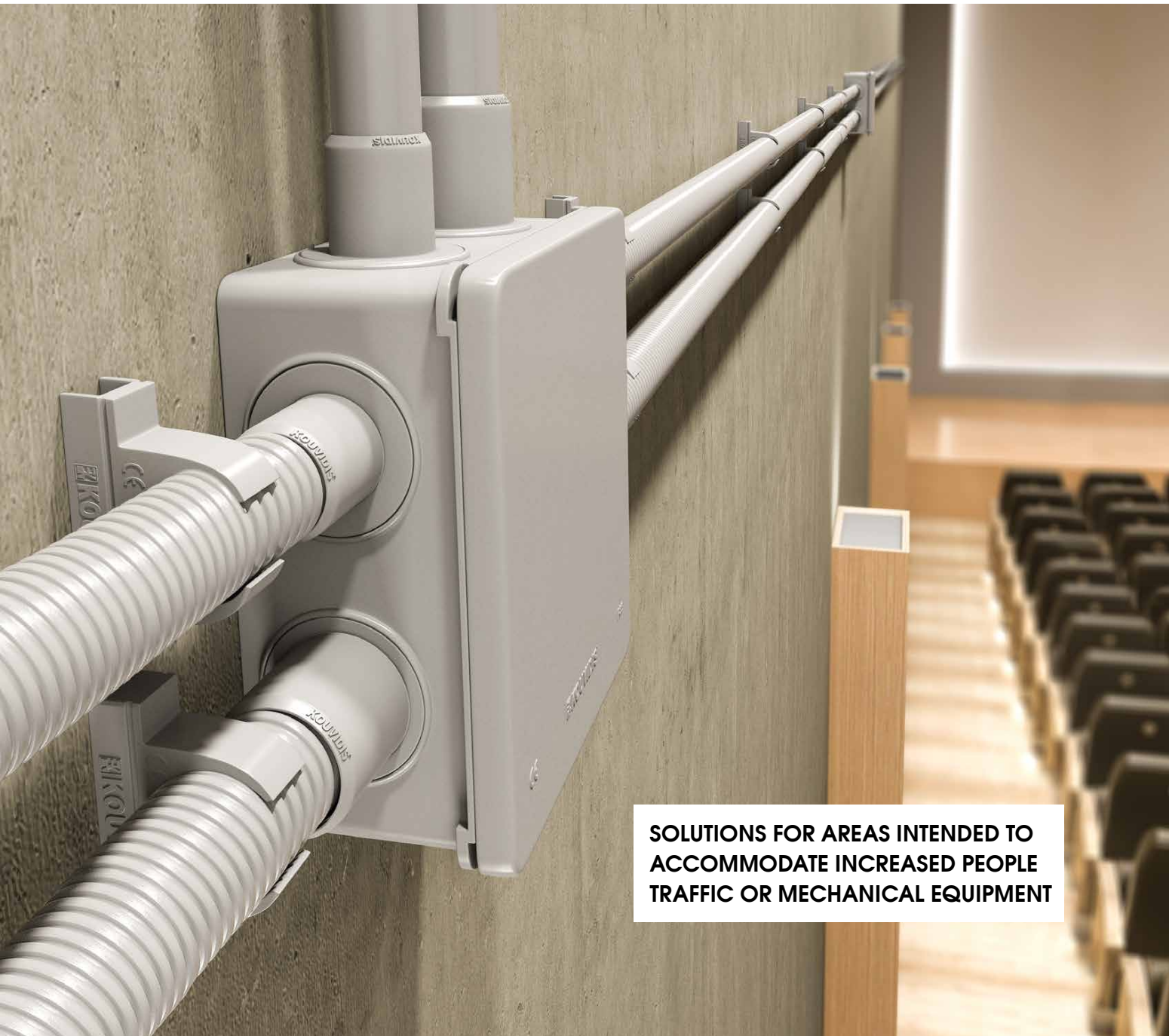


Plastic conduit systems  
**Halogen free & low smoke**



**SOLUTIONS FOR AREAS INTENDED TO  
ACCOMMODATE INCREASED PEOPLE  
TRAFFIC OR MECHANICAL EQUIPMENT**



# A SAFE ENVIRONMENT IS OUR MAIN PRIORITY



**Metropolis Mall of Larnaca**  
Cyprus largest Mall  
One of the projects that trusted  
our halogen free conduit systems



