

WIRE MANAGEMENT SOLUTIONS



Many mounting options available

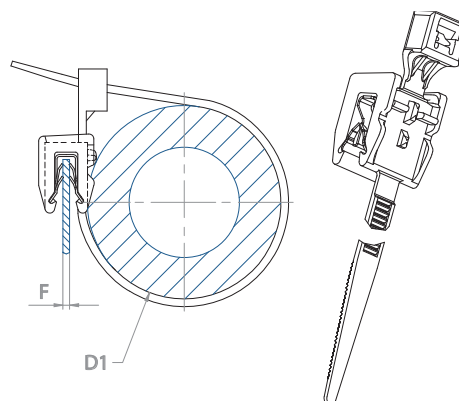
Various parts available with swivel systems to help orient the bundles

Some parts integrate a spring steel clip for improved performance and retention



On Panel
Edges

Cable Ties Edge Mount



Metric

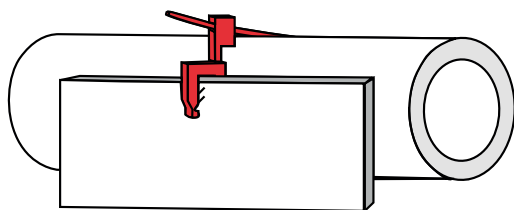
Part Number	Tube Diameter (D1)	Panel Thickness (F)	Strap Width	Strap Length
082651	1.50 - 43.00	1.50 - 3.50	4.60	191.00
082652	1.50 - 43.00	1.50 - 3.50	4.50	180.00
082653	1.50 - 43.00	1.50 - 3.50	4.50	186.00

For material information see back cover



VIDEO ON CABLE TIES

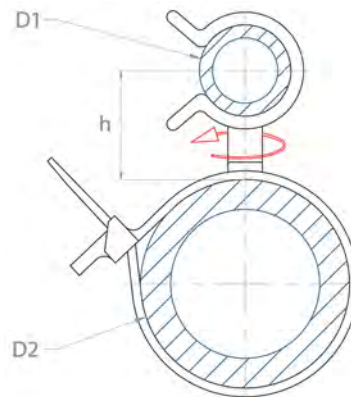
APPLICATION INFORMATION



- Cable tie integrating a clip for panel edge attachments
- Panel clip is integrated with a spring steel clip for improved performance and retention
- Available in different variations
- Some parts include a swivel system and/or re-openable lock



Cable Ties Tube Mount

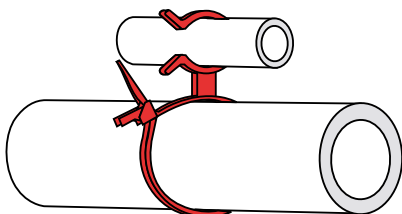


Metric

Part Number	Tube Diameter (D1)	Cable Strap Diameter (D2)	Distance (h)	Design Variations
168750	6.00 - 6.50	8.00 - 50.00	14.00	
082646	7.80 - 8.50	8.00 - 33.00	13.95	
081717	8.00 - 9.00	8.00 - 20.00	18.50	
168869	8.00 - 9.00	8.00 - 50.00	17.20	
168797	9.50 - 10.50	8.00 - 33.00	16.00	
168853	9.50 - 10.50	8.00 - 50.00	17.30	
168803	11.00 - 13.00	8.00 - 33.00	16.80	
214116	12.60 - 13.20	8.00 - 33.00	17.10	
168752	15.00 - 16.00	8.00 - 50.00	18.30	
168804	15.00 - 16.00	8.00 - 33.00	18.30	
082282	16.00 - 18.00	8.00 - 33.00	19.25	
168751	18.00 - 20.00	8.00 - 20.00	21.00	
168781	18.00 - 20.00	8.00 - 33.00	19.70	
081190	22.00 - 24.00	8.00 - 33.00	23.50	
202609	28.00 - 30.00	8.00 - 33.00	25.75	

