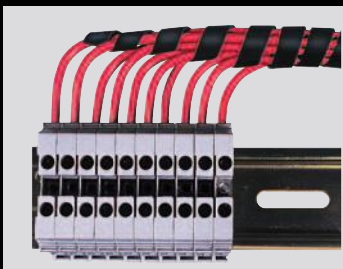
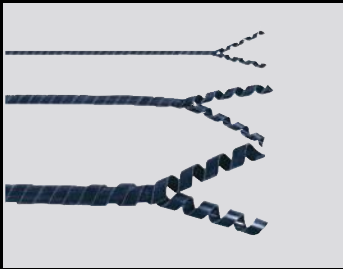
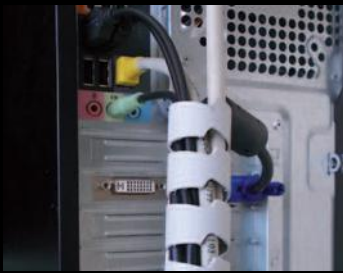
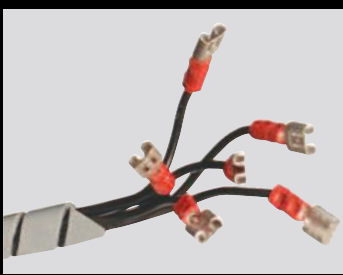




# A5

## Protection tubing





SES-STERLING offers a range of products for the maintenance and protection of wire harnesses and their derivations:



## • Spiral binding PLIOSPIRE

page	type	material	temperatures	colours	flame resistance	halogene free	specification
A5/1-01	PLIOSPIRE PE	PE	-50 to +85°C	natural, red, orange, blue, yellow, grey, black	-	X	-
		PE AF	-50 to +75°C	white	V2 UL94	traces	flame resistant
	PLIOSPIRE PVC	PVC	-15 to +80°C	transparent, red, blue, yellow, white, black *	-	-	-
A5/1-02	PLIOSPIRE PP	PP	-40 to +90°C	black	-	X	weather resistant
	PLIOSPIRE PA	PA	-40 to +120°C	black	HB UL94	X	weather resistant
	PLIOSPIRE PTFE	PTFE	-200 to +260°C	white	V0 UL94	-	for extreme temperatures
A5/1-03	PLIOSPIRE MDE	PP with metal particles	-20 to +70°C	metal blue	-	X	sensitive to metal detectors

Guide PLIOSPIRE for easier application



Operating instruction in video



## • Spiral binding with double helix PLIOSPIRE<sup>PLUS</sup>

page	type	material	temperatures	colours	flame resistance	halogene free	specification
A5/2-01	PLIOSPIRE <sup>PLUS</sup>	PE	-50 to +85°C	black, natural	-	X	double helix

## • Protection tubing PLIOZIP

page	type	material	temperatures	colours *	flame resistance	halogene free	specification
A5/3-01	PLIOZIP tubing	PP	-30 to +85°C	black, white, light grey, silver	HB UL94	X	good chemical resistance

A5/3-02 PLIOZIP tool



Operating instruction in video



\* Other colours available on special request.

# Spiral Binding for Ø 1,5 to 100 mm



PLIOSPIRE



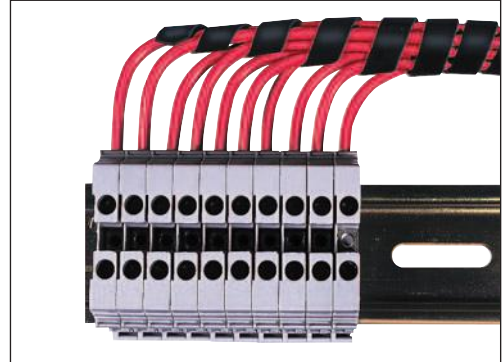
## PLIOSPIRE PE

	PE	PE-AF
<b>Materials:</b>	polyethylene	polyethylene (flame resistant)
<b>Operating temperatures:</b>	-50 to +85°C	-50 to +75°C
<b>Density:</b>	0,92	0,97
<b>Tensile strength:</b>	12 N/mm <sup>2</sup>	12 N/mm <sup>2</sup>
<b>Ultimate elongation:</b>	550 %	400 %
<b>Dielectric strength:</b>	> 25 kV/mm	> 25 kV/mm
<b>Flammability:</b>	-	V2 UL94

