



ELECTRO

2002

*PIPE***LIFE** 

Dear valued Customer,

Welcome to the new edition of our catalogue of products for electrical installations. Delivering the information on our product we hope to strengthen our co-operation. Our recent efforts in product enhancement will bring more value to the electrical installers making the installation easy and reliable.

The basic product range consists of metal and plastic conduits for electrical installations. Furthermore, we produce all kinds of accessories for the installation and use of conduits, such as bends, couplers and a range of fixing material. Based on this core product range, we additionally provide special solutions for problems involving UV-stability, extreme temperatures and external pressure, aggressive substances, halogen-free assortment, pre-wired conduits and many more.

In order to provide complete systems to our customers, we also offer a great variety of electrical systems manufactured by other divisions of Pipelife or by partner companies, starting from junction enclosures up to whole assortments for underground cable protection and lightning & building protection.

Another field of activity involves plastic tubes for industrial applications, which are mainly used in the automotive, aircraft, robotics and engineering industries. The challenging requirements presented by these customers can only be met by the use of a variety of raw materials and close co-operation between the raw material suppliers and our technical departments.

The increasingly large product range of electrical systems offered serves the needs of the electrician in the domestic, commercial and industrial sectors and is in compliance with national and international standards and regulations, such as ISO, IEC/EN, VDE, DIN, KEMA, ÖVE, etc.

We develop our products with an eye to comfort, reliability, simplicity of installation and use and, above all, safety. This inventiveness, not only in production but also in our integral approach towards the value for our customers, guarantees that we gradually increase our competitiveness in a united Europe with ever-changing challenges.

The commitment of Pipelife Electro is to provide the most competitive solution for any electrician on a local basis, taking advantage of the synergies and background of an international corporation.

Pipelife products for electrical installations can be delivered directly from our companies in the following countries: Austria, Belgium, Finland, Germany, Hungary, Norway, the Netherlands, Spain, Sweden. All other countries are served by our export department. For contacts see the back cover or visit our website: www.pipelife.com

We hope for the fruitful cooperation
Pipelife International



www.pipelife.com

CONTENTS

Page

THE EUROPEAN STANDARD		2
INSTALLATION CONDUIT IEC		
UNIVERSAL CLIP	NEW	3
RIGID	Light	3
	Medium	4
	Heavy	4 - 8
	Alu	9
RIGID / HALOGEN-FREE	Medium	10
INSTALLATION CONDUIT IEC		
POWER COUPLER	NEW	11
FLEXIBLE	Light	11 - 12
	Medium	13
	Heavy	14
FLEXIBLE / HALOGEN-FREE	Light / Medium	15
FLEXIBLE-QUICK	Light / Medium	16
INDUSTRIAL DUCTING		
FLEX PA		17
CABLE PROTECTION		
RIGID PIPES		18
FLEXIBLE PIPES		19
CAPS		20
PLATES		21
WARNING TAPE		21
ANTENNAS		
MOUNTING TUBE / DISMOUNTABLE ANTENNA MAST / CONNECTOR PIPE		22
TECHNICAL APPENDIX		23 - 24
PIPELIFE ELECTRO EUROPE		25

EN-Nr.	title
EN 50086 - 1	Conduit systems for electrical installations / Part 1: General requirements
EN 50086 - 2 - 1	Conduit systems for electrical installations / Part 2-1: Particular requirements for rigid conduit systems
EN 50086 - 2 - 2	Conduit systems for electrical installations / Part 2-2: Particular requirements for pliable conduit systems
EN 50086 - 2 - 3	Conduit systems for electrical installations / Part 2-3: Particular requirements for flexible conduit systems
EN 50086 - 2 - 4	Conduit systems for electrical installations / Part 2-1: Particular requirements for conduit systems buried underground
EN 60423	Conduit systems for electrical installations / External diameters and threads of conduits and assorted fittings

Code Nr: 2 2 2 1 2 (example)

1st digit: mechanical strength			5th digit: flexibility		
1	very light	compression force 125 N	1	rigid	EN 50086 - 2 - 1
2	light	compression force 320 N	2	pliable	EN 50086 - 2 - 2
3	medium	compression force 750 N	3	pliable	self recovering EN 50086 - 2 - 2
4	heavy	compression force 1250 N	4	flexible	EN 50086 - 2 - 3
5	very heavy	compression force 4000 N			
2nd digit: impact resistance			4th digit: maximum temperature		
1	very light	fall energy 0,5 kg/100mm	1	60° C	transportation, application, installation
2	light	fall energy 1,0 kg/100mm	2	105° C	transportation, application, installation
3	medium	fall energy 2,0 kg/100mm	3	120° C	transportation, application, installation
4	heavy	fall energy 2,0 kg/300mm	4	150° C	transportation, application, installation
5	very heavy	fall energy 6,8 kg/300mm	5	250° C	transportation, application, installation
			6	400° C	transportation, application, installation
3rd digit: minimum temperature					
1	+ 5° C	transportation, application, installation			
2	- 5° C	transportation, application, installation			
3	- 15° C	transportation, application, installation			
4	- 25° C	transportation, application, installation			
5	- 45° C	transportation, application, installation			

UNIVERSAL CLIP - IT FITS!

NEW!

NEW!

Our new universal clip lets you fix your installation as easy as never before.

Universal:

- for rigid and flexible pipes in all diameters
- halogenfree
- fast-click-on
- adjustable - move it left and right to align your installation



IPM-E-LF

LIGHT > 320 N / 5 cm

In 3 m lengths with or without moulded on couplers (installation conduit) as per IEC 614-2-2, EN 50086-2-1

Designation: EN 22211, IEC 205

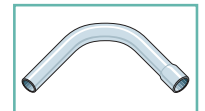
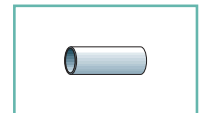
Material: PVC-U

Colour: grey, RAL 7035

Temperature range: - 5° to + 60° C

Material Characteristics: PVC-U is flame resistant, resistant to acids and bases

Application: Developed as an installation aid for open surface installation as well as for installation under plaster. IPM-E-LF guarantees a clean and professional installation.



IPM-E-LF Type	16	20	25	32	40	50	63
Art.-Nr.	21315016	21315020	21315025	21315032	21315040	21315050	21315063
Outside Ø mm	16	20	25	32	40	50	63
Inside Ø mm	14,3	18,3	22,6	29,4	37,0	46,4	59,2
Bundle contents m	111	111	57	57	21	21	21
Master bundle m	3885	2775	1710	1140	630	378	252

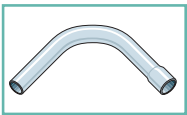
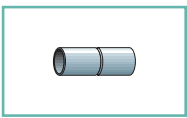
Universal Coupler	16	20	25	32	40	50	63
Art.-Nr.	21380016	21380020	21380025	21380032	21380040	21380050	21380063
Pieces per box	50	100	100	50	25	10	5

Bend	16	20	25	32	40	50	63
Art.-Nr.	21385016	21385020	21385025	21385032	21385040	21385050	21385063
Pieces per box	50	50	50	50	25	10	5

Universal Clip	16	20	25	32	40	50	63
Art.-Nr.	21310116	21310120	21310125	21310132	21310140	21310150	21310163
Pieces per box	100	100	100	100	50	25	25

MEDIUM > 750 N / 5 cm

PSM-E-MF



In 3 m lengths with or without moulded on couplers (installation conduit) as per IEC 614-2-2, EN 50086-2-1

Designation: EN 33211

Material: PVC-U (impact resistant)

Colour: grey, RAL 7035

Temperature range: - 25° to + 60° C

Material Characteristics: PSM-E-MF conduits are manufactured from an extremely strong plastic with excellent impact resistance – even under cool conditions. Resistant to acids and bases.

Application: Particularly well-suited for installation with outdoor ambient conditions and anywhere where high mechanical loads are encountered. Ideal for laying in concrete.