For material information see back cover

APPLICATION INFORMATION

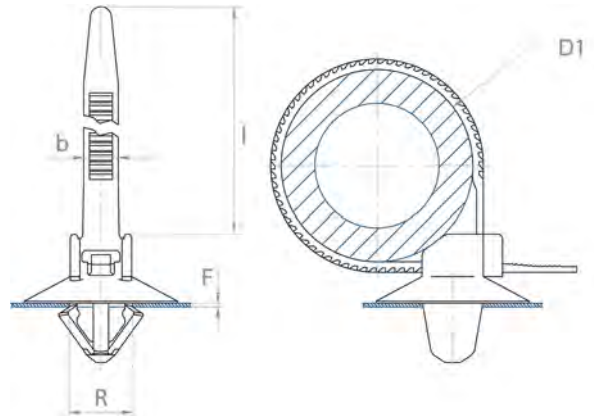


- Used to assemble a bundle at any orientation to a tube
- Swivel system helps to orientate the bundle

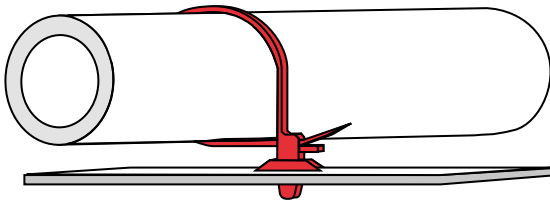
VIDEO ON CABLE TIES



Cable Ties Plug Mount



APPLICATION INFORMATION



- Cable tie integrating an anchoring system
- Attaches a bundle onto a panel
- Available in different anchoring systems to suit different hole depths

DESIGN VARIATIONS



VIDEO ON CABLE TIES





In Panel
Holes

Cable Ties

Plug Mount

Metric

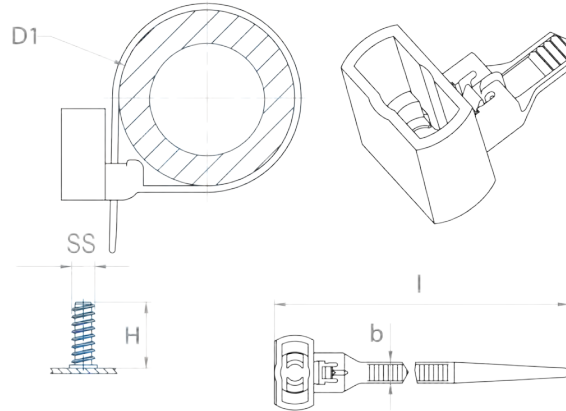
Part Number	Panel Thickness (F)	Tube Diameter (D1)	Hole Diameter (R)	Strap Length (L)	Strap Width (b)	Design Variations
216956	0.60 - 3.00	0.50 - 25.00	5.40 - 5.40	114.00	3.80	A
108408	0.70 - 3.00	3.00 - 40.00	6.50 - 6.70	180.00	8.50	A
168821	0.80 - 6.00	8.00 - 33.00	6.50 - 6.70	140.00	4.50	A
056350	0.50 - 3.00	3.00 - 40.00	6.55 - 6.90	182.40	4.70	A
164460	0.70 - 4.00	1.00 - 40.00	6.10 - 6.50	170.00	4.80	A
164448	0.70 - 4.00	1.00 - 40.00	6.10 - 6.50	170.00	4.80	A
205246	0.80 - 1.30	0.50 - 25.00	6.50 - 6.70	113.60	3.60	B
014832	0.80 - 1.80	3.00 - 24.00	6.50 - 6.70	110.00	4.20	B
208025	0.80 - 2.80	2.00 - 30.00	6.10 - 6.50	130.00	9.00	B
175057	0.70 - 1.80	2.00 - 40.00	6.50 - 6.70	155.00	4.80	B
175200	0.60 - 3.00	1.00 - 40.00	6.20 - 7.20	170.00	4.80	B

