KOUVIDIS

CATALOGUE

2024

Plastic piping systems
for cable management and protection

We design and produce the safest plastic piping systems since 1979

KOUVIDIS

Our headquarters and main plant, Heraklion, Greece

“Within the last decade we have substantially evolved our expertise in the plastics technology, introducing 11 different series of innovative products”

KOUVIDIS
SMART FACTORY

Dear partners,

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

Constant request to innovation constitutes an essential pillar for our development. Within the last decade we have substantially evolved our expertise in the plastics technology, introducing 11 different series of innovative products which were produced with the aim to provide safety to the installer, upgrade the installation and reduce the environmental footprint.

Having secured 24 patents and having invested, since 2012, more than 10 million euros in advanced mechanical equipment and building facilities, we pursue towards this direction and we keep seeking smart solutions for the cable protection management, sewage, and drainage.

With 45 years of successful presence, we can claim that we are one of the top manufacturers of plastic piping systems in Europe. The trust that we have cultivated with our customers through all these years are the main source of inspiration for the development of new products and innovative solutions that secure high quality and safety to the installer.

We are delighted to have fulfilled a multiannual investment plan for the construction of our new Smart Factory adopting the values of the 4th industrial revolution. Thus, we now look into the future with confidence and we commit to keep creating value for our staff, our customers, and our partners, whilst to contribute to the development of our society.

Konstantinos Kouvidis
CEO

continuous development

2 Production plants in Greece and Cyprus
4 Subsidiaries Companies in Greece, Cyprus, Germany & Portugal
22 Fully automated production lines
4 Distribution centers (Heraklion, Athens, Thessaloniki, Nicosia)

4th industrial revolution

360° Live inspection AI cameras
2.100 Control points through advanced BMS app
100% Remote control of heating, cooling, ventilation, lighting and shading

innovation

12 Applied plastic technologies
24 Patent degrees

sustainability

50% Consumed energy comes from RES
70% Reduced waste packaging material
25% Energy savings with geothermal and advanced heat pumps

quality

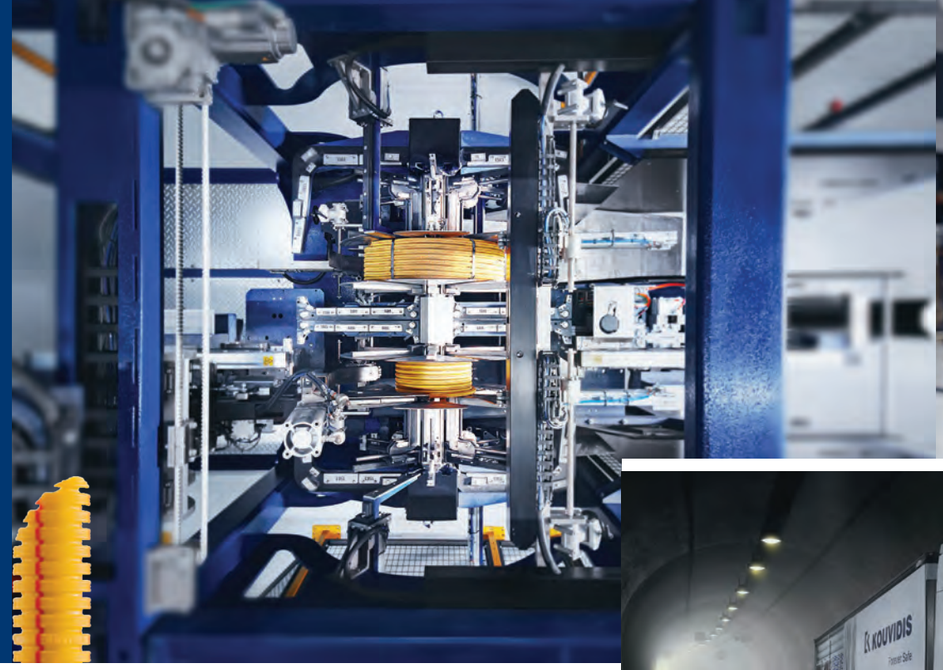
2006 Since then we implement ISO 9001, ISO 14001, ISO 45001
20 Tests are carried out in KOUVIDIS brand new Lab

our power

140 People, almost double since 2017

Milestones

last 5 years



New packaging

Our new packaging is a revolution for our business since we can pack **more meters** of conduits, we can achieve up to 45% **less volume** of our products saving precious space for storage and transportation. Most importantly though, we can reduce up to 70% our annual waste coming from our packaging and thus **improving even more our environmental footprint.**

KOUVIDIS SMART FACTORY

New smart factory

2024 is a significant year for the history of our company, celebrating **45 years of successful presence** in Greece and Europe. At the same time, we have completed a multi-year investment plan with the construction of our **new smart factory** and the installation of state-of-the-art production lines, which allows us to look to the future with greater optimism.

KLS KOUVIDIS LOGISTICS

KOUVIDIS enters to the supply chain management industry

With just over 40 years of successful presence in the plastic conduits industry, KOUVIDIS enters to the supply chain management industry, establishing in 2020 its new 100% subsidiary, **KLS KOUVIDIS Logistics**.

MULTI LAYER PIPES KOUVIDIS

New technologies

Adopting the technology of multilayer conduits, we have developed, since 2012, eleven new families of products to provide even more safety and flexibility to the installer's work. The manufacturing of **double structured wall conduits** in small diameters, the development of a **new anti-electromagnetic technology** and the use of **color marking** for the identification of networks, are some of our latest innovations, that you will find in the next pages.

Being in the plastic industry for almost half-century, we will keep seeking for new technologies that will improve even more our customer's daily work.

KLS
KOUVIDIS LOGISTICS

OUR TRANSPORTATION COMPANY

- Safe transportations with respect to human and environment
- Daily itineraries to and from the destinations of Crete to Athens
- 50 privately owned low emission vehicles

  27 semi trailers
  11 long distance trucks
  12 distribution trucks

MANUFACTURING EXCELLENCE AWARDS 2021 Τα Βραβεία της Ελληνικής Βιομηχανίας
BRONZE

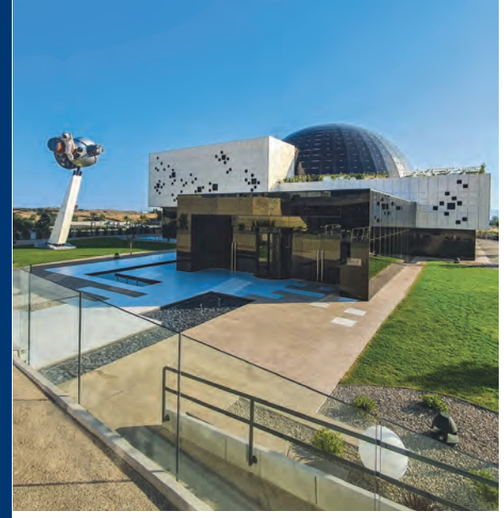
SUPPLY CHAIN AWARDS 2022
GOLD

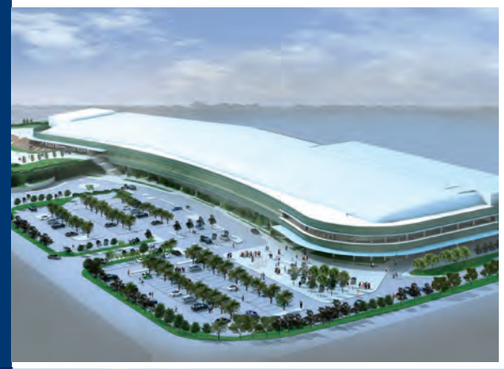
SUPPLY CHAIN AWARDS 2022
SILVER

Recent projects
2019 – 2023

14 Fraport Airports, Greece
PWC Headquarters, Greece
University of Cyprus, Cyprus
Piraeus Tower, Greece
Delloitte Offices, Greece
One & Only Resort, Greece
Athens, Underground Railway extension
Thessaloniki, Underground Railway
Leroy Merlin, Portugal

Solar Power Plants, Karaman & Nigde, Turkey
Costa Navarino, Greece
Marina of Ayia Napa, Cyprus
ELPEN new production facility, Greece
Athens, Tramway network extension
Six Student Residence, Cyprus
Robinson Club Hotel, Greece
Afi Park Mall, Brasov
One Mircea Eliade, Bucharest












LEGEND

Nominal outer diameter (mm)

Nominal inner diameter(mm)


Packing (m/coil)


Packing (m/bundle)


Packing (pieces/box)

Bars (m)

Bar weight (kg)

Bundles of rigid conduits (m)


Bigger Packing for fittings (pieces)

Coil weight (Kg)

Bundle weight (kg)

Coils of pliable conduits on pallet (m)

Double wall conduits loaded on a truck (m)

Dimensions (mm)

APPLICATION FIELDS


Exposed


Concealed floor / ceiling


Outdoor


Concealed (underplaster)


Underfloor in screed


Buried underground


Concealed (dry wall)


Concrete


Wood


Best choice acc. to the Manufacturer and the application needs


Recommended acc. to the Manufacturer and the application needs


Not Recommended acc. to the Manufacturer and the application needs

TABLE OF CONTENTS

PLASTIC CONDUIT SYSTEMS

CABLE PROTECTION

	Heavy type				Medium type								Light type				Underground network			
	CONDUR®	CONFLEX®	CONDUR® HF	CONFLEX® HF	DUROSOL® PLUS	DUROFLEX® PLUS	MEDISOL® PLUS	MEDIFLEX® PLUS	MEDISOL® AM	MEDIFLEX® AM	MEDISOL®	MEDIFLEX®	SUPERSOL® PLUS	SUPERFLEX® PLUS	SILCOR®	SIFLEX®	GEONFLEX®	GEONFLEX® bar	GEOSUB®	GEOSUB® bar
CLASSIFICATION	44411	44412	44441	44442	33431	33332	33431	33332	33411	33412	33411	33412	23431	23332	23411	22412	N750	N750	N450	N450
																				
TECHNOLOGIES																				
Halogen free	–	–	√	√	√	√	√	√	–	–	–	–	√	√	–	–	√	√	√	√
Low smoke	–	–	–	–	–	√	–	√	–	–	–	–	√	√	–	–	–	–	–	–
Low acidity	–	–	√	√	√	√	√	√	–	–	–	–	√	√	–	–	–	–	–	–
Antimicrobial	–	–	–	–	–	–	–	–	√	√	–	–	–	–	–	–	–	–	–	–
Anti - electromagnetic	–	–	–	–	–	–	√	√	–	–	–	–	√	√	–	–	–	–	–	–
Low friction	–	–	–	–	√	√	√	√	–	–	–	–	√	√	–	–	√	√	–	–
UV Stability	√	√	√	√	√	√	√	√	√	√	√	√	–	–	–	–	√	√	√	√
Anti-Rodent	√	√	√	√	√	√	√	√	√	√	–	–	–	–	–	–	√	√	–	–
Color marking	–	–	–	–	√	√	–	–	–	–	–	–	√	√	–	–	√	√	√	√
SPECIFICATIONS																				
Material	U-PVC	U-PVC	PC Blend	PC Blend	PO Blend	PO Blend	PO Blend	PO Blend	U-PVC	U-PVC	U-PVC	U-PVC	PO Blend	PO Blend	U-PVC	U-PVC	HDPE	HDPE	HDPE	HDPE
Compression strength	>1250Nt	>1250Nt	>1250Nt	>1250Nt	>750Nt	>750Nt	>750Nt	>750Nt	>750Nt	>750Nt	>750Nt	>750Nt	>320Nt	>320Nt	>320Nt	>320Nt	Type 750	Type 750	Type 450	Type 450
Impact strength	6J	6J	6J	6J	2J	2J	2J	2J	2J	2J	2J	2J	2J	2J	2J	1J	Normal	Normal	Normal	Normal
Minimum temperature (°C)	-25	-25	-25	-25	-25	-15	-25	-15	-25	-25	-25	-25	-25	-15	-25	-25	-5	-5	-5	-5
Max temperature (°C)	60	60	120	120	105	105	105	105	60	60	60	60	105	105	60	60	90	90	90	90
Resistance to flame propagation	Non flame propagating				Non flame propagating								Non flame propagating				Flame propagating			
Ingress Protection	min IP65	min IP65	min IP65	min IP65	min IP65	min IP65	min IP65	min IP65	min IP65	min IP65	min IP65	min IP65	min IP65	min IP65	min IP65	min IP65	IP44/IP68*	IP44/IP68*	IP40/IP68*	IP40/IP68*
Resistance to bending	Rigid	Pliable	Rigid	Pliable	Rigid	Pliable	Rigid	Pliable	Rigid	Pliable	Rigid	Pliable	Rigid	Pliable	Rigid	Pliable	Pliable	Rigid	Pliable	Rigid
Diameters	Ø16-Ø63	Ø16-Ø63	Ø16-Ø40	Ø16-Ø40	Ø16-Ø32	Ø16-Ø32	Ø16-Ø32	Ø16-Ø32	Ø16-Ø63	Ø16-Ø63	Ø16-Ø63	Ø16-Ø63	Ø16-Ø32	Ø16-Ø32	Ø16-Ø32	Ø16-Ø40	Ø32-Ø200	Ø75-Ø250	Ø32-Ø200	Ø75-Ø250
Certifications	CE-VDE	CE-VDE	CE-VDE	CE-VDE	CE-VDE	CE-VDE	CE-VDE	CE-VDE	CE	CE	CE-VDE	CE-VDE	CE-VDE	CE-VDE	CE-VDE	CE-VDE	CE-VDE	CE-VDE	CE-VDE	CE-VDE
INSTALLATION FIELDS																				
Exposed	○	○	•	•	•	•	•	•	○	○	○	○	–	–	○	○	–	–	–	–
Concealed (dry walls)	○	○	○	○	○	○	○	○	○	○	○	○	•	•	○	○	–	–	–	–
Concealed (underplaster)	○	○	–	–	○	○	○	○	○	○	○	○	•	•	○	○	–	–	–	–
Concealed (floor,ceilings)	○	○	○	○	○	○	○	○	○	○	○	○	•	•	○	○	–	–	–	–
Underfloor in screed	○	○	–	–	•	•	•	•	○	○	•	•	–	–	_	_	•	•	○	○
Concrete	•	•	–	–	•	•	•	•	○	○	•	•	–	–	_	_	•	•	–	–
Outdoor	•	•	○	○	•	•	○	○	○	○	○	○	–	–	_	_	–	–	–	–
Buried underground	○	○	○	○	○	○	○	○	○	○	○	○	–	–	_	_	•	•	•	•
Wood	•	•	○	○	•	•	○	○	○	○	○	○	○	○	○	○	–	–	–	–
Page	20	21	22	23	32	33	38	39	42	43	48	49	52	53	56	57	60	61	62	63