PSM-E-MF Type	16	20	25	32	40	50	63
Art.-Nr.	21316016	21316020	21316025	21316032	21316040	21316050	21316063
Outside Ø mm	16	20	25	32	40	50	63
Inside Ø mm	13,4	17,1	21,7	26,5	36,1	46,1	58,8
Bundle contents m	111	111	57	57	21	21	21
Master bundle m	3885	2775	1710	1140	630	378	252

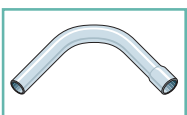
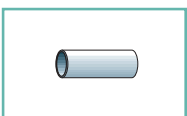
Universal Coupler	16	20	25	32	40	50	63
Art.-Nr.	21380016	21380020	21380025	21380032	21380040	21380050	21380063
Pieces per box	50	100	100	50	25	10	5

Bend	16	20	25	32	40	50	63
Art.-Nr.	21385016	21385020	21385025	21385032	21385040	21385050	21385063
Pieces per box	50	50	50	50	25	10	5

Universal Clip	16	20	25	32	40	50	63
Art.-Nr.	21310116	21310120	21310125	21310132	21310140	21310150	21310163
Pieces per box	100	100	100	100	50	25	25

HEAVY > 1250 N / 5 cm

PSM-v-E-SF



In 3 m lengths with or without moulded on couplers (installation conduit) as per IEC 614-2-2, EN 50086-2-1

Designation: EN 43211

Material: PVC-U (impact resistant)

Colour: grey, RAL 7035

Temperature range: - 5° to + 60° C

Material Characteristics: PSM-v-E-SF are manufactured from an extremely strong plastic to obtain heavy load resistance. Resistant to acids and bases.

Application: Designed to be installed on-wall where heavy mechanical loads are expected. Can be also installed in concrete.

PSM-v-E-SF Type	16	20	25	32	40	50	63
Art.-Nr.	21311016	21311020	21311025	21311032	21311040	21311050	21311063
Outside Ø mm	16	20	25	32	40	50	63
Inside Ø mm	12,2	15,7	20,5	26,6	34,4	43,1	54,8
Bundle contents m	57	57	57	21	21	21	21
Master bundle m	3885	2775	1710	1140	630	378	252

Universal Coupler	16	20	25	32	40	50	63
Art.-Nr.	21380016	21380020	21380025	21380032	21380040	21380050	21380063
Pieces per box	50	100	100	50	25	10	5

Bend	16	20	25	32	40	50	63
Art.-Nr.	21311216	21311220	21311225	21311232	21311240	21311250	21311263
Pieces per box	25	25	25	25	25	10	10

Universal Clip	16	20	25	32	40	50	63
Art.-Nr.	21310116	21310120	21310125	21310132	21310140	21310150	21310163
Pieces per box	100	100	100	100	50	25	25



Stapa Socket-E-S

HEAVY > 1250 N / 5 cm

Pipeline Steel Conduit (plain) in 3 m lengths as per IEC 614, EN 50086-2-1 for high mechanical loads

Designation: EN 445611 IEC 400

Material: St 34 milled soft steel

Design: Interior and exterior black enamelled, alternatively hot dip galvanised or unenamelled

Temperature range: - 45° to + 400° C

Material Characteristics: High mechanical strength, limited cold bending

Application: Industry installation, interior installation, utility vehicle manufacture.

Can be delivered deburred.

Galvanised design + 2 kg weight increase per bundle

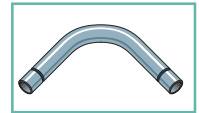


Stapa Socket-E-S Type	16	20	25	32	40	50	63
Art.-Nr.	21255516	21255520	21255525	21255532	21255540	21255550	21255563
Outside Ø mm ≈	16	20	25	32	40	50	63
Inside Ø mm ≈	14,0	18,0	22,6	30,6	37,6	47,6	60,6
Weight kg/100 m	37	47	70	91	115	144	182
Bundle contents m	30	30	30	21	15	15	15
Master bundle m	600	600	600	420	150	150	150

Stapa-Socket-E-S Bends

90°, black enamelled, made of oversized pipe, with 2 sockets. Can be delivered galvanised or unenamelled, as well as deburred. Galvanised + 8% weight increase.

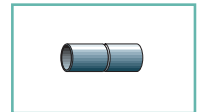
Bends	16	20	25	32	40	50	63
Art.-Nr.	21265516	21265520	21265525	21265532	21265540	21265550	21265563
Weight kg/100 m	3,5	4,2	5,2	9,9	15,6	20,0	23,0
Pieces per box	15	25	25	20	15	5	3



Stapa-Socket-E-S Couplers

black enamelled. Can be delivered hot dip galvanised or unenamelled. Galvanised + 8% weight increase.

Couplers	16	20	25	32	40	50	63
Art.-Nr.	21275516	21275520	21275525	21275532	21275540	21275550	21275563
Weight kg/100 m	8,0	13,0	19,6	33,9	66,0	116,0	170,0
Pieces per box	25	50	50	50	25	10	5



Terminal Sleeves

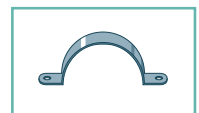
with plastic protection, black enamelled.

Terminal Sleeves	16	20	25	32	40	50	63
Art.-Nr.	21285516	21285520	21285525	21285532	21285540	21285550	21285563
Pieces per box	50	100	100	50	50	25	20

Clamp

Can be delivered black enamelled or hot dip galvanised

Clamp	16	20	25	32	40	50	63
Art.-Nr.	21287116	21287120	21287125	21287132	21287140	21287150	21287163
Pieces per box	100	100	100	100	50	50	50



HEAVY > 1250 N / 5 cm

Stapa Socket-E-S-v



Pipelife Steel Conduit (plain) in 3 m lengths as per IEC 614, EN 50086-2-1 for high mechanical loads

Designation: EN 445711 IEC 400

Material: St 34 milled soft steel

Design: Hot dip galvanised or unenamelled

Temperature range: - 45° to + 400° C

Material Characteristics: High mechanical strength, limited cold bending

Application: Industry installation, interior installation, utility vehicle manufacture.

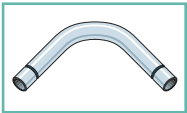
Can be delivered deburred.

Galvanised design + 2 kg weight increase per bundle

Stapa Steck-E-S-v Type	16	20	25	32	40	50	63
Art.-Nr.	21256516	21256520	21256525	21256532	21256540	21256550	21256563
Outside Ø mm	16	20	25	32	40	50	63
Inside Ø mm	14,0	18,0	22,6	30,6	37,6	47,6	60,6
Weight kg/100 m	37	47	70	91	115	144	182
Bundle contents m	30	30	30	21	15	15	15
Master bundle m	600	600	600	420	150	150	150

Stapa-Socket-E-S Bends

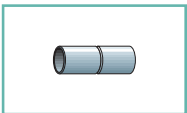
90°, made at oversized pipe, with 2 threads and 1 coupler. Can be delivered hot dip galvanised or unenamelled, as well as deburred. Galvanised + 8% weight increase.



Bends	16	20	25	32	40	50	63
Art.-Nr.	21266516	21266520	21266525	21266532	21266540	21266550	21266563
Pieces per box	15	25	25	20	15	5	3

Stapa-Socket-E-S Couplers

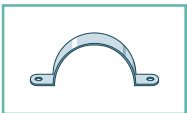
Hot dip galvanised or unenamelled. Galvanised + 8% weight increase.



Couplers	16	20	25	32	40	50	63
Art.-Nr.	21276516	21276520	21276525	21276532	21276540	21276550	21276563
Pieces per box	25	50	50	50	25	10	5

Terminal Sleeves

with plastic protection, galvanised.



Terminal Sleeves	16	20	25	32	40	50	63
Art.-Nr.	21286516	21286520	21286525	21286532	21286540	21286550	21286563
Pieces per box	25	50	50	50	25	10	5

Clamp, galvanised.

Clamp	16	20	25	32	40	50	63
Art.-Nr.	21288116	21288120	21288125	21288132	21288140	21288150	21288163
Pieces per box	100	100	100	100	50	50	50





Stapa Threaded-E-S

HEAVY > 4000 N / 5 cm

Pipelife Steel Conduit with one coupler in 3 m lengths as per IEC 614, EN 50086-2-1, EN 60423 for high mechanical loads

Designation: EN 44571 IEC 400

Material: St 34 milled soft steel

Design: Interior and exterior black enamelled, alternatively hot dip galvanised or unenamelled

Temperature range: - 45° to + 400° C

Material Characteristics: High mechanical strength, limited cold bending

Application: Industry installation, interior installation, utility vehicle manufacture.