For material information see back cover



On Studs

Cable Ties Stud Mount



Metric

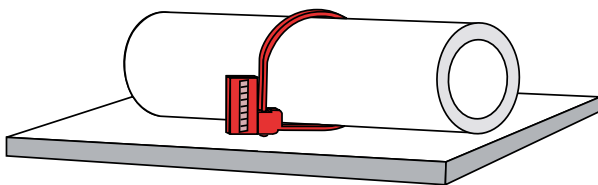
Part Number	Tube Diameter (D1)	Stud Size (SS)	Stud Height (H)	Strap Width (b)	Strap Length (l)	Design Variations
201614	1.50 - 40.00	M6x1.0	12.00	4.50	175.50	1
202587	2.00 - 40.00	M8x1.25	14.20	4.80	183.50	2
020494	2.00 - 25.00	M8x1.25	14.50	4.50	135.00	2
203449	2.00 - 40.00	M5x1.6	14.20	4.50	171.30	3

For material information see back cover



VIDEO ON CABLE TIES

APPLICATION INFORMATION



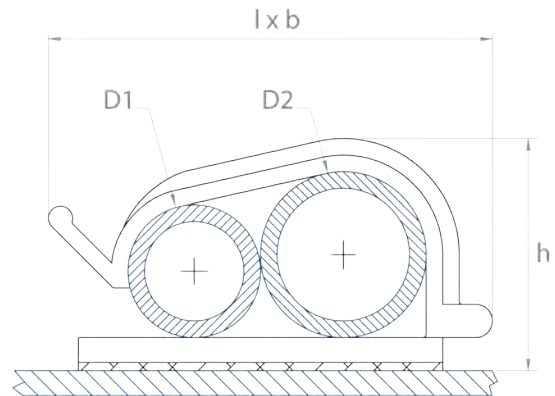
- Cable tie integrating a female clip to attach onto a stud
- Attaches wire bundles onto a stud or onto a panel with a welded stud

DESIGN VARIATIONS





Cable Clips - Plastic Adhesive Mount



Metric

Part Number	Tube Diameter (D1)	Tube Diameter (D2)	Length (l)	Width (b)	Height (h)
108011	8.00	10.00	27.00	22.00	15.00

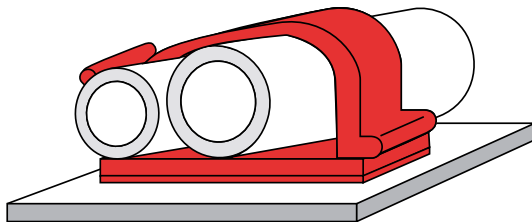
For material information see back cover

Cable Clips



VIDEO ON CABLE CLIPS

APPLICATION INFORMATION



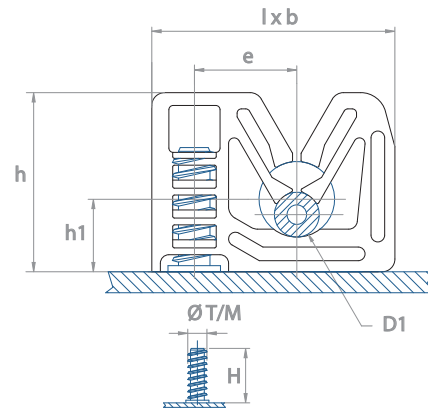
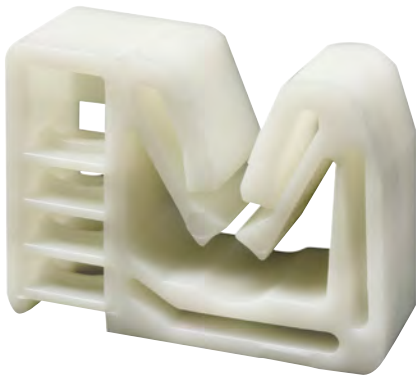
- Used to attach several tubes/wires to a flat panel surface
- Made with pre-assembled high-quality adhesive tape
- Ensure the surface is clean and dry, remove the protective film and position the clip