**Specifications:**



some halogene



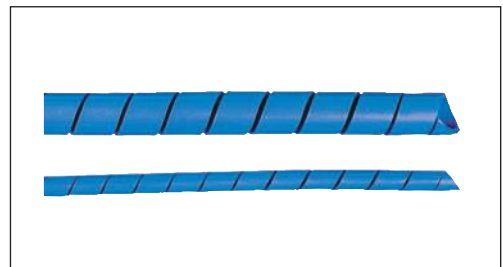
type	article number							capacity Ø mm	Ø o.d. mm	wall thick- ness (mm)	helix pitch mm	 m
	natural 018	red 007	orange 005	blue 002	yellow 004	grey 013	black 010					
PE 3	0819 0001 018	0819 0024 007	0819 0024 005	0819 0024 002	0819 0024 004	0819 0004 013	0819 0004 010	1,5...7	3	0,75	5	50
PE 6	0819 0002 018	0819 0025 007	0819 0025 005	0819 0025 002	0819 0025 004	0819 0005 013	0819 0005 010	5...20	6	0,8	12	25*
PE 12	0819 0003 018	0819 0026 007	0819 0026 005	0819 0026 002	0819 0026 004	0819 0006 013	0819 0006 010	10...40	12	1	16	25*
PE 17	0819 0029 018	-	-	-	-	-	0819 0029 010	20...60	17	1,4	24	25
PE 22	0819 0021 018	-	-	-	-	-	0819 0022 010	25...100	22	1,4	24	25

type	article number	capacity Ø mm	Ø o.d. mm	wall thick- ness mm	helix pitch mm	 m
	white 001					
PE 3 AF	0819 0007 001	1,5...7	3	0,75	5	50
PE 6 AF	0819 0008 001	5...20	6	1	8	25*
PE 12 AF	0819 0009 001	10...40	12	1,5	10	25*
PE 22 AF	0819 0023 001	25...100	22	1,5	10	25

\* To facilitate the hooping, a PLIOSPIRE guide is delivered with each package for types 6 and 12.

## PLIOSPIRE PVC

<b>Material:</b>	PVC quality 9921
<b>Operating temperatures:</b>	-15 to +80°C
<b>Density:</b>	1,30
<b>Tensile strength:</b>	25 N/mm <sup>2</sup>
<b>Ultimate elongation:</b>	300 %
<b>Dielectric strength:</b>	20 kV/mm



type	article number						capacity Ø mm	Ø o.d. mm	wall thickness mm	helix pitch mm	 m
	transparent 011	red 007	blue 002	yellow 004	white 001	black* 010					
PVC 3	0819 0013 011	0819 0013 007	0819 0013 002	0819 0013 004	0819 0013 001	0819 0013 010	1,5...7	3	0,75	5	50
PVC 6	0819 0014 011	0819 0014 007	0819 0014 002	0819 0014 004	0819 0014 001	0819 0014 010	5...20	6	1	8	25*
PVC 12	0819 0015 011	0819 0015 007	0819 0015 002	0819 0015 004	0819 0015 001	0819 0015 010	10...40	12	1,5	10	25*

\*\* colour black: weather resistant.

# Spiral Binding

for Ø 2 to 40 mm depending on model



PLIOSPIRE



## PLIOSPIRE

	PP	PA	PTFE
<b>Materials:</b>	polypropylene weather resistant	polyamid weather resistant	polytetrafluorethylene for extreme temperatures
<b>Colours:</b>	black	black	natural (translucent)
<b>Operating temperatures:</b>	-40 to +90°C	-40 to +120°C	-200 to +260°C
<b>Density:</b>	0,90	1,08	2,20
<b>Tensile strength:</b>	30 N/mm <sup>2</sup>	35 N/mm <sup>2</sup>	20 N/mm <sup>2</sup>
<b>Ultimate elongation:</b>	500 %	240 %	300 %
<b>Dielectric strength:</b>	>25 kV/mm	16 kV/mm	50 kV/mm
<b>Flammability:</b>	-	HB UL94	V0 UL94
<b>Specifications:</b>			-



