Greece

>39 Years of specialization in the production of plastic piping systems (1979)	2 Subsidiaries in Cyprus and Germany	24.500m² Premises (offices, plants, logistic centers)	2 Recognized product certification bodies (VDE & Bureau Veritas)
20 Branded product families	15 Patent degrees	15 Fully automated production lines	Open >6.500 Participations in special training programs Open House, Open Seminar, Open Day, Open Phone (during 2017)
3 Distribution centers (Athens, Thessaloniki, Crete)	20 Privately owned low emission trucks	74 People	ISO STANDARDS 13 Years of implementation ISO 9001, ISO14001, OHSAS 18001
20% Less CO^2 emissions	30% Less volume of packaging materials	25% of the consumpted energy comes from RES	100% Implementation of EU legislation (LVD, Rohs, REACH)

KOUVIDIS at a glance

KOUVIDIS is a Greek second - generation family company, specialized in the development and production of plastic conduit systems for cable management & protection, sewage and drainage since 1979.

Our three distribution centers (Athens, Thessaloniki, Crete) and our two subsidiaries companies in Cyprus and Germany ensure the necessary capacity to serve daily more than 500 sales points both in Greece and abroad.

Our philosophy is clearly customer oriented, through our innovative and value-added solutions, while our mission is to constantly upgrade the installer's work and to create a unique experience when using our products.

Through this catalogue you can learn every technical characteristic that discriminate our plastic conduit systems. In case you need more information please feel free to contact us directly at +30 2810 831 500 from Monday to Friday 8am to 4pm Eastern Time or to visit our website www.kouvidis.com.

Tried

KOUVIDIS has over 39 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.

Tested

KOUVIDIS is the only Greek company that has safety marks approval from German VDE test Institute for most of its products.
(Check our certification issue at www.kouvidis.com)

Trusted

The heavy type CONDUR® - CONFLEX® conduit system has totally replaced metal conduits, it has been installed in the largest Greek construction works and it counts zero non-conformities.

1

Plastic conduit systems
made from PVC

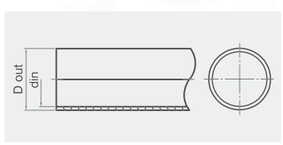
for outdoor/indoor installations of various mechanical strength in buildings

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

Patent Protected
EP2698792

For conduit's fittings & junction boxes see page 24

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

CONDUR® IAR rigid conduit

44411

Properties		Class
Resistance to compression	1250Nt/5cm	4
Resistance to impact	6J (at -25°C)	4
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 >10 years
Rodent repellent	Not attractive to rodents

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

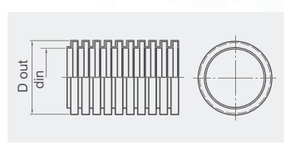
Ideal for outdoor exposed installations which require increased safety measures and high mechanical requirements such as civil engineering (industrial buildings, infrastructure projects) and electric power stations. It doesn't attract rodents and is the ideal solution for outdoor installations through 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	10250160	16	12.3	30	3,42	6000
Ø20	10250200	20	16.1	30	4,43	3900
Ø25	10250250	25	21.0	15	3,08	2400
Ø32	10250320	32	27.5	15	4,20	1755
Ø40	10250400	40	35.1	9	3,41	1071
Ø50	10250500	50	44.7	9	4,51	702
Ø63	10250630	63	57.3	9	6,58	396

H

Heavy Type (1250Nt)

RAL 7035
light grey



Standards: EN 61386.22

Assembled with

CONDUR Bend
CONDUR Coupler
CONDUR Adaptor
CONDUR Clip

Patent Protected
EP2698792

For conduit's fittings & junction boxes see page 24

CONFLEX® IAR pliable conduit

44412

Properties		Class
Resistance to compression	1250Nt/5cm	4
Resistance to impact	6J (at -25°C)	4
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 >10 years
Rodent repellent	Not attractive to rodents

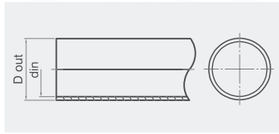
+ Marked using embossed printing and packed with 100% recyclable polyethylene film including safety straps and an informative blue color label.

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	20250160	16	10.5	50	4,21	3600
Ø20	20250200	20	13.9	50	5,57	3200
Ø25	20250250	25	17.8	25	3,96	1800
Ø32	20250320	32	23.8	25	5,16	1400
Ø40	20250400	40	30.8	20	5,39	880
Ø50	20250500	50	39.2	20	7,05	400
Ø63	20250630	63	51.6	20	10,00	360

Medium Type (750Nt)

RAL 7035
light grey



MEDISOL® 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

Standards: EN 61386.21

Assembled with
MEDISOL Bend
CONDUR Coupler
CONDUR Adaptor
CONDUR Clip

+ 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.

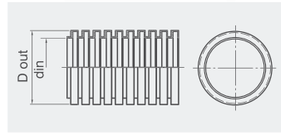
Type	Part number	D out	min din		kg	(m)
Ø16	1035016	16	13.0	30	2,83	6000
Ø20	1035020	20	16.9	30	3,72	3900
Ø25	1035025	25	21.7	30	5,11	2310
Ø32	1035032	32	28.6	15	3,52	1755
Ø40	1035040	40	36.4	9	3,01	1071
Ø50	1035050	50	45.0	9	3,78	702
Ø63	1035063	63	58.0	9	5,67	396

For conduit's fittings & junction boxes see page 24

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

Medium Type (750Nt)

RAL 7035
light grey



MEDIFLEX® 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

Standards: EN 61386.22

Assembled with
MEDISOL Bend
CONDUR Coupler
CONDUR Adaptor
CONDUR Clip

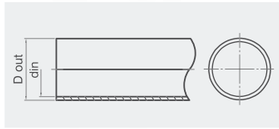
+ Marked using embossed printing and packed with 100% recyclable polyethylene film including safety straps and an informative red color label.
Ideal for installations in concrete/cavity walls and indoor exposed installations which require increased safety measures and standard mechanical requirements 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	2035016	16	11.0	50	2,85	3600
Ø20	2035020	20	14.2	50	3,91	3200
Ø25	2035025	25	18.3	25	2,74	1800
Ø32	2035032	32	24.2	25	3,82	1400
Ø40	2035040	40	31.1	20	3,93	880
Ø50	2035050	50	39.5	20	4,99	400
Ø63	2035063	63	52.1	20	6,81	360

For conduit's fittings & junction boxes see page 24

Light Type (320Nt)

RAL 7035
light grey



SILCOR® rigid conduit 23411

Properties		Class
Resistance to compression	320Nt/5cm	2
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

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.

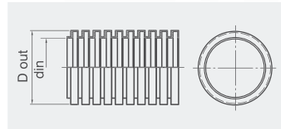
Type	Part number	D out	min din		kg	(m)
Ø16	1015016	16	13.9	90	5,42	5940
Ø20	1015020	20	17.8	60	5,09	3780
Ø25	1015025	25	22.7	45	5,23	2430
Ø32	1015032	32	29.2	30	4,87	1440

For conduit's fittings & junction boxes see page 24

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

Light Type (320Nt)

RAL 7035
light grey



SIFLEX® pliable conduit 22412

Properties		Class
Resistance to compression	320Nt/5cm	2
Resistance to impact	1J (at -25ºC)	2
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

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.

