

# Fittings



## CONVOLUTE CLOSURE ACCESSORIES

CONVOLUTE CLOSURE ACCESSORIES are injected parts designed to route and fasten non protected cables from the main protected wiring harness.

Depending on their application, CONVOLUTE CLOSURE ACCESSORIES are also designed to maintain closed a convoluted slit tube and to assure a protected transfer of cables at the end of the tube.

CONVOLUTE CLOSURE ACCESSORIES are designed with a C section which helps maintain the part on the tube, while the operator closes and presses the second half shell of the fitting.

CONVOLUTE CLOSURE ACCESSORIES are compatible with many Delfingen convoluted tubing (Soflex, Techniflex, Inoflex, Gafmil and Caflex) but also compatible with all Delfingen FASTENING ACCESSORIES.

## Application

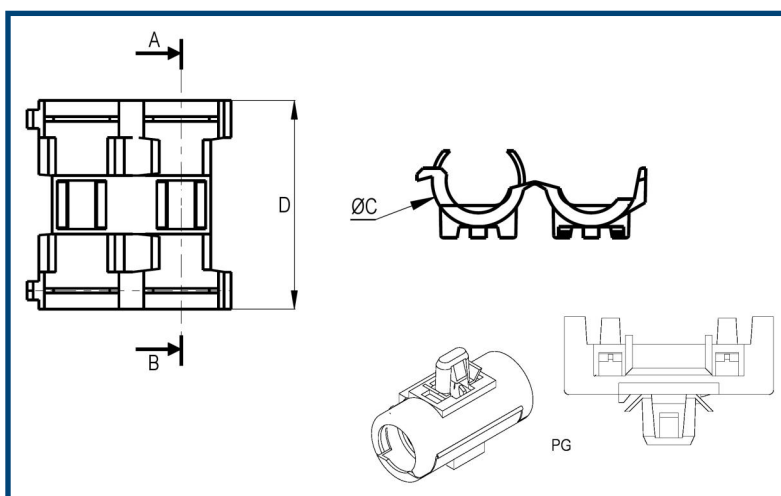
SLEEVES allow the branching and routing of non-protected cables from the main protected wiring harnesses.

SLEEVES keep hold convoluted tubing during their installation and closure thanks to the attachments.

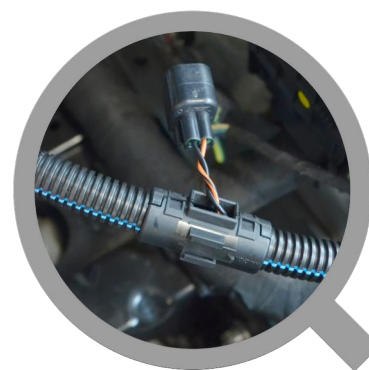
These fittings are equipped of slide clasps for fastening purposes.

SLEEVES can be reopened once installed.

## Dimensions



Designation	A	B	ØC	D	Fastening types
	(mm)				
SLEEVES 9/9	09	09	14.90	45	type 2
SLEEVES 11/11	11	11	19.9	45	type 2
SLEEVES 11/11 PG	11	11	19.9	45	type 4
SLEEVES 13/13	13	13	22	45.9	type 2
SLEEVES 13/13 PG	13	13	22	45.9	type 4
SLEEVES 16/16	16	16	23.8	45	type 2

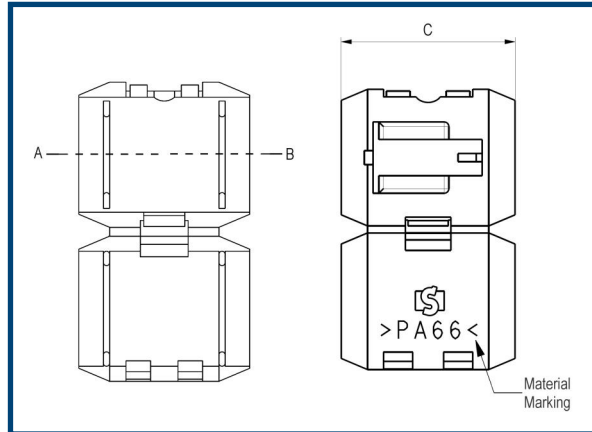


## Application

These parts are designed to maintain slit convoluted tubing closed. COLLARS have a small open space to route non-protected cables from the main harness.

Most of these fittings are equipped of slide clasps for fastening purposes.