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

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

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

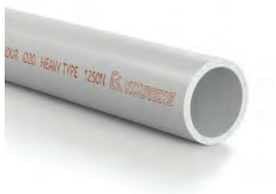
1

Plastic conduit systems Heavy type

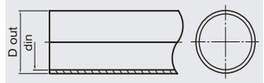
1250Nt

44411

CONDUR® ISR Rigid conduit



RAL 7035



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
Fire effects	None declared	0
Environmental impact	None declared	0

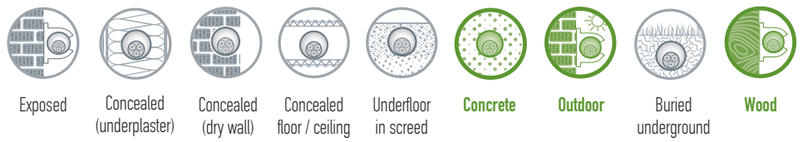
Application Standards
EN 61386.21

Assembled with
CONDUR Bend (pg. 24)
CONDUR Coupler (pg. 29)
CONDUR Adaptor (pg. 28)
CONDUR Clip (pg. 28)
CONDUR Junction boxes (pg. 26)

Patents protected
1009810, EP2698792, 1010513

Additional properties	
Raw material	Heavy metals free (RoHS), specially stabilized thermoplastic U-PVC
Ageing resistance	UV stabilized
Rodent repellent	Not attractive to rodents
Antistatic Technology	Protection against static electricity
Antiscratch Technology	Protection against scratching from cable routing
Marking	Engraved with laser printing

Application fields

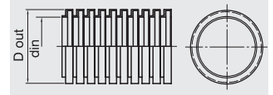


Type	Part number	D out	min din		kg	(m)
Ø16	1021016	16	12.1	30	3,31	8100
Ø20	1021020	20	16.0	30	4,52	5400
Ø25	1021025	25	20.9	15	3,08	3360
Ø32	1021032	32	27.4	15	4,20	2160
Ø40	1021040	40	35.1	9	3,41	1350
Ø50	1021050	50	44.7	9	4,51	702
Ø63	1021063	63	57.2	9	6,58	396

44412

CONFLEX® ISR Pliable corrugated conduit

RAL 7035



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
Fire effects	None declared	0
Environmental impact	None declared	0

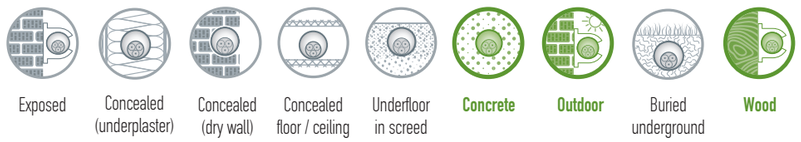
Application Standards
EN 61386.22

Assembled with
CONDUR Bend (pg. 24)
CONDUR Coupler (pg. 29)
CONDUR Adaptor (pg. 28)
CONDUR Clip (pg. 28)
CONDUR Junction boxes (pg. 26)

Patents protected
1009810, EP2698792, 1010513

Additional properties	
Raw material	Heavy metals free (RoHS), specially stabilized thermoplastic U-PVC
Ageing resistance	UV stabilized
Rodent repellent	Not attractive to rodents
Antistatic Technology	Protection against static electricity
Antiscratch Technology	Protection against scratching from cable routing
Marking	Marked using embossed printing

Application fields

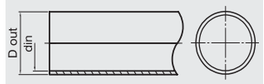


Type	Part number	D out	min din		kg	(m)
Ø16	2041016	16	10.1	50	4,21	4250
Ø20	2041020	20	13.5	50	5,57	3200
Ø25	2041025	25	17.8	25	3,96	2250
Ø32	2041032	32	23.6	25	5,40	1400
Ø40	2041040	40	30.7	20	5,39	960
Ø50	2041050	50	39.0	20	7,05	880
Ø63	2041063	63	51.5	20	10,00	360

44441

CONDUR HF® IAS Rigid conduit

RAL 7035



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

Assembled with
CONDUR HF Bend (pg. 25)
CONDUR Coupler (pg. 29)
CONDUR Adaptor (pg. 28)
CONDUR Clip (pg. 28)
CONDUR Junction boxes (pg. 26)

Patents protected
1009810, EP2698792

Properties		Class
Resistance to compression	1250Nt/5cm	**4**
Resistance to impact	6J (at -25ºC)	**4**
Lower temperature range	-25ºC	**4**
Upper temperature range	+120ºC	**4**
Resistance to bending	Rigid	**1**
Electrical characteristics	With electrical insulated characteristics	2
IP ingress protection	min 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
Fire effects	None declared	0
Environmental impact	Halogen Free	1

Additional properties

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

Application fields

Exposed | Concealed (underplaster) | Concealed (dry wall) | Concealed floor / ceiling | Underfloor in screed | Concrete | Outdoor | Buried underground | Wood

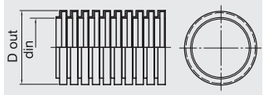
CONDUR HF conduit is being tested by KOUVIDIS quality control lab for its impact resistance (6J) at -45ºC

Type	Part number	D out	min din		kg	(m)
Ø16	1004016	16	12.5	30	2,66	6000
Ø20	1004020	20	16.2	30	3,55	5460
Ø25	1004025	25	20.8	15	2,32	2400
Ø32	1004032	32	27.5	15	3,29	1755
Ø40	1004040	40	34.8	9	2,51	1071

44442

CONFLEX HF® IAS Pliable corrugated conduit

RAL 7035



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

Assembled with
CONDUR HF Bend (pg. 25)
CONDUR Coupler (pg. 29)
CONDUR Adaptor (pg. 28)
CONDUR Clip (pg. 28)
CONDUR Junction boxes (pg. 26)

Patents protected
1009810, EP2698792

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

Additional properties

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

Application fields

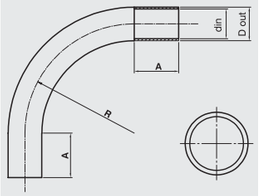
Exposed | Concealed (underplaster) | Concealed (dry wall) | Concealed floor / ceiling | Underfloor in screed | Concrete | Outdoor | Buried underground | Wood

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

Type	Part number	D out	min din		kg	(m)
Ø16	2004016	16	10.5	50	2,39	4250
Ø20	2004020	20	13.6	50	3,44	3200
Ø25	2004025	25	18.3	25	2,63	2250
Ø32	2004032	32	23.2	25	3,37	1400
Ø40	2004040	40	30.7	20	3,42	960

CONDUR® ISR Bend

RAL 7035



Application Standards
EN 61386.21

Patents protected
1009810, EP2698792, 1010513

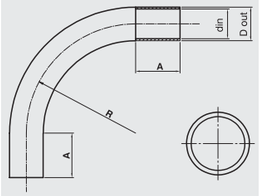
Properties	
Resistance to impact	6J (at -25ºC)
Resistance to compression	1250(Nt)
Temperature range	-25ºC to +60ºC
IP ingress protection	min IP65
Ageing resistance	UV stabilized
Rodent repellent	Not attractive to rodents
Raw material	Heavy metals free (RoHS), specially stabilized thermoplastic U-PVC
Electrical characteristics	With electrical insulated characteristics
Resistance to flame propagating	Non flame propagating
Antistatic Technology	Protection against static electricity
Antiscratch Technology	Protection against scratching from cable routing
Marking	Engraved with laser printing

Note: Bends packaging do not contain coupler.

Type	Part number	D out	min din	A	R		
Ø16	4038016	16	12.1	27	59	10	480
Ø20	4038020	20	16.0	35	74	10	480
Ø25	4038025	25	20.9	36.7	108	10	240
Ø32	4038032	32	27.4	47.6	142	6	48
Ø40	4038040	40	35.1	52.9	144	6	84
Ø50	4038050	50	44.7	62	175	4	40
Ø63	4038063	63	57.2	77	203	4	24

CONDUR HF® IAS Bend

RAL 7035



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

Patents protected
1009810, EP2698792

Properties	
Resistance to impact	6J (at -25ºC)
Resistance to compression	1250(Nt)
Temperature range	-25ºC to +120ºC
IP ingress protection	min IP65
Ageing resistance	UV stabilized
Halogen free	No toxic gases in case of fire
Low acidity	No corrosive gases in case of fire
Rodent repellent	Not attractive to rodents
Raw material	Halogen free, heavy metals free (RoHS) and specially stabilized thermoplastic PC blend
Electrical characteristics	With electrical insulated characteristics
Resistance to flame propagating	Non flame propagating
Antistatic Technology	Protection against static electricity
Marking	Engraved with laser printing

Note: Bends packaging do not contain coupler.

Type	Part number	D out	min din	A	R		
Ø16	4013016	16	12.5	27	55	10	460
Ø20	4013020	20	16.2	35	65	10	420
Ø25	4013025	25	20.8	36.7	90	10	170
Ø32	4013032	32	27.5	47.6	125	6	48
Ø40	4013040	40	34.8	52.9	130	6	84

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

CONDUR® ISR Junction boxes / Watertight with or without seals

CONDUR® ISR plug in seals

CONDUR® ISR plug in grommets

CONDUR® ISR without seals

Properties	CONDUR® ISR plug in seals	CONDUR® ISR plug in grommets	CONDUR® ISR without seals
Box raw material	PC blend	PO blend	PC blend
Temperature range		-25⁰C to +60⁰C	
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		650⁰C	
Voltage		800V	
Halogen free		No toxic gases in case of fire	
Low acidity		No corrosive gases in case of fire	
UV stability	Yes	Yes	Yes
Antistatic Technology	Yes	Yes	Yes
Antiscratch Technology	Yes	Yes	Yes

* Cover plate and plug in seals are made of PE

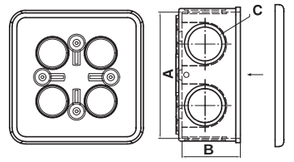
RAL 7035

Application Standards
EN 60670-22, EN 50642

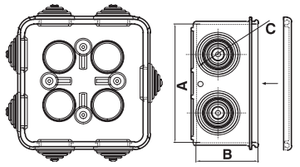
Patents protected
1009810, 1010513

CE

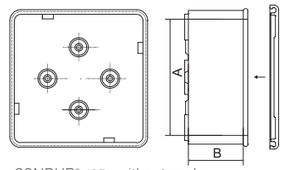
Watertight due to their elastic and directly mounted cover plate.
Junction boxes with seals: These boxes are provided with plug in seals or stepped grommets for easy positioning of cables, without the use of additional fittings, after cutting at the pre-marked points. CONDUR adaptors, of different diameters, 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.



