

Fittings



BRANCHING ACCESSORIES

BRANCHING ACCESSORIES are injected parts designed to route wires and cables protected by convoluted tubes. They also provide a high level of mechanical protection for all derivations.

BRANCHING ACCESSORIES fit directly onto the convoluted tube to provide specific derivation of branches of the wire harnesses.

Common angles between branches are 90°, 45° and 30°.

BRANCHING 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.

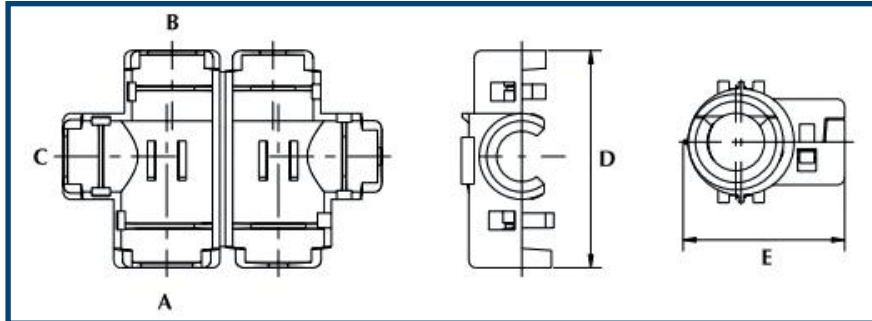
Tee or Y fittings, specific tees, non-aggressive tees, elbows, branching cross fittings and branching clips are compatible with Delfingen convoluted tubing: Soflex, Techniflex, Inoflex, Gafmil and Caflex. Other profiles can be proposed depending on the requested diameter.

Application

TEE FITTINGS are used as derivation of cables from the main harness. They allow the branching of 3 convoluted tubing and a derivation of cables with a 90° angle.

Most of parts are equipped to be adapted to other accessories for fastening purposes.

Dimensions



Designation	A	B	C	D	E	Fastening types
	(mm)					
TE 6/6/6	06	06	06	43	28.6	type 0
TE 9/6/6	09	06	06	41.7	26.4	type 0
TE 9/9/6	09	09	06	41.3	31.4	type 0
TE 9/9/9	09	09	09	45.6	24.25	type 0
TE 11/9/6	11	09	06	41.5	34	type 2
TE 11/9/9 PR	11	09	09	50.3	38	type 2
TE 11/9/11 PR	11	09	11	50.3	38	type 2
TE 11/11/6	11	11	06	41.3	34.1	type 1
TE 11/11/9	11	11	09	45.8	34.7	type 2
TE 11/11/11	11	11	11	50.3	38	type 2
TE 13/9/9	13	09	09	50.3	38	type 2
TE 13/9/11 PR	13	09	11	50.3	38	type 2
TE 13/11/9	13	11	09	51	35.6	type 2
TE 13/11/11 PR	13	11	11	50.3	38	type 2
TE 13/13/6	13	13	06	50.45	36.8	type 2
TE 13/13/9	13	13	09	45.6	36.2	type 1
TE 13/13/13	13	13	13	50.7	36.2	type 1
TE 13/13/16	13	13	16	63	44	type 2
TE 16/13/9	16	13	09	45.6	39.4	type 2
TE 16/13/11 PR	16	13	11	58.5	43	type 2
TE 16/13/13 PR	16	13	13	58.5	43	type 2
TE 16/16/6	16	16	06	50.9	40	type 2
TE 16/16/9	16	16	09	50.5	38.4	type 2
TE 16/16/11 PR	16	16	11	58.2	42.5	type 2
TE 16/16/13	16	16	13	51.3	39.05	type 1
TE 16/16/16	16	16	16	53.4	39	type 1