Can be delivered deburred.

Galvanised design + 2 kg weight increase per bundle

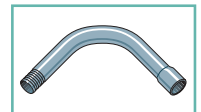


Stapa Threaded-E-S Type	16	20	25	32	40	50	63
Art.-Nr.	21255116	21255120	21255125	21255132	21255140	21255150	21255163
Outside Ø mm	16	20	25	32	40	50	63
Inside Ø mm	13,0	16,8	21,8	28,8	36,8	46,8	59,4
Weight kg/100 m	37	47	70	91	115	144	182
Bundle contents m	30	30	30	21	15	15	15
Master bundle m	600	600	600	420	150	150	150

Stapa Threaded-E-S Bends

90°, black enamelled, made at oversized pipe, with 2 threads and 1 coupler. Can be delivered galvanised or unenamelled, as well as deburred. Galvanised + 8% weight increase.

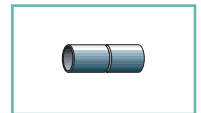
Bends	16	20	25	32	40	50	63
Art.-Nr.	21265116	21265120	21265125	21265132	21265140	21265150	21265163
Pieces per box	15	25	25	20	15	5	3



Stapa Threaded-E-S Couplers

black enamelled. Can be delivered hot dip galvanised or unenamelled. Galvanised + 8% weight increase.

Couplers	16	20	25	32	40	50	63
Art.-Nr.	21275116	21275120	21275125	21275132	21275140	21275150	21275163
Pieces per box	25	50	50	50	25	10	5



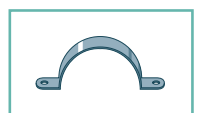
Terminal Sleeves

with plastic protection, black enamelled.

Terminal Sleeves	16	20	25	32	40	50	63
Art.-Nr.	21285116	21285120	21285125	21285132	21285140	21285150	21285163
Pieces per box	25	50	50	50	25	10	5

Clamp, Can be delivered black enamelled or hot dip galvanised.

Clamp	16	20	25	32	40	50	63
Art.-Nr.	21287116	21287120	21287125	21287132	21287140	21287150	21287163
Pieces per box	100	100	100	100	50	50	50



HEAVY > 4000 N / 5 cm

Stapa Threaded-E-S-v



Pipeline Steel Conduit with one coupler in 3 m lengths as per IEC 614, EN 50086-2-1, EN 60423 for high mechanical loads

Designation: EN 445711 IEC 400

Material: St 34 milled soft steel

Design: Hot dip galvanised or unenamelled

Temperature range: - 45° to + 400° C

Material Characteristics: High mechanical strength, limited cold bending

Application: Industry installation, interior installation, utility vehicle manufacture.

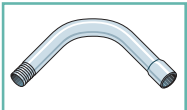
Can be delivered deburred.

Galvanised design + 2 kg weight increase per bundle

Stapa Threaded-E-S-v Type	16	20	25	32	40	50	63
Art.-Nr.	21256116	21256120	21256125	21256132	21256140	21256150	21256163
Outside Ø mm	16	20	25	32	40	50	63
Inside Ø mm	13,0	16,8	21,8	28,8	36,8	46,8	59,4
Weight kg/100 m	37	47	70	91	115	144	182
Bundle contents m	30	30	30	21	15	15	15
Master bundle m	600	600	600	420	150	150	150

Stapa Threaded-E-S Bends

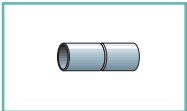
90°, made at oversized pipe, with 2 threads and 1 coupler. Can be delivered hot dip galvanised or unenamelled, as well as deburred. Galvanised = + 8% weight increase.



Bends	16	20	25	32	40	50	63
Art.-Nr.	21266116	21266120	21266125	21266132	21266140	21266150	21266163
Pieces per box	25	25	25	20	15	5	3

Stapa Threaded-E-S Couplers

Hot dip galvanised or unenamelled. Galvanised + 8 % weight increase.



Couplers	16	20	25	32	40	50	63
Art.-Nr.	21276116	21276120	21276125	21276132	21276140	21276150	21276163
Pieces per box	25	50	50	50	25	10	5

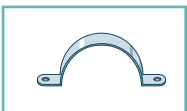
Terminal Sleeves

with plastic protection, galvanised.

Terminal Sleeves	16	20	25	32	40	50	63
Art.-Nr.	21286116	21286120	21286125	21286132	21286140	21286150	21286163
Pieces per box	25	50	50	50	25	10	5

Clamp

Hot dip galvanised.



Clamp	16	20	25	32	40	50	63
Art.-Nr.	21288116	21288120	21288125	21288132	21288140	21288150	21288163
Pieces per box	100	100	100	100	50	50	50





Alu Socket-E-S

Aluminium Socket Conduit for high mechanical loads

Material: Warm hardened aluminium alloy
AlMgSi 0.5-F22

Design: Smooth interior and exterior, 3 m long, outside diameter as per EN 50086-2-1

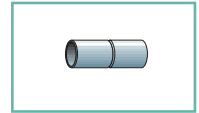
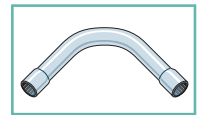
Material Characteristics: High mechanical strength, high chemical resistance, low weight.

Application: Systems engineering with high temperatures and aggressive environments.

Alu Socket-E-S Type	16	20	25	32	40	50	63
Art.-Nr.	21258516	21258520	21258525	21258532	21258540	21258550	21258563
Outside Ø mm	16	20	25	32	40	50	63
Inside Ø mm	14,0	18,0	22,6	29,2	36,9	46,8	59,1
Bundle contents m	60	30	30	21	15	15	9
Master bundle m	600	600	600	420	150	150	150

Bends	16	20	25	32	40	50	63
Art.-Nr.	21268516	21268520	21268525	21268532	21268540	21268550	21268563
Pieces per box	15	25	25	20	15	5	3

Couplers	16	20	25	32	40	50	63
Art.-Nr.	21278516	21278520	21278525	21278532	21278540	21278550	21278563
Pieces per box	50	50	50	50	20	20	20



Alu Threaded-E-S

Aluminium Socket Conduit for high mechanical loads

Material: Warm hardened aluminium alloy
AlMgSi 0.5-F22

Design: Smooth interior and exterior, 3 m long, outside diameter as per EN 50086-2-1, both sides threaded

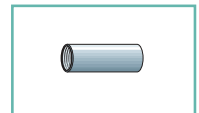
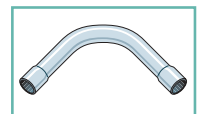
Material Characteristics: High mechanical strength, high chemical resistance, low weight.

Application: Systems engineering with high temperatures and aggressive environments.

Alu Threaded-E-S Type	16	20	25	32	40	50	63
Art.-Nr.	21259516	21259520	21259525	21259532	21259540	21259550	21259563
Outside Ø mm	16	20	25	32	40	50	63
Inside Ø mm	12,8	16,6	21,4	28,5	36,3	46,3	58,8
Bundle contents m	60	30	30	21	15	15	9
Master bundle m	600	600	600	420	150	150	150

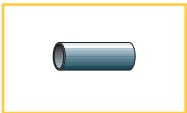
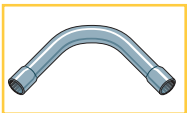
Bends	16	20	25	32	40	50	63
Art.-Nr.	21269516	21269520	21269525	21269532	21269540	21269550	21269563
Pieces per box	15	25	25	20	15	5	3

Couplers	16	20	25	32	40	50	63
Art.-Nr.	21279516	21279520	21279525	21279532	21279540	21279550	21279563
Pieces per box	50	50	50	50	20	20	20



MEDIUM > 750 N / 5 cm

PSM-E-MF-H



(Halogen-free) In 3 m lengths plain as per EN 50086-2-1

Designation: EN 50086-2-1, halogen-free

Material: Special, halogen-free plastic

Colour: black, RAL 9005

Temperature range: -25° to +105° C

Material Characteristics: Flame resistant, self-extinguishing, good electrical characteristics, chemically resistant to acids and bases. Good deformation resistance when subject to heat. High impact resistance even when cold.