type	article number		capacity Ø mm	Ø o.d. mm	wall thickness mm	helix pitch mm	m
	PP black 010	PA black 010					
PP 3	0819 0010 010	PA 3 0819 0016 010	2...7	3	0,4	5	50
PP 6	0819 0011 010	PA 6 0819 0017 010	5...20	6	0,6	8	25*
PP 12	0819 0012 010	PA 12 0819 0018 010	10...40	12	0,8	10	25*

type	article number		capacity Ø mm	Ø o.d. mm	wall thickness mm	helix pitch mm	m
	PTFE natural 001						
PTFE 3	0819 0019 001		2...7	3	0,5	5	10
PTFE 6	0819 0020 001		5...20	6	0,75	8	10*

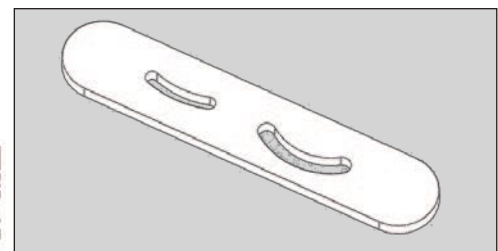
\* To facilitate the hooping, a PLIOSPIRE guide is delivered with each package for types 6 and 12.

All PLIOSPIRE cable bindings can be supplied in customised lengths. Please ask our sales staff.

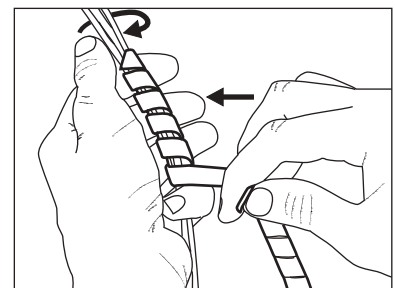
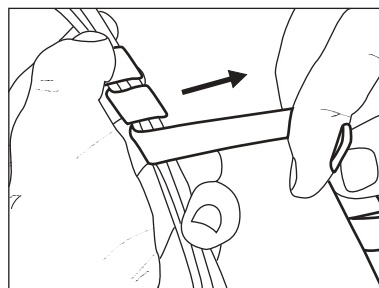
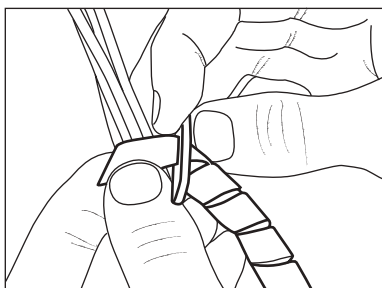
### • PLIOSPIRE Tool (for easier application)

type	article number	for types	
Tool	0819 0101 001	6 - 12	10

Operating instruction in video



How to use the PLIOSPIRE tool:



# Spiral binding sensitive to metal detectors



PLIOSPIRE MDE




## PLIOSPIRE MDE

**Material:** Polypropylene with metal particles  
**Colour:** metal blue  
**Operating temperatures:** -20 to +70°C  
**Ultimate elongation:** 100 %  
**Chemical resistance:** good resistance to acids, alkalis and detergents  
**Specification:** adapted to the success of a HACCP\*\* processes.

**Application:** The presence of metal particles in the spiral binding allows for easy detection thanks to any metal detector. This spiral binding is thus used in electrical equipment boxes or chains of production in food and pharmaceutical industries to limit the risks of product contamination.



\*\* HACCP : Hazard Analysis Critical Control Point

type	article number	capacity Ø mm	Ø o.d. mm	wall thick- ness mm	helix pitch mm	 m
	093					
PP6 MDE	0819 0082 093	5...20	6	0,8	8	25
PP12 MDE	0819 0083 093	10...40	12	1	10	25

The spiral binding PLIOSPIRE MDE is available in special lengths upon request.  
Please consult us.