On Studs

Cable Clips - Plastic

Stud Mount - Single



Metric

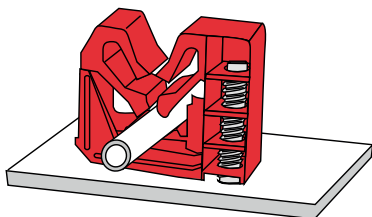
Part Number	Screw Size (T/M)	Tube Diameter (D1)	Screw Height (H)	Width (b)	Length (l)	Tube Height (h1)	Height (h)	Distance (e)	Design Variations
054799	M6x1.0	4.60 - 6.00	14.00 - 19.00	10.00	28.50	8.25	21.00	12.00	-
108060	M6x1.0	5.00 - 8.00	14.00 - 18.00	10.00	25.00	12.00	20.50	13.50	A
055999	M8x1.25	6.00 - 8.00	13.00 - 17.00	16.00	31.25	8.00	19.00	15.00	-
206941	M6x1.0	10.00 - 10.00	14.00 - 18.00	10.00	29.50	9.00	21.50	12.50	-
055689	M6x1.0	15.00 - 19.00	24.00 - 18.00	12.00	53.00	9.00	25.00	31.00	A

For material information see back cover



VIDEO ON CABLE CLIPS

APPLICATION INFORMATION



- Used to attach one tube/wire to a panel with metric studs
- Attaches by pushing onto the stud

DESIGN VARIATIONS



A

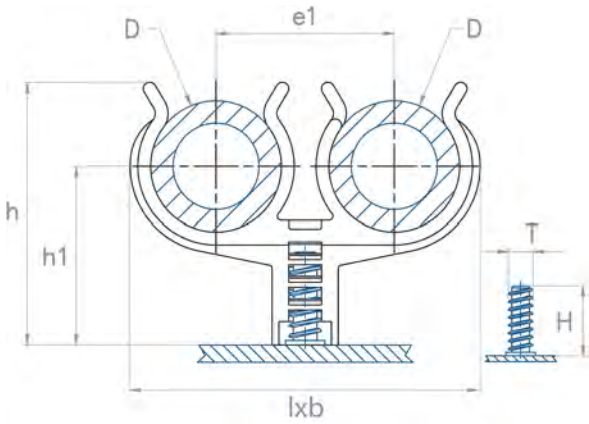


On Studs



Cable Clips - Plastic

Stud Mount - Double



Metric

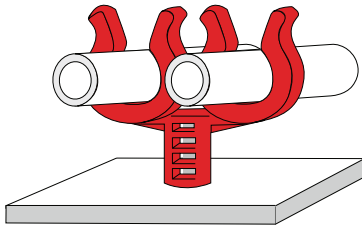
Part Number	Screw Size (T)	Tube Diameter (D1)	Screw Height (H)	Width (b)	Length (l)	Tube Height (h1)	Height (h)	Distance (e1)
055465	M6x1.0	16.00 - 18.00	7.00 - 10.00	21.50	41.00	21.70	31.50	21.00
200439	M6x1.0	10.00 - 10.00	14.00 - 14.00	12.00	42.50	13.00	22.00	16.00

For material information see back cover



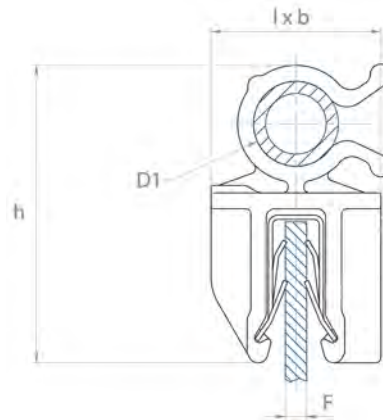
VIDEO ON CABLE CLIPS

APPLICATION INFORMATION

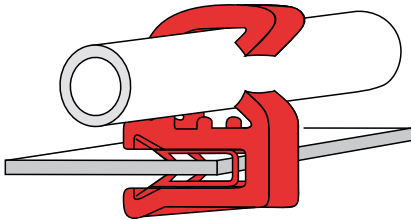


- Used to attach multiple tubes/wires to a panel with metric studs
- Attaches by pushing onto the stud