Application: Hospitals, nuclear power plants, subways, airports, computer centres and anywhere that systems safety is of high importance.

PSM-E-MF-H Type	16	20	25	32	40	50	63
Art.-Nr.	21312016	21312020	21312025	21312032	21312040	21312050	21312063
Outside Ø mm	16	20	25	32	40	50	63
Inside Ø mm	13,4	17,1	21,7	26,5	36,1	46,1	58,8
Bundle contents m	111	111	57	57	21	21	21

Bends	16	20	25	32	40	50	63
Art.-Nr.	21312216	21312220	21312225	21312232	21312240	21312250	21312263
Pieces per box	25	25	25	25	25	10	5

Couplers	16	20	25	32	40	50	63
Art.-Nr.	21312116	21312120	21312125	21312132	21312140	21312150	21312163
Pieces per box	25	50	50	25	25	10	5

Clip, halogenfree, non fire resistant	16	20	25	32	40	50	63
Art.-Nr.	21312316	21312320	21312325	21312332	21312340	21312350	21312363
Pieces per box	50	50	50	50	25	25	10



The Pipelife halogen-free electrical installation conduit is our answer to the demands of the market. The products are made of halogen-free plastic, making them highly flame retardant. The combustion gasses produced in the event of a fire are neither **corrosive** nor **toxic**. The smoke density is low.

Pipelife halogen-free electrical installation conduit is used particularly in locations where particular safety requirements apply with regard to fire damage. For instance in nuclear power plants, military facilities and civilian protection centres, hospitals, schools, airports, computer centres, etc.

In the event of a fire, Pipelife halogen-free electrical installation conduit ensures excellent emergency operation characteristics due to its high resistance to deformation when exposed to heat. In ad-

dition, a carbonisation process on the conduit surface guarantees only minimal flammability. The low smoke density and toxicity are additional advantages in the event of a fire.

Valuable systems are not endangered by corrosive gasses.

The testing and classification of Pipelife halogen-free electrical installation conduits is performed according to the criteria already established in other areas.

In addition to the VDE 0605/4.82 tests already used, this includes testing criteria such as:

- Corrosiveness
- Absence of halogen
- Combustion gas density
- Toxicity

Pipelife halogen-free electrical installation conduit performs excellently under all the conditions listed.

POWER-COUPLER - STRONG, TIGHT, EASY

NEW!

NEW!

Our new power-coupler lets you install and join our conduits easy and fast.

- available for all diameters.
- it is halogenfree.
- your installation is now just click-away!



FB-E-L

LIGHT > 320 N / 5 cm

Flexible installation conduit as per IEC 614-2-3, EN 50086-2-3

Designation: EN 22212

Material: Polyolefine

Colour: orange, RAL 2004

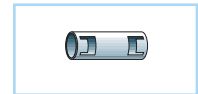
Temperature range: - 5° to + 60° C

Material Characteristics: Corrosion resistant, chemically resistant. Non flame resistant. Halogen free. Highly flexible, corrugated insulation conduit. Easy to install. No cross-section restriction even for very tight radius.

Application: Suitable for all interior installations, like in, on and under plaster.

FB-E-L Type	16	20	25	32	40	50	63
Art.-Nr.	21313016	21313020	21313025	21313032	21313040	21313050	21313063
Outside Ø mm	16	20	25	32	40	50	63
Inside Ø mm	10,8	14,0	18,2	24,2	31,5	40,0	50,2
Bundle contents m	100	100	50	50	25	25	25
Europalett m	2,500	2,800	1,600	1,000	500	300	250

Power Coupler	16	20	25	32	40	50	63
Art.-Nr.	21381416	21381420	21381425	21381432	21381440	21381450	21381463
Pieces per box	50	100	100	50	25	10	5



FB-E-LF

LIGHT > 320 N / 5 cm

Flexible installation conduit as per IEC 614-2-3, EN 50086-2-3

Designation: EN 22322

Material: Polyolefine

Colour: black RAL 9005

Temperature range: - 15° to + 90° C

Material Characteristics: Good resistance to acids and bases. Flammable. Highly flexible with good pressure resistance.

Application: For installations in and under plaster, for prefabrication, particularly for the manufacturing of prefabricated parts.

FB-E-LF Type	16	20	25	32	40	50	63
Art.-Nr.	21314016	21314020	21314025	21314032	21314040	21314050	21314063
Outside Ø mm	16	20	25	32	40	50	63
Inside Ø mm	10,8	14,0	18,2	24,2	31,5	40,0	50,2
Bundle contents m	100	100	50	50	25	25	25
Europalett m	2,500	2,800	1,600	1,000	500	300	250

Power Coupler	16	20	25	32	40	50	63
Art.-Nr.	21381416	21381420	21381425	21381432	21381440	21381450	21381463
Pieces per box	50	100	100	50	25	10	5



LIGHT > 320 N / 5 cm

Ku-E-LF



Flexible installation conduit as per IEC 614-2-3, EN 50086-2-3

Designation: EN 22212

Material: Polyolefine

Colour: cream, RAL 1013

Temperature range: - 5° to + 60° C

Material Characteristics: Corrosion resistant, chemically resistant as per EN 50086-2-3. Flame resistant. Highly flexible, corrugated insulation conduit. Easy to install. No cross-section restriction even for very tight bends.

Application: Suitable for all interior installations both in and under plaster.

Ku-E-LF Type	16	20	25	32	40	50	63
Art.-Nr.	21330316	21330320	21330325	21330332	21330340	21330350	21330363
Outside Ø mm	16	20	25	32	40	50	63
Inside Ø mm	10,8	14,4	18,5	24,6	32,2	40,9	52,7
Bundle contents m	100	100	50	50	25	25	25
Europalett m	2,500	2,000	1,600	900	500	300	250

Power-Coupler	16	20	25	32	40	50	63
Art.-Nr.	21381416	21381420	21381425	21381432	21381440	21381450	21381463
Pieces per box	50	100	100	50	25	10	5



LIGHT > 320 N / 5 cm

GP-E-L



Smooth surface flexible installation conduit as per IEC 614-2-3, EN 50086-2-3

Designation: EN 22412

Material: Special PE

Colour: orange, RAL 2004

Temperature range: - 25° to + 60° C

Material Characteristics: Good resistance to acids and bases, high electrical disruptive strength. Smooth interior guarantees easy pulling through of cables. Bendable by hand.

Application: Interior installation. Type GP of special PE is suitable for installation in ceilings and all other concrete, such as site-mixed concrete, prefabrication, etc.

GP-E-L Type	16	20	25	32	40	50	63
Art.-Nr.	21337016	21337020	21337025	21337032	21337040	21337050	21337063
Outside Ø mm	16	20	25	32	40	50	63
Inside Ø mm	11,5	15,0	19,9	26,6	33,5	42,9	56,1
Bundle contents m	50	100	50	50	25	25	25
Europalett m		2,000	1,500				

Univ.Muffe f. biegs. Rohr	16	20	25	32	40	50	63
Art.-Nr.	21380016	21380020	21380025	21380032	21380040	21380050	21380063
Pieces per box	50	100	100	50	25	10	5





KuMS-E-MF MEDIUM > 750 N / 5 cm

Flexible installation conduit in 50m/25m spools as per IEC 614-2-3, EN 50086-2-2

Designation: EN 33212

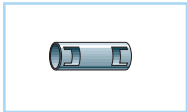
Material: PVC-U (impact resistant)

Colour: grey, RAL 7035

Temperature range: - 5° to + 60° C

Material Characteristics: KuMS-E-MF installation conduit is manufactured from an extremely strong plastic with excellent impact resistance. Corrosion resistant, chemically resistant. Flame resistant. Highly flexible, corrugated insulation conduit. Easy to install.

Application: All kind of interior installation. Well suited for installation in hollow walls, as well as for laying in concrete.