Type	Part number	D out	min din		kg	(m)
Ø16	2015016	16	11.2	50	2,23	3600
Ø20	2015020	20	14.4	50	2,76	3200
Ø25	2015025	25	18.8	25	1,88	1700
Ø32	2015032	32	24.7	25	2,53	1300
Ø40	2015040	40	31.6	20	2,95	880
Ø50	2015050	50	39.7	20	3,77	400
Ø63	2015063	63	52.7	20	4,87	360

For conduit's fittings & junction boxes see page 24

Heavy Type (1250Nt)

RAL 7035
light grey

Patent Protected
EP2698792

H CONDUR® IAR bend

Properties

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

Type	Part number	D out	min din	A	R		
Ø16	43250160	16	12.3	27	55	10	460
Ø20	43250200	20	16.1	35	65	10	420
Ø25	43250250	25	21.0	36.7	90	10	170
Ø32	43250320	32	27.5	47.6	125	6	48
Ø40	43250400	40	35.1	52.9	130	6	84
Ø50	43250500	50	44.7	62	163	4	36
Ø63	43250630	63	57.3	77	191	4	16

Medium Type (750Nt)

RAL 7035
light grey

M MEDISOL® bend

Properties

Resistance to impact	2J (at -25°C)
Ageing resistance	UV stabilized

Type	Part number	D out	min din	A	R		
Ø16	4335016	16	13.0	27	55	10	460
Ø20	4335020	20	16.9	35	65	10	420
Ø25	4335025	25	21.7	36.7	90	10	170
Ø32	4335032	32	28.6	47.6	125	6	48
Ø40	4335040	40	36.4	52.9	130	6	84
Ø50	4335050	50	45.0	62	163	4	36
Ø63	4335063	63	58.0	77	191	4	16

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

Light Type (320Nt)

RAL 7035
light grey

Standards: EN 61386.21

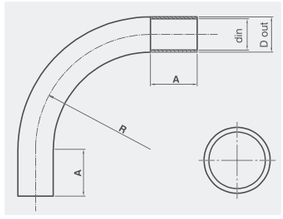
L SILCOR® bend

Properties

Resistance to impact	2J (at -25°C)

Type	Part number	D out	min din	A	R		
Ø16	4315016	16	13.9	27	55	40	560
Ø20	4315020	20	17.8	35	65	40	600
Ø25	4315025	25	22.7	36.7	90	20	280
Ø32	4315032	32	29.2	47.6	125	9	81

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



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.

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 more than 12 years manufacturing experience in the production of halogen free plastic conduit systems and is one of the precious few manufacturers in Europe that offers it in heavy type version.

2

Plastic conduit systems

made from halogen free raw materials

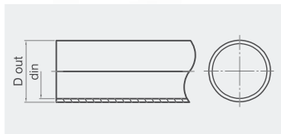
for indoor areas intended to accommodate increased people traffic or industrial equipment

H M

H

Heavy Type (1250Nt)

RAL 7035
light grey



Standards: EN 61386.21, EN 60754-1, EN 60754-2

Assembled with
CONDUR HF Bend
CONDUR Coupler
CONDUR Adaptor
CONDUR Clip

CONDUR® HF rigid conduit

44541

Properties		Class
Resistance to compression	1250Nt/5cm	4
Resistance to impact	6J (at -45°C)	4
Lower temperature range	-45°C	5
Upper temperature range	+120°C	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
Less smoke than PVC	Better visibility of escape ways
Rodent repellent	Not attractive to rodents

+ 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.).

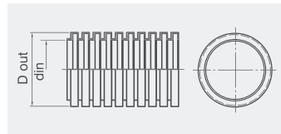
Type	Part number	D out	min din		kg	(m)
Ø16	1525016	16	12.6	30	2,66	6000
Ø20	1525020	20	16.2	30	3,55	3900
Ø25	1525025	25	21.0	15	2,32	2400
Ø32	1525032	32	27.6	15	3,29	1755
Ø40	1525040	40	34.9	9	2,51	1071
Ø50	1525050	50	45.3	9	3,33	702
Ø63	1525063	63	57.1	9	4,86	396

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

H

Heavy Type (1250Nt)

RAL 7035
light grey



Standards: EN 61386.22, EN 60754-1, EN 60754-2

Assembled with
CONDUR HF Bend
CONDUR Coupler
CONDUR Adaptor
CONDUR Clip

CONFLEX® HF pliable conduit

44542

Properties		Class
Resistance to compression	1250Nt/5cm	4
Resistance to impact	6J (at -45°C)	4
Lower temperature range	-45°C	5
Upper temperature range	+120°C	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
Less smoke than PVC	Better visibility of escape ways
Rodent repellent	Not attractive to rodents

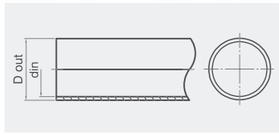
+ Marked using embossed printing and packed with 100% recyclable polyethylene film including safety straps and an informative green /blue color label.

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	2525016	16	10.9	50	2,39	3600
Ø20	2525020	20	13.9	50	3,44	3200
Ø25	2525025	25	18.5	25	2,63	1800
Ø32	2525032	32	23.3	25	3,37	1400
Ø40	2525040	40	30.9	20	3,42	880
Ø50	2525050	50	38.9	20	4,51	400
Ø63	2525063	63	51.3	20	6,40	360

Medium Type (750Nt)

RAL 7035
light grey



Standards: EN 61386.21, EN 60754-1, EN 60754-2

Assembled with

MEDISOL HF Bend
CONDUR Coupler
CONDUR Adaptor
CONDUR Clip

MEDISOL® HF rigid conduit — 34541

Properties		Class
Resistance to compression	750Nt/5cm	3
Resistance to impact	6J (at -45°C)	4
Lower temperature range	-45°C	5
Upper temperature range	+120°C	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
Ageing resistance	UV stabilized
Halogen free	No toxic or corrosive gases in case of fire
Less smoke than PVC	Better visibility of escape ways

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

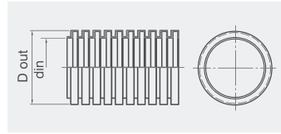
Ideal for indoor/outdoor exposed installations which require increased safety measures and standard mechanical requirements such as public gathering places (airports, hotels, malls, theaters, etc,) and places with costly mechanical equipment (engine rooms, industrial spaces, computer rooms, etc.).