Tee Fittings

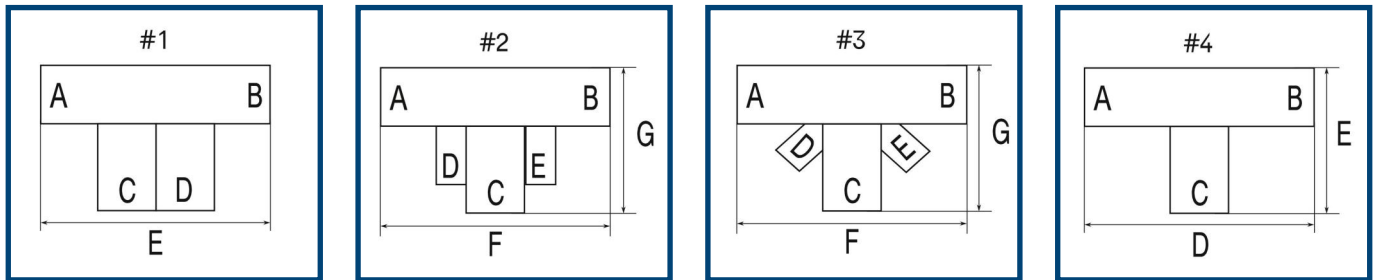
Designation	A	B	C	D	E	Fastening types
	(mm)					
TE 19/9/9	19	09	09	49.5	39.05	type 0
TE 19/11/16	19	11	16	53.4	44.6	type 2
TE 19/13/9 PR	19	13	09	58.5	42.75	type 2
TE 19/13/11 PR	19	13	11	58.25	43	type 2
TE 19/13/13 PR	19	13	13	58.5	43	type 2
TE 19/16/9 PR	19	16	09	58.5	42.75	type 2
TE 19/16/11 PR	19	16	11	58.5	42.7	type 2
TE 19/16/13 PR	19	16	13	58.5	42.7	type 2
TE 19/19/6	19	19	06	50.3	42.5	type 2
TE 19/19/9	19	19	09	50.7	42.3	type 2
TE 19/19/11	19	19	11	50.4	42.2	type 2
TE 19/19/13	19	19	13	48.3	41.4	type 1
TE 19/19/16	19	19	16	53	41.74	type 1
TE 19/19/19 PR	19	19	19	65.7	49.85	type 2
TE 19/19/23 PR	19	19	23	65.7	50	type 2
TE 19/23/19 PR	19	23	19	65.7	50	type 2
TE 19/23/23 PR	19	23	23	65.7	50	type 2
TE 23/16/9	23	16	09	45.6	46.8	type 2
TE 23/16/13	23	16	13	51	52.2	type 0
TE 23/19/23 PR	23	19	23	65.4	49.95	type 2
TE 23/23/6	23	23	06	53	47.5	type 2
TE 23/23/9	23	23	09	58	49	type 2
TE 23/23/11 PR	23	23	11	58	49.5	type 2
TE 23/23/13 PR	23	23	13	58	49	type 2
TE 23/23/13 3P	23	23	13	77.8	60.04	type 3
TE 23/23/16 PR	23	23	16	58	49.5	type 2
TE 23/23/23 PR	23	23	23	66	49.95	type 2
TE 26/26/9 PR	26	26	09	58.7	53.55	type 2
TE 26/26/11 PR	26	26	11	58.7	53.55	type 2
TE 26/26/13 PR	26	26	13	58.1	53.55	type 2
TE 26/26/13 3P	26	26	13	78.8	62.89	type 3
TE 26/26/16 PR	26	26	16	58.7	53.55	type 2
TE 29/19/13 PR	29	19	13	62.2	56	type 2
TE 29/19/16 PR	29	19	16	65.2	56	type 2
TE 29/19/19 PR	29	19	19	65.2	56	type 2
TE 29/19/23 PR	29	19	23	65.2	56	type 2
TE 29/19/26 PR	29	19	26	65.25	55.7	type 2
TE 29/26/19	29	26	19	60.5	55.7	type 2
TE 32/29/23 PR	32	29	23	68.8	59.4	type 2
TE 32/29/26 PR	32	29	26	68.8	59	type 2



Application

SPECIFIC TEE FITTINGS are used as derivation of cables from the main harness. They allow the branching of 3 convoluted tubing and a derivation of cables with a 90° or 45° angles. These parts are equipped to be adapted to other accessories for fastening purposes.