## Dimensions



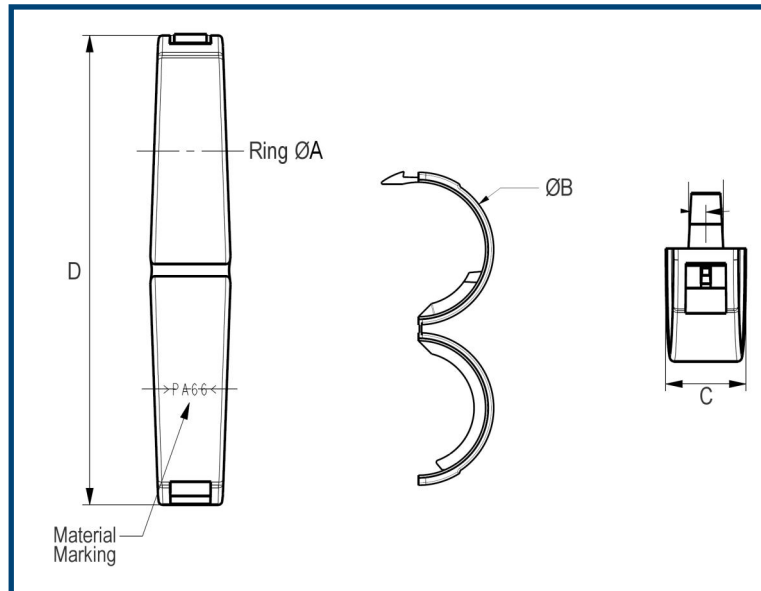
Designation	A	B	C	Fastening types
	(mm)			
COLLAR 4.5/9	04.5	09	24.7	type 0
COLLAR 6/9	06	09	24.7	type 0
COLLAR 6	06	06	19.9	type 0
COLLAR 9	09	09	24.7	type 0
COLLAR 11	11	11	24.7	type 0
COLLAR 13	13	13	29.8	type 1
COLLAR 16	16	16	29.6	type 1
COLLAR 19	19	19	34.9	type 1
COLLAR 23	23	23	34.7	type 1
COLLAR 26	26	26	39.9	type 1



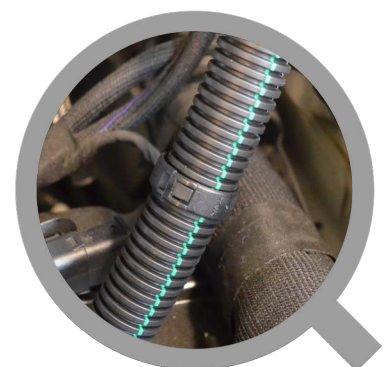
## Application

CLOSURE RINGS are designed to assure a closed position of slit convoluted tubes.

## Dimensions



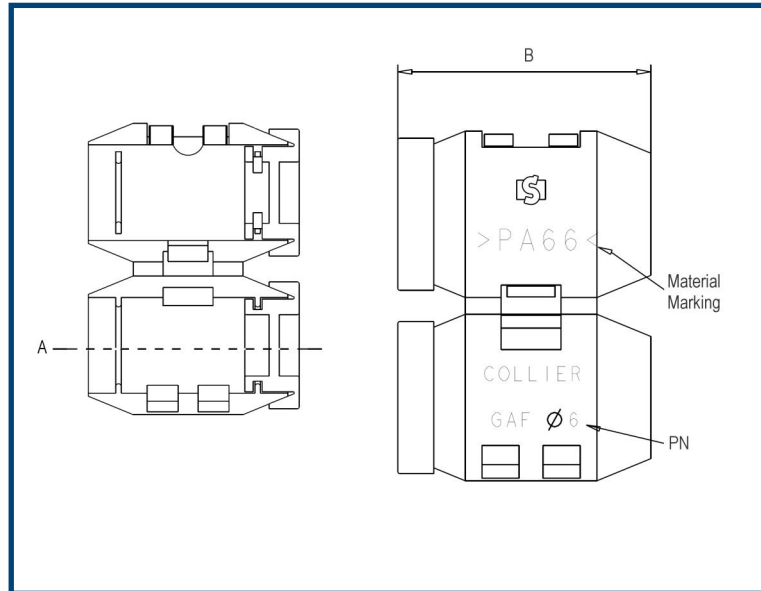
Designation	$\varnothing A$	$\varnothing B$	C	D
	(mm)			
CLOSURE RING 4.5	04.5	10.6	7	22.5
CLOSURE RING 6	06	13	7.15	28.5
CLOSURE RING 9	09	16.8	7.2	35.7
CLOSURE RING 11	11	19.9	8.2	41.9
CLOSURE RING 13	13	22.1	8.1	46.1
CLOSURE RING 16	16	24.8	9.9	51.4
CLOSURE RING 19	19	28	9.9	57.7
CLOSURE RING 23	23	34	10	68.8



## Application

TUBING STOP are designed to maintain the wires transfer at the end of the tube in a safely way thanks to the elastomer material part adapted to the collar.