Type	Part number	D out	min din		kg	(m)
Ø16	1535116	16	13.1	30	2,18	6000
Ø20	1535120	20	16.8	30	3,02	3900
Ø25	1535125	25	21.7	30	4,40	2310
Ø32	1535132	32	27.9	15	2,85	1755
Ø40	1535140	40	35.8	9	2,51	1071
Ø50	1535150	50	45.5	9	3,66	702
Ø63	1535163	63	57.8	9	5,40	396

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

Medium Type (750Nt)

RAL 7035
light grey



Standards: EN 61386.22, EN 60754-1, EN 60754-2

Assembled with

MEDISOL HF Bend
CONDUR Coupler
CONDUR Adaptor
CONDUR Clip

MEDIFLEX® HF pliable conduit — 33542

Properties		Class
Resistance to compression	750Nt/5cm	3
Resistance to impact	min 2J (at -45°C)	3
Lower temperature range	-45°C	5
Upper temperature range	+120°C	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
Less smoke than PVC	Better visibility of escape ways

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

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

Type	Part number	D out	min din		kg	(m)
Ø16	2535116	16	11.1	50	2.40	3600
Ø20	2535120	20	14.0	50	3.10	3200
Ø25	2535125	25	18.6	25	1.90	1800
Ø32	2535132	32	24.1	25	2.90	1400
Ø40	2535140	40	31.2	20	3.10	880
Ø50	2535150	50	39.3	20	4.00	400
Ø63	2535163	63	51.3	20	5.40	360

Heavy Type (1250Nt)

RAL 7035
light grey

CONDUR® HF bend

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	4525016	16	12.6	27	55	10	460
Ø20	4525020	20	16.2	35	65	10	420
Ø25	4525025	25	21.0	36.7	90	10	170
Ø32	4525032	32	27.6	47.6	125	6	48
Ø40	4525040	40	34.9	52.9	130	6	84
Ø50	4525050	50	45.3	62	163	4	36
Ø63	4525063	63	57.1	77	191	4	16

Medium Type (750Nt)

RAL 7035
light grey

MEDISOL® HF bend

Properties

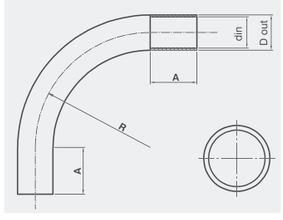
Resistance to impact	6J (at -45°C)
Ageing resistance	UV stabilized

Type	Part number	D out	min din	A	R		
Ø16	4535116	16	13.1	27	55	10	460
Ø20	4535120	20	16.8	35	65	10	420
Ø25	4535125	25	21.7	36.7	90	10	170
Ø32	4535132	32	27.9	47.6	125	6	48
Ø40	4535140	40	35.8	52.9	130	6	84
Ø50	4535150	50	45.5	62	163	4	36
Ø63	4535163	63	57.1	77	191	4	16

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

Standards: EN 61386.21, EN 60754-1, EN 60754-2

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



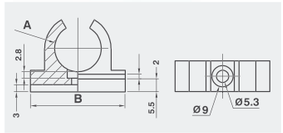
GREEN PRODUCT KOUVIDIS

General properties for Bends	
Temperature range	-45°C to +120°C
IP ingress protection	min IP65
Raw material	Halogen free, heavy metals free (RoHS) and specially stabilized thermoplastic PC
Electrical characteristics	With electrical insulated characteristics
Resistance to flame propagating	Non flame propagating
Halogen free	No toxic or corrosive gases in case of fire
Less smoke than PVC	Better visibility of escape ways

Note: Bends packaging do not contain coupler.

Fittings

RAL 7035
light grey



CE

Patent Protected
EP2698792

CONDUR® IAR clips

Properties

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

Installation guidelines

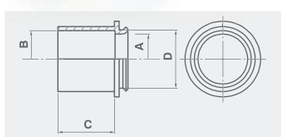
Recommended fastening space is 50cm for vertical and 40 cm for horizontal installations

+ 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	41250160	15.8	35	4x50	2800
Ø20	41250200	19.8	40	4x50	2000
Ø25	41250250	24.8	46	4x30	1800
Ø32	41250320	31.8	53	30	1380
Ø40	41250400	39.8	63	20	920
Ø50	41250500	49.8	74	20	840
Ø63	41250630	62.8	88	20	840

Fittings

RAL 7035
light grey



CE

Patent Protected
EP2698792

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

CONDUR® IAR adaptors

Properties

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

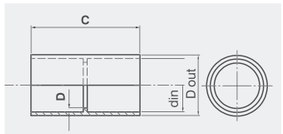
+ Assembled with CONDUR junction boxes after removing their seals or grommets. Adaptors with Part No. 40250160 and 40250200 can be mounted on junction boxes with type 16/20 and 20/16 while 40252250 and 40252320 can me mounted with the type Ø25/32.

Type	Part number	A mm	B mm	C mm	D mm		
Ø16	40250160	13	16	16	20	4x30	1800
Ø20	40250200	16.5	20	20	20	4x30	1200
Ø25	40252250	21.5	25	32	33	20	1080
Ø32	40252320	27.5	32	35	33	20	840

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

Fittings

RAL 7035
light grey



CE

Patent Protected
EP2698792

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

GREEN PRODUCT KOUVIDIS

CONDUR® IAR couplers

Properties

Raw material	Halogen free, heavy metals free (RoHS) and specially stabilized thermoplastic PE
Ingress protection	min IP65
Temperature range	-45°C to +120°C

Type	Part number	D out	min din	C mm	D mm		
Ø16	42250160	20	16	51	1.5	30	2280
Ø20	42250200	23.5	20	51.5	1.5	30	1620
Ø25	42250250	28.5	25	51.5	1.5	30	1260
Ø32	42250320	37	32	65	2	20	480
Ø40	42250400	44.5	40	81.4	2	15	360
Ø50	42250500	55.6	50	100.5	2.5	10	200
Ø63	42250630	69.8	63	121	2.8	8	64

General properties for Fittings

Temperature range	-25°C to +120°C (clips, adaptors)
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
Less smoke than PVC	Better visibility of escape ways

Junction Boxes

RAL 7035
light grey

CONDUR® IAR
plug in seals

CE

Patent Protected
EP2698792

CONDUR®
plug in grommets

CE

CONDUR®
without seals

CE

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

Watertight with or without seals

Properties	CONDUR® IAR plug in seals	CONDUR® plug in grommets	CONDUR® 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		
Less smoke than PVC	Better visibility of escape ways		

* Cover plate and plug in seals are made of PE

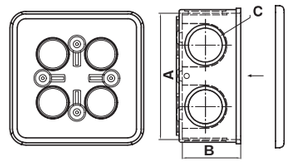
+ Watertight due to their elastic and directly mounted cover plate.

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.

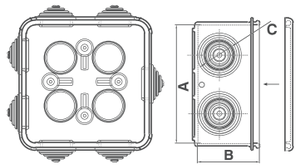
Junction boxes without seals: The installer can open any hole of every diameter according to the installation requirements.