CONDUR® HF



CONFLEX® HF



MEDISOL® PLUS



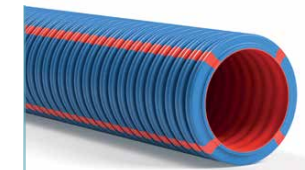
MEDIFLEX® PLUS



SUPERSOL® PLUS



SUPERFLEX® PLUS



DUROFLEX® PLUS



we design innovative  
conduit systems that protect  
people and their property



## plastic conduit systems halogen free & low smoke

### at a glance...

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

**KOUVIDIS halogen free and low smoke conduit systems have been designed in such a way in order to develop an additional protection in a burning building.**

In case of a fire, halogen free conduits release the minimum amount of corrosive gases protecting people's properties while low smoke conduits emit very little smoke facilitating the evacuation process. Additionally, low acidity conduits prevent the inhalation of harmful gases.

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



did you know that...

1987 LONDON / Kings Cross Station

An inexplicable short circuit on escalators between the platform and the ticket offices caused a fire that released dense smoke waves that literally caused the escape exits to disappear resulting in the loss of 31.

1996 DUSSELDORF / airport

Toxic gases released through the false ceilings of the terminal, following a fire that occurred to cables during welding works, causing 17 deaths.

1999 FRANCE / Mont Blanc tunnel

A Belgian truck carrying margarine, sugar and flour caught fire in the middle of the tunnel. Motorists escaped to sideways shelters of the tunnel, yet they did not manage to reach the emergency exits due to fatal toxic gases released from the local construction materials. The death toll amounted to 39.

2003 SOUTH KOREA / Daewoo

A fire broke in a train and quickly spread through the plastic and aluminium surfaces all over the train; it also spread to a nearby train. Smoke was so dense and dark that prevented rescue crews from intervening and passengers were trapped. This resulted to 198 casualties and 147 injured.

Source: NFPA (National Fire Protection Association)

THE HISTORY  
OF KOUVIDIS  
HALOGEN FREE  
CONDUITS

The first halogen-free cables are manufactured in Great Britain.

1970

The devastating fire at the Kings Cross Station in London, leads to the pursuit of safer materials.

1987

The casualties from toxic gases from the fire at the Dusseldorf airport terminal is the onset for adopting more stringent specifications.

1996

Following the evolution of halogen free cables, halogen free conduits are also developed in Europe and KOUVIDIS presents heavy type CONDUR® HF - CONFLEX® HF (1250Nt) conduit system.

2006

Onasis cultural centre, one of the most modern architectural projects in Greece, trusts CONDUR® HF - CONFLEX® HF conduit system, stating the importance of security in public gathering spaces.

2010

KOUVIDIS presents medium type MEDISOL®HF - MEDIFLEX® HF (750 Nt) conduit system, while its halogen free series constitutes the first choice in major construction projects, such as Stavros Niarchos Foundation Cultural Center and Four Seasons Astir Palace Hotel in Athens.

2016

KOUVIDIS reinforce its halogen free family of products with a new series of multi layer conduits with various innovations. DUROFLEX® PLUS (750Nt), SUPERFLEX® PLUS (320Nt) and MEDIFLEX® PLUS (750Nt) constitute the new era in halogen free products.

2022



# what should I know . . .



## How important is safety in case of a fire accident?

Fire is amongst the most unpredictable threats and possibly one of the major sources of insecurity for communities, especially when occurring indoors, where chances for evacuation are limited. The most common consequences are injuries, toxic poisoning and, ultimately, the loss of life.

The main factors that determine the spread-out of a fire in a burning building are high temperature, properties of burning building materials, and the safety standards afforded by the building (fire safety systems, escape ways, luminous signaling etc). Even in the more organized spaces, the inspection on the suitability of construction materials should be of paramount importance.



## Which products are considered as "halogen free"?

Halogen substances are primarily chlorine, fluoride, bromide and iodine. These exist or are added to several plastics as improvers (such as flame retardants, impact modifiers, etc). However, their behavior, in case of a fire, can be disastrous. During combustion, they release toxic and corrosive gases and emit dense waves of smoke.

## What are toxic and corrosive gases?

When chlorine or fluorine are released from halide chemical products they create a chemical reaction with moisture or water and produce hydrochloric or hydrofluoric acid, thus toxic gases which are dangerous and extremely harmful for people and environment. Inhalation of such gases may cause even death.

At the same time, the corrosive gases that will result from the combustion of halogenated plastic materials may damage any exposed area and cause acute corrosion in a very short time. Usually the effects are extremely loss-making such huge repair costs or even complete destruction of mechanical equipment installed in a burning building.