CONDUR® ISR plug in seals



CONDUR® ISR plug in grommets

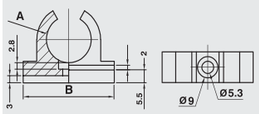


CONDUR® ISR without seals

Type	Part number	A mm	B mm	C mm		
Ø16/20	3013016	67	38	21.6	10	280
Ø20/16	3013020	82	43	21.6	10	160
Ø25/32	3013025	101	51	35.1	5	100
Ø16/20	3018016	67	38	21.6	10	240
Ø20/16	3018020	82	43	21.6	10	160
Ø25/32	3018025	101	51	35.1	5	40
Ø16	3022016	62	32	-	10	230
Ø20	3022020	82	36	-	10	240
Ø25	3022025	91	41	-	10	160
Ø32	3022032	101	51	-	5	100

CONDUR® ISR Clip

RAL 7035



Properties

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

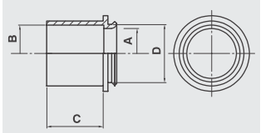
Type	Part number	A	R		
Ø16	4033016	15.8	35	4x50	3400
Ø20	4033020	19.8	40	4x50	2000
Ø25	4033025	24.8	46	4x30	1920
Ø32	4033032	31.8	53	30	1440
Ø40	4033040	39.8	63	20	960
Ø50	4033050	49.8	74	20	960
Ø63	4033063	62.8	88	20	960

Installation guidelines: Recommended fastening space is 50cm for vertical and 40cm for horizontal installations.
They can be mounted with the use of 4mm screws and plugs. They have side slots for easy positioning to rails.

Patents protected
1009810, EP2698792, 1010513

CONDUR® ISR Adaptor

RAL 7035



Properties

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

Type	Part number	A	R	C	D		
Ø16	4036016	13	16	18.5	20	4x30	1920
Ø20	4036020	16.5	20	22.5	20	4x30	1200
Ø25	4036025	21.5	25	32	33	20	1260
Ø32	4036032	27.5	32	35	33	20	960

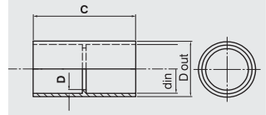
Installation guidelines: Assembled with CONDUR junction boxes after removing their seals or grommets. Adaptors with Part No. 4036016 and 4036020 can be mounted on junction boxes with type 16/20 and 20/16 while 4036025 and 4036032 can me mounted with the type ∅25/32.

Assembled with
CONDUR Junction boxes (pg.26)

Patents protected
1009810, EP2698792, 1010513

CONDUR® ISR Coupler

RAL 7035



Properties

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

Type	Part number	D out	min din	C mm	D mm		
Ø16	4031016	20.0	16	51.0	1.5	30	2280
Ø20	4031020	23.5	20	52.5	1.5	30	1890
Ø25	4031025	28.5	25	51.5	1.5	30	1440
Ø32	4031032	37.0	32	65.0	2	20	560
Ø40	4031040	44.5	40	85.0	2	15	420
Ø50	4031050	55.6	50	105	2.5	10	200
Ø63	4031063	69.8	63	126	2.8	8	64

Application Standards
EN 61386.1, EN 50642

Patents protected
1009810, EP2698792, 1010513

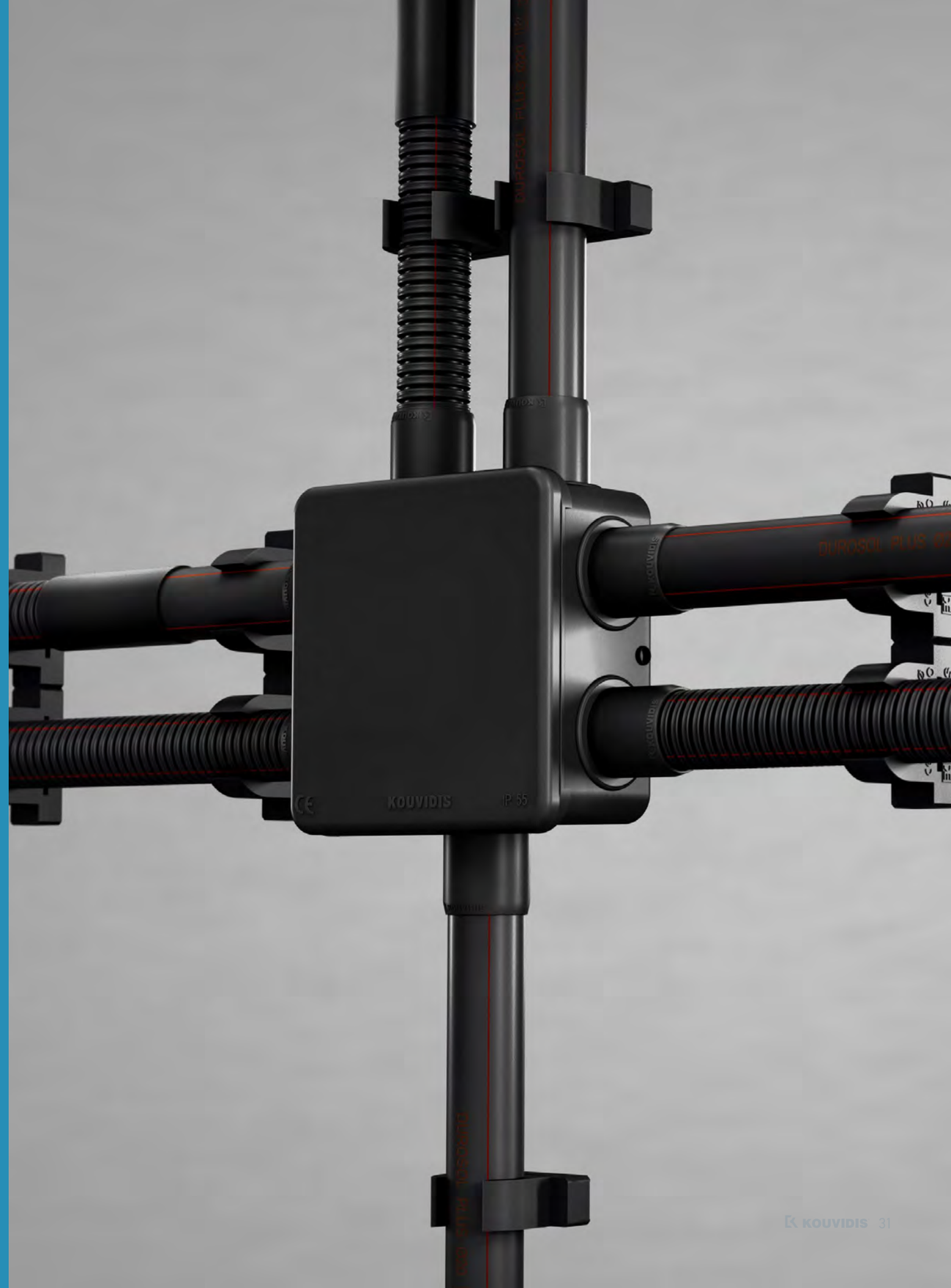
General properties for Fittings

Temperature range	-25⁰C to +60⁰C
Electrical characteristics	With electrical insulated characteristics
Ageing resistance	UV stabilized
Resistance to flame propagating	Non flame propagating
Halogen free	No toxic or corrosive gases in case of fire
Antistatic Technology	Protection against static electricity
Antiscratch Technology	Protection against scratching from cable routing

2

Plastic conduit systems Medium type

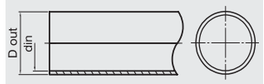
750Nt



33431

DUROSOL® PLUS ISR Rigid conduit

RAL 3020 INNER | RAL 9004 OUTER



Properties		Class
Resistance to compression	750 Nt	**3**
Resistance to impact	2J (at -25ºC)	**3**
Lower temperature range	-25ºC	**4**
Upper temperature range	+105ºC	**3**
Resistance to bending	Rigid	**1**
Electrical characteristics	With electrical insulated characteristics	2
Protection against ingress of solid objects Protection against ingress of water	min IP65	6 5
Resistance against corrosion	Not applicable	0
Tensile strength	None declared	0
Resistance to flame propagating	Non flame propagating	1
Suspended load capacity	None declared	0
Fire effects	None declared	0
Environmental impact	Halogen Free	1

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

Reference Standards
NF P 98-332

Assembled with
DUROSOL PLUS Bend (pg.34)
DUROSOL PLUS Coupler (pg.37)
DUROSOL PLUS Adaptor (pg.36)
DUROSOL PLUS Clip (pg.36)
DUROSOL PLUS Junction box (pg.35)

Patents protected
1009810, EP2698792, 1009158, 1010513

Additional properties	
Raw material	Halogen free, heavy metals free (RoHS) and specially stabilized thermoplastic PO blend
Low friction (internal layer)	Special material (Ultra slip) speeds up the routing of cables
Color marking (3rd layer)	Longitudinal stripes of indelible color (indication of power / telecommunication cables)
Halogen free	No toxic gases in case of fire
Low acidity	No corrosive gases in case of fire
Rodent repellent	Not attractive to rodents
Ageing resistance	UV stabilized
Antistatic Technology	Protection against static electricity
Antiscratch Technology	Protection against scratching from cable routing

Application fields

Exposed | Concealed (underplaster) | Concealed (dry wall) | Concealed floor / ceiling | **Underfloor in screed** | **Concrete** | **Outdoor** | Buried underground | **Wood**

Type	Part number red / green	D out	min din		kg	(m)
Ø16	1030016 / 1031016	16	12.3	57	2,18	7410
Ø20	1030020 / 1031020	20	15.5	57	3,78	3750
Ø25	1030025 / 1031025	25	20.0	30	2,53	1875
Ø32	1030032 / 1031032	32	25.7	30	3,49	1500

33332

DUROFLEX® PLUS ISR Pliable corrugated conduit

RAL 3020 INNER | RAL 9004 OUTER

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

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

Reference Standards
NF P 98-332

Assembled with
DUROSOL PLUS Bend (pg.34)
DUROSOL PLUS Coupler (pg.37)
DUROSOL PLUS Adaptor (pg.36)
DUROSOL PLUS Clip (pg.36)
DUROSOL PLUS Junction box (pg.35)

Patents protected
1009810, 1009144, EP2698792, 1009158, 1010513

Additional properties	
Raw material	Halogen free, heavy metals free (RoHS) and specially stabilized thermoplastic PO blend
Low friction (internal layer)	Special material (Ultra slip) speeds up the routing of cables
Color marking (3rd layer)	Longitudinal stripes of indelible color (indication of power / telecommunication cables)
Halogen free	No toxic gases in case of fire
Low acidity	No corrosive gases in case of fire
Rodent repellent	Not attractive to rodents
Low smoke	Better visibility of escape ways
Ageing resistance	UV stabilized
Antistatic Technology	Protection against static electricity
Antiscratch Technology	Protection against scratching from cable routing
Marking	Marked using embossed printing

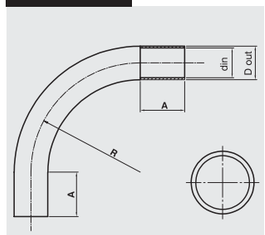
Application fields

Exposed | Concealed (underplaster) | Concealed (dry wall) | Concealed floor / ceiling | **Underfloor in screed** | **Concrete** | **Outdoor** | Buried underground | **Wood**

Type	Part number red / green	D out	min din		kg	(m)
Ø16	2050016 / 2051016	16.0	10.5	50	3,55	3750
Ø20	2050020 / 2051020	20.0	13.7	50	3,55	3750
Ø25	2050025 / 2051025	25.0	17.7	25	2,32	1875
Ø32	2050032 / 2051032	32.0	23.5	25	3,29	1500

DUROSOL® PLUS ISR Bend

RAL 9004



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

Patents protected
1010513

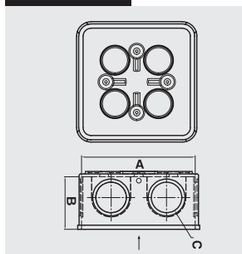
Properties	
Resistance to impact	6J (at -25°C)
Resistance to compression	1250Nt
Temperature range	-25°C to +120°C
IP ingress protection	min IP65
Ageing resistance	UV stabilized
Rodent repellent	Not attractive to rodents
Raw material	Halogen free, Heavy metals free (RoHS), specially stabilized thermoplastic PC blend
Electrical characteristics	With electrical insulated characteristics
Resistance to flame propagating	Non flame propagating
Halogen free	No toxic gases in case of fire
Low acidity	No corrosive gases in case of fire
Antistatic Technology	Protection against static electricity
Antiscratch Technology	Protection against scratching from cable routing
Marking	Engraved with laser printing

Note: Bends packaging do not contain coupler.