Dimensions



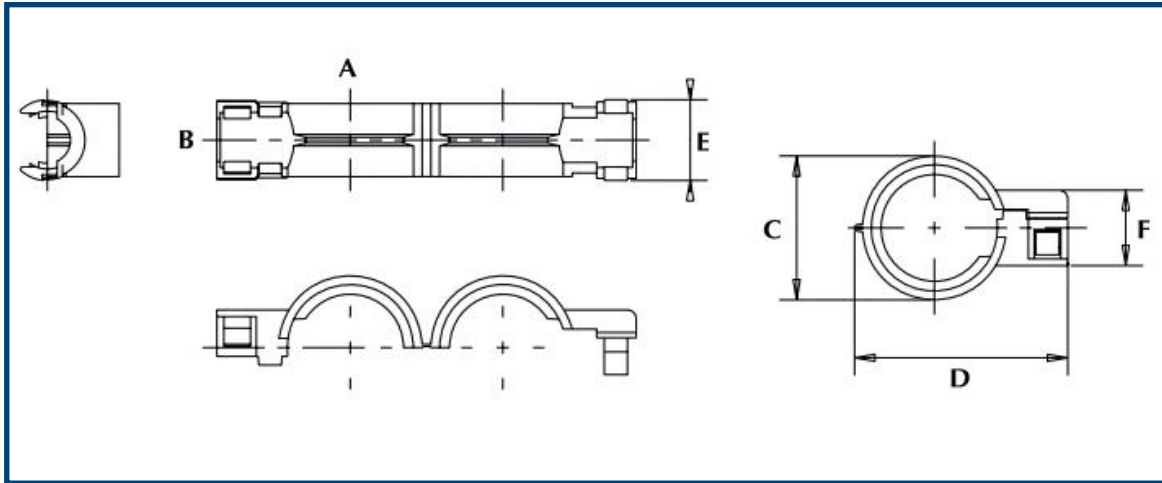
Fitting type #	Designation	A	B	C	D	E	F	G	Fastening types	Branches	
		(mm)								at 90°	at 45°
#1	TE 13/9/2x9	13	09	09	09	61	/	/	type 2	2	/
	TE 13/13/2x9	13	13	09	09	61	/	/	type 1	2	/
#2	TE 19/19/3x6 S	19	19	06	06	06	63.2	44.75	type 2	3	/
#3	TE 19/19/19/2x6	19	19	19	06	06	77.4	53.25	type 1	1	2
#4	TE 23/23/19 PR	23	23	19	66	49.2	/	/	type 3	1	/
	TE 23/23/19 3P	23	23	19	78	59	/	/	type 2	1	/
	TE 26/26/19 PR	26	26	19	58.7	53.55	/	/	type 3	1	/
	TE 26/26/19 3P	26	26	19	79	62	/	/	type 2	1	/
	TE 26/26/26	26	26	26	86.2	60.6	/	/	type 3	1	/
	TE 29/32/26 PR 3P	29	32	26	81.4	68.75	/	/	type 3	1	/
	TE 29/29/26 PR 3P	29	29	26	81.4	68.75	/	/	type 3	1	/



Application

NON-AGRESSIVE TEE FITTINGS are used as derivation of cables from the main harness. They allow the branching of convoluted tubing and a derivation of cables with a 90° angle. The NON-AGRESSIVE TEE FITTINGS slightly open the slit of the convoluted tubing for safe and easy routing of cables of the main harnesses.