## Dimensions



Designation	A	B
	(mm)	
TUBING STOP 6	06	21.1
TUBING STOP 9	09	26.1

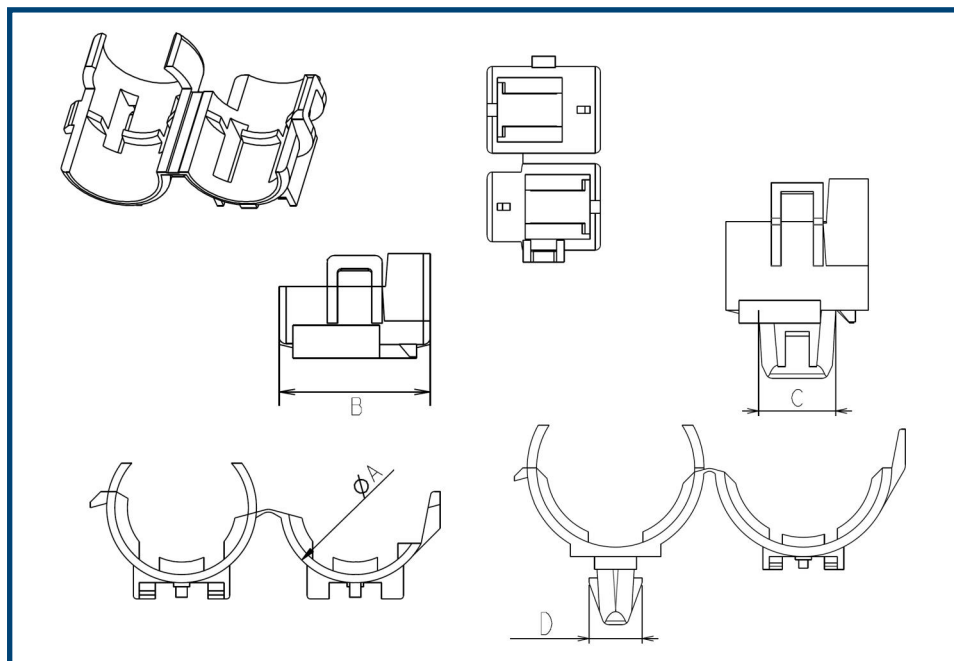


## Application

CLIPS are designed to maintain slit convoluted tubing closed.

CLIPS are equipped of slide clasps for fastening purposes.

## Dimensions



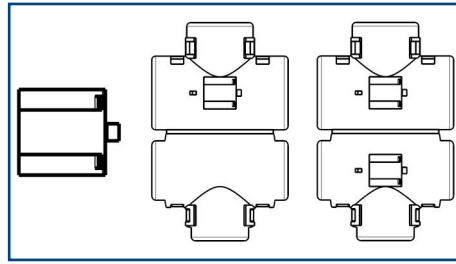
Designation	COT Ø	ØA	B	C	D	Fastening types
	(mm)					
CLIP 9	09	16.6	22	/	/	type 2
CLIP 11	11	18.5	22	/	/	type 2
CLIP 13	13	22.1	22	/	/	type 2
CLIP 16	16	23.2	22	/	/	type 2
CLIP 19	19	27.4	22	11.9	7	type 4
CLIP 23	23	32	22	11.9	7	type 4
CLIP 26	26	35.1	22	11.9	7	type 4



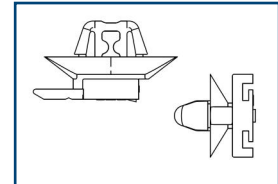
## Fastening Types

Type	Description
Type 0	No slide bar
Type 1	Slide bar
Type 2	Double slide bar
Type 4	Type 1 + Type 8
Type 8	Oblong anchor spigot (wiring harness)

### Type 1 & 2



### Type 8



## Characteristics

- **Color:** standard color is black. Other colors upon request.
- **Material:** standard material is polyamide (PA6.6). TUBING STOPS are proposed in PA6.6 + Elastomer material. Other material grades upon request.

Physical properties	Spec.	Unit	PA 6.6
<b>Thermal properties</b>			
Continuous temperature of use - min/max	-	°C (°F)	-40/125 (-40/257)
Peak temperature	-	°C (°F)	150 (302)
<b>Mechanical properties</b>			
Tensile strength at break	ISO 527	MPa	85
Elongation at break	ISO 527	%	>65
<b>Other properties</b>			
Density	ISO 1183	g/cm <sup>3</sup>	1.14
Flammability	FMVSS 302	mm/min	<100
Chemical resistance	Resists the majority of chemicals and automotive fluids (oils, coolant, battery liquid, brake fluid, fuels, windshield washer...)		

## Approvals

Specific to applications.

## Packaging

CONVOLUTE CLOSURE ACCESSORIES are delivered in cardboard boxes of A12 format (400x300x290 mm) or A16 format (300x200x120 mm). Other packaging upon request.

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