Type	Part number	D out	min din	A	R		
Ø16	4053016	16	12.5	27	55	10	460
Ø20	4053020	20	16.2	35	65	10	420
Ø25	4053032	25	20.8	36.7	90	10	170
Ø32	4053032	32	27.5	47.6	125	6	48

DUROSOL® PLUS ISR Junction box with seals

RAL 9004



Application Standards
EN 60670-22

Patents protected
1010513

Properties	
Box raw material	PO blend
Temperature range	-25°C to +60°C
Electrical characteristics	With electrical insulated characteristics
Resistance to flame propagating	Non flame propagating
Number of entries	7
Kind of entries	Plug in seals
Ingress protection	IP 55
Number of base knock outs	4
Conduit alignment	Yes
Condensation opening	Yes
Flame retardant	650°C
Voltage	800V
Halogen free	No toxic gases in case of fire
Low acidity	No corrosive gases in case of fire
UV stability	Yes
Antistatic Technology	Yes
Antiscratch Technology	Yes

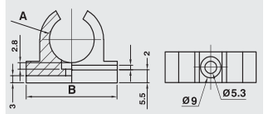
* Cover plate and plug in seals are made of PE

Watertight due to its elastic and directly mounted cover plate.
Junction boxes with seals: These boxes are provided with plug in seals for easy positioning of cables, without the use of additional fittings, after cutting at the pre-marked points. DUROSOL PLUS adaptors, of different diameters, can be easily fastened in the openings after pushing out the plug in seals.

Type	Part number	A mm	B mm	C mm		
Ø16/20	3025016	67	38	21.6	10	280
Ø20/16	3025020	82	43	21.6	10	160
Ø25/32	3025025	101	51	35.1	5	100

DUROSOL® PLUS ISR Clip

RAL 9004



Patents protected
1010513

CE

Properties

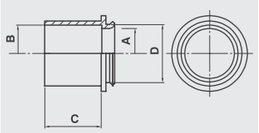
Raw material	Halogen free, heavy metals free (RoHS) and specially stabilized thermoplastic PO blend

Type	Part number	A	R		
Ø16	4049016	15.8	35	4x50	3400
Ø20	4049020	19.8	40	4x50	2000
Ø25	4049025	24.8	46	4x30	1800
Ø32	4049032	31.8	53	30	1380

Installation guidelines: Recommended fastening space is 50cm for vertical and 40cm for horizontal installations.
They can be mounted with the use of 4mm screws and plugs. They have side slots for easy positioning to rails.

DUROSOL® PLUS ISR Adaptor

RAL 9004



Assembled with
DUROSOL PLUS Junction box (pg.35)

Patents protected
1010513

CE

Properties

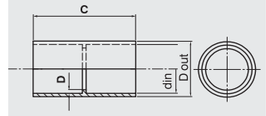
Raw material	Halogen free, heavy metals free (RoHS) and specially stabilized thermoplastic PO blend

Type	Part number	A	R	C	D		
Ø16	4051016	13	16	18.5	20	4x30	1920
Ø20	4051020	16.5	20	20	20	4x30	1200
Ø25	4051025	21.5	25	32	33	20	1260
Ø32	4051032	27.5	32	35	33	20	960

Installation guidelines: Assembled with DUROSOL PLUS junction boxes after removing their seals or grommets. Adaptors with Part No. 4051016, 4051020, 4051025, 4051032 can be mounted on junction boxes with type 16/20 and 20/16 while 4005025 and 4005032 can me mounted with the type Ø25/32.

DUROSOL® PLUS ISR Coupler

RAL 9004



Application Standards
EN 61386.1, EN 50642

Patents protected
1010513

CE DVE

Properties

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

Type	Part number	D out	min din	C mm	D mm		
Ø16	4047016	17.7	16	52.3	1.5	40	1920
Ø20	4047020	23.5	20	51.5	1.5	30	1890
Ø25	4047025	28.5	25	51.5	1.5	30	1440
Ø32	4047032	37.0	32	65	2	20	560

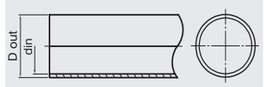
General properties for Fittings

Temperature range	-25°C to +60°C
Electrical characteristics	With electrical insulated characteristics
Ageing resistance	UV stabilized
Resistance to flame propagating	Non flame propagating
Halogen free	No toxic or corrosive gases in case of fire
Antistatic Technology	Protection against static electricity
Antiscratch Technology	Protection against scratching from cable routing

33431

MEDISOL® PLUS ISR Rigid conduit

RAL 9004 INNER | RAL 7035 OUTER



Properties		Class
Resistance to compression	750 Nt	**3**
Resistance to impact	2J (at -25°C)	**3**
Lower temperature range	-25°C	**4**
Upper temperature range	+105°C	**3**
Resistance to bending	Rigid	**1**
Electrical characteristics	With electrical insulated characteristics	2
Protection against ingress of solid objects Protection against ingress of water	min IP65	6 5
Resistance against corrosion	Not applicable	0
Tensile strength	None declared	0
Resistance to flame propagating	Non flame propagating	1
Suspended load capacity	None declared	0
Fire effects	None declared	0
Environmental impact	Halogen Free	1

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

Assembled with
CONDUR HF Bend (pg.25, 40)
MEDISOL PLUS Coupler (pg.41)
CONDUR Adaptor (pg.28)
CONDUR Clip (pg.28)
CONDUR Junction boxes (pg.26)

Patents protected
1009810, EP2698792, 1009975, 1010513

Additional properties

Raw material	Halogen free, heavy metals free (RoHS) and specially stabilized thermoplastic PO blend
Low friction (internal layer)	Special material (Ultra slip) speeds up the routing of cables
Anti - electromagnetic technology	Absorbs part of the electromagnetic radiation emitted by the cables
Halogen free	No toxic gases in case of fire
Low acidity	No corrosive gases in case of fire
Rodent repellent	Not attractive to rodents
Ageing resistance	UV stabilized
Antistatic Technology	Protection against static electricity
Antiscratch Technology	Protection against scratching from cable routing
Marking	Engraved with laser printing

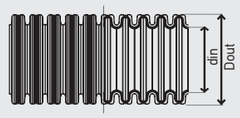
Application fields

Type	Part number	D out	min din		kg	(m)
Ø16	1027016	16	12.3	57	2,18	7410
Ø20	1027020	20	15.5	57	3,02	5130
Ø25	1027025	25	20.0	30	4,40	3300
Ø32	1027032	32	25.7	30	2,85	1920

33332

MEDIFLEX® PLUS Pliable corrugated conduit

RAL 9004 INNER | RAL 7035 OUTER



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

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

Assembled with
CONDUR HF Bend (pg.25, 40)
MEDISOL PLUS Coupler (pg.41)
CONDUR Adaptor (pg.28)
CONDUR Clip (pg.28)
CONDUR Junction boxes (pg.26)

Patents protected
1009810, EP2698792, 1009975, 1010513

Additional properties

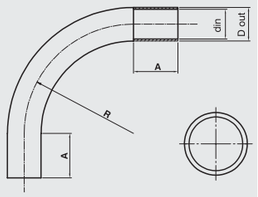
Raw material	Halogen free, heavy metals free (RoHS) and specially stabilized thermoplastic PO blend
Low friction (internal layer)	Special material (Ultra slip) speeds up the routing of cables
Anti - electromagnetic technology	Absorbs part of the electromagnetic radiation emitted by the cables
Halogen free	No toxic gases in case of fire
Low acidity	No corrosive gases in case of fire
Rodent repellent	Not attractive to rodents
Low smoke	Better visibility of escape ways
Ageing resistance	UV stabilized
Antistatic Technology	Protection against static electricity
Antiscratch Technology	Protection against scratching from cable routing
Marking	Marked using embossed printing

Application fields

Type	Part number	D out	min din		kg	(m)
Ø16	2052016	16	10.5	100	5,85	6300
Ø20	2052020	20	13.7	100	8,10	5600
Ø25	2052025	25	18.1	50	5,60	3250
Ø32	2052032	32	24.2	25	3,73	1500

CONDUR HF® IAS Bend

RAL 7035



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

Patents protected
1009810, EP2698792

Properties

Resistance to impact	6J (at -25ºC)
Resistance to compression	1250(Nt)
Temperature range	-25ºC to +120ºC
IP ingress protection	min IP65
Ageing resistance	UV stabilized
Halogen free	No toxic gases in case of fire
Low acidity	No corrosive gases in case of fire
Rodent repellent	Not attractive to rodents
Raw material	Halogen free, heavy metals free (RoHS) and specially stabilized thermoplastic PC blend
Electrical characteristics	With electrical insulated characteristics
Resistance to flame propagating	Non flame propagating
Antistatic Technology	Protection against static electricity
Marking	Engraved with laser printing

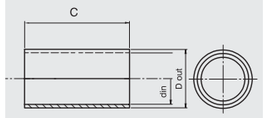
Note: Bends packaging do not contain coupler.

Type	Part number	D out	min din	A	R		
Ø16	4013016	16	12.5	27	55	10	460
Ø20	4013020	20	16.2	35	65	10	420
Ø25	4013025	25	20.8	36.7	90	10	170
Ø32	4013032	32	27.5	47.6	125	6	48

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

MEDISOL® PLUS ISR Coupler

RAL 7035



Application Standards
EN 61386.01, EN 50642

Assembled with
MEDISOL PLUS (pg.38)
MEDIFLEX PLUS (pg.39)

Patents protected
1009810, 1010513

Properties

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

Type	Part number	D out	min din	C mm		
Ø16	4055016	17.7	16.0	52.3	40	1920
Ø20	4055020	23.5	20.0	51.5	30	1890
Ø25	4055025	28.5	25.0	51.5	30	1440
Ø32	4055032	37.0	32.0	65.0	20	560

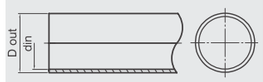
Rest Fittings for MEDISOL PLUS - MEDIFLEX PLUS conduit system:

CONDUR CLIPS (pg. 28)
CONDUR Adaptors (pg. 28)
CONDUR Junction boxes (pg. 26)

33411

MEDISOL® AM Rigid conduit

RAL 9003



Application Standards
EN 61386.21, ISO 22196

Assembled with
MEDISOL AM Bend (pg.44)
MEDISOL AM Coupler (pg.47)
MEDISOL AM Adaptor (pg.46)
MEDISOL AM Clip (pg.46)
MEDISOL AM Junction box (pg.45)

Patents protected
1007372

Properties		Class
Resistance to compression	750 Nt / 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
Fire effects	None declared	0
Environmental impact	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
Marking	Engraved with laser printing

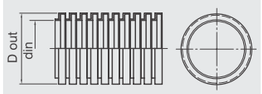
Application fields

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

33412

MEDIFLEX® AM Pliable corrugated conduit

RAL9003



Application Standards
EN 61386.21, ISO 22196

Assembled with
MEDISOL AM Bend (pg.44)
MEDISOL AM Coupler (pg.47)
MEDISOL AM Adaptor (pg.46)
MEDISOL AM Clip (pg.46)
MEDISOL AM Junction box (pg.45)

Patents protected
1007372

Properties		Class
Resistance to compression	750 Nt / 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
Fire effects	None declared	0
Environmental impact	None declared	0

Additional properties

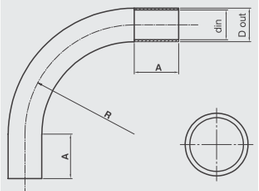
Raw material	Heavy metals free (RoHS), specially stabilized thermoplastic U-PVC
Antimicrobial technology	Resist the growth of bacteria by up to 99% within 24 hours
Ageing resistance	UV stabilized
Rodent repellent	Not attractive to rodents
Marking	Marked using embossed printing

Application fields

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

MEDISOL® AM Bend

RAL 9003



Application Standards

EN 61386.21, ISO 22196

Properties

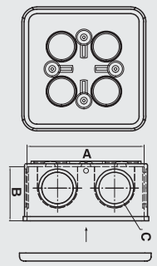
Resistance to impact	2J (at -25°C)
Temperature range	-25°C to +60°C
IP ingress protection	min IP65
Antimicrobial technology	Resist the growth of bacteria by up to 99% within 24 hours
Ageing resistance	UV stabilized
Rodent repellent	Not attractive to rodents
Raw material	Heavy metals free (RoHS), specially stabilized thermoplastic U-PVC
Electrical characteristics	With electrical insulated characteristics
Resistance to flame propagating	Non flame propagating

Note: Bends packaging do not contain coupler.