Dimensions



Designation	A	B	C	D	E	F
	(mm)					
TE NAG 16/6	16	06	24.8	36.25	13.9	13.6
TE NAG 16/11	16	11	27.2	35.3	21.7	19.5
TE NAG 19/11	19	11	29	38.5	21.8	19.5
TE NAG 23/4.5	23	04.5	33.4	45.5	14	14
TE NAG 23/6 PR	23	06	33.4	45.5	14	14

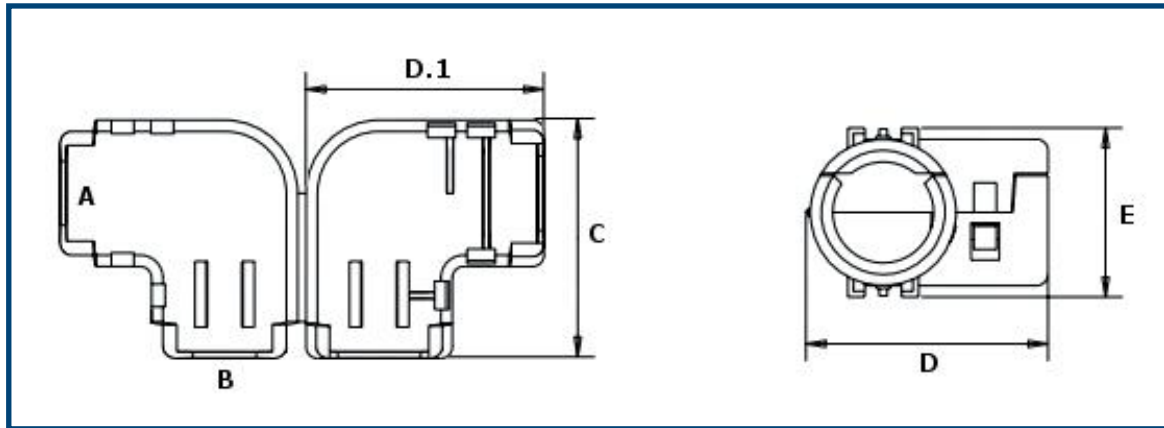


Application

ELBOWS are made to form an angle of 90° to route harnesses without bending the convoluted tubing or wires.

Most of parts are equipped to be adapted to other accessories for fastening purposes.

Dimensions



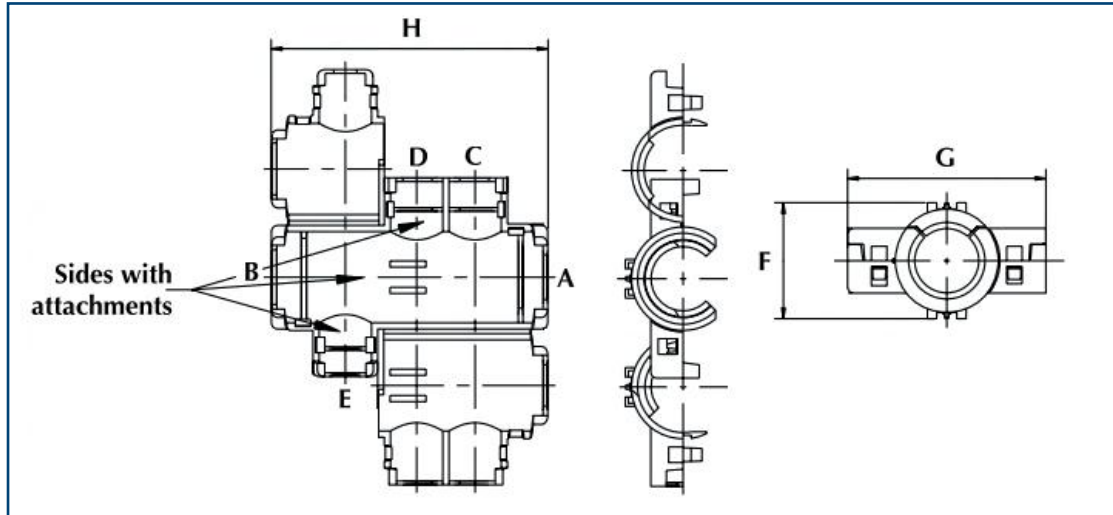
Designation	A	B	C	D	D.1	E	Fastening types
	(mm)						
ELBOW 6/9	06	09	22.4	-	31.6	16.4	type 0
ELBOW 9/9	09	09	38.3	37.65	-	25.4	type 2
ELBOW 9/11	11	09	38.3	37.65	-	25.4	type 2
ELBOW 11/9	09	11	38.3	37.65	-	25.4	type 2
ELBOW 11/11	11	11	38.3	37.65	-	25.4	type 2
ELBOW 13/13	13	13	42	-	42	29.8	type 2
ELBOW 13/16	16	13	42	-	42	29.8	type 2
ELBOW 16/13	13	16	42	-	42	29.8	type 2
ELBOW 16/16	16	16	42	42.75	-	29.8	type 2
ELBOW 19/19	19	19	57.8	59.15	-	37.6	type 2
ELBOW 19/23	23	19	57.8	-	57.8	37.6	type 2
ELBOW 23/19	19	23	57.8	-	57.8	37.6	type 2
ELBOW 23/23	23	23	57.8	-	57.8	37.6	type 2