C12/3-01 - Cable ties SL MDE



B7/3-07 - Identification system sensitive to metal detector

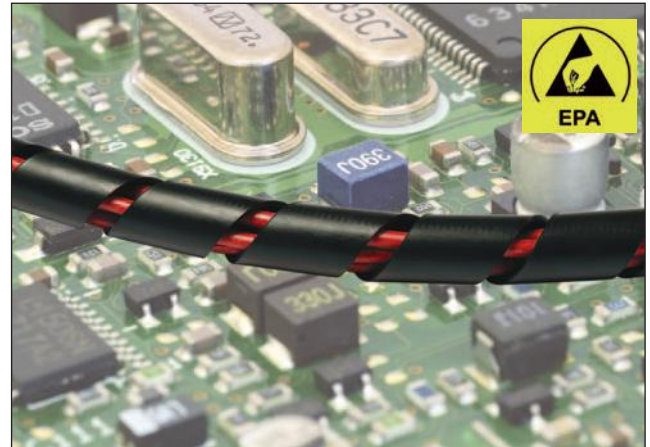



**PLIOSPIRE ESD**

*New*

**Material:** Polyolefin, electrically conducting material (ESD)  
**Colour:** black  
**Operating temperatures:** -50 to +60°C  
**Ultimate elongation:** > 600 %  
**Surface resistivity:** ≤10E4 Ω

**Application:** the antistatic PLIOSPIRE spiral binding prevents the accumulation of charges for the protection of the installations. It must be grounded for optimal efficiency. For use in EPA (ESD Protected Area) areas.



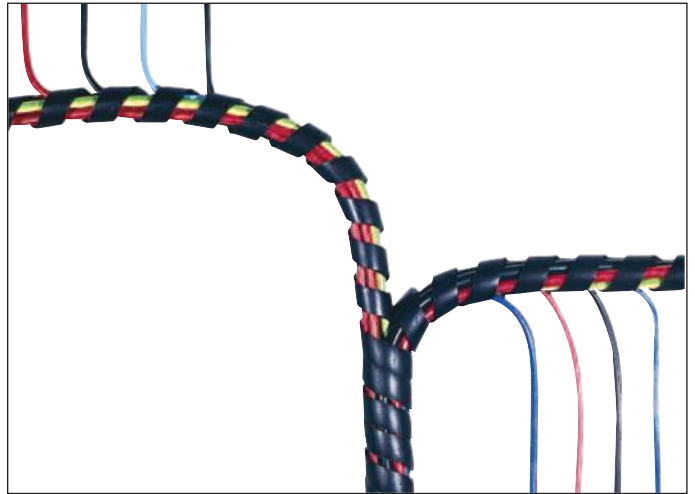
type	article number	capacity Ø mm	Ø o.d. mm	wall thick- ness mm	helix pitch mm	 m
PE 3 ESD	0819 0035 010	1,5...7	3	0,75	5	50
PE 6 ESD	0819 0036 010	5...20	6	0,8	8	25
PE 12 ESD	0819 0037 010	10...40	12	1	16	25


The spiral binding PLIOSPIRE ESD is available in special lengths upon request.  
 Please consult us.

**PLIOSPIRE Plus**

**Material:** polyethylene  
**Operating temperatures:** -50 to +85 °C  
**Density:** 0,92  
**Tensile strength at break:** 12 N/mm<sup>2</sup>  
**Ultimate elongation:** 550 %  
**Dielectric strength:** >25 kV/mm

**Application :** Due to the double helix in Pliospire<sup>Plus</sup>, cable bundles can be handled more quickly with the added advantage of branching where required. Pliospire<sup>Plus</sup> is delivered in coils in bags and can be taken from the package where required without twisting or tangling.



type	article number		capacity Ø mm	Ø i.d. mm	wall thickness mm	spiral pitch mm	 m
	black *	natural					
	010	<del>018</del>					
<b>PE 3 Plus</b>	0819 0041 010	0819 0031 018	1,5...7	1,5	0,75	2 x 4	50
<b>PE 6 Plus</b>	0819 0042 010	0819 0032 018	5...20	4	1	2 x 6	25
<b>PE 12 Plus</b>	0819 0043 010	0819 0033 018	10...40	9	1,5	2 x 8	25
<b>PE 22 Plus</b>	0819 0044 010	0819 0034 018	25...100	19	1,5	2 x 8	25