KuMS-E-MF Type	16	20	25	32	40	50	63
Art.-Nr.	21332016	21332020	21332025	21332032	21332040	21332050	21332063
Outside Ø mm	16	20	25	32	40	50	63
Inside Ø mm	10,8	14,4	18,5	24,6	32,2	40,9	52,7
Bundle contents m	50	50	50	25	25	25	25
Europalett m	2,000	1,800	1,600	750	500	300	250

Power-Coupler	16	20	25	32	40	50	63
Art.-Nr.	21381416	21381420	21381425	21381432	21381440	21381450	21381463
Pieces per box	50	100	100	50	25	10	5



Ku-P-AS-E-MF-105 MEDIUM > 750 N / 5 cm

Flexible installation conduit in 50m/25m spools as per IEC 614-2-3, EN 50086-2-2

Designation: EN 33332

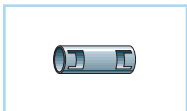
Material: modified PVC

Colour: red-brown, RAL 8012

Temperature range: - 15° to + 105° C

Material Characteristics: Particularly high temperature resistance, far exceeding the characteristics required by EN 50086. Good electrical characteristics. High pressure resistance and yet flexible, flame resistant.

Application: Ku-P-AS-E-MF-105 is used particularly in locations where high temperatures are expected, for instance during the binding process or artificial drying methods in concrete work.



Ku-P-AS-E-MF Type	16	20	25	32	40	50	63
Art.-Nr.	21332016	21332020	21332025	21332032	21332040	21332050	21332063
Outside Ø mm	16	20	25	32	40	50	63
Inside Ø mm	10,8	14,4	18,5	24,6	32,2	40,9	52,7
Bundle contents m	50	50	50	25	25	25	25
Europalett m	2,000	1,800	1,600	750	500	300	250

Power-Coupler	16	20	25	32	40	50	63
Art.-Nr.	21381416	21381420	21381425	21381432	21381440	21381450	21381463
Pieces per box	50	100	100	50	25	10	5

HEAVY > 1250 N / 5 cm

RP-E-SF-UV



Flexible installation conduit extra coated as per EN 50086-2-3

Designation: EN 43212

Material: PVC-U, PVC-P casing

Colour: black, RAL 9005

Temperature range: - 15° to + 60° C

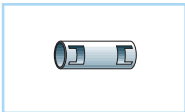
Material Characteristics: Corrosion resistant, chemically resistant, UV stabilised, flame resistant. Core conduit out of PVC-U, casing of PVC-P. RP is

highly flexible, offers high electrical safety and has excellent pressure resistance.

Application: RP is suitable for all installations, in, on and under plaster, particularly with heaped or compressed concrete, for site-mixed or prefabricated concrete. Machine and systems installations. Can be connected to insulation conduit types SuP, PS, PS-v, as well as to steel conduits. Easy to lay even in large dimensions due to its high flexibility.

RP-E-SF-UV Type	16	20	25	32	40	50	63
Art.-Nr.	21336016	21336020	21336025	21336032	21336040	21336050	21336063
Outside Ø mm	16	20	25	32	40	50	63
Inside Ø mm	9,5	13,1	18,3	23,6	30,6	39,8	50,6
Bundle contents m	50	50	50	25	25	25	25
Europalett m	2,500	2,000	1,350	750	300	300	

Power-Coupler	16	20	25	32	40	50	63
Art.-Nr.	21381416	21381420	21381425	21381432	21381440	21381450	21381463
Pieces per box	50	100	100	50	25	10	5



HEAVY > 1250 N / 5 cm

STAPA FLEX



Flexible steel conduit as per EN 50086-2-3

Designation: EN 44562

Material: steel-paper-steel

Colour: natural steel

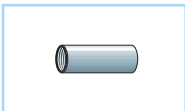
Temperature range: - 45° to + 250° C

Medium-strength, flexible armoured conduit, lead-coated.

Design: Steel hoop - paper insulation - steel hoop.

Stapa Flex-E-S Type	16	20	25	32	40	50	63
Art.-Nr.	21257516	21257520	21257525	21257532	21257540	21257550	21257563
Outside Ø mm	16	20	25	32	40	50	63
Inside Ø mm	10,7	14,1	18,3	24,3	31,2	39,6	50,6
Bundle contents m	25	25	25	25	25	25	25
Europalett m	600	600	600	420	150	150	150

Coupler	16	20	25	32	40	50	63
Art.-Nr.	21276116	21276120	21276125	21276132	21276140	21276150	21276163
Pieces per box	25	50	50	50	25	10	5





KuMS-E-LF-H

LIGHT > 320 N / 5 cm

Designation: EN 22232

Material: Halogen-free special plastic

Colour: black, RAL 9005

Temperature range: - 5° to + 105° C

Material Characteristics: Flame resistant, self-extinguishing, good electrical characteristics, chemically resistant to acids and bases. High resistance to heat deformation.

Application: KuMS-E-LF-H is a halogen-free further development of the KuMS type.

For installation in locations where particularly high fire safety requirements apply, e.g. in hospitals, airports, schools, etc. Suitable for installation in, on and under plaster, including cavity wall installation. Improved characteristics make it also suitable for installation in high temperature areas.

KuMS-E-LF-H Type	16	20	25	32	40	50	63
Art.-Nr.	21334016	21334020	21334025	21334032	21334040	21334050	21334063
Outside Ø mm	16	20	25	32	40	50	63
Inside Ø mm	10,2	14,5	18,5	24,4	31,4	39,6	50,6
Bundle contents m	100	100	50	50	25	25	25
Europapalett m	2,000	1,800	1,600	750	500	300	250

Univ.Muffe f. biegs. Rohr	16	20	25	32	40	50	63
Art.-Nr.	21334116	21334120	21334125	21334132	21334140	21334150	21334163
Pieces per box	25	50	50	25	25	10	5



Ku-P-AS-E-MF-H

MEDIUM > 750 N / 5 cm

Designation: EN 33232

Material: Halogen-free special plastic

Colour: black, RAL 9005

Temperature range: - 5° to + 105° C

Material Characteristics: Flame resistant, self-extinguishing, good electrical characteristics,

chemically resistant to acids and bases. High resistance to heat deformation.

Application: Ku-P-AS-E-MF-H is used everywhere that high mechanical strength is required in addition to the absence of halogen. Suitable for the most demanding electrical installations in industry and residential construction.

Ku-P-AS-E-MF-H Type	16	20	25	32	40	50	63
Art.-Nr.	21335016	21335020	21335025	21335032	21335040	21335050	21335063
Outside Ø mm	16	20	25	32	40	50	63
Inside Ø mm	10,4	13,5	17,4	23,3	29,9	38,7	48,6
Bundle contents m	50	50	50	25	25	25	25
Europapalett m	2,000	1,800	1,600	750	500	300	250

Power Coupler	16	20	25	32	40	50	63
Art.-Nr.	21334116	21334120	21334125	21334132	21334140	21334150	21334163
Pieces per box	25	50	50	25	25	10	5



LIGHT > 250 N / 5 cm

FB-Quick

Previred flexible installation conduit

Material: PE-HD

Colour: black, RAL 9005

Temperature range: - 15° to + 90° C

Material Characteristics: High resistance to acids and basis. Flammable, highly flexible with good pressure resistance.

Application: For all installations in, on and under plaster, for prefabricated construction, particularly for factory manufacture of prefabricated parts.

Advantages: By laying conduit and wires in a single work step, FB-Quick saves you time and money!

FB-Quick	20	20	20	25
Wires	3 x 1,5	3 x 2,5	5 x 1,5	5 x 2,5
Outside ø mm	20	20	20	25
Spool length m	50	50	50	50

MEDIUM > 500 N / 5 cm

KuMS-Quick

Previred flexible installation conduit

Material: PVC-U

Colour: grey, RAL 7035

Temperature range: - 5° to + 60° C

Material Characteristics: Corrosion resistant, chemically resistant. Flame resistant. Highly flexible, corrugated medium-strength insulation conduit, easy to install.

Application: In, on and under plaster, cavity wall installation and light concrete work. Suitable for laying on wood walls. KuMS-Quick is used for difficult conditions.

Advantages: By laying conduit and wires in a single work step, KuMS-Quick saves you time and money!

KuMS-Quick	20	20	20	25
Wires	3 x 1,5	3 x 2,5	5 x 1,5	5 x 2,5
Outside ø mm	20	20	20	25
Spool length m	50	50	50	50



Standard lengths: 25 - 50 m (any other lengths upon request)

Standard outside diameter: 13 - 106 mm

Material: All corrugated conduits are halogen-free (except for PE) and UV stable.