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

MEDISOL® AM Junction box / watertight with seals

RAL 9003



Application Standards

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

Patents protected

1010513

Properties

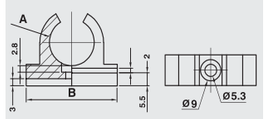
Box raw material	PC blend
Temperature range	-25°C to +60°C
Electrical characteristics	With electrical insulated characteristics
Resistance to flame propagating	Non flame propagating
Number of entries	7
Kind of entries	Plug in seals
Ingress protection	IP 55
Number of base knock outs	4
Conduit alignment	Yes
Condensation opening	Yes
Flame retardant	650°C
Voltage	800V
Halogen free	No toxic or corrosive gases in case of fire
UV stability	Yes
Antimicrobial technology	Resist the growth of bacteria by up to 99% within 24 hours

* Cover plate and plug in seals are made of PE

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

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

RAL 9003



MEDISOL® AM Clip

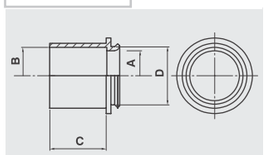
Properties

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

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

Installation guidelines: Recommended fastening space is 50cm for vertical and 40cm for horizontal installations.
They can be mounted with the use of 5mm screws and plugs. They have side slots for easy positioning to rails.

RAL 9003



Assembled with
MEDISOL AM Junction box (pg.45)

MEDISOL® AM Adaptor

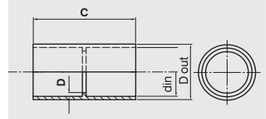
Properties

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

Type	Part number	A	R	C	D		
Ø16	4044016	13	16	16	20	4x30	1800
Ø20	4044020	16.5	20	20	20	4x30	1200
Ø25	4044025	21.5	25	32	33	20	1080
Ø32	4044032	27.5	32	35	33	20	840

Guidelines: 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.

RAL 9003



MEDISOL® AM Coupler

Properties

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

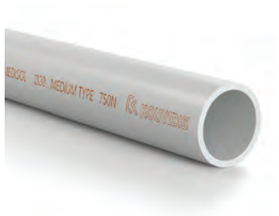
Type	Part number	D out	min din	C mm	D mm		
Ø16	4244016	20	16	51	1.5	30	2280
Ø20	4244020	23.5	20	52.5	1.5	30	1890
Ø25	4244025	28.5	25	51.5	1.5	30	1440
Ø32	4244032	37	32	65	2	20	560
Ø40	4244040	44.5	40	85	2	15	420
Ø50	4244050	55.6	50	105	2.5	10	200
Ø63	4244063	69.8	63	126	2.8	8	64

General properties for Fittings

Temperature range	-25°C to +60°C
Electrical characteristics	With electrical insulated characteristics
Ageing resistance	UV stabilized
Resistance to flame propagating	Non flame propagating
Halogen free	No toxic or corrosive gases in case of fire
Antimicrobial technology	Resist the growth of bacteria by up to 99% within 24 hours

33411

MEDISOL® IAS Rigid conduit



RAL 7035

Properties		Class
Resistance to compression	750 Nt /5m	**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
Protection against ingress of solid objects Protection against ingress of water	min IP65	6 5
Resistance against corrosion	Not applicable	0
Tensile strength	None declared	0
Resistance to flame propagating	Non flame propagating	1
Suspended load capacity	None declared	0
Fire effects	None declared	0
Environmental impact	None declared	0

Application Standards
EN 61386.21

Assembled with
CONDUR Bend (pg.24)
CONDUR Coupler (pg.29)
CONDUR Adaptor (pg.28)
CONDUR Clip (pg.28)
CONDUR Junction boxes (pg.26)

Patents protected
1009810

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

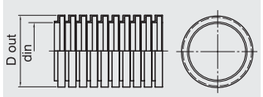
Application fields

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

33412

MEDIFLEX® IAS Pliable corrugated conduit

RAL 7035



Properties		Class
Resistance to compression	750 Nt /5m	**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
Protection against ingress of solid objects Protection against ingress of water	min IP65	6 5
Resistance against corrosion	Not applicable	0
Tensile strength	None declared	0
Resistance to flame propagating	Non flame propagating	1
Suspended load capacity	None declared	0
Fire effects	None declared	0
Environmental impact	None declared	0

Application Standards
EN 61386.22

Assembled with
CONDUR Bend (pg.24)
CONDUR Coupler (pg.29)
CONDUR Adaptor (pg.28)
CONDUR Clip (pg.28)
CONDUR Junction boxes (pg.26)

Patents protected
1009810

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

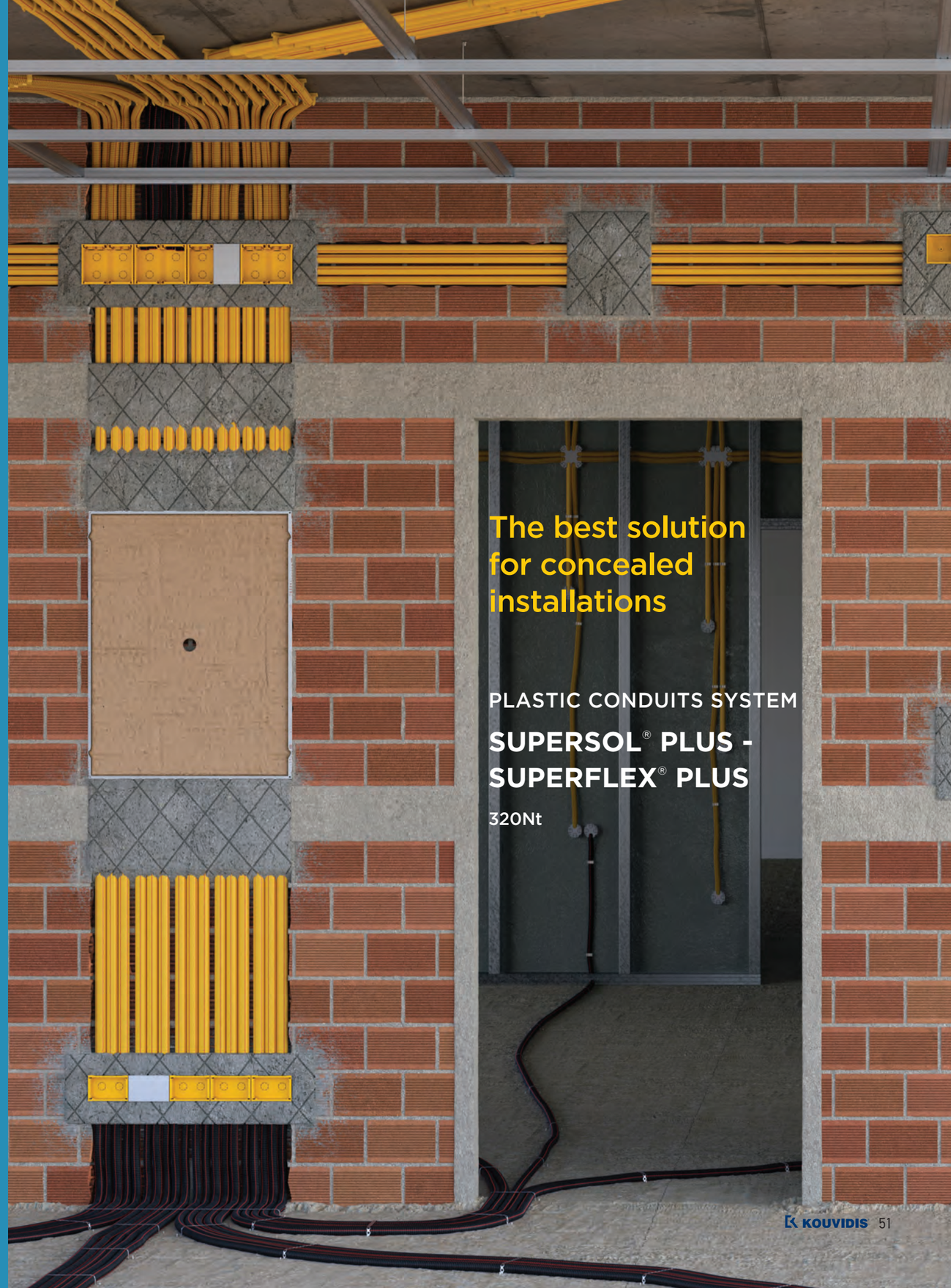
Application fields

Type	Part number	D out	min din		kg	(m)
Ø16	2002016	16	10.8	50	2,85	3600
Ø20	2002920	20	13.8	100	8,10	3200
Ø25	2002925	25	18.1	50	5,54	1800
Ø32	2002032	32	24.0	25	3,82	1400
Ø40	2002040	40	31.0	20	4,10	880
Ø50	2002050	50	39.6	20	4,99	400
Ø63	2002063	63	52.3	20	6,97	360

3

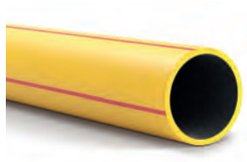
Plastic conduit systems Light type

320Nt

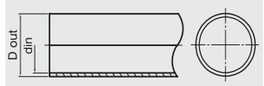


23431

SUPERSOL® PLUS ISR Rigid conduit



RAL 9004 INNER | RAL 9004 OUTER



Properties		Class
Resistance to compression	320Nt/5cm	2
Resistance to impact	2J (at -25°C)	3
Lower temperature range	-25°C	4
Upper temperature range	+105°C	3
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
Fire effects	None declared	0
Environmental impact	Halogen free	1

Application Standards
EN 61386.21, EN 50642,
EN 60754-2, EN 61034-2

Reference Standards
NF P 98-332

Assembled with
SUPERSOL PLUS Coupler (pg.54)
SUPERSOL PLUS Clip (pg.54)
Metal Clamp KOUVIDIS (pg.55)

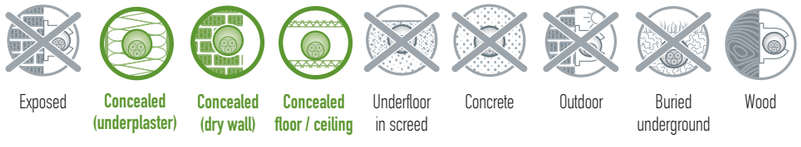
Patents protected
1009810, EP2698792, 1009975,
1010513

CE DVE

Additional properties

Raw material	Halogen free, heavy metals free (RoHS) and specially stabilized thermoplastic PO blend
Low friction (internal layer)	Special material (Ultra slip) speeds up the routing of cables
Anti - electromagnetic technology	Absorbs a part of the electromagnetic radiation emitted by cables
Color marking	Longitudinal stripes of indelible color indicate the power of the protected cables
Halogen free	No toxic gases in case of fire
Low acidity	No corrosive gases in case of fire
Low smoke	Better visibility of escape ways
Antistatic Technology	Protection against static electricity
Antiscratch Technology	Protection against scratching from cable routing
Marking	Engraved with laser printing

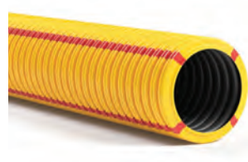
Application fields



Type	Part number red / green	D out	min din		kg	(m)
Ø16	1028016 / 1029016	16	13.4	57	2.18	7410
Ø20	1028020 / 1029020	20	17.5	57	3.02	5130
Ø25	1028025 / 1029025	25	22.1	30	4.40	3300
Ø32	1028032 / 1029032	32	28.4	30	2.85	1920

23332

SUPERFLEX® PLUS ISR Pliable corrugated conduit



RAL 9004 INNER | RAL 9004 OUTER

Properties		Class
Resistance to compression	320 Nt/5cm	2
Resistance to impact	2J (at -15°C)	3
Lower temperature range	-15°C	3
Upper temperature range	+105°C	3
Resistance to bending	Pliable	2
Electrical characteristics	With electrical insulated characteristics	2
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
Fire effects	None declared	0
Environmental impact	Halogen free	0

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

Reference Standards
NF P 98-332

Assembled with
SUPERSOL PLUS Coupler (pg.54)
SUPERSOL PLUS Clip (pg.54)
Metal Clamp KOUVIDIS (pg.55)

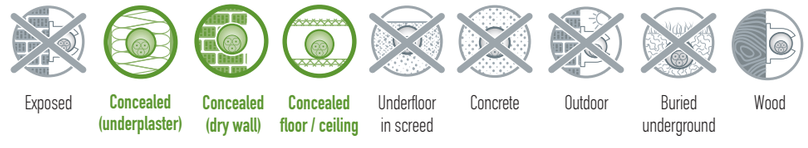
Patents protected
1009810, EP2698792, 1009975,
1010513

CE DVE

Additional properties

Raw material	Halogen free, heavy metals free (RoHS) and specially stabilized thermoplastic PO blend
Low friction (internal layer)	Special material (Ultra slip) speeds up the routing of cables
Anti - electromagnetic technology	Absorbs a part of the electromagnetic radiation emitted by cables
Color marking	Longitudinal stripes of indelible color indicate the power of the protected cables
Halogen free	No toxic gases in case of fire
Low acidity	No corrosive gases in case of fire
Low smoke	Better visibility of escape ways
Antistatic Technology	Protection against static electricity
Antiscratch Technology	Protection against scratching from cable routing
Marking	Engraved with laser printing

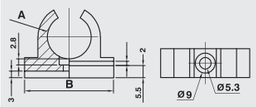
Application fields



Type	Part number red / green	D out	min din		kg	(m)
Ø16	2053916 / 2054016	16	10.9	100	4.70	6300
Ø20	2053020 / 2054020	20	14.2	100	5.60	5600
Ø25	2053025 / 2054025	25	18.6	50	3.59	3250
Ø32	2053032 / 2054032	32	24.9	25	2.31	1500

SUPERSOL® PLUS ISR Clip

RAL 1023



Patents protected
1009810, 1010513

CE

Properties

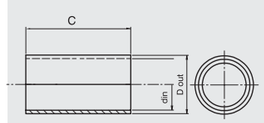
Raw material	Halogen free, heavy metals free (RoHS) and specially stabilized thermoplastic PO blend
Protection against ingress of solid objects Protection against ingress of water	min IP65
Temperature range	-15°C to +60°C
Electrical characteristics	With electrical insulated characteristics
Resistance to flame propagating	Non flame propagating
Halogen free	No toxic or corrosive gases in case of fire
Antistatic Technology	Protection against static electricity
Antiscratch Technology	Protection against scratching from cable routing

Type	Part number	A	R		
Ø16	4027016	15.8	35	4x50	3400
Ø20	4027020	19.8	40	4x50	2000
Ø25	4027025	24.8	46	4x30	1920
Ø32	4027032	31.8	53	30	1440

They can be mounted with the use of 4mm screws and plugs. They have side slots for easy positioning to rails. Additionally, SUPERSOL PLUS clips are also compatible with nail fixing tools. We recommend the use of nails at least 30mm.