## What does "emit dense smoke waves" mean?

During combustion, halogenated plastics produce microscopic gas particles, soot and chemical residues. This combination generates the common dark, dense smoke wave released in case of fire, which panics the entrapped persons and reduces visibility of escape routes. Meanwhile, it hinders evacuation operations by rescue crews.



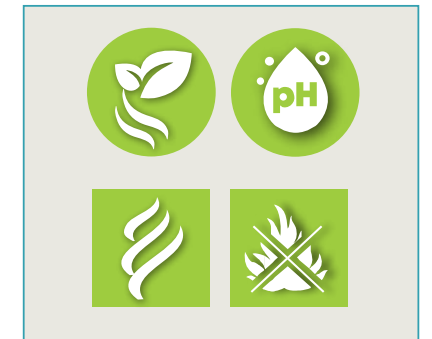
## What factors should I consider before choosing the right conduits?

Two main factors must be especially considered when specifying, selecting and installing construction materials in projects. Firstly, fire resistance, i.e. the degree to which a construction material can withstand in case of fire and prevents the propagation of flame. Secondly, the behavior of the construction material when burning, i.e. the quantity and density of smoke emitted as well as the degree of toxicity and corrosiveness.

## Where to use halogen free conduits?

In construction projects where common gathering of public is expected e.g. a conference complex, a commercial building or subway, the behavior of construction materials in case of fire is of increased interest.

In closed areas where costly mechanical equipment is accommodated, e.g. a server room or manufacturing area, the occurrence of a minor fire can cause immeasurable damage due to surface corrosion caused by released gases.



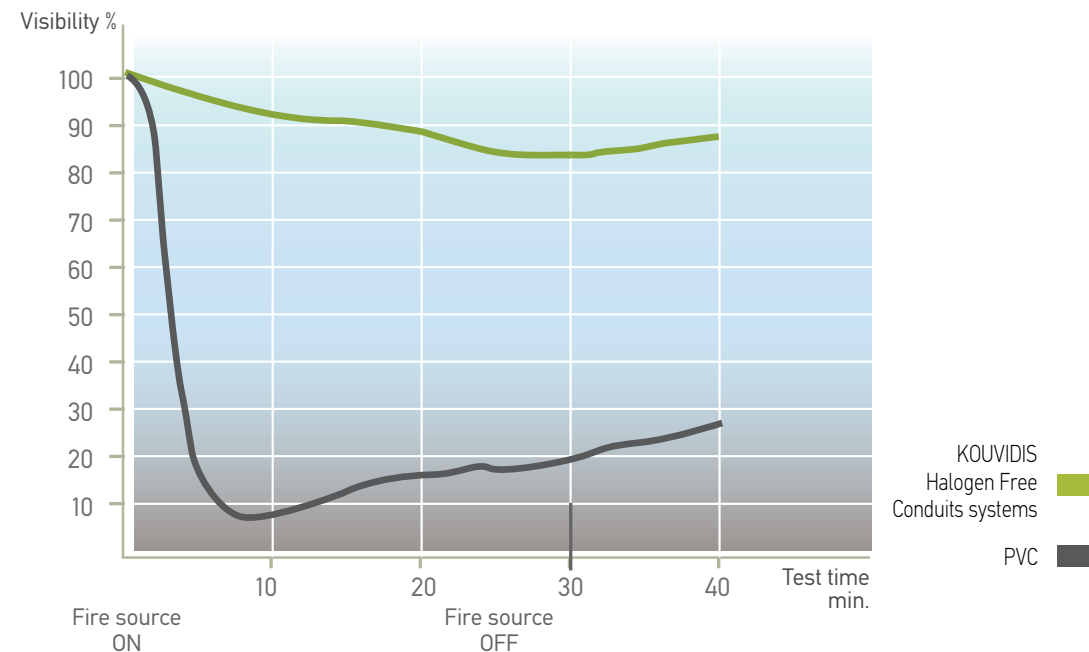
# Fire protection regulation

## Which should set for the design of a building?

According to the European Construction Products Regulation 305/2011, the new fire protection regulation requires the classification of cables according to their contribution to the spread of fire, the production of smoke, burning particles and droplets (acc. to the European classes of the EN 13501.06 standard). According to the minimum requirements defined per building category, the use of halogen free cables in escape routes is mandatory in places of assembly or temporary accommodation of the public (schools, hospitals, hotels, etc.), warehouses, car stations, commercial buildings and industrial areas.



Smoke release (acc. to EN 61034-1)



#### EN 61034-1

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

#### EN 50642

The European Standard EN 50642 specifies a method for the determination of the content of halogens in Cable Management System (CMS). 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.