Colour: grey and black (other colours upon request)

Pipelife industry ducting is used where the conduit system must meet particularly high requirements: maximum impact and pressure resistance as well as resistance to alternate bending. Maximum thermal and chemical resistance.

Application: Mechanical engineering, systems engineering, automotive manufacture, industrial construction, laboratories, switch cabinet construction, industrial robotics, aerospace technology.

INDUSTRIAL DUCTING	Apex Pressure Resistance* in N/100 mm	Temperature Range
PA 6 »Light«	250	- 40°C bis +120°C (+ 150°C)
PA 6 »Standard«	400	- 40°C bis +105°C (+ 150°C)
PA 6 »Heavy«	1.000	- 40°C bis +105°C (+ 150°C)
PA 12 »Standard«	350	- 50°C bis + 85° C (+ 150°C)
PA 12 »Heavy«	500	- 50°C bis + 85° C
PE**	-	- 40°C bis + 60° C
TPE	300	- 30°C bis +150°C (+ 190°C)
PU	300	- 5° C bis + 90° C
PVDF	350	- 40°C bis +105°C

Temperature range in parenthesis applies to short-term loads

*) Tested as per DIN 57605 / VDE 0605 / 4.82 while dry

**) This type is not designed for apex pressure resistance



Picture provided by IGM-Robotertechnik GesmbH

KSR-AM



In 3 m lengths, also 6 m upon request
With moulded on adhesive coupler

Material: PVC-U

Colour: dark grey or black

Material Characteristics: Frost and corrosion resistant. Resistance to acids and basis as per DIN 8061, Insert 1, flame retardant, self-extinguishing.

Application: For laying high voltage, telecommunications and signalling cables underground, in concrete, superstructures and excavations.

KSR-AM

Art.-Nr. – 3 m	21981350	21981363	21981375	21981390	21981311	21981312	21981314	21981316
Art.-Nr. – 6 m	21981650	21981663	21981675	21981690	21981611	21981612	21981614	21981616
Outside Ø mm	50	63	75	90	110	125	140	160
Wallthickness mm	1,8	1,9	2,2	2,7	3,2	3,7	4,1	4,7
Bundle contents mm 3 m lengths	516	510	609	345	285	231	180	141
Bundle contents mm 6 m lengths	1032	1020	1218	690	570*	462	360	282

*) Can also be delivered in 258 m packages

Coupler

Art.-Nr.	21983050	21983063	21983075	21983090	21983011	21983012	21983014	21983016
Outside Ø mm	50	63	75	90	110	125	140	160

Bends with coupler

Art.-Nr. – 30°	21982350	21982363	21982375	21982390	21982311	21982312	21982314	21982316
Art.-Nr. – 45°	21982450	21982463	21982475	21982490	21982411	21982412	21982414	21982416
Art.-Nr. – 90°	21982950	21982963	21982975	21982990	21982911	21982912	21982914	21982916
Outside Ø mm	50	63	75	90	110	125	140	160
Radius R mm	270	330	405	495	605	730	875	1035



Spacer

Art.-Nr.	21986411	21986611	21986811
Ø mm	110/4 (for 4 conduits)	110/6 (for 6 conduits)	110/8 (for 8 conduits)

KS-SHELLS



Cable protection shells in 5 m lengths, other lengths upon request

Material: PVC-U

Colour: dark grey RAL 7011

Application: Shells are used when previously laid cable must be given subsequent protection against mechanical stresses, for instance after repairs. Two connected half shells result in a pipe with round interior cross-section. After sawing off ca. 10 cm from the notched spacing on each side, it is possible to connect the double

shells to pipes with 110 mm outside diameter using shell couplers. The half shells are connected to make the double shell pipe using snap-on locks (DBGM). These simple and secure connections have proven themselves particularly well in heavy duty construction. Approximately 6 snap-on locks are required per meter of double shell. For long installation stretches, the half shells are offset lengthways. This results in a continuous pipe after attaching the snap-on locks without requiring couplers to connect the shells.

KS-Shells

Art.-Nr.	21989011
Outside ø mm	110
Inside ø mm	99,4
Wallthickness mm	5,3
Weight kg/m	1,4

KS-Shell Coupler

Art.-Nr.	21989111
Outside ø mm	110

With wedge lock for connection of the upper and lower parts for half shells and pipes.

KS-Shell Bend

Art.-Nr. -30°	21989311
Art.-Nr. -45°	21989411
Art.-Nr. -90°	21989911
Outside ø mm	110
Wallthickness mm	5,3

With upper and lower part radius 1100 mm, offset leg on both ends 300/600

KS-Shell Snap-on Locks

Art.-Nr.	21989200
For all currently available dimensions	

KSX

Flexible cable protection pipes, corrugated

Material: PVC-U

Colour: black

Delivery: In spools

Application: As building and formwork pipe as well as for laying cables underground or in concrete.



KSX					
Art.-Nr.	21987150	21987165	21987180	21987110	21987112
Outside Ø mm	50	65	80	100	125
Inside Ø mm	45,0	59,2	73,0	92,0	115,0
Bundle contents	25	25	25	25	25

Coupler					
Art.-Nr.	21987350	21987365	21987380	21987310	21987312
Inside Ø mm	50	65	80	100	125



Cable protection caps

Material: PVC-U or Special PE

Colour: Red (can be delivered in other colours upon request)

Lengths: 50 cm and 100 cm (other lengths are also possible)

THE cable protection caps offer protection when laying underground cables. They are corrosion resistant against all acids and chemicals found underground and on the surface. They are delivered in the standard red colour. Upon request, the caps can also be delivered labelled. The cable protection caps with hangers are easy to install and provide a connection with good tensile strength.

THE

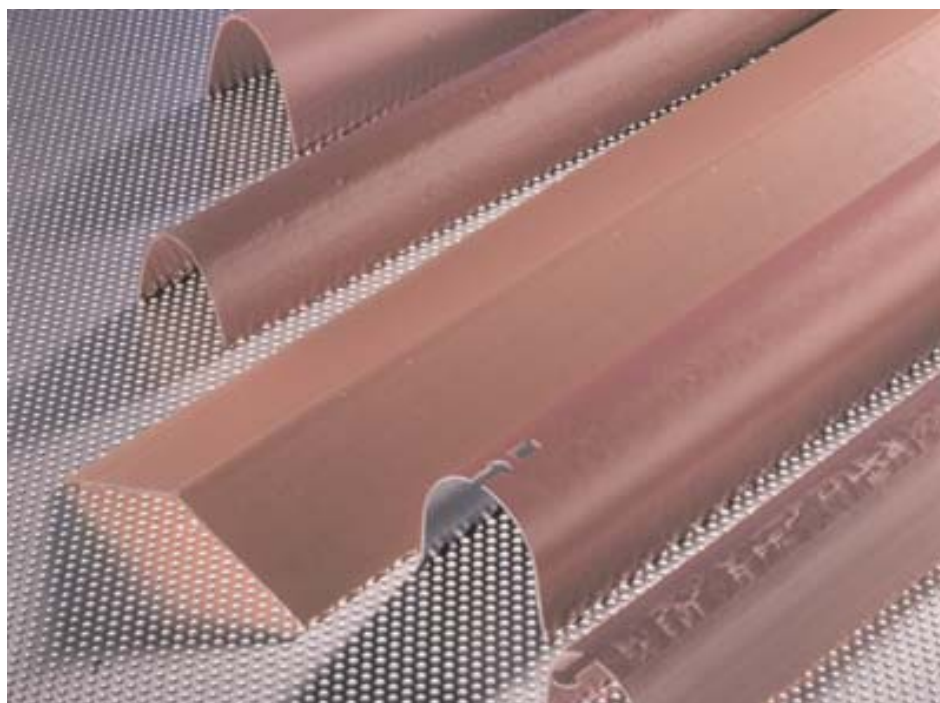


THE with hangers	40	50	60	75	80	100
Art. no. 50 cm long PVC	21915541	21915546	21915551	21915508	21915509	21915510
Art. no. 100 cm long PVC	21915542	21915547	21915552	21915555	21915559	21915560
Art. no. 50 cm long PE	21915501	21915502	21915503	21915504	21915505	21915506
Art. no. 100 cm long PE	21915544	21915548	21915553	21915557	21915512	21915562
Weight kg/100 m PVC	23	29	35	37	40	55
Weight kg/100 m PE	16	23	28	31	*	39
Pallet contents PVC/PE m	2000	2000	1500	1500	1500	1000