Cable Clips - Plastic Edge Mount



APPLICATION INFORMATION



- Attaches one or more wires to a panel edge
- Panel clip is integrated with a spring steel clip for improved performance and retention
- Available in different variations

DESIGN VARIATIONS



1



2



3



4



5

VIDEO ON CABLE CLIPS





On Panel
Edges

Cable Clips - Plastic

Edge Mount

Metric

Part Number	Panel Thickness (F)	Tube Capacity	Tube Diameter (D1)	Length (l)	Width (b)	Height (h)	Design Variations
205203	2.00 - 4.00	Single	8.00 - 8.00	16.00	15.00	28.00	1
132068	1.50 - 2.50	Multi	3.00 - 13.00	25.10	13.00	23.90	2
081401	2.00 - 2.50	Multi	6.00 - 14.00	31.50	15.00	22.50	2
061576	1.00 - 2.50	Multi	3.00 - 25.00	37.00	29.00	48.00	3
082047	1.00 - 2.00	Multi	3.00 - 5.00	40.00	13.90	25.20	4
061585	1.00 - 2.50	Multi	3.00 - 25.00	38.00	23.00	36.00	5

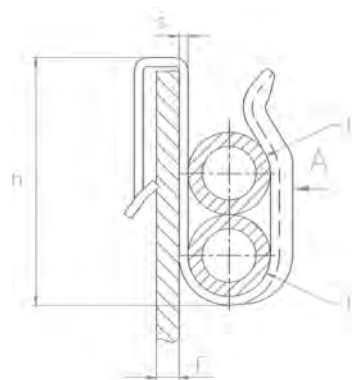
For material information see back cover



On Panel
Edges

Cable Clips - Metal

Edge Mount - Bundle



Imperial

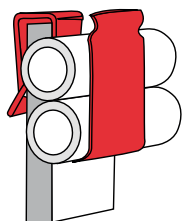
Part Number	Legacy Part Number	Panel Thickness (F)	Tube Diameter (D)	Max # of Tubes	Height (h)	Width	Material Thickness (s)
136888	C43641-017	0.031 - 0.082	0.120 - 0.130	9	0.710	0.375	0.017
136880	C41892-017	0.032 - 0.052	0.185 - 0.195	2	0.710	0.375	0.017
136896	C46088-017	0.040 - 0.080	0.245 - 0.255	1	0.800	0.565	0.017
137604	D98281-017	0.054 - 0.089	0.085 - 0.095	7	0.695	0.375	0.017
136893	C45065-017	0.060 - 0.089	0.151 - 0.161	3	0.670	0.375	0.017
136797	C24837-017	0.115 - 0.135	0.120 - 0.130	9	0.720	0.375	0.017

Most parts manufactured in spring steel



VIDEO ON CABLE CLIPS

APPLICATION INFORMATION



- Secures hoses and wire bundles by self-retaining to adjacent panels via barbs
- Simply snap onto panel edge and install cables or wires to the serviceable wire retention feature