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

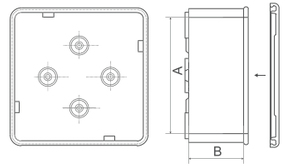
Junction Boxes



CONDUR® IAR
plug in seals



CONDUR®
plug in grommets



CONDUR®
without seals

GREEN PRODUCT KOUVIDIS

	Type	Part number	A mm	B mm	C mm		
plug in seals	Ø16/20	30200160	67	38	21.6	10	240
	Ø20/16	30200200	82	43	21.6	10	150
	Ø25/32	30202250	101	51	35.1	5	100
plug in grommets	Ø16/20	3035016	67	38	21.6	10	170
	Ø20/16	3035020	82	43	21.6	10	150
	Ø25/32	3035025	101	51	35.1	5	40
plug without seals	Ø16	3015016	62	32	-	10	210
	Ø20	3015020	82	36	-	10	170
	Ø25	3015025	91	41	-	10	150
	Ø32	3015032	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

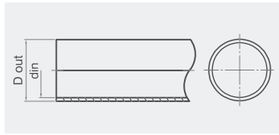
Plastic conduit systems

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 -25^{0}C)	3
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
Antimicrobial technology	Resist the growth of bacteria by up to 99% within 24 hours
Ageing resistance	UV stabilized
Rodent repellent	Not attractive to rodents

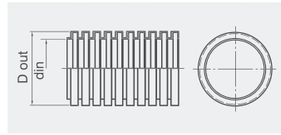
+ Engraved with laser printing and packed with safety straps in red color 100% recyclable polyethylene film. Harmonized with European directive 98/8/EC is ideal for sanitary areas (hospitals, medical centers & laboratories) and public spaces (schools, nursery homes/rooms & sport centers) and areas requiring 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	16.9	30	3,94	3900
Ø25	1044125	25	21.7	30	5,34	2310
Ø32	1044132	32	28.4	15	3,64	1755
Ø40	1044140	40	36.1	9	3,05	1071
Ø50	1044150	50	45.3	9	3,97	702
Ø63	1044163	63	58.0	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 -25^{0}C)	3
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
Antimicrobial technology	Resist the growth of bacteria by up to 99% within 24 hours
Ageing resistance	UV stabilized
Rodent repellent	Not attractive to rodents

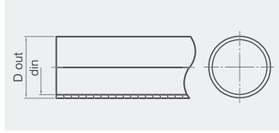
+ Marked using embossed printing and packed with 100% recyclable polyethylene film including safety straps and an informative red color label. Harmonized with European directive 98/8/EC is ideal for sanitary areas (hospitals, medical centers & laboratories) and public spaces (schools, nursery homes/rooms & 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	10.8	50	2,87	3600
Ø20	2044120	20	14.2	50	3,95	3200
Ø25	2044125	25	18.4	25	2,74	1800
Ø32	2044132	32	24.2	25	3,87	1400
Ø40	2044140	40	31.1	20	4,05	880
Ø50	2044150	50	39.3	20	5,27	400
Ø63	2044163	63	52.1	20	7,12	360

M

Medium Type (750Nt)

RAL 9003
signal white



Standards: EN 61386.21, ISO 22196, EN 60754-1, EN 60754-2

Assembled with

MEDISOL AMHF 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® AMHF rigid conduit 34541

Properties		Class
Resistance to compression	750Nt/5cm	3
Resistance to impact	6J (at -45°C)	4
Lower temperature range	-45°C	5
Upper temperature range	+120°C	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
Less smoke than PVC	Better visibility of escape ways
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.

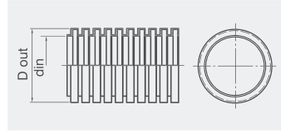
Type	Part number	D out	min din		kg	(m)
Ø16	1044016	16	13.1	30	2.18	6000
Ø20	1044020	20	16.8	30	3.02	3900
Ø25	1044025	25	21.7	30	4.40	2310
Ø32	1044032	32	27.9	15	2.85	1755
Ø40	1044040	40	35.8	9	2.51	1071
Ø50	1044050	50	45.5	9	3.66	702
Ø63	1044063	63	57.8	9	5.40	396

Note: Product with minimum order quantity requirement

M

Medium Type (750Nt)

RAL 9003
signal white



Standards: EN 61386.22, ISO 22196, EN 60754-1, EN 60754-2

Assembled with

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

Patent No: 1007372
Hellenic Industrial Property Organization

MEDIFLEX® AMHF pliable conduit 33542

Properties		Class
Resistance to compression	750Nt/5cm	3
Resistance to impact	2J (at -45°C)	3
Lower temperature range	-45°C	5
Upper temperature range	+120°C	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
Less smoke than PVC	Better visibility of escape ways
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	55	10	460
Ø20	4344120	20	16.9	35	65	10	420
Ø25	4344125	25	21.7	36.7	90	10	170
Ø32	4344132	32	28.4	47.6	125	6	48
Ø40	4344140	40	36.1	52.9	130	6	84
Ø50	4344150	50	45.3	62	163	4	36
Ø63	4344163	63	58.0	77	191	4	16

Medium Type (750Nt)

RAL 9003
signal white

MEDISOL® AMHF bend

Properties

Resistance to impact	6J (at -45°C)
Temperature range	-45°C to +120°C

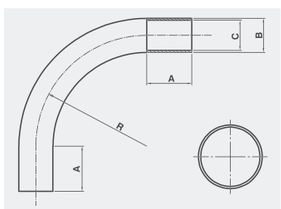
Additional properties

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	55	10	460
Ø20	4344020	20	16.8	35	65	10	420
Ø25	4344025	25	21.7	36.7	90	10	170
Ø32	4344032	32	27.9	47.6	125	6	48
Ø40	4344040	40	35.8	52.9	130	6	84
Ø50	4344050	50	45.5	62	163	4	36
Ø63	4344063	63	57.8	77	191	4	16

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

Standards & Directives: EN 61386.21 ISO 22196, EN 60754-1, EN 60754-2, EU 98/8/EC (BPD)



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

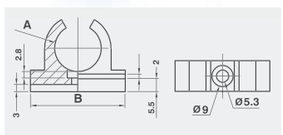
Basic properties for Bends

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

Note: Bends do not contain coupler within their packages.

Fittings

RAL 9003
signal white



MEDISOL® AM clips

Properties

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

Installation guidelines

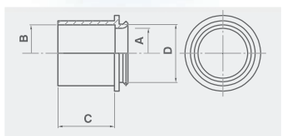
Recommended fastening space is 50cm for vertical and 40 cm for horizontal installations

+ 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	2800
Ø20	4144020	19.8	40	4x50	2000
Ø25	4144025	24.8	46	4x30	1800
Ø32	4144032	31.8	53	30	1380
Ø40	4144040	39.8	63	20	920
Ø50	4144050	49.8	74	20	840
Ø63	4144063	62.8	88	20	840

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.