#### EN 60754-2

The General Standard EN 60754 specifies the test methods on gases evolved during combustion of materials from cables. 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.

NOTE: The above diagram is a guide in order to explain the difference of visibility degree during combustion between PVC and KOUVIDIS halogen free conduits.

Test certification in accordance with the above mentioned European standards by the German laboratory VDE



## the advantages of halogen free conduit systems

KOUVIDIS halogen free and low smoke conduit systems have been exclusively designed for construction projects where safety, reliability and reduced environmental footprint are top priority. Their main advantages are as follows:



In case of a fire accident, they don't release toxic and corrosive gases during combustion, protecting people and environment.



In case of a fire accident, they ensure better visibility of escape routes due to their low smoke emission.



They provide higher protection of building facilities and mechanical equipment due to the absence of corrosive gases during their combustion.



They ensure high impact resistance in extreme low temperature conditions (at -45°C) see CONDUR HF - CONFLEX HF conduit system.



Lower friction due to special slip material added in the internal layer for DUROFLEX PLUS, MEDIFLEX PLUS and SUPERFLEX PLUS (test conducted according to IEC/TR 62470)



Longitudinal stripes of indelible color distinguish the cables that are in the conduits (DUROFLEX PLUS, SUPERSOL PLUS and SUPERFLEX PLUS). Red=Power cables | Green = Telecommunication cables



They contain flame retardants that reduce flame propagating



They achieve a low environmental footprint as they fully satisfy RoHS and REACH European regulations concerning the use of hazardous and chemical substances respectively.





## KOUVIDIS new anti - electromagnetic technology

Patent Protected: 1009975

All cabling, both in residences and business premises, that is used to transfer energy and provide supply to electric devices, creates the so-called low-frequency magnetic fields, as well as electric fields, that remain even after the devices have been inactivated.

These fields depend on the voltage and intensity of the electric current and become weaker as the distance from their source increases. However, they are considerable at distances of up to one metre.

In particular, the field created when we come into contact with a device or when we are standing next to a plasterboard wall with electrical cabling behind it can be very strong.

Thanks to the development of **anti-electromagnetic technology**, part of the radiation originating from cabling is isolated within the interior layer of the new KOUVIDIS conduits, while the interference created between circuits (weak and strong currents) is minimised.



### How does it work?

During the production process phase, the **anti-electromagnetic technology** is incorporated into the raw material of KOUVIDIS conduits, preventing part of the electromagnetic radiation from entering the building.

We developed a ground-breaking polymer of a special composition, where metal elements of low particle size are added to the interior layer of the new plastic conduits, thus shielding part of the electromagnetic radiation generated by the electrical cables.

The interior of the conduit functions as a shield against these fields, while its exterior protects the internal cables, in accordance with the requirements of European Standard EN 61386-22.

Moreover, the metal content of the interior layer does not prevent the normal recyclability of the product, ensuring its very low environmental footprint.

### Application field

This technology is ideal for plasterboard partition walls or cavity walls, in spaces such as office buildings, hotel rooms and residences.

	Heavy type		Medium type			Light type	
	CONDUR® HF	CONFLEX® HF	MEDISOL® PLUS	MEDIFLEX® PLUS	DUROFLEX® PLUS	SUPERSOL® PLUS	SUPERFLEX® PLUS
CLASSIFICATION	44441	44442	33331	33332	33332	23331	23332



Halogen free	•	•	•	•	•	•	•
Low smoke	-	-	•	•	•	•	•
Low acidity	-	-	•	•	•	•	•
Antimicrobial	-	-	-	-	-	-	-
Anti - electromagnetic	-	-	•	•	-	•	•
Low friction	-	-	•	•	•	•	•
UV stability	•	•	•	•	•	-	-
Anti-rodent	•	•	•	•	•	•	•
Multiple layers	-	-	2	2	3	3	3

SPECIFICATIONS

Material	PC	PC	PP	PP	PP	PP	PP
Compression strength	>1250Nt	>1250Nt	>750Nt	>750Nt	>750Nt	>320Nt	>320Nt
Impact strength	6J	6J	2J	2J	2J	2J	2J
Minimum temperature	-45°C	-45°C	-15°C	-15°C	-15°C	-15°C	-15°C
Maximum temperature	120°C	120°C	105°C	105°C	105°C	105°C	105°C
Resistance to flame propagation	Non flame propagating		Non flame propagating			Non flame propagating	
Ingress protection	min IP65	min IP65	min IP65	min IP65	min IP65	min IP65	min IP65
Resistance to bending	Rigid	Pliable	Rigid	Pliable	Pliable	Rigid	Pliable
Dimensions	Ø16-Ø63	Ø16-Ø63	Ø16-Ø32	Ø16-Ø32	Ø20-Ø32	Ø16-Ø32	Ø16-Ø32
Certifications	CE/VDE	CE/VDE		CE/VDE*	CE/VDE		CE/VDE