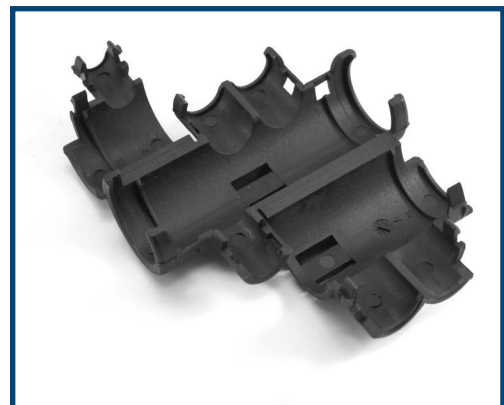
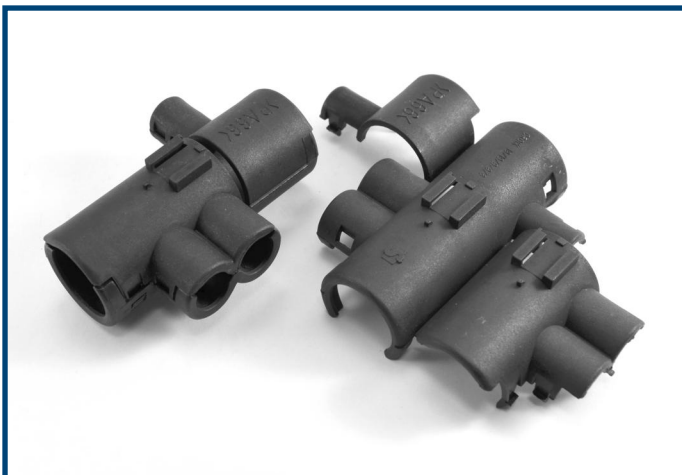
Application

BRANCHING CROSS FITTINGS are used as derivation of cables from the main harness. Their design allows 3 derivations, with 90° angles: one in one side and two on the opposite side. These parts are equipped to be adapted to other accessories for fastening purposes.