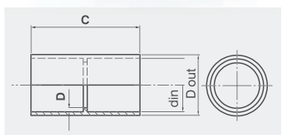
Type	Part number	A mm	B mm	C mm	D mm		
Ø16	4044016	13	16	16	20	4x30	1800
Ø20	4044020	16.5	20	20	20	4X30	1200
Ø25	4044025	21.5	25	25	33	20	1080
Ø32	4044032	27.5	32	32	33	20	840

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

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
Temperature range	-45°C to +120°C

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	51.5	1.5	30	1620
Ø25	4244025	28.5	25	51.5	1.5	30	1260
Ø32	4244032	37	32	65	2	20	480
Ø40	4244040	44.5	40	81.4	2	15	360
Ø50	4244050	55.6	50	100.5	2.5	10	200
Ø63	4244063	69.8	63	121	2.8	8	64

Standards & Directives:

EN 61386.1, ISO 22196, EN 60754-1, EN 60754-2, EU 98/8/EC (BPD)

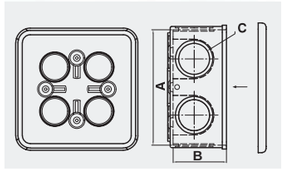
GREEN PRODUCT KOUVIDIS

General properties for Fittings

Temperature range	-25°C to +120°C (clips, adaptors)
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
Less smoke than PVC	Better visibility of escape ways

Junction boxes

RAL 9003
signal white



CE

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
Less smoke than PVC	Better visibility of escape ways
Antimicrobial technology	Resist the growth of bacteria by up to 99% within 24 hours

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

Standards & Directives:

EN 60670-22, ISO 22196, EN 60754-1, EN 60754-2, EU 98/8/EC (BPD)

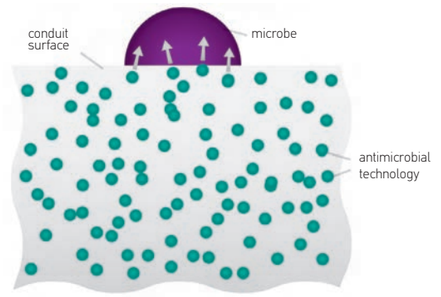
+ Watertight due to their elastic and directly mounted cover plate.
MEDISOL AM adaptors, of different diameters, can be easily fastened in the openings after pushing out the plug in seals.

GREEN PRODUCT KOUVIDIS

Type	Part number	A mm	B mm	C mm		
Ø16/20	3044016	67	38	21.6	10	240
Ø20/16	3044020	82	43	21.6	10	150
Ø25/32	3044025	101	51	35.1	5	100

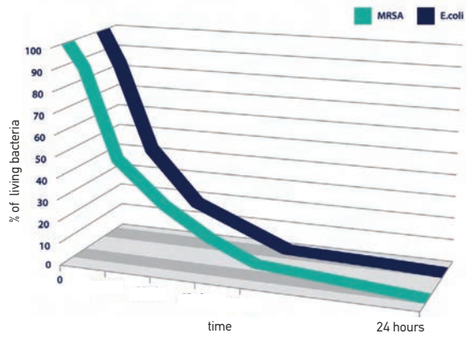
All product's certificates
are available at www.kouvidis.com

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



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 7 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 2nd generation is here with new developments ready to facilitate more the installer's work.

2nd generation

Our new double structured wall conduits GEONFLEX® & GEOSUB® incorporate, during the production process, a third independent layer of longitudinal lines, in 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 2011, in the manufacture of double wall conduits for underground power and telecommunication networks.

4

Plastic conduit systems

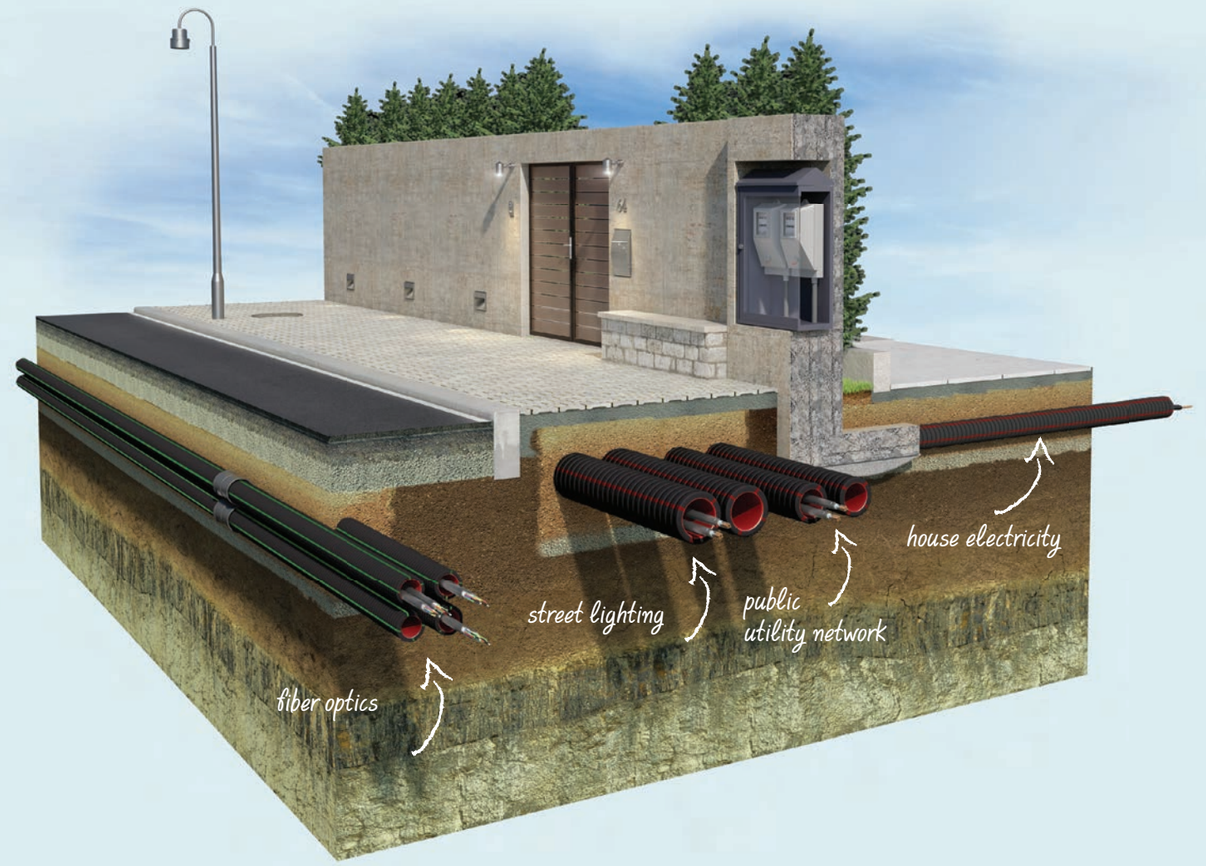
buried underground

for installation of buried underground power and telecommunication networks

N L

Double wall conduits

2nd generation



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

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

The color identification of the new second generation 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. The new warning marking, of our new conduits, follows the specifications of products intended to protect and warn of buried underground installations according to the European Standards EN 12613 & EN 50520.