DH-SE



DH-SE with hangers	100	110	120	140	160	180	200	220
Art. no. 100 cm long PVC	21915574	21915571	21915579	21915580	21915583	21915586	21915589	-
Art. no. 100 cm long PE	21915576	21915572	21915578	21915581	21915584	21915587	21915590	21915592
Weight kg/100 m PVC	29	31	35	38	44	53	58	-
Weight kg/100 m PE	23	26	28	30	34	39	42	48
Pallet contents PVC/PE m	2.000	2.000	2.000	2.000	2.000	1.500	1.500	1.500



Material: PVC-U or Special PE

Colour: Red (can be delivered in other colours upon request)

Lengths: 100 cm (other lengths are also possible)

Cable protection plates have proven themselves as the ideal cover for underground high- and low-voltage cable, telecommunications, control and signalling cables. They offer protection against mechanical

damage to the cables both when filling the cable excavations and during subsequent excavation work. The material used, PVC hard, is frost and corrosion resistant. The density of 1.4 prevents the plates from floating upward in the event of rain in open cable excavations. PVC hard is flame retardant and self-extinguishing. Upon request, plates made of polyethylene can also be delivered. Printing of plates upon request.

PLE

PLE with hangers	120	150	160	180	200	220	240	250	300
Art. no. 1 m long PVC	21915594	21915598	21915601	21915605	21915608	21915610	21915613	21915617	21915621
Art. no. 1 m long PE	21915596	21915599	21915603	21915606	21915609	21915611	21915615	21915618	21915622
Weight kg/100 m PVC	35	45	48	52	57	64	71	72	88
Weight kg/100 m PE	28	33	35	39	41	46	50	50	63
Pallet contents m	2000	2000	2000	2000	1500	1500	1500	1500	1000



LINE WARNING TAPE PE-LD

Material: Polyethylene foil

Colour: Yellow

Characteristics: Laminated (Foil coating as clear as glass ensures long-term readability of print. Resistant to ageing and cold)

Dimensions: Width: 40 mm - Thickness: 0,15 mm

Roll length: 250 m

Line warning tape PE-LD

Art.-Nr. 21984210





MOUNTING TUBE

Particularly suitable for the new generation of antennas. Hot dip galvanised design, straight, with 1 hole, inserted plugs and attached end cap.

Art. no.	21866020	21866030	21866060
Dimensions mm	60 x 2,0 x 2000	60 x 3,0 x 3000	60 x 3,5 x 6000*
Weight kg per piece	6,2	13,6	31,5
Max. permissible bending moment Nm	1703	2433	2767

*without hole and plugs

Mast clips

Art. no.	21826000
Ø mm	60
Weight kg per 100 pieces	20,0

End caps, weather-proof

Art. no.	21836000
Ø mm	60
Weight kg per 100 pieces	3,0

Plugs**

Art. no.	21834000
Hole Ø mm	13
Weight kg per 1,000 pieces	2,0

**To seal off conduit holes with or without inserted TV antenna cable

DISMOUNTABLE ANTENNA MAST

Hot dip galvanised both inside and outside, providing exceptional corrosion resistance. Secured against turning by a pressed in groove.

Packaging: In cartons with 5 pieces each, 4 pieces each for the 48 mm products. Can also be delivered with 3 holes (Ø 13 mm) upon request. In this case, the last digit of the article number is 1 instead of 0 (e.g.: 21863871).

32 x 2 mm Approx. 10 cm widened at one end, approx. 10 cm narrowed at the other end.

Art. no.	21861820	21861840
Length m	1,5	2,0
Weight kg per piece	2,4	3,2

42 x 2 mm Approx. 15 cm widened at one end, approx. 15 cm narrowed at the other end.

Art. no.	21862820	21862840	21862850	21862870
Length m	1,5	2,0	2,5	3,0
Weight kg per piece	3,2	4,4	5,4	6,4

48 x 2,5 mm Approx. 15 cm widened at one end, approx. 15 cm narrowed at the other end.

Art. no.	21863840	21863870
Length m	2,0	3,0
Weight kg per piece	6,0	9,0

Plugs **

Art. no.	21831000	21832000	21833000
Hole Ø mm	32	42	48
Weight kg per 1,000 pieces	2,0	2,0	2,0

**To seal off conduit holes with or without inserted TV antenna cable

CONNECTOR PIECE

Art. no.	21821800	21822800
Dimensions mm	42 x 2,0 auf 32 x 2,0 mm	48 x 2,5 auf 42 x 2,0 mm
Weight kg per piece	0,5	1,0

Areas of Application

	Plastic Conduits										Steel Conduits										
	IPM-E-LF	PSM-E-MF	PSM-v-E-SF	PSM-E-MF-UV	PSM-E-MF-H	FB-E-L	FB-E-LF	KU-E-LF	KuMS-E-MF	KU-P-AS-E-MF-105	RP-E-SF-UV	GP-E-L	KuMS-E-LF-H	Stapa Steck-E-S	Stapa Gewinde-E-S	Stapa Steck-E-S-v	Stapa Gewinde-E-S-v	Alu Steck-E-S	Alu Gewinde-E-S	Stapa Flex-E-S	
Surface installation	●	●	●	●	●				●	●	●	●	●	●	●	●	●	●	●	●	●
Installation under plaster	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Installation in plaster	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Installation on wood	●	●	●	●	●				●	●	●	●	●	●	●	●	●	●	●	●	●
Underground installation										●	●										
Heaped concrete		●	●	●	●	●	●		●	●	●	●	●	●	●	●	●	●	●	●	●
Vibrated concrete			●	●						●	●										●
Compressed concrete			●	●						●	●										●
Maschine and systems installation	●	●	●	●						●	●										●
Subsurface installation (bitumen)	●	●	●	●						●	●										●
Subsurface installation (screed)	●	●	●	●					●	●	●	●	●	●	●	●	●	●	●	●	●
Prefabricated concrete installation						●	●			●											●
Outdoor installation			●																		

Fire load for PVC and halogen-free insulation conduit in kwh/m

Type	DN 16	20	25	32	40	50	63
FB-E-L	0,391	0,526	0,722	1,003	1,407	1,651	2,135
FB-E-LF	0,39	0,526	0,722	1,003	1,407	1,651	2,135
KU-E-LF	0,167	0,261	0,339	0,484	0,639	0,806	1,001
KuMS-E-MF	0,278	0,439	0,545	0,778	1,001	1,307	1,668
KU-P-AS-E-MF 105	0,868	1,211	1,676	2,190	3,229	3,694	5,688
RP-E-SF-UV	0,389	0,584	0,751	1,123	1,446	1,89	2,391
KuMS-E-LF-H	0,391	0,526	0,722	1,003	1,407	1,651	2,079
KuP-AS-E-MF-H	0,783	1,04	0,159	1,957	2,691	3,425	4,342
GP-E-L	1,134	1,601	2,268	2,936	4,163	6,005	9,60
IPM-E-LF	0,334	0,473	0,667				
PSM-E-MF	0,489	0,683	0,862	1,277	1,668	2,224	3,248
PSM-U-E-LF	0,584	0,795	1,056	1,54	1,946	2,724	3,447
PSM-E-MF-UV	0,489	0,683	0,862	1,277	1,668	2,224	3,248
PSM-E-MF-H	0,545	0,817	1,09	1,393	2,024	2,802	3,542

The table values are based on a thermal value of 5.7 kwh/kg for PVC as per DIN 4102 and 7.8 kwh/kg for halogen-free plastic.