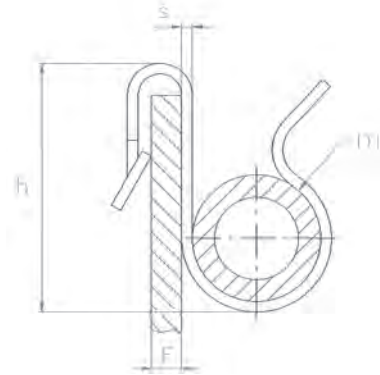


ASSEMBLING Cables & Tubes



On Panel
Edges

Cable Clips - Metal Edge Mount - Tube



Metric

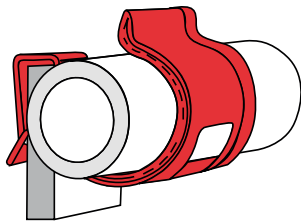
Part Number	Legacy Part Number	Panel Thickness (F)	Tube Diameter (D1)	Height (h)	Width	Material Thickness (s)
055127	055127	2.00 - 7.00	6.00 - 9.00	18.00	12.00	0.60
055129	055129	2.00 - 7.00	10.00 - 14.00	19.00	12.00	0.60
055131	055131	2.00 - 7.00	15.00 - 21.00	24.40	12.50	0.60
055133	055133	2.00 - 7.00	22.00 - 32.00	67.50	12.00	0.60
136991	C58548-051M	3.00 - 4.00	9.00 - 10.50	23.10	15.88	0.51
055128	055128	7.00 - 12.00	6.00 - 9.00	20.00	12.00	0.60
055130	055130	7.00 - 12.00	10.00 - 14.00	25.00	12.00	0.60
055132	055132	7.00 - 12.00	15.00 - 21.00	61.00	12.00	0.60
055134	055134	7.00 - 12.00	22.00 - 32.00	79.00	12.00	0.60

Most parts manufactured in spring steel



VIDEO ON CABLE CLIPS

APPLICATION INFORMATION



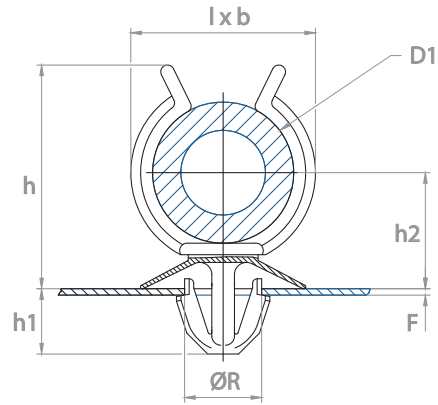
- Secures wire and tube by self-retaining to adjacent panel via barbs
- Simply snap onto panel edge and install cable or tube to the serviceable wire retention feature
- Designed to hold one cable, tube or wire



In Panel
Holes

Cable Clips - Plastic

Plug Mount - Single Tube



Metric

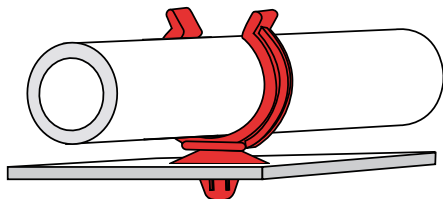
Part Number	Panel Thickness (F)	Tube Diameter (D1)	Hole Diameter (R)	Width (b)	Length (l)	Height (h)	Dart Height (h1)	Tube Height (h2)	Design Variation
018441	0.70 - 1.30	5.00 - 5.00	8.90 - 9.10	13.00	9.40	10.30	7.80	7.20	-
016048	0.70 - 2.00	7.50 - 7.80	6.00 - 6.20	10.00	10.50	15.80	8.80	8.15	-
132033	0.70 - 2.00	9.00 - 12.00	8.10 - 8.30	10.00	15.70	18.50	9.00	11.00	-
018890	2.40 - 2.60	15.50 - 16.10	6.50 - 6.70	20.00	25.50	20.90	9.30	11.00	Locking
054478	0.70 - 2.00	17.00 - 21.00	6.45 - 6.70	12.00	24.00	38.50	6.50	15.15	-
108130	0.70 - 2.00	21.00 - 23.00	6.50 - 7.00	20.00	25.00	31.00	6.00	17.00	-
016850	0.70 - 3.20	23.00 - 24.00	5.00 - 5.20	10.00	30.00	35.00	9.45	19.00	-

For material information see back cover



VIDEO ON CABLE CLIPS

APPLICATION INFORMATION



DESIGN VARIATION



LOCKING

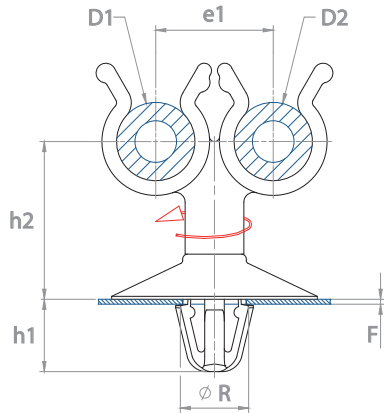
- Attaches tube/wire to a panel with holes
- Swivel system available on some parts
- Different anchoring systems available to suit different hole depths and panel thicknesses