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: EP2698792
Patent No.: 1009158
Hellenic Industrial Property Organization

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

GEONFLEX® IAR 2nd generation (in bars)

Properties

Resistance to compression	750Nt (type 750)
Resistance to impact	Normal
Lower temperature range	-5°C
Upper temperature range	+90°C
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 indelible color indicate the power of the protected cables

+ 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	16230750	75	56.0	6	2,90	10080
Ø90	16230900	90	67.0	6	3,60	6912
Ø110	16231100	110	82.0	6	5,00	4800
Ø125	16231250	125	94.0	6	5,30	3072
Ø160	16231600	160	120.0	6	8,30	2520
Ø200	16232000	200	150.0	6	9,70	1800
Ø250	16232500	250	188.0	6	16,70	960

Note: Product with minimum order quantity requirement (also with green stripes)
See page 71 for max loading quantities.

4 Plastic conduit systems **buried underground**

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. 50 m packaging has a protection cap at the one edge and connection coupler at the other while 25m packaging has 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.

GEONFLEX® IAR 2nd generation (in coils)

Properties

Resistance to compression	750Nt (type 750)
Resistance to impact	Normal
Lower temperature range	-5°C
Upper temperature range	+90°C
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 indelible color indicate the power of the protected cables

+ 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
Ø40	26250400/26260400	40	30.0	25m/50m	3,80/7,68	26250/31500
Ø50	26250500/26260500	50	37.0	25m/50m	4,50/8,84	16250/21000
Ø63	26250630/26260630	63	47.0	25m/50m	6,70/14,00	11500/14000
Ø75	26250750/26260750	75	56.0	25m/50m	9,10/18,00	6250/7750
Ø90	26250900/26260900	90	67.0	25m/50m	14,70/29,30	3750/5500
Ø110	26251100/26261100	110	82.0	25m/50m	17,50/34,00	3000/4000
Ø125	26251250/26261250	125	94.0	25m/50m	20,70/41,60	3125/3500
Ø160	26251600/-	160	120.0	25m	32,80	1900/-
Ø200	26252000/-	200	150.0	25m	38,96	1225/-

See page 71 for max loading quantities.

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

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**

Patent Protected: EP2698792
Patent No.: 1009158
Hellenic Industrial Property Organization

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

GEOSUB® IAR 2nd generation (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 indelible color indicate the power of the protected cables

+ 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	16330750	75	56.0	6	1,95	10080
Ø90	16330900	90	67.0	6	2,75	6912
Ø110	16331100	110	82.0	6	3,45	4800
Ø125	16331250	125	94.0	6	4,45	3072
Ø160	16331600	160	120.0	6	6,30	2520
Ø200	16332000	200	150.0	6	7,65	1800
Ø250	16332500	250	188.0	6	10,80	960

Note: Product with minimum order quantity requirement (also with green stripes)
See page 71 for max. loading quantities.

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, a protection cap at the one edge and connection coupler at the other.

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.

RED color (outer wall) without stripes, upon request.

GEOSUB® IAR 2nd generation (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 indelible color indicate the power of the protected cables

+ 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 BLACK | RED	D out	min din		kg	m 13.6m
Ø40	26180400/26970400	40	30.0	50	5,35	31500
Ø50	26180500/26970500	50	37.0	50	6,99	21000
Ø63	26180630/26970630	63	47.0	50	10,60	14000
Ø75	26180750/26970750	75	56.0	50	13,10	10000
Ø90	26180900/26970900	90	67.0	50	20,05	7000
Ø110	26181100/26971100	110	82.0	50	26,09	4500
Ø125	26181250/26971250	125	94.0	50	30,57	3500
Ø160	26081600/26871600	160	120.0	25	25,20	1900
Ø200	26082000/26872000	200	150.0	25	32,40	1225

See page 71 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 ^{0}C to +90 ^{0}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		
Ø40	6101040	12	504
Ø50	6101050	12	180
Ø63	6101063	15	135
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		
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^{0}C to +40^{0}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^{0}C to +40^{0}C
Ph value	8.5 - 9.5
Shelf conditions	+5^{0}C to +25^{0}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	-

Junction boxes for concealed installations, together with light type conduits, were the first products KOUVIDIS produced 39 years ago.

They have been installed in thousands of buildings and constructions and they still gain engineer's respect because of their easy assembling, flexibility and reliability in electrical installations.

5

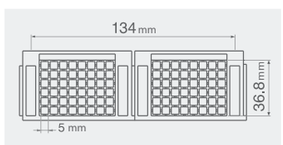
Plastic conduit systems

for concealed type installations

B

Junction boxes

RAL 9016 White | RAL 5019 blue



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

CE

Patent No.: 1006882
Hellenic Industrial Property Organization

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.

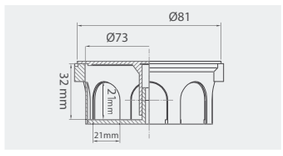
Type	Part number		
10x6	3012004	36	-
10x13	3012005	18	-
10x20	3012006	12	-
Cover plate	3112001	36	-
Separators	3012002	36	-

Packaging do not contain cover plates.

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

Junction boxes

RAL 9016 White | RAL 5019 blue



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

CE

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

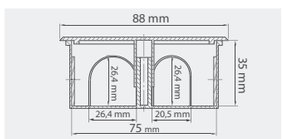
+ Ideal for flush mounting and cavity wall installations. Junction boxes can be assembled lengthwise.

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 60754-1, EN 60754-2

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.

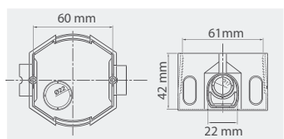
Type	Part number		
Junction box	3010102	50	-
Cover plate	3110002	50	-

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 60754-1, EN 60754-2

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

56 Signs Explanation
57 Product Labels
58 Color Identity
59 European Legislation
60 European Norms
61 Ingress Protection
62 Classification Code (acc. to EN 61386.1)
64 Classification Code (acc. to EN 61386-24)
65 Installation Guide
66 Raw Materials Guide
67 Chemical Resistance
68 Application Field
70 Loading Guidelines
72 Product Index
73 Support
74 Contact Us

SIGNS EXPLANATION

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

Distinction among the best workplaces in Greece (2017)

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 OHSAS 18001

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

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

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)

Patent protected product

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 60754-1, EN 60754-2

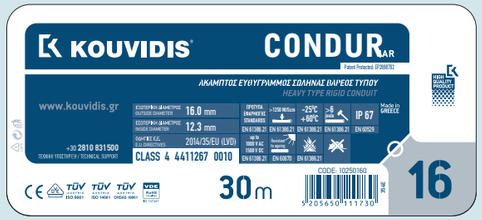
Antimicrobial product that inhibits by up to 99.9% the growth of harmful bacteria.

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

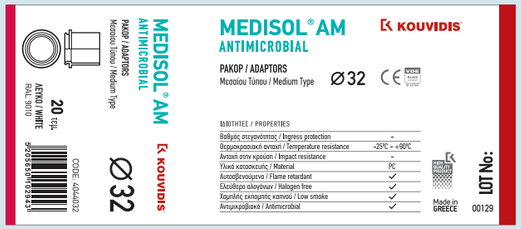
Environmentally friendly product. Halogen free, heavy metals free (RoHS), low smoke, SVHC-free (REACH) with 100% eco-friendly packaging

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 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. RoHS 2 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 main aspect of RoHS Directive is to prohibit manufactures and distributors of the Member States to produce or sell products/fittings containing any of the following six banned substances: Lead (Pb), Mercury (Hg), Cadmium (Cd), Hexavalent Chromium (Cr (VI)), Polybrominated biphenyls (PBB), Polybrominated diphenlys ether (PBDE). 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 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 61034-1

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.