INSTALLATION

Exposed	•	•	•	•	○	-	-
Concealed (dry walls)	○	○	○	○	○	•	•
Concealed (underplaster)	-	-	○	○	○	•	•
Concealed (floor, ceilings)	○	○	○	○	○	•	•
Underfloor in screed	-	-	•	•	•	○	○
Concrete	-	-	•	•	•	-	-
Outdoor	•	•	○	○	○	-	-
Buried underground	○	○	○	○	○	-	-
Wood	○	○	○	○	○	○	○

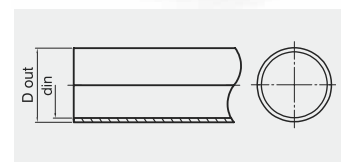
Our plastic  
conduit systems  
comply with the  
highest safety  
standards





Heavy Type (1250Nt)

RAL 7035  
light grey



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

Assembled with

CONDUR HF Bend  
CONDUR Coupler  
CONDUR Adaptor  
CONDUR Clip



Patent Protected: 1009810

CONDUR HF conduits are being tested by KOUVIDIS  
quality control lab for their impact resistance (6J) at -45°C

All product's certificates  
are available at [www.kouvidis.com](http://www.kouvidis.com)

H CONDUR® HF 1As rigid conduit

44441

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	+120°C	4
Resistance to bending	Rigid	1
Electrical characteristics	With electrical insulated characteristics	2
IP ingress protection	min IP 65	6 5
Resistance against corrosion	Not applicable	0
Tensile strength	None declared	0
Resistance to flame propagating	Non flame propagating	1
Suspended load capacity	None declared	0

Additional properties

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

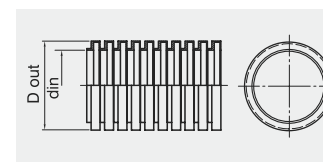
+ Printed with indelible green color and packed with safety straps in blue color 100% recyclable polyethylene film.

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

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

Heavy Type (1250Nt)

RAL 7035  
light grey



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

Assembled with

CONDUR HF Bend  
CONDUR Coupler  
CONDUR Adaptor  
CONDUR Clip



Patent Protected: 1009810

CONFLEX HF conduits are being tested by KOUVIDIS  
quality control lab for their impact resistance (6J) at -45°C

H CONFLEX® HF 1As pliable conduit

44442

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	+120°C	4
Resistance to bending	Pliable	2
Electrical characteristics	With electrical insulated characteristics	2
IP ingress protection	min IP65	6 5
Resistance against corrosion	Not applicable	0
Tensile strength	None declared	0
Resistance to flame propagating	Non flame propagating	1
Suspended load capacity	None declared	0

Additional properties

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

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

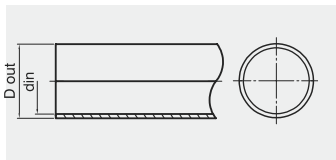
Ideal for outdoor/indoor exposed installations which require increased safety measures and high mechanical requirements such as public gathering places (airports, hotels, tunnels, malls, theaters, subways etc.) and places with costly mechanical equipment (engine rooms, industrial spaces, computer rooms,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

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

Medium Type (750Nt)

RAL 9004  
black / inner layer

RAL 7035  
light grey / outer layer



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

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



Patents Protected:  
1009810, EP2698792, 1009975

M MEDISOL® PLUS IAS rigid conduit

33331

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

Additional properties

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

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

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

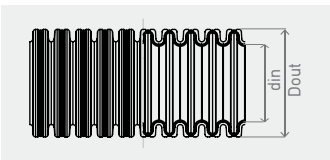
Type	Part number	D out	min din		kg	(m)
Ø16	1019016	16	13.1	30	2,18	6000
Ø20	1019020	20	16.8	30	3.02	3900
Ø25	1019025	25	21.7	30	4,40	2310
Ø32	1019032	32	27.9	15	2,85	1755

The above values are approximate.