SUPERSOL® PLUS ISR Coupler

RAL 1023



Application Standards
EN 61386.01, EN 50642

Assembled with
SUPERSOL PLUS (pg.52)
SUPERFLEX PLUS (pg.53)

Patents protected
1009810, 1010513

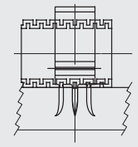
CE DVE

Properties

Raw material	Halogen free, heavy metals free (RoHS) and specially stabilized thermoplastic PO blend
Protection against ingress of solid objects Protection against ingress of water	min IP65
Temperature range	-15°C to +60°C
Electrical characteristics	With electrical insulated characteristics
Resistance to flame propagating	Non flame propagating
Halogen free	No toxic or corrosive gases in case of fire
Antistatic Technology	Protection against static electricity
Antiscratch Technology	Protection against scratching from cable routing

Type	Part number	D out	min din	C mm		
Ø16	4042016	17.7	16.0	52.3	40	1920
Ø20	4042020	23.5	20.0	51.5	30	1890
Ø25	4042025	28.5	25.0	51.5	30	1440
Ø32	4042032	37.0	32.0	65.0	20	560

KOUVIDIS metal clip for drywall



Application Standards
EN 61386.25

CE

Properties

Raw material	Galvanized steel, type Sendzimir (by adding aluminum in the zinc texture), which provides maximum antioxidant protection
Mounting instructions	KOUVIDIS metal clamp is suggested to be installed with the use of a hammer with head 25x25mm

Type	Part number		
Ø16	6000024	108	432
Ø20	6000025	96	384
Ø25	6000026	72	288
Ø32	6000027	48	1921

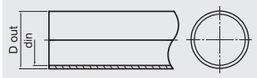
The NEW specially designed metallic clamp of KOUVIDIS

provides **fast, easy** and **safe mounting** for the new 3layer conduits SUPERSOL® PLUS and SUPERFLEX® PLUS on drywalls and chipboards.
It is produced from galvanized steel, type Sendzimir (by adding aluminum in the zinc mixture), which provides maximum antioxidant protection, high mechanical strength and durability over time.
Mounting the metal clamp is very easy, avoiding piercing; it is installed with the single use of a hammer (suggested hammer head 25x25mm). Each side has three hooks out of which the two have a special bent and thus they do not traumatize the dry wall or the wooden wall while they are penetrated into the inner body. The middle hook is vertical, providing thus the necessary strength for the clip's safe installation.
Hooks' length is designed to not surpass the width of the dry wall or wooden wall. Finally, the special notches at the side walls of KOUVIDIS metal clamp hold the conduit evenly and protect it from the hammer's blow pressure.

23411

SILCOR® IAS Rigid conduit

RAL 7035



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

Application Standards
EN 61386.21

Assembled with
CONDUR Bend (pg.24)
CONDUR Coupler (pg.29)
CONDUR Adaptor (pg.28)
CONDUR Clip (pg.28)
CONDUR Junction boxes (pg.26)

Patents protected
1009810

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

Application fields

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

22412

SIFLEX® IAS Corrugated conduit

RAL 7035

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

Application Standards
EN 61386.22

Assembled with
CONDUR Bend (pg.24)
CONDUR Coupler (pg.29)
CONDUR Adaptor (pg.28)
CONDUR Clip (pg.28)
CONDUR Junction boxes (pg.26)

Patents protected
1009810

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

Application fields

Type	Part number	D out	min din		kg	(m)
Ø16	2003016	16	11.0	50	2,23	3600
Ø20	2003920	20	14.1	100	5,28	3200
Ø25	2003925	25	18.5	50	3,51	1700
Ø32	2003032	32	24.5	25	2,53	1300
Ø40	2003040	40	31.4	20	2,95	880

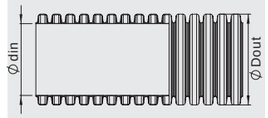
4

Plastic conduit systems Buried underground

Normal type

GEONFLEX® ISR Pliable corrugated conduit / in coils

RAL 3020 INNER | RAL 9004 OUTER



Application Standards
EN 61386-24

Reference Standards
NF P 98-332

Assembled with
Connection coupler with hooks
End cap with hooks (pg.64)

Patents protected
1009810, 1008090, EP2698792, 1009158, 1010513

Red color coding protection of cables in **electrical installations**
Green color coding protection of cables in **communication sytems**

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 conduits come with a cable guide and two protective caps at each conduit's end.

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
Low friction (internal layer)	Special material (Ultra slip) speeds up the routing of cables
Rodent repellent	Not attractive to rodents (the internal layer incorporates animal repellent)
Internal guide	Cable guide with minimum tensile strength 650Nt
Color marking	Longitudinal stripes of **HIGH** thickness and indelible color indicate the power of the protected cables
Antistatic Technology	Protection against static electricity
Antiscratch Technology	Protection against scratching from cable routing
Marking	Marked using embossed printing

Application fields

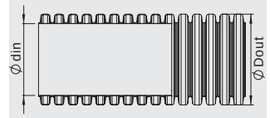
Exposed | Concealed (underplaster) | Concealed (dry wall) | Concealed floor / ceiling | **Underfloor in screed** | **Concrete** | Outdoor | **Buried underground** | Wood

Type	Part number 25m / 50m	D out	min din		kg	m 13.6m
Ø32	- / 2043032	32	24.8	- / 50m	2,58/5,15	33750/40000
Ø40	2042040/2043040	40	31.0	25m/50m	3,80/7,72	26250/31500
Ø50	2042050/2043050	50	40.0	25m/50m	4,40/9,80	16250/21000
Ø63	2042063/2043063	63	49.8	25m/50m	6,40/14,29	11500/14000
Ø75	2042075/2043075	75	60,6	25m/50m	9,13/18,20	6250/7750
Ø90	2042090/2043090	90	75.3	25m/50m	14,43/28,92	3750/5500
Ø110	2042110/2043110	110	92.7	25m/50m	16,98/34,01	3000/4000
Ø125	2042125/2043125	125	105.0	25m/50m	21,13/42,41	3125/3500
Ø160	2042160 /-	160	136.5	25m / -	32,84	1900 /-
Ø200	2042200 /-	200	171.1	25m / -	39,13	1225 /-

Normal type

GEONFLEX® ISR Rigid conduit / in bars

RAL 3020 INNER | RAL 9004 OUTER



Application Standards
EN 61386-24

Reference Standards
NF P 98-332,

Assembled with
Connection coupler with hooks
End caps with hooks (pg.64)

Patents protected
1009810, 1009144, EP2698792, 1009158, 1010513

Red color coding protection of cables in **electrical installations**
Green color coding protection of cables in **communication sytems**

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
Low friction (internal layer)	Special material (Ultra slip) speeds up the routing of cables
Rodent repellent	Not attractive to rodents (the internal layer incorporates animal repellent)
Internal guide	Cable guide with minimum tensile strength 650Nt
Color marking	Longitudinal stripes of **HIGH** thickness and indelible color indicate the power of the protected cables
Antistatic Technology	Protection against static electricity
Antiscratch Technology	Protection against scratching from cable routing
Marking	Marked using embossed printing

Application fields

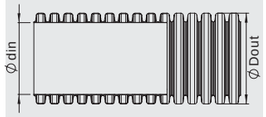
Exposed | Concealed (underplaster) | Concealed (dry wall) | Concealed floor / ceiling | **Underfloor in screed** | **Concrete** | Outdoor | **Buried underground** | Wood

Type	Part number	D out	min din	m	kg	m 13.6m
Ø75	1024075	75	60.0	6	2,90	10080
Ø90	1024090	90	74.0	6	3,60	6912
Ø110	1024110	110	92.0	6	4,30	4800
Ø125	1024125	125	104.5	6	5,30	3072
Ø160	1024160	160	136.0	6	8,30	2520
Ø200	1024200	200	167.5	6	9,70	1800
Ø250	1024250	250	212.0	6	16,70	960

Normal type

GEOSUB® ISR Pliable corrugated conduit / in coils

RAL 3020 INNER | RAL 9004 OUTER



Application Standards
EN 61386-24

Reference Standards
NF P98-332

Assembled with
Connection coupler with hooks
End cap with hooks (pg.64)

Patents protected
1009810, 1008090, EP2698792, 1009158, 1010513

Red color coding protection of cables in **electrical installations**
Green color coding protection of cables in **communication sytems**

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

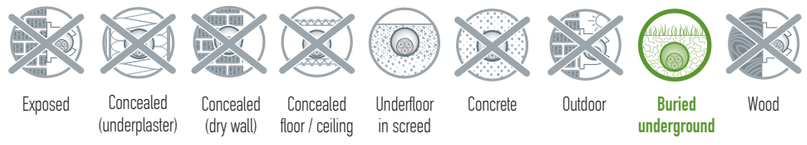
Properties

Resistance to compression	450Nt (type 450)
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	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
Internal guide	Cable guide with minimum tensile strength 650Nt
Color marking	Longitudinal stripes of **LOW** thickness and indelible color indicate the power of the protected cables
Antistatic Technology	Protection against static electricity
Antiscratch Technology	Protection against scratching from cable routing
Marking	Marked using embossed printing

Application fields

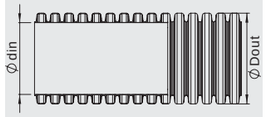


Type	Part number	D out	min din		kg	m 13.6m
Ø32	2047032	32	24.8	50	4,20	40000
Ø40	2047040	40	31.4	50	5,86	31500
Ø50	2047050	50	40.5	50	6,99	21000
Ø63	2047063	63	50.5	50	10,59	14000
Ø75	2047075	75	61.5	50	14,21	10000
Ø90	2047090	90	76.0	50	20,05	7000
Ø110	2047110	110	92.7	50	26,09	4500
Ø125	2047125	125	106.1	50	30,57	3500
Ø160	2047160	160	138.4	25	25,19	1900
Ø200	2047200	200	171.1	25	32,43	1225

Normal type

GEOSUB® ISR Rigid conduit / in bars

RAL 3020 INNER | RAL 9004 OUTER



Application Standards
EN 61386-24

Reference Standards
NF P98-332

Assembled with
Connection coupler with hooks
End cap with hooks (pg.64)

Patents protected
1009810, 1009144, EP2698792, 1009158, 1010513

Red color coding protection of cables in **electrical installations**
Green color coding protection of cables in **communication sytems**

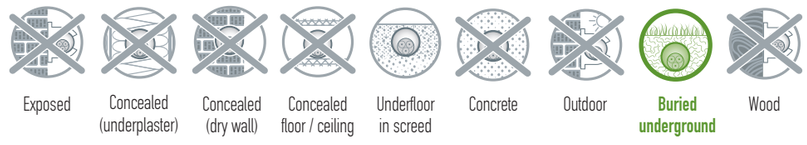
Properties

Resistance to compression	450Nt (type 450)
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	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
Color marking	Longitudinal stripes of **LOW** thickness and indelible color indicate the power of the protected cables
Antistatic Technology	Protection against static electricity
Antiscratch Technology	Protection against scratching from cable routing
Marking	Marked using embossed printing

Application fields



Type	Part number	D out	min din	m	kg	m 13.6m
Ø75	1022075	75	61.0	6	1,95	10080
Ø90	1022090	90	75.8	6	2,75	6912
Ø110	1022110	110	92.0	6	3,57	4800
Ø125	1022125	125	105.5	6	4,45	3072
Ø160	1022160	160	137.5	6	6,30	2520
Ø200	1022200	200	169.3	6	7,65	1800
Ø250	1022250	250	212.0	6	10,80	960

RAL 9004

Applications Standards
EN 61386-24

Connection coupler with hooks

Properties

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

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

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

RAL 9004

End cap with hooks

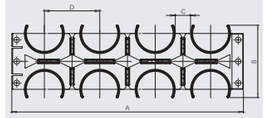
Properties

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

Male end caps with perimetric double hooks for the proper protection of the internal side of conduits.