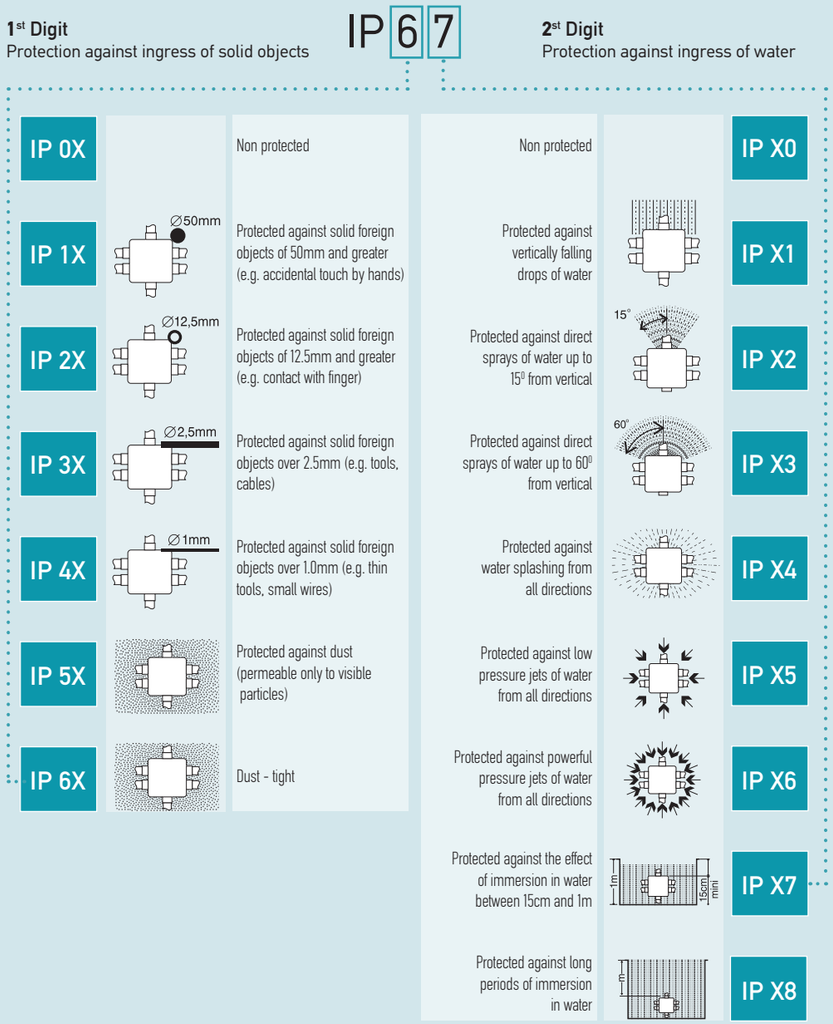
ISO 22196

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:



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 8)

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

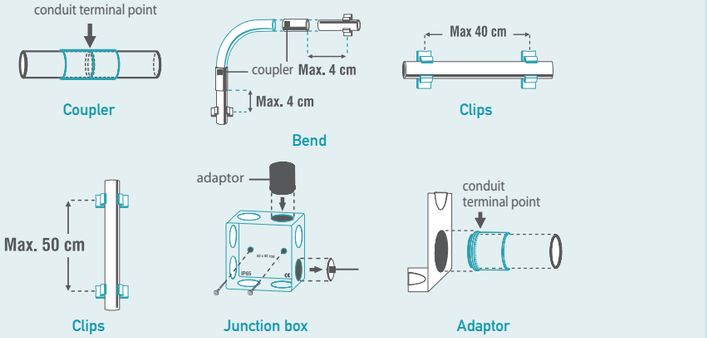
Resistance to compression

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

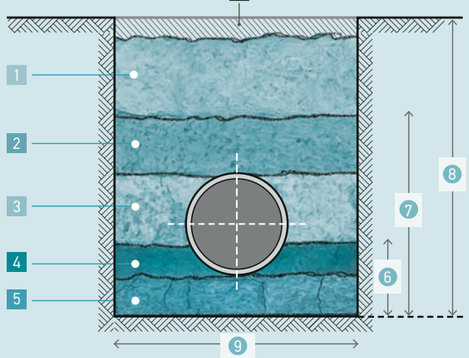
INSTALLATION GUIDE

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

	1						2		3						4			
	CONDUR	CONFLEX	MEDISOL	MEDIFLEX	SILCOR	SIFLEX	CONDUR HF	CONFLEX HF	MEDISOL HF	MEDIFLEX HF	MEDISOL AM	MEDIFLEX AM	MEDISOL AM HF	MEDIFLEX AM HF	GEONFLEX bar	GEONFLEX	GEOSUB bar	GEOSUB
Classification (acc. to EN 61386-1 & EN 61386-24)	44411	44412	33411	33412	23411	22412	44441	44442	34441	33442	33411	33412	34441	33442	N750	N750	L450	L450
Properties																		
Material	U-PVC	U-PVC	U-PVC	U-PVC	U-PVC	U-PVC	PC	PC	PC	PC	U-PVC	U-PVC	PC	PC	HDPE	HDPE	HDPE	HDPE
Resistance to flame propagation							Non flame propagating								Flame propagating			
Halogen free	–	–	–	–	–	–	√	√	√	√	–	–	√	√	√	√	√	√
Antimicrobial	–	–	–	–	–	–	–	–	–	–	√	√	√	√	–	–	–	–
Color	Light grey	Light grey	Light grey	Light grey	Light grey	Light grey	Light grey	Light grey	Light grey	Light grey	Signal White	Signal White	Signal White	Signal White	Black/Red	Black/Red	Black/Red	Black/Red
Specifications																		
Compression strength (Nt)	1250	1250	750	750	320	320	1250	1250	750	750	750	750	750	750	750	750	450	450
Impact strength (J)	6	6	2	2	2	1	6	6	6	2	2	2	6	2	Normal	Normal	Light	Light
Minimum temperature (°C)	-25	-25	-25	-25	-25	-25	-45	-45	-45	-45	-25	-25	-45	-45	-5	-5	-5	-5
Max temperature (°C)	+60	+60	+60	+60	+60	+60	+120	+120	+120	+120	+60	+60	+120	+120	+90	+90	+90	+90
Resistance to bending	Rigid	Pliable	Rigid	Pliable	Rigid	Pliable	Rigid	Pliable	Rigid	Pliable	Rigid	Pliable	Rigid	Pliable	Rigid	Pliable	Rigid	Pliable
Installations																		
Exposed	•	•	•	•	•	•	•	•	•	•	•	•	•	•	–	–	–	–
Concealed (hollow walls)	•	•	•	•	•	•	–	–	–	–	•	•	–	–	–	–	–	–
Concealed (underplaster)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	–	–	–	–
Wood	•	•	•	•	•	•	•	•	•	•	•	•	•	•	–	–	–	–
Underfloor (screed)	•	•	•	•	•	•	–	–	–	–	•	•	–	–	–	–	–	–
Concrete	•	•	•	•	–	–	–	–	–	–	•	•	–	–	•	•	–	–
Outdoor	•	•	•	•	–	–	•	•	•	•	•	•	•	•	–	–	–	–
Buried underground	–	–	–	–	–	–	–	–	–	–	–	–	–	–	•	•	•	•
Application fields																		
Industrial buildings	•	•	•	•	–	–	•	•	•	•	•	•	•	•	•	•	•	•
Public buildings	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Sanitary areas	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Renewable energy systems	•	•	•	•	–	–	•	•	•	•	–	–	–	–	•	•	•	•
Infrastructure projects	•	•	•	•	–	–	•	•	•	•	•	•	•	•	•	•	•	•
Page	8	9	10	11	12	13	18	19	20	21	31	32	33	34	42	43	44	45