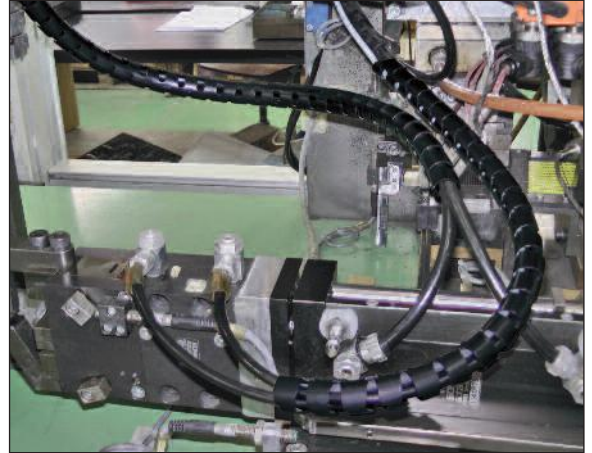
\* Color black: Weather resistant



### PLIOZIP

**Material:** polypropylene  
**Colours:** white, black, light grey, silver  
**Operating temperatures:** -30 to +85°C (+90°C short time)  
**Density:** 0,9  
**Volume resistivity:**  $10^{12} \Omega \cdot \text{cm}$   
**Flame resistance:** HB UL94  
**U.V. resistance:** good  
**Chemical resistance:** good to alcohols, greases, mineral oils, fuel and benzines

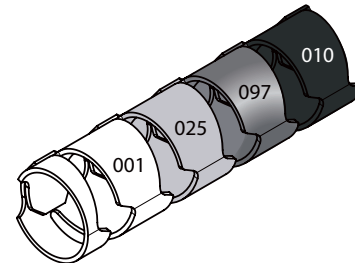
**Applications:** hold and protection of cable harnesses in fixed or mobile electrical installations, especially in mechanical engineering and panel construction.



Example for order:

Colours: 001 010 025 097  
 white    black    light grey    silver

code group	detail article	code colour
0820	xxxxx	xxxxx



### • In rolls

type	art. no. in roll	nominal Ø mm	wall thickness mm	capacity Ø max. mm	m
PLIOZIP 08 PP	0820 0001 ***	8	0,8	10	100
PLIOZIP 15 PP	0820 0002 ***	15	0,8	16	50
PLIOZIP 20 PP	0820 0003 ***	20	0,9	23	30
PLIOZIP 25 PP	0820 0004 ***	25	1	25	20
PLIOZIP 32 PP	0820 0005 ***	32	1,3	32	15



### • In lengths of 2 m

type	art. no. in lengths	nominal Ø mm	wall thickness mm	capacity Ø max. mm	m
PLIOZIP 15 PP L2	0820 0012 ***	15	0,8	16	2
PLIOZIP 20 PP L2	0820 0013 ***	20	0,9	23	2
PLIOZIP 25 PP L2	0820 0014 ***	25	1	25	2



Bag available with a European suspension hole.




Other colours and lengths available upon request.