Type	Part number		
Ø32	6118032	50	2520
Ø40	6118040	40	1620
Ø50	6118050	40	720
Ø63	6118063	40	510
Ø75	6118075	35	210
Ø90	6118090	24	120
Ø110	6118110	12	80
Ø125	6118125	12	64
Ø160	6118160	10	6
Ø200	6118200	6	6

RAL 9004



Spacer / 8 folded

Properties

Raw material	Halogen free, heavy metals free (RoHS) and specially stabilized thermoplastic PP
Electrical characteristics	With electrical insulated characteristics
Resistance to flame propagating	Flame propagating
Compatibility (conduit nominal outer diameter)	Ø50 Ø63 Ø75 Ø90 Ø110 Ø125 Ø160

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

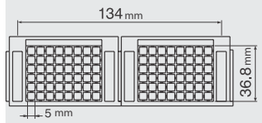
Type	Number of positions	Part number	A mm	B mm	C mm	D mm		
Ø50	8(4x2)	6121050	323	101	28	78	45	4500
Ø63	8(4x2)	6121063	376	116	28	91	25	2400
Ø75	8(4x2)	6121075	425	131	28	103	20	1920
Ø90	8(4x2)	6121090	484	147	28	118	72	2016
Ø110	8(4x2)	6121110	575	210	30	140	42	672
Ø125	8(4x2)	6121125	664	233	38	163	32	384
Ø160	4(2x2)	6121160	452	299	60	219	39	468

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

5

Boxes for concealed installations

RAL 1023



Application Standards
EN 60670-22, EN 60754-2

Patents protected
1006882

MULTIBOX®

Properties

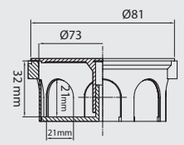
Box raw material	Heavy metals free (RoHS), specially stabilized thermoplastic HIPS (base and separator) and PO blend (cover plate)
Temperature range	-5^{0}C to +60^{0}C
Electrical characteristics	With electrical insulated characteristics
Resistance to flame propagating	Non flame propagating
Resistance to heat	650^{0}C
Conduit entries	All side walls (2 at the base)
Ingress protection	IP30

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	3012010	36	-
10x13	3012011	18	-
Cover plate	3112001	36	-
Separators	3012009	36	-

Packaging do not contain cover plates.

RAL 1023



Application Standards
EN 60670-22, EN 60754-2

Assembled round Ø73

Properties

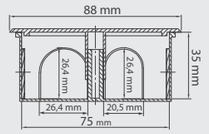
Box raw material	Heavy metals free (RoHS), specially stabilized thermoplastic HIPS (base) and PO blend (cover plate)
Temperature range	-5^{0}C to +60^{0}C
Electrical characteristics	With electrical insulated characteristics
Resistance to flame propagating	Non flame propagating
Resistance to heat	650^{0}C
Conduit entries	8 up to Ø21
Ingress protection	IP2X

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

Type	Part number		
Junction box	3010103	100	-
Cover plate	3211003	100	-

Packaging do not contain cover plates.

RAL 1023



Application Standards
EN 60670-22, EN 60754-2

CE

Square 7,5 x 7,5

Properties

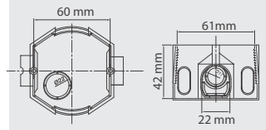
Box raw material	Heavy metals free (RoHS), specially stabilized thermoplastic HIPS (base) and PO blend (cover plate)
Temperature range	-15^{0}C to +60^{0}C
Electrical characteristics	With electrical insulated characteristics
Resistance to flame propagating	Non flame propagating
Resistance to heat	650^{0}C
Conduit entries	6 up to Ø25, 2 up to Ø20
Ingress protection	IP2X

Ideal for flush mounting and cavity wall installations.

Type	Part number		
Junction box	3010105	50	-
Cover plate	3110002	50	-

Packaging do not contain cover plates.

RAL 1023



Application Standards
EN 60670-22, EN 60754-2

CE

Multi combination gang

Properties

Box raw material	Heavy metals free (RoHS), specially thermoplastic PO blend
Temperature range	-15^{0}C to +60^{0}C
Electrical characteristics	With electrical insulated characteristics
Resistance to flame propagating	Non flame propagating
Resistance to heat	650^{0}C
Conduit entries	7 up to Ø18 (1 of them at the base up to Ø22)
No of screws dome	2 of 15mm screw length
Ingress protection	IP2X

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		
Switch box	3011003	100	-
Distance adaptor	3211003	100	-

Packaging do not contain distance adaptors.

6

Accessories for plastic pipes

Cutting tool for plastic pipes / in one stop

Properties

- Version from stable magnesium, particularly light
- For one-hand operation
- Ergonomically designed handles with soft grip for fast cutting in one cut
- Blade retraction by spring-loaded scissor levers for easy cutting
- One-hand lock for safe transport and protection of the blade
- Specially hardened and specially ground wedge-shaped blade with cutting angle 150°
- Chipless cutting - no chips remain in the conduit

Type	Part number		
REMS ROS PEX 28 S	6000028	1	-

Cutting tool for plastic pipes with automatic quick reverse

Properties

- Version from stable magnesium, particularly light
- For one-hand operation
- Easily replaceable specially hardened blade
- Durable aluminum design
- Automatic and fast rewind saves time and effort
- Chipless cutting - no chips remain in the conduit

Type	Part number		
REMS ROS P 35 A	6000030	1	-

Cutting tool for plastic pipes with automatic quick reverse

Properties

- Version from stable magnesium, particularly light
- For one-hand operation
- Specially hardened, wedge-shaped blade for heavy, medium and light type conduits
- Effortless work due to ratchet feed
- Fast rewind saves time and effort
- Chipless cutting - no chips remain in the conduit

Type	Part number		
REMS ROS P 63 P	6000032	1	-

Replacement blades for pipe shears

Type	Part number		
Blade PEX 28 S	6000029	1	-
Blade P 35 A	6000031	1	-
Blade P 63 P	6000033	1	-

Adhesive & Sealant

Properties

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

Part number		
6001004	6x310ml	-

Lubricant for plastic pipes and fittings

Properties

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

Part number		
001005	5kg	-

7

Technical information

SIGNS EXPLANATION

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

−25°C +60°C — Min-max permanent application temperature

up to 1000 V AC 1500 V DC — Voltage limit

minIP65 — Ingrees protection against solid objects and water (EN 60529)

Non flame propagating product

Product that propagates flame

Product with extra UV stability

Product is not an attractive food to rodents

Low smoke during combustion (EN 61034-2)

13,6m — Double wall conduits loaded on a truck (m)

Packing (pieces/box)

Packing (m/bar)

Packing (m/coil)

pH — Low acidity (EN 60754-2)

Product is made of halogen free raw materials (EN 50642)

Product with up to 99,9% antimicrobial protection

Longitudinal stripes of indelible color indicate the power of the protected cables
Red (RAL 3020) = power
Green (RAL 6037) = telecommunication

Antistatic Technology IAS (Patent Protected 1009870)

Friction Reduction at the internal wall of conduits

Antiscratch Technology ISR (Patent Protected 1010513)

Anti - electromagnetic technology (Patent Protected 1009975)

Packing (m/bundle)

D out — Nominal outer diameter (mm)

din — Nominal inner diameter(mm)

MULTI LAYER PIPES KOUVIDIS — KOUVIDIS Multilayer Pipes Technology

CE — Product Conformity to all requirements of relative European Directives.

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

BUREAU VERITAS — Certification body of Bureau Veritas

APPLICATIONS FIELDS

Exposed	Concealed floor / ceiling	Outdoor
Concealed (underplaster)	Underfloor in screed	Buried underground
Concealed (dry wall)	Concrete	Wood

Best choice acc. to the Manufacturer and the application needs

Recommended acc. to the Manufacturer and the application needs

Not Recommended acc. to the Manufacturer and the application needs

PRODUCT PACKAGING

All KOUVIDIS products have distinctive labelling on their packaging and are easily traceable. The color of the label indicates the type of the product (especially for single wall conduits) while the information mentioned refer to its characteristics and mechanical strengths. The color identity for each product family facilitates installer and retailer work providing easiness when storing and distributing.

Single wall conduit packaging

Rigid conduits are packed in bundles with the use of recyclable protective film with color id (blue, red and light blue colors refer to heavy, medium and light type mechanical strength respectively). Pliable conduits are packed in coils using shrink-wrapping recyclable film and six WHITE safety straps. For pliable conduits we use the same color id by coloring each label.

Multi layer conduit packaging

Rigid conduits are packed in bundles with the use of recyclable protective film. Pliable conduits are packed in coils using shrink-wrapping recyclable film and six BLACK safety straps except DUROFLEX PLUS where we use white straps.

Conduits intended to be buried underground

Rigid conduits are packed in 6m bundles where their label it affixed in the inside layer of the one end. Pliable conduits are packed in coils with the use of six safety straps. For GEONFLEX N750 we use WHITE straps. For GEOSUB N450 we use BLACK straps. Each label on pliable conduits has two sides (front and back).

EUROPEAN LEGISLATION

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

Low Voltage Directive 2014/35/EU (LVD)

supersedes 2006/95/EC

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

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

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

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

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

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

KOUVIDIS has adopted RoHS Directive since 2006 by using heavy metals free raw materials in all of its products.

REACH Regulation EC/1907/2006

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

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

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

Directive 98/8/EC (BPD)

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

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

EUROPEAN NORMS

EN 61386.01

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

EN 61386.21

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

EN 61386.22

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

EN 61386-24

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

EN 50642

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

EN 61034-1

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

EN 60754-1

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

EN 60754-2

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

EN 60670-1

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

EN 60670-22

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

EN 61034-2

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

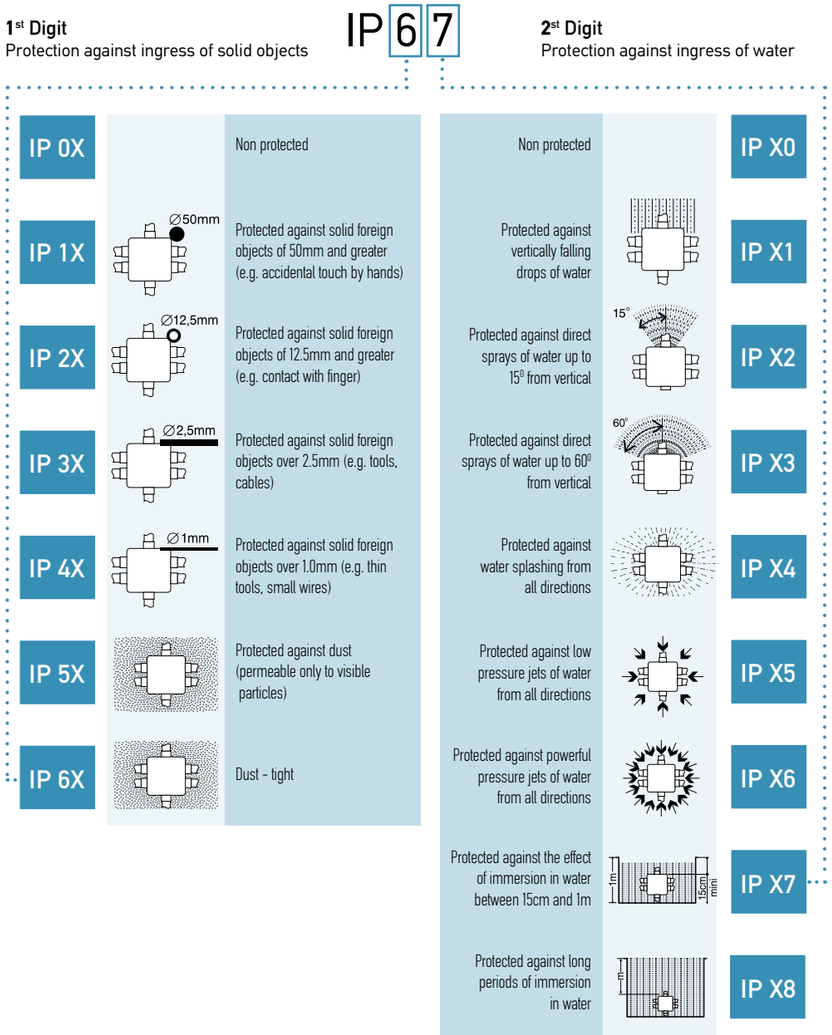
ISO 22196

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

DEGREES OF PROTECTION (IP CODE)