Dimensions



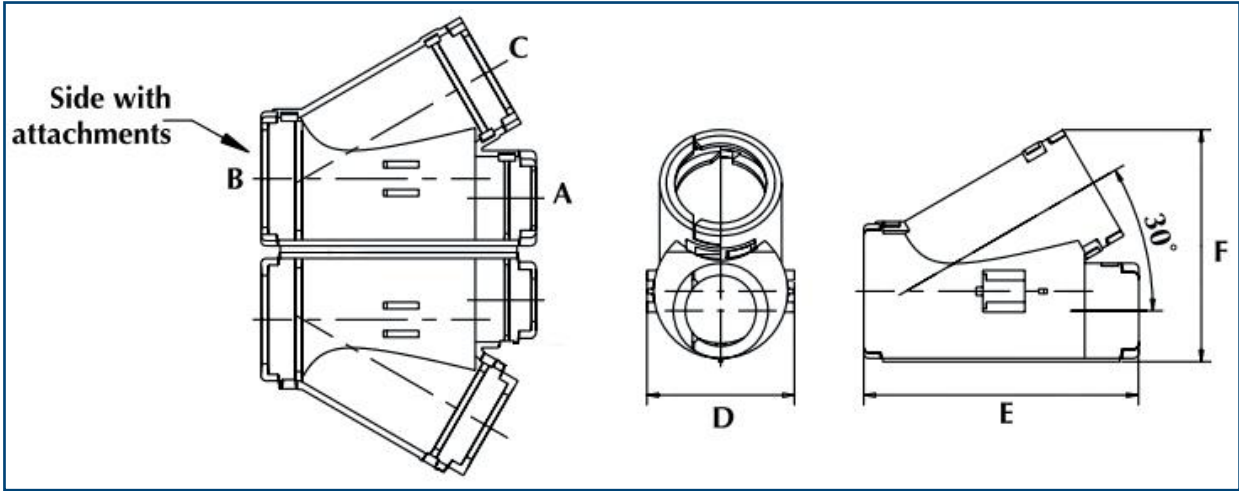
Designation	A	B	C	D	E	F	G	H	Fastening types
	(mm)								
CROSS 19/19/9/9/6	19	19	09	09	06	33.8	56	75.8	type 2
CROSS 19/19/9/9/6 RE	19	19	09	09	06	38.4	63.4	89	type 2
CROSS 19/19/9/9/9 PR	19	19	09	09	09	37.9	62.75	89	type 2
CROSS 19/19/11/11/9 PR	19	19	11	11	09	37.7	63	89.3	type 2
CROSS 19/23/9/9/6 PR	19	23	09	09	06	38.2	62.75	89.3	type 2
CROSS 19/23/9/9/9 PR	19	23	09	09	09	38.2	62.75	89	type 2
CROSS 23/19/9/9/9 PR	23	19	09	09	09	37.9	62.75	88.8	type 2
CROSS 23/23/9/9/6 PR	23	23	09	09	06	37.7	63	89.3	type 2
CROSS 23/23/9/9/9 PR	23	23	09	09	09	37.3	63	89.3	type 2
CROSS 23/23/11/11/9 PR	23	23	11	11	09	37.7	63	89.3	type 2
CROSS 26/26/9/9/6 RE	26	26	09	09	06	41.6	66.2	89.3	type 2
CROSS 26/26/9/9/9 RE	26	26	09	09	09	41.6	66.2	89.3	type 2



Application

Y FITTINGS are used as derivation of 2 branches from the main harness with a 30° angle. Most of parts are equipped to be adapted to other accessories for fastening purposes.

Dimensions



Designation	A	B	C	D	E	F	Fastening types
	(mm)						
Y 6/6/4.5	06	06	04.5	14	49.6	30.4	type 0
Y 29/19/19 PR	19	29	19	45.4	82.5	65.6	type 2
Y 29/19/26 PR	19	29	26	45.4	82.5	68.95	type 2