Medium Type (750Nt)

RAL 9004  
black / inner layer

RAL 7035  
light grey / outer layer



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

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



Patents Protected:  
1009810, EP2698792, 1009975

M MEDIFLEX® PLUS IAS pliable conduit

33332

Properties		Class
Resistance to compression	750Nt	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	min IP65	6
Protection against ingress of water		5
Resistance against corrosion	Not applicable	0
Tensile strength	None declared	0
Resistance to flame propagating	Non flame propagating	1
Suspended load capacity	None declared	0

Additional properties

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

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

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

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

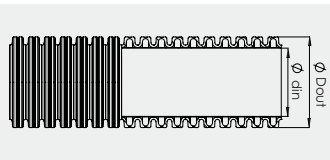
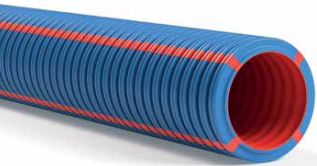


NEW PRODUCT

Medium Type (750Nt)

RAL 3020  
red / inner layer

RAL 5019  
blue / outer layer



Application Standards: EN 61386.22, EN 50642, EN 60754-2, EN 61034-2  
Reference Standards: NF P 98-332

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



Patents Protected: 1009810, 1009144, EP2698792, 1009158

M DUROFLEX® PLUS IAS pliable conduit

33332

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

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

+ Structured wall conduits. The external wall of the conduit is corrugated and the internal wall is smooth. Marked using embossed printing and packed with 100% recyclable polyethylene film including safety straps and an informative blue color label.  
Ideal for concealed type installations in concrete, hollow walls and underplaster.

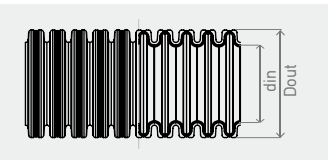
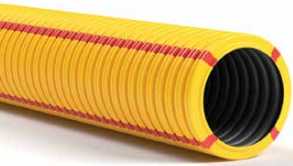
Type	Part number red / green					(m)
Ø20	2009020 / 2016020	20	13,2	50	3,78	3200
Ø25	2009025 / 2016025	25	18,1	25	2,53	1800
Ø32	2009032 / 2016032	32	23,7	25	3,49	1400

NEW PRODUCT

Light Type (320Nt)

RAL 9004  
black / inner layer

RAL 1023  
yellow / outer layer



Application Standards: EN 61386.22, EN 50642, EN 60754-2, EN 61034-2  
Reference Standards: NF P 98-332

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



Patents Protected: 1009810, EP2698792, 1009975

L SUPERFLEX® PLUS IAS pliable conduit

23332

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

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

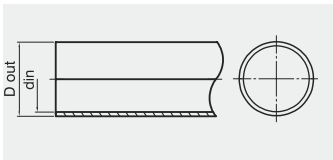
+ Three layer conduit consists of a corrugated external wall, an internal layer that follows the geometry of the outer wall and a third independent layer of longitudinal lines. Marked using embossed printing and packed with 100% recyclable polyethylene film including safety straps.  
Ideal for concealed type installations in plasterboard, cavity wall and sub-ceiling. A special slip material is added on its internal layer, facilitating the smooth insertion of the cables.

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

Light Type (320Nt)

RAL 9004  
black / inner layer

RAL 1023  
yellow / outer layer



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

Reference Standards: NF P 98-332

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



Patents Protected:  
1009810, EP2698792, 1009975

All product's certificates  
are available at [www.kouvidis.com](http://www.kouvidis.com)

L SUPERSOL® PLUS IAs rigid conduit

23331

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

Additional properties

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

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

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

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

The above values are approximate.

Heavy Type (1250Nt)

RAL 7035  
light grey



Standards: EN 61386.21



Patent Protected: 1009810

Medium Type (750Nt)

RAL 7035  
light grey



Patent Protected: 1009810

Note: Bends packaging do not contain coupler.

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

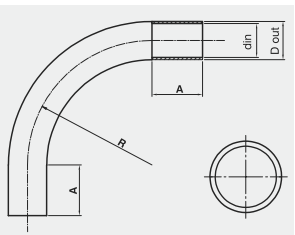
Properties	
Resistance to impact	6J (at -45°C)
Ageing resistance	UV stabilized
Rodent repellent	Not attractive to rodents

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

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

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

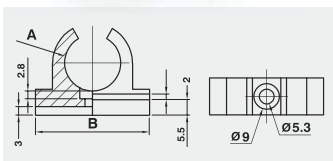
Type	Part number			A	R		
Ø16	4015016	16	13.0	27	59	10	480
Ø20	4015020	20	16.7	35	74	10	480
Ø25	4015025	25	21.4	36.7	108	10	240
Ø32	4015032	32	27.6	47.6	142	6	48