In Panel
Holes

Cable Clips - Plastic

Plug Mount - Multiple Tube



Metric

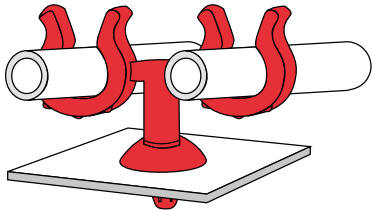
Part Number	Panel Thickness (F)	Tube Diameter (D)	Hole Diameter (R)	Height	Dart Height (h1)	Tube Height (h2)	Design Variations
016608	0.80 - 4.00	4.00 - 6.00	6.50 - 6.70	12.40	9.30	7.20	2AFU
201143	0.70 - 2.00	13.50 - 13.50	6.40 - 6.70	23.00	8.50	11.00	2AD
017363	0.50 - 3.00	16.00 - 18.00	6.35 - 6.70	31.00	6.70	18.00	2DV

For material information see back cover



VIDEO ON CABLE CLIPS

APPLICATION INFORMATION



- Attaches multiple tubes/wires to a panel with a hole
- Swivel system available on some parts

DESIGN VARIATIONS



2AFU



2AD



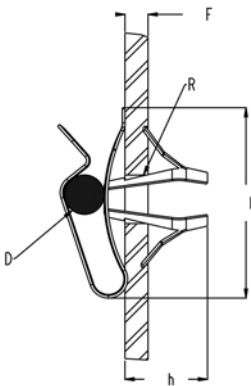
2DV



In Panel
Holes

Cable Clips - Metal

Plug Mount - Dart



Metric

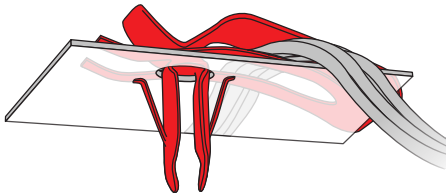
Part Number	Legacy Part Number	Panel Thickness (F)	Tube Diameter (D)	Hole Diameter (R)	Width	Length (I)	Dart Height (h)
137543	D22999-017	0.80 - 1.00	2.80 - 12.70	6.20 - 6.50	14.30	27.45	13.00

Most parts manufactured in spring steel



VIDEO ON CABLE CLIPS

APPLICATION INFORMATION



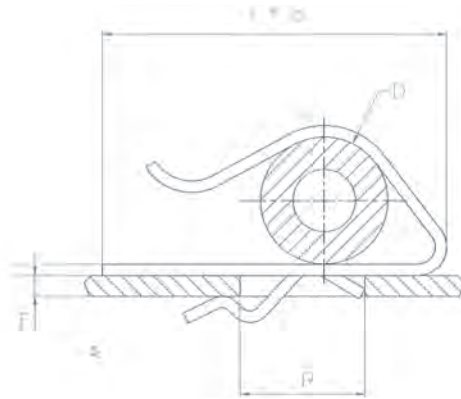
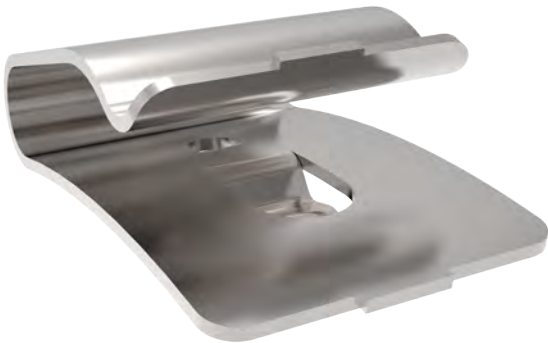
- Used to retain cables/tubes to a panel with a hole
- Part is assembled through a hole or a slot in the panel via a dart feature
- Designed to accommodate one single tube or multiple smaller tubes, wires, and/or cables