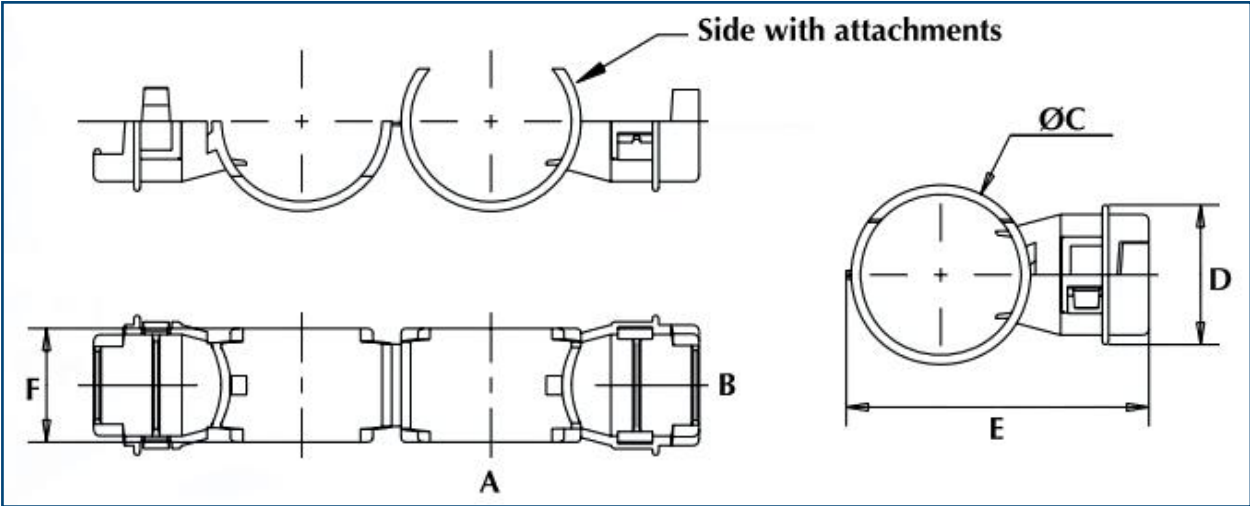


Application

BRANCHING CLIPS are used as derivation of cables from the main harness protected by a slit convoluted tube.

These fittings are ideal for the INOFLEX convoluted tube profile, which can be designed with an opening on the slit where the clip needs to be fit. There is then no aggression on cables on the derivation.

Dimensions



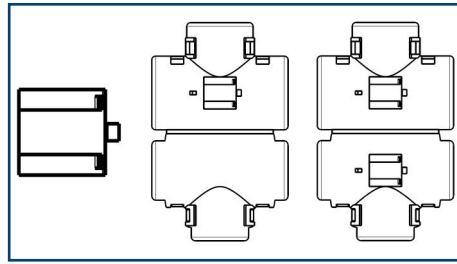
Designation	A	B	C	D	E	F
	(mm)					
CLIP 17/7.5	17	7.5	23.2	16.5	43.1	16
CLIP 17/10	17	10	23	19.3	43.1	16
CLIP 17/12	17	12	23	22	43.1	16
CLIP 22/7.5	22	7.5	28.5	17.25	47.85	18
CLIP 22/10	22	10	28.5	19.3	47.85	18
CLIP 22/12	22	12	27.6	22.3	47.85	18



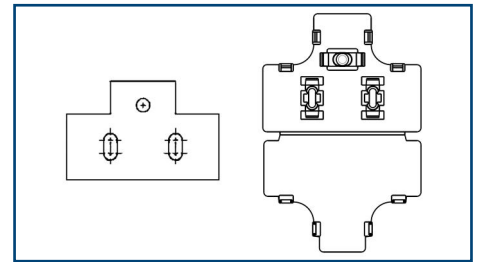
Fastening Types

Type	Description
Type 0	No slide bar
Type 1	Slide bar
Type 2	Double slide bar
Type 3	3 spigots

Type 1 & 2



Type 3



Characteristics

- **Color:** standard color is black.
- **Material:** standard material is polyamide. Polypropylene can also be proposed upon request.

Physical properties	Spec.	Unit	PA 6.6	PP
Thermal properties				
Continuous temperature of use - min/max	-	°C (°F)	-40/125 (-40/257)	-30/100 (-22/212)
Peak temperature	-	°C (°F)	150 (302)	125 (257)
Mechanical properties				
Tensile strength at yield	ASTM D638	MPa	-	23
Elongation at yield	ASTM D638	%	-	33
Tensile strength at break	ISO 527	MPa	85	-
Elongation at break	ISO 527	%	>65	-
Other properties				
Density	ISO 1183	g/cm ³	1.14	0.90
Flammability	FMVSS 302	mm/min	<100	<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

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

Data and photos for information only. Delfingen makes no warranties as to the accuracy or completeness of this information. Delfingen reserves the right to make changes in materials or processing without notification.

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