According to EN 60529

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



CLASSIFICATION CODE FOR CONDUIT SYSTEMS

According to EN 61386.01

The classification code is made of 14 digits, according to EN 61386.01, and determines conduits main properties. The first 5 digits are the most usually displayed at marking and classify conduits according to their compression resistance, impact resistance, minimum and maximum operating temperature and bending resistance. Classification code is demonstrated on the below table:

Product example
CONDUR® rigid conduit
(pg 20)

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

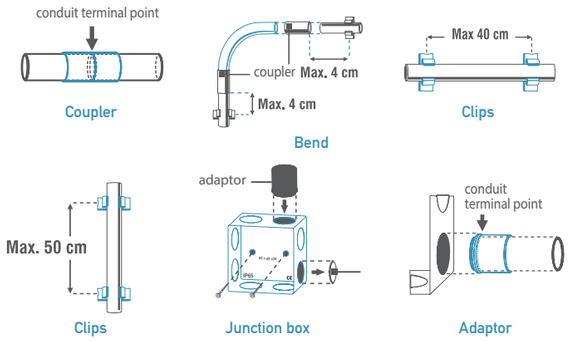
Resistance to compression

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

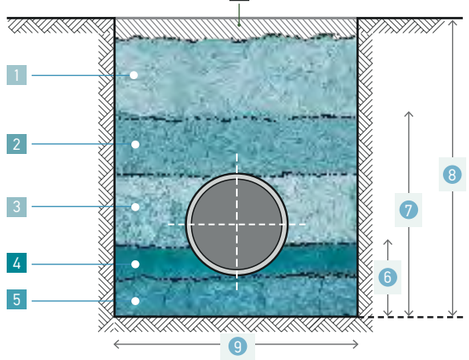
INSTALLATION GUIDE

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 (^{0}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^{0}C and toughness down to -20^{0}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^{0}C	60^{0}C	25^{0}C	60^{0}C	25^{0}C	60^{0}C	25^{0}C	60^{0}C	25^{0}C	60^{0}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

		HEAVY TYPE				MEDIUM TYPE									LIGHT TYPE				UNDERGROUND NETWORK			
		CONDUR®	CONFLEX®	CONDUR® HF	CONFLEX® HF	DUROSOL® PLUS	DUROFLEX® PLUS	MEDISOL® PLUS	MEDIFLEX® PLUS	MEDISOL® AM		MEDIFLEX® AM	MEDISOL®	MEDIFLEX®	SUPERSOL® PLUS	SUPERFLEX® PLUS	SILCOR®	SIFLEX®	GEONFLEX®	GEONFLEX® bar	GEOSUB®	GEOSUB® bar
	CLASSIFICATION	44411	44412	44441	44442	33431	33332	33431	33332	33411		33412	33411	33412	23431	23332	23411	22412	N750	N750	N450	N450
TECHNOLOGIES	Halogen free	–	–	√	√	√	√	√	√	–		–	–	–	√	√	–	–	√	√	√	√
	Low smoke	–	–	–	–	–	√	–	√	–		–	–	–	√	√	–	–	–	–	–	–
	Low acidity	–	–	√	√	√	√	√	√	–		–	–	–	√	√	–	–	–	–	–	–
	Antimicrobial	–	–	–	–	–	–	–	–	√		√	–	–	–	–	–	–	–	–	–	–
	Anti - electromagnetic	–	–	–	–	–	–	√	√	–		–	–	–	√	√	–	–	–	–	–	–
	Low friction	–	–	–	–	√	√	√	√	–		–	–	–	√	√	–	–	√	√	–	–
	UV Stability	√	√	√	√	√	√	√	√	√		√	√	√	–	–	–	–	√	√	√	√
	Anti-Rodent	√	√	√	√	√	√	√	√	√		√	–	–	–	–	–	–	√	√	–	–
	Color marking	–	–	–	–	√	√	–	–	–		–	–	–	√	√	–	–	√	√	√	√
SPECIFICATIONS	Material	U-PVC	U-PVC	PC Blend	PC Blend	PO Blend	PO Blend	PO Blend	PO Blend	U-PVC		U-PVC	U-PVC	U-PVC	PO Blend	PO Blend	U-PVC	U-PVC	HDPE	HDPE	HDPE	HDPE
	Compression strength	>1250Nt	>1250Nt	>1250Nt	>1250Nt	>750Nt	>750Nt	>750Nt	>750Nt	>750Nt		>750Nt	>750Nt	>750Nt	>320Nt	>320Nt	>320Nt	>320Nt	Type 750	Type 750	Type 450	Type 450
	Impact strength	6J	6J	6J	6J	2J	2J	2J	2J	2J		2J	2J	2J	2J	2J	2J	1J	Normal	Normal	Normal	Normal
	Minimum temperature (°C)	-25	-25	-25	-25	-25	-15	-25	-15	-25		-25	-25	-25	-25	-15	-25	-25	-5	-5	-5	-5
	Max temperature (°C)	60	60	120	120	105	105	105	105	60		60	60	60	105	105	60	60	90	90	90	90
	Resistance to flame propagation	Non flame propagating				Non flame propagating									Non flame propagating				Flame propagating			
	Ingress Protection	min IP65	min IP65	min IP65	min IP65	min IP65	min IP65	min IP65	min IP65	min IP65		min IP65	min IP65	min IP65	min IP65	min IP65	min IP65	min IP65	IP44/IP68*	IP44/IP68*	IP40/IP68*	IP40/IP68*
	Resistance to bending	Rigid	Pliable	Rigid	Pliable	Rigid	Pliable	Rigid	Pliable	Rigid		Pliable	Rigid	Pliable	Rigid	Pliable	Rigid	Pliable	Pliable	Rigid	Pliable	Rigid
	Diameters	Ø16-Ø63	Ø16-Ø63	Ø16-Ø40	Ø16-Ø40	Ø16-Ø32	Ø16-Ø32	Ø16-Ø32	Ø16-Ø32	Ø16-Ø63		Ø16-Ø63	Ø16-Ø63	Ø16-Ø63	Ø16-Ø32	Ø16-Ø32	Ø16-Ø32	Ø16-Ø40	Ø32-Ø200	Ø75-Ø250	Ø32-Ø200	Ø75-Ø250
	Certifications	CE-VDE	CE-VDE	CE-VDE	CE-VDE	CE-VDE	CE-VDE	CE-VDE	CE-VDE	CE		CE	CE-VDE	CE-VDE	CE-VDE	CE-VDE	CE-VDE	CE-VDE	CE-VDE	CE-VDE	CE-VDE	CE-VDE
INSTALLATION FIELDS	Exposed	o	o	•	•	•	•	•	•	o		o	o	o	–	–	o	o	–	–	–	–
	Concealed (dry walls)	o	o	o	o	o	o	o	o	o		o	o	o	•	•	o	o	–	–	–	–
	Concealed (underplaster)	o	o	–	–	o	o	o	o	o		o	o	o	•	•	o	o	–	–	–	–
	Concealed (floor,ceilings)	o	o	o	o	o	o	o	o	o		o	o	o	•	•	o	o	–	–	–	–
	Underfloor in screed	o	o	–	–	•	•	•	•	o		o	•	•	–	–	_	_	•	•	o	o
	Concrete	•	•	–	–	•	•	•	•	o		o	•	•	–	–	_	_	•	•	–	–
	Outdoor	•	•	o	o	•	•	o	o	o		o	o	o	–	–	_	_	–	–	–	–
	Buried underground	o	o	o	o	o	o	o	o	o		o	o	o	–	–	_	_	•	•	•	•
	Wood	•	•	o	o	•	•	o	o	o		o	o	o	o	o	o	o	–	–	–	–
	Page	20	21	22	23	32	33	38	39	40		43	48	49	52	53	56	57	60	61	62	63

TECHNOLOGIES EXPLANATION

Halogen free conduits acc. to EN 50642
Low smoke density of conduits burning acc. to EN 61034-2
Low acidity of gas content during combustion acc. to EN 60754-2
Antimicrobial protection on plastics acc. to ISO 22196
UV stability after testing in real and artificial (acc. to EN ISO 4892-2) weathering conditions
Anti-electromagnetic technology which absorbs part of the electromagnetic radiation emitted by the cables
Low friction in the internal layer of the conduit acc. to IEC/TR 62470
Anti-rodent technology which repels rodents (European Patent EP2698792)
Color marking with longitudinal stripes, of indelible color, for identification between power and telecommunication cables

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

SPECIFICATIONS EXPLANATION

CLASSIFICATION for cable protection conduit systems is according to EN 61386.01 and EN 61386.24
Materials are specially stabilized heavy metals free (RoHs) thermoplastics
Compression strength for cable protection conduit systems refers to resistance to compression (EN 61386.01)
Impact strength for cable protection conduit systems refers to resistance to impact (EN 61386.01)
Ingress protection for cable protection conduit systems refers to protection against solid objects and water (EN 60529)
Diameters refer to pipe's outside diameters

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

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

LOADING GUIDELINES

Means of loading

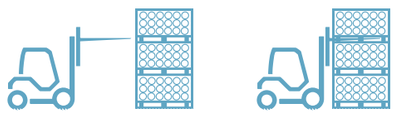
At the below table you can find the maximum loading conditions regarding the pallets and the means of transportation that KOUVIDIS uses for deliveries abroad:

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

Loading 3m conduits

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

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



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

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

PRODUCT	Part Number	Coils/ bundles (m)	Truck (13,6 m)	Container 20t (m)	Container 40t HC (m)
GEONFLEX® N750 in coils (pg. 63)	2042040	25	26250	8750	21250
	2042050	25	16250	5700	13000
	2042063	25	11500	4000	9300
	2042075	25	6250	2100	4800
	2042090	25	3750	1200	2900
	2042110	25	3000	1000	2300
	2042125	25	3125	1125	2500
	2042160	25	1900	525	1375
	2042200	25	1225	450	1050
	2043032	50	40000	14600	33700
	2043040	50	31500	10000	24000
	2043050	50	21000	7000	16500
	2043063	50	14000	4750	11000
	2043075	50	7750	2500	6000
	2043090	50	5500	1750	4000
	2043110	50	4000	1250	3000
	2043125	50	3500	1200	2750
GEONFLEX® N750 in bars (pg. 62)	1024075	6	10080	-	-
	1024090	6	6912	-	-
	1024110	6	4800	-	-
	1024125	6	3072	-	-
	1024160	6	2520	-	-
	1024200	6	1800	-	-
	1024250	6	960	-	-
GEOSUB® N450 in coils (pg. 65)	2047032	50	40000	14600	33700
	2047040	50	31500	10000	24000
	2047050	50	21000	7000	16500
	2047063	50	14000	4750	11000
	2047075	50	10000	3250	8000
	2047090	50	7000	2000	5500
	2047110	50	4500	1500	3500
	2047125	50	3500	1000	2750
	2047160	25	1900	525	1375
	2047200	25	1225	450	1050
GEOSUB® N450 in bars (pg. 64)	1022075	6	10080	-	-
	1022090	6	6912	-	-
	1022110	6	4800	-	-
	1022125	6	3072	-	-
	1022160	6	2520	-	-
	1022200	6	1800	-	-
	1022250	6	960	-	-

PRODUCT INDEX

PATENT DEGREES (FOR CABLE PROTECTION PRODUCTS)

No Patent 1009810	Antistatic technology
No Patent EP2698792	Anti-rodent protection
No Patent 1007372	Antimicrobial technology
No Patent 1009158	Color marking for electrical and telecommunication systems
No Patent 1008090	Double wall conduits
No Patent 1009144	Double wall conduits in small diameters
No Patent 1006882	MULTIBOX junction box
No Patent 1009734	Spacers for buried underground networks
No Patent 1003838	Extended junction box for concealed type electrical installations
No Patent 1007270	Plastic conduit system for cable protection
No Patent 1009774	Plastic conduit with corrugated internal layer for lower frictions
No Patent 1009975	Anti-electromagnetic technology
No Patent 1010513	Anti-scratch resistance

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 along our product and company certificates and our technical manuals are available on our company's website www.kouvidis.com.

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

KOUVIDIS

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