# Mounting tool for PLIOZIP protection tubing

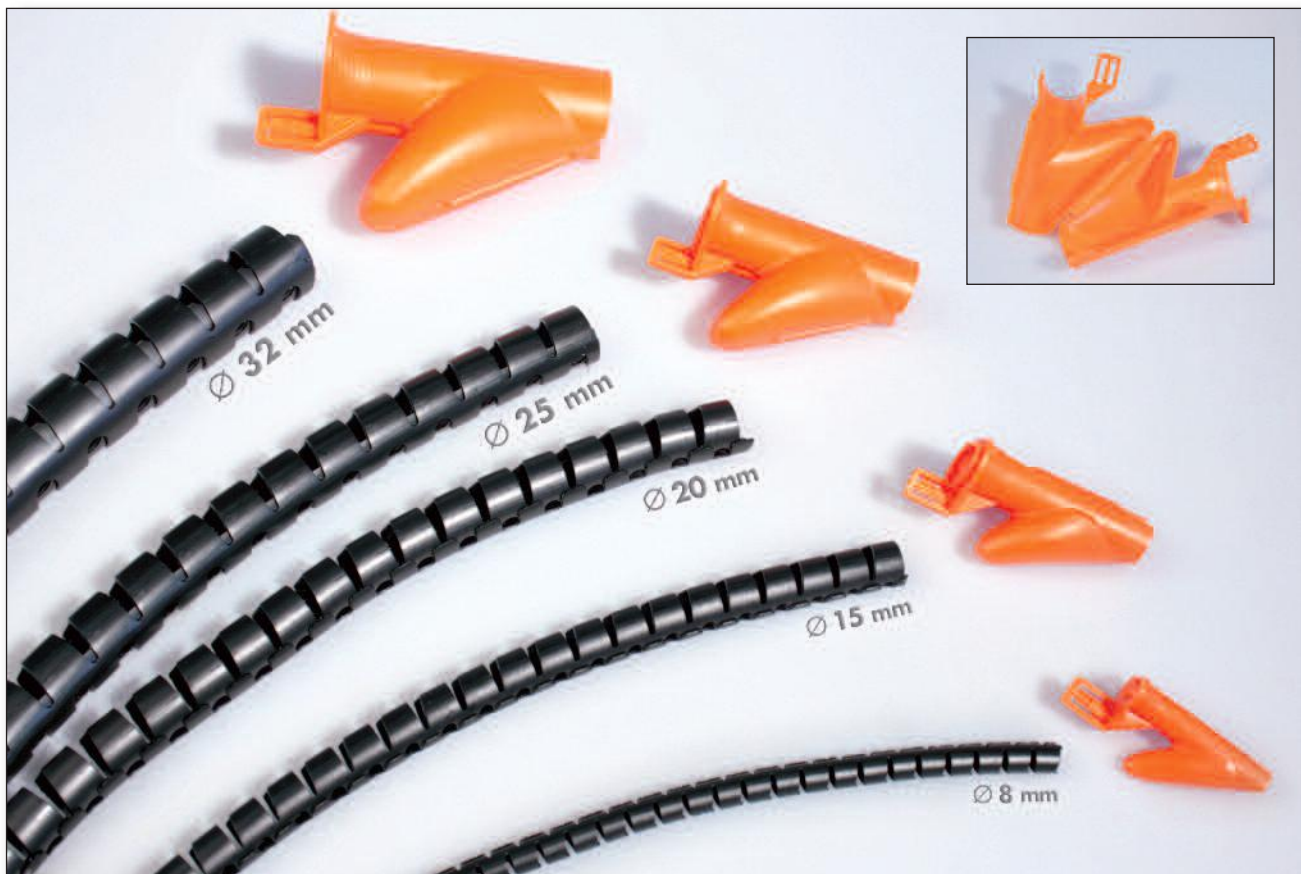


PLIOZIP

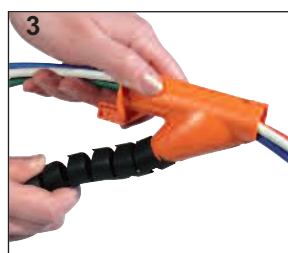
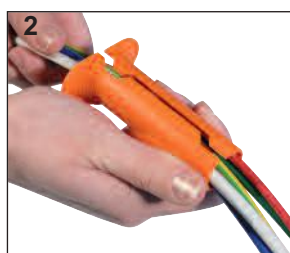
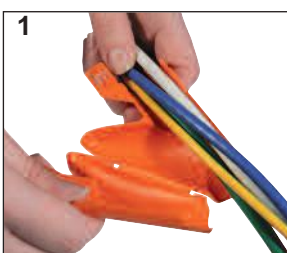
type	art. no.	for tubing	 pce
PLIOZIP 08	0820 0101 000	PLIOZIP 08	1
PLIOZIP 15	0820 0102 000	PLIOZIP 15	1
PLIOZIP 20/25	0820 0103 000	PLIOZIP 20 - PLIOZIP 25	1
PLIOZIP 32	0820 0105 000	PLIOZIP 32	1



In every pack there is a mounting tool in PP. These tools can be ordered additionally or as a replacement.



Operating instruction - [www.youtube.com/watch?v=nRolzfQZ5JA](http://www.youtube.com/watch?v=nRolzfQZ5JA)



Operating instruction in video