Physical Characteristics

Material Conduit type	PVC-U	PE-LD und PE-HD Plastic	halogen-free
	Ku cream, KUMS grey, RP grey, ISM-grey,	GI cream, GP grey, Sup black, FB BC 105 black	PSM-H grey, KuMS-H grey, Ku-P-AS-H grey
Density	1,4 g / cm ³	0,91 - 0,96 g / cm ³	1,10 g / cm ³
Ultimate tensile strength	ca. 5000 N / cm ²	1000 - 2500 N / cm ²	4500 - 5000 N / cm ²
Elongation at tear	20 - 50 %	400 - 800 %	30 - 60 %
Indentation hardness	ca. 10 000 N / cm ²	ca. 1500 - 6000 N / cm ²	ca. 11 000 N / cm ²
Impact value	20 - 40 Ncm / cm ²	at ± 0° C und 20° C without fracture	20 - 40 Ncm / cm ²
Temperature range	- 5° C bis + 60° C loss of strength above 40° C	- 40° C bis ca. + 105° C without mechanical load	- 40° C bis + 110° C
Caloric conductivity	0,163 W/k · m	0,337 W/k · m	0,160 W/k · m
Linear thermal expansion coefficient	08 · 10 ⁻⁴ 1° C	at 20° C 2,3 · 10 ⁻⁴ at 80° C 4,5 · 10 ⁻⁴	0,7 · 10 ⁻⁴ 1° C
Flammability	flame resistant	Ignition point 350° C burns like wax	flame resistant
Disruptive strength	ca. 40 MV/m	for 1 mm Platte: ca. 40 MV/m	10 - 20 MV/m
Special volume resistance	ca. 10 ¹⁵ Ω cm	ca. 10 ¹⁸ Ω cm	> 10 ¹⁵ Ω cm
Moisture absorption	3 - 20 mg	4 Days: < 0,01 mg	0,15 % / 23° C 0,3 % / 100° C
Weathering resistance	Good with appropriate stabilisation	For types suitable for outdoor installation, outdoor storage. Light stabilised types	

- ☺ resistant
- ☹ limited resistant
- ⊗ no resistant

Chemical Compatibility Table

Effects of	PVC-U	PE-LD, PE-HD	halogen-free Special Plastic
Exhaust, cont. hydrochloric acid	☺	☺	☹
Exhaust, cont. sulphuric acid	☺	☺	☹
Aceton, diluted	⊗	☺	
Ethyl acetate	⊗	☹	
Ether	☺	☹	
Ethyl alcohol, diluted	☺	☺	
Formic acid, diluted	☺	☺	☺
Ammonia	☺	☺	☺
Aniline	⊗	☹	☹
Arsenic acid	☺	☺	
Benzene	☺	☹	☹
Benzole	⊗	☹	
Beer	☺	☺	☹
Lead acetate, diluted	☺	☺	
Butane, gaseous	☺	⊗	
Borax, diluted	☺	☺	☹
Boric acid, diluted	☺	☺	☺
Calcium chloride, diluted	☺	☺	
Chlorine, gaseous, dry	☹	☹	☺
Chlorine water	☹	⊗	☺
Potassium cyanide, diluted	☺	☺	
Dextrin, diluted	☺	☺	
Diesel oil		☺	☹
Manuring salts, diluted	☺	☺	
Iron chloride, diluted	☺	☺	
Vinegar and ethanoic acid, diluted	☺	☺	
Fatty acids	☺	☹	
Hydrofluoric acid, diluted	☺	☺	☺
Photographic developer	☺	☺	☺
Fruit juices	☺	☺	☺
Glyzerine, diluted	⊗	☺	☺
Urea, diluted	☺		☺
Yeast, diluted	☺	☺	
Caustic potash solution, diluted	☺	☺	☺
Silicic acid, diluted	☺	☺	⊗
Cooking salt, diluted	☺	☺	☺
Carbonic acid	☺	☺	
Copper sulphate, diluted	☺	☺	
Lactic acid	☺	☺	☹
Mineral oils	☺	☺	☹
Caustic soda hydrated	☺	☺	☺
Oils, plant and vegetable	☺	☺	☹
Oleic acid	☺	☹	
Ozone	☺	☹	
Petroleum	☺	☺	
Phosphoric acid, diluted	☺	☺	
Propane, liquid	☺	⊗	
Nitric acid, diluted	☺	☺	☺
Hydrochloric acid, diluted	☺	☺	☺
Carbon disulphide	☹	☹	
Sodium disulphide, diluted	☺	☺	
Sulphuric acid, diluted	☺	☺	☺
Seawater	☺	☺	☺
Starch, diluted	☺	☺	
Stearic acid	☺	☹	
Tallow	☺	☺	
Turpentine		☹	
Transformer oil	☺	☺	
Grape sugar, diluted	☺	☺	
Urine	☺	☺	
Water	☺	☺	☺
Hydrogen	☺		
Acidity of wine, diluted	☺	☺	☺
Xylene	⊗	☹	
Zink chloride, diluted	☹	☹	
Zink sulphate, diluted	☺	☺	
Citric acid, diluted	☺	☺	☺

All technical data provided without guarantee. Special productions with regard to colour, design and dimensions are possible by special arrangement. Information as of March 2002.

PIPELIFE ELECTRO EUROPE

Pipelife – Europe's leading supplier of electrical conduit systems in plastic and steel – is represented with own sales offices in the following European countries

for countries not listed please contact:

Markus Löffler

A-2351 Wiener Neudorf

Triester Strasse 14

Phone: +43.2236.43939.403

Fax: +43.2236.43939.6

e-mail: export@pipelife.com

EUROPEAN MANAGEMENT **Pipelife Electro**

Pawel Tkocz

A-2351 Wiener Neudorf / Austria

Triester Strasse 14

Phone: + 43.2236.43939.0

Fax: + 43-2236.43939.6

e-mail: electro@pipelife.com

AUSTRIA **Pipelife Austria GmbH & Co. KG**

A- 2355 Wr. Neudorf

IZ-NÖ - Süd Straße 1, Obj.27

Phone: + 43.2236.6702.250

Fax: + 43-2236.6702.215

e-mail: electro@pipelife.at

BELGIUM **Pipelife Belgium N. V.**

B-2920 Kalmthout

Brasschaatsteenweg 302

Phone: + 32.3.620 13 65

Fax: + 32.3.666 78 21

e-mail: electro@pipelife.be

FINLAND **Pipelife Finland OY**

FIN-905 20 Oulu

Tukkitie 4

Phone: +358.8.561 22 00

Fax: +358.8.561 22 23

e-mail:electro@pipelife.fi

GERMANY **Pipelife Deutschland GmbH**

D-26160 Bad Zwischenahn - Ekern

Phone: + 49.4403.605.0

Fax: + 49.4403.605.156

e-mail: electro@pipelife.de

HUNGARY **Pannonpipe Kft.**

H-1211 Budapest XXI

Bajaki Ferenc u. 1

Phone: +36.1.277 43 45

Fax: +36.1.277 07 67

e-mail: electro@pannonpipe.hu

NETHERLANDS **Pipelife Nederland B.V.**

NL- 1601 MA Enkhuizen

Flevolaan 7

Phone: + 31.228.3556.64

Fax: +31.228.3556.66

e-mail: electro@pipelife.nl

NORWAY **Mabo Pipelife AS**

N-6650 Surnadal

Phone: +47.71.6588.00

Fax: +47.71.6588.01

e-mail: electro@pipelife.no

ESTONIA **Pipelife Eesti AS (EEA)**

EE-10621 Tallinn

Mustamäe tee 24

Phone: +372.6650.191

Fax: +372.6562.793

e-mail: electro@pipelife.ee

RUSSIA **Pipelife Russia**

RU-101000 Moscow

B. Zlatoustinsky per. 3/5, str. 1

Phone: +7.095.937 65 19 or 20

Fax: +7.095.921 81 91

e-mail: denis.makienko@pipelife.ru

SPAIN **Pipelife Hispania S.A.**

E-50016 Zaragoza

Poligono Ind, Malpica, c/Cparcelas 5-7

Phone: +34.976.54 70 80

Fax: + 34.976.57 16 34

e-mail: electro@pipelife.es

SWEDEN **Pipelife Sverige AB**

SE-51484 Ölsremma

Phone: +46.51322100

Fax: + 46.32162220

e-mail: electro@pipelife.se

www.pipelife.com



ÖVE



EZU



CEBEC



VDE



SEV



MEEI



NEMKO



DFV KO



ACC UNE



KEMA



GOST



SEMCO



SETI



UL