### Fittings

RAL 7035  
light grey



### CONDUR® IAS clip

#### Properties

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

#### Installation guidelines

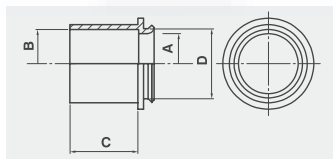
Recommended fastening space is 50cm for vertical and 40cm for horizontal installations

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

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

### Fittings

RAL 7035  
light grey



### CONDUR® IAS adaptor

#### Properties

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

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

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

### Fittings

RAL 7035  
light grey



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



### Fittings

RAL 7035  
light grey



Application Standards: EN 61386.01  
Reference Standards: EN 50642

Assembled with  
SUPERFLEX PLUS  
DUROFLEX PLUS  
MEDIFLEX PLUS



### CONDUR® IAS coupler

#### Properties

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

Protection against ingress of solid objects min IP65  
Protection against ingress of water  
Temperature range -45°C to +120°C

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

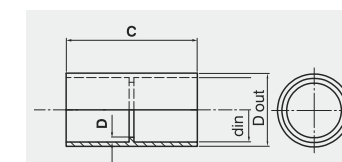
### Coupler for DUROFLEX®PLUS IAS / SUPERFLEX®PLUS IAS / MEDIFLEX®PLUS IAS conduits

#### Properties

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

Protection against ingress of solid objects min IP65  
Protection against ingress of water  
Temperature range -25°C to +60°C

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



Junction Boxes

RAL 7035  
light grey



CONDUR® IAS  
plug in seals



CONDUR® IAS  
plug in grommets



CONDUR® IAS  
without seals



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



Patent Protected 1009810

All product's certificates  
are available at [www.kouvidis.com](http://www.kouvidis.com)

Watertight with or without seals

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

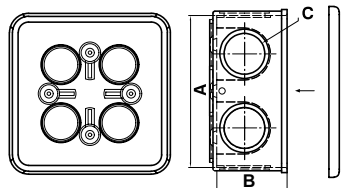
\* Cover plate and plug in seals are made of PE

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

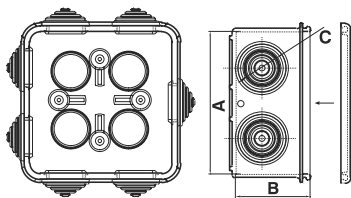
**Junction boxes with seals:** These boxes are provided with plug in seals or stepped grommets for easy positioning of cables, without the use of additional fittings, after cutting at the pre-marked points. CONDUR adaptors, of different diameters, can be easily fastened in the openings after pushing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

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

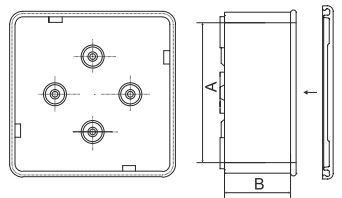
Junction Boxes



CONDUR® IAS  
plug in seals



CONDUR® IAS  
plug in grommets



CONDUR® IAS  
without seals

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







Stavros Niarchos Foundation Cultural Center

recent major projects

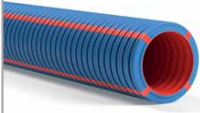





A few defining projects, during 2016-2022 period, that trusted KOUVIDIS halogen free & low smoke conduit systems.

Project	Product	Location	Type of Project
Stavros Niarchos Foundation Cultural Center	CONDUR HF - CONFLEX HF	Greece (Athens)	Culture projects
Park Lane Resort & Spa (under construction)	MEDISOL HF - MEDIFLEX HF	Cyprus (Limassol)	Hotels
Expansion of Paidon Agia Sofia hospital	CONDUR HF - CONFLEX HF	Greece (Athens)	Sanitary areas
AFI Park - Mall in Brasov (under construction)	MEDISOL HF - MEDIFLEX HF	Romania (Brasov)	Industrial buildings
ARGON LDA Warehouses, Porto	MEDISOL HF - MEDIFLEX HF	Portugal (Porto)	Industrial buildings
Med Sea Health & Mare Village	CONDUR HF - CONFLEX HF	Greece (Halkidiki)	Hotels
Expansion of Larnaca International Airport	MEDISOL HF - MEDIFLEX HF	Cyprus (Larnaca)	Infrastructure
Four Seasons Astir Palace Hotel Athens (under construction)	MEDISOL HF - MEDIFLEX HF	Greece (Athens)	Hotels
Costa Navarino (expansion)	SUPERFLEX PLUS	Greece (Kalamata)	Hotels
Lytlos Mare	SUPERFLEX PLUS	Greece (Crete)	Hotels
One & Only Kea Resort	SUPERFLEX PLUS	Greece (Kea)	Hotels
Park Tower Limassol	DUROFLEX PLUS	Cyprus (Larnaca)	Residential Areas
Domes Miramare	SUPERFLEX PLUS	Greece (Corfu)	Hotels
KAIZEN CAMPUS	MEDISOL HF-MEDIFLEX HF	Greece (Athens)	Industrial Buildings
RIVER WEST	SUPERFLEX PLUS	Greece (Athens)	Commercial Buildings