Industrial building: airports, tunnels, subways, process lines, labs, warehouses, manufacturing applications, engine rooms, computer rooms, etc.
Public buildings: Shopping centres, theater, museums, cinemas, hotels, residential block buildings, etc.
Sanitary areas: hospitals, clinics, laboratories, spaces requiring implementation of the HACCP system, schools, nurseries, sports centres, care homes, etc.
Renewable energy systems: photovoltaic and wind parks, electric power stations, etc
Infrastucture projects: motorways, road networks, bridges, tunnels, pedestrianization, shaping of public spaces, rehabilitation of historic centers,etc.

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

The above applications 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. 43)	26250400	25	26250	8750	21250
	26250500	25	16250	5700	13000
	26250630	25	11500	4000	9300
	26250750	25	6250	2100	4800
	26250900	25	3750	1200	2900
	26251100	25	3000	1000	2300
	26251250	25	3125	1125	2500
	26251600	25	1900	525	1375
	26252000	25	1225	450	1050
	26260400	50	31500	10000	24000
	26260500	50	21000	7000	16500
	26260630	50	14000	4750	11000
	26260750	50	7750	2500	6000
	26260900	50	5500	1750	4000
	26261100	50	4000	1250	3000
	26261250	50	3500	1200	2750
GEONFLEX® N750 in bars (pg. 42)	16230750	6	10080	-	-
	16230900	6	6912	-	-
	16231100	6	4800	-	-
	16231250	6	3072	-	-
	16231600	6	2520	-	-
	16232000	6	1800	-	-
	16232500	6	960	-	-
GEOSUB® L450 in coils (pg. 45)	26180400/26970400	50	31500	10000	24000
	26180500/26970500	50	21000	7000	16500
	26180630/26970630	50	14000	4750	11000
	26080750/26970750	50	10000	3250	8000
	26180900/26970900	50	7000	2000	5500
	26181100/26971100	50	4500	1500	3500
	26181250/26971250	50	3500	1000	2750
	26081600/26871600	25	1900	525	1375
	26082000/26872000	25	1225	450	1050
GEOSUB® L450 in bars (pg. 44)	16330750	6	10080	-	-
	16330900	6	6912	-	-
	16331100	6	4800	-	-
	16331250	6	3072	-	-
	16331600	6	2520	-	-
	16332000	6	1800	-	-
	16332500	6	960	-	-

PRODUCT INDEX

Product name	Part No	Page	Product name	Part No	Page
CONDUR	10250XX0	8	MEDIFLEX AM	20441XX	31
CONDUR adaptor	4025XXX0	24	MEDIFLEX AMHF	20440XX	33
CONDUR bend	43250XX0	14	MEDIFLEX HF	25351XX	21
CONDUR clip	41250XX0	24	MEDISOL	10350XX	10
CONDUR coupler	42250XX0	25	MEDISOL bend	43350XX	14
CONDUR boxes with seals	3020XXX0	26	MEDISOL AM	10441XX	30
CONDUR boxes with grommets	30350XX	26	MEDISOL AM adaptor	40440XX	36
CONDUR boxes without seals	30150XX	26	MEDISOL AM bend	43441XX	34
CONDUR HF	15250XX	18	MEDISOL AM coupler	42440XX	37
CONDUR HF bend	45250XX	22	MEDISOL AM clip	41440XX	36
CONNECTION coupler	6101XXX	46	MEDISOL AM junction box	30440XX	38
CONFLEX	20250XX0	9	MEDISOL AMHF	10440XX	32
CONFLEX HF	25250XX	19	MEDISOL AMHF bend	43440XX	34
END CAP	6100XXX	46	MEDISOL HF	15351XX	20
GEONFLEX bar	1623XXX0	42	MEDISOL HF bend	45351XX	22
GEONFLEX 25m	2625XXX0	43	MULTIBOX junction box	301200X	50
GEONFLEX 50m	2626XXX0	43	MULTI COMBINATION GANG	3011002	53
GEOSUB bar	1633XXX0	44	ASSEMBLED ROUND junction box	3010101	51
GEOSUB 25m	2608XXX0 / 2687XXX0	45	SIFLEX	20150XX	13
GEOSUB 50m	2618XXX0 / 2697XXX0	45	SILCOR	10150XX	12
KOUVIDIS ADHESIVE	6001004	47	SILCOR bend	43150XX	15
KOUVIDIS LUBRICANT	6001005	47	SQUARE junction box	3010102	52
MEDIFLEX	20350XX	11			

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.

CONTACT US

FACILITIES

Greece

EMM. KOUVIDIS SA
VIOPA Tylissos 715 00, Heraklion, Crete
T.: +30 2810 831500, F: +30 2810831502
info@kouvidis.gr

EMM. KOUVIDIS SA
Lofos Kyrillou, 193 00 Attiki Odos,
Aspropyrgos Interchange, Exit 4
T.: +30 210 5571292

EMM. KOUVIDIS SA
12 km National Road
Thessaloniki - Katerini, 574 00, Sindos
T.: +30 2310 795855

Cyprus

EMM. KOUVIDIS (CYPRUS) LTD
2, Kykladon Str., Latsia Industrial zone, Nicosia 2234
T: +357 22 343707, F: +357 22 343710
info@kouvidis.com.cy

Germany

EMM. KOUVIDIS DEUTSCHLAND GmbH
Office 629, 6th floor, Am Kaiserkai 1
Hafencity, 20457, Hamburg
T.: +49 (0) 40 3060 5959, F: +49 (0) 4030605958
info@kouvidis.de

Factory
Distribution & storage facilities
Subsidiary company

Best Workplaces 2017 Greece

Our people are our most valuable asset

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.

KOUVIDIS

EMM. KOUVIDIS SA
Manufacturer of plastic piping systems

VIO.PA Tylissos 715 00 Heraklion, Crete, Greece
T: +30 2810 831500, F: +30 2810 831502
E: info@kouvidis.gr

www.kouvidis.com