KOUVIDIS  
multi-layer conduits

Multi-layer conduits are fully adapted to the new technology of plastics, ensure greater mechanical strength, facilitate installation due to their multiple benefits and guarantee an improved environmental footprint. KOUVIDIS has been active in the multi-layer conduit market since 2012, with the investment in 5 brand new production lines and the development of innovative products for various applications.

Below you can learn more about the technologies we use for welding the layers:

	 DUROFLEX® PLUS IAS	 SUPERFLEX® PLUS IAS	 SUPERSOL® PLUS IAS
Production technology	Double Structured Wall (DW)	Double Layer (DL)	Double Layer (DL)
Layer 1	Corrugated external wall	Corrugated external wall	Smooth external layer
Layer 2	Smooth internal wall	Corrugated internal layer following the geometry of the outer wall	Smooth internal layer
Layer 3	An independent layer of longitudinal lines		
Drawing			

# 5 things to remember...

- 1
- In case of a fire accident, halogen free conduit systems don't release toxic gases, during combustion, protecting people in a burning building.
- 2
- A building property, in which a fire has erupted, can be saved from corrosive gases if the used building materials are free of halogens.
- 3
- The new anti-electromagnetic technology which is incorporated in KOUVIDIS halogen free conduits shields off part of the electromagnetic radiation of the contained cables, preventing it from reaching the interior of the building.
- 4
- The mechanical resistance of KOUVIDIS halogen free conduits (High impact resistance at -45°C) is higher than any other conventional product as their raw material is based on Polycarbonate (PC), a virtually unbreakable material, used in products that require very high levels of safety, such as motorcycle helmets.
- 5
- KOUVIDIS conduit systems are produced by 100% eco-friendly raw materials, fully recyclable at the end of the product life cycle, with a low environmental footprint.

## ... one more thing

KOUVIDIS has more than 43 years of experience in the production of plastic piping systems and more that 16 years manufacturing experience in the production of halogen free plastic conduit systems.

### LEGEND

	Nominal outer diameter		Packing (pieces/box)		Dimensions (mm)
	Nominal inner diameter (min)		Coil weight (Kg)		Bigger Packing for fittings (pieces)
	Packing (m/coil)		Coils of pliable conduits on pallet (m)		Halogen free product
	Faster and easier cable insertion		Low smoke emissions		Product with extra UV Stability
	Double wall technology. Pipes with double walls make cable introduction faster and easier.		Conduits with anti - electromagnetic technology		High impact strength in extreme temperatures of -45°C
	Low acidity		Patent protected product		Environmentally friendly product. Halogen free, heavy metals free (RoHS), low smoke, SVHC-free (REACH) with 100% eco-friendly packaging
	The product and its production process are inspected and approved by VDE German institute		The product does not contain hazardous substances acc. to 2011/65/EE RoHS Directive. Certification body VDE		Compliance with REACH Regulation EC/1907/2006 about chemicals
	Certification body of Quality Management System EN ISO 9001		Certification body of Environmental Management System EN ISO 14001		Certification body of Occupational Health and Safety Management System ISO 45001



**MANUFACTURING  
EXCELLENCE AWARDS  
2021** Τα βραβεία της Ελληνικής Βιομηχανίας

**WINNER**



ISO 9001



ISO 14001



ISO 45001



ID 201572



REACH  
Compliant

KOUVIDIS was founded in 1979 when Emmanuel Kouvidis, an electrician-installer, decided to quit his job and set up a business of his own in order to produce high quality conduits which would not break and which would ensure the safety of electricians-installers.

His vision came true and KOUVIDIS evolved to one of the largest Greek plastic pipe manufacturers characterized by continuous development and innovation.

Keeping its people at the heart of all its actions and aiming to the sustainable development and the cycling economy, KOUVIDIS will continue to provide value added products and services and to constantly improve the installer's work.

learn more about our  
40+ years journey  
[www.kouvidis.gr](http://www.kouvidis.gr)

**K KOUVIDIS®**

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