In Panel
Holes

Cable Clips - Metal

Heel Toe



Imperial

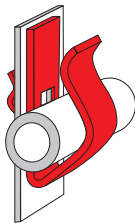
Part Number	Legacy Part Number	Panel Thickness (F)	Tube Diameter (D)	Hole Diameter (R)	Width (b)	Length (l)
136923	C55966-022	0.054 - 0.066	0.187 - 0.250	0.245 - 0.255	0.50	0.77

Most parts manufactured in spring steel



VIDEO ON CABLE CLIPS

APPLICATION INFORMATION

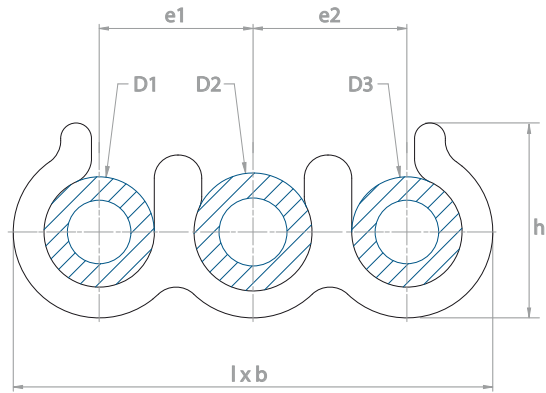


- Used to secure tubes/wires to a panel with a hole
- Part is simply positioned in the mounting hole and then pressure pushed on the back of the clip forces it forward until the "heel" snaps into a locked position
- Depending on the design of the part they can either hold one single tube or multiple smaller tubes, wires, and/or cables



On Cables
or Tubes

Cable Clips - Plastic Tube Mount



Metric

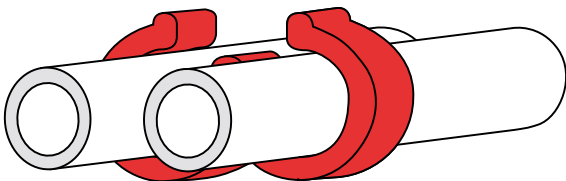
Part Number	Tube Diameter (D1, D2, D3)	Distance (e1, e2)	Part Width (b)	Part Length (l)	Part Height (h)	# of Tubes
202339	4.75 - 5.20	6.30	12.00	13.00	8.00	2
053760	6.00 - 7.00	7.70	8.00	16.80	9.00	2
054477	7.75 - 8.25	10.00	8.00	21.50	12.00	2
012738	9.75 - 10.25	12.10	10.00	26.50	15.50	2
175000	7.75 - 8.25	12.00	8.00	35.00	14.00	3
020040	8.00 - 10.00	15.50	12.00	45.00	16.50	3
018556	9.75 - 10.25	11.50	15.00	36.00	14.70	3

For material information see back cover



VIDEO ON CABLE CLIPS

APPLICATION INFORMATION



- Holds two wires/tubes together with a distance between them

DESIGN VARIATIONS



2



3

Material Descriptions - Plastic

ARaymond Tinnerman plastic parts are manufactured in various common polymers such as Nylon, Acetal, Polyethylene, Polypropylene, ABS and others.

- Most parts are available in natural, black and grey, but other colors can be produced as well.

Please contact us regarding specific material needs or specialty colors.

Common Materials for Plastic Parts



Surface Treatments			
Finish Code	Legacy Code	Material	Description
0117	AE	ABS	ABS
5107; 5108	AG	Acetal	POM - General Purpose Copolymer
5003; 5106; 5556	AG	Acetal	POM - High Flow Copolymer
3110	AA	Nylon	PA46 Heat Stabilized
2532	AA	Nylon	PA66 Heat Stabilized
2136; 2532	AA	Nylon	PA66 Heat Stabilized Impact Modified
2134	AA	Nylon	PA66 Impact Modified UV Protection
2529	AA	Nylon	PA66/6 Heat Stabilized Impact Modified
1106	AC	Nylon - Glass Filled	PA6 Glass Filled - 13%
2127	AC	Nylon - Glass Filled	PA66 Glass Filled - 13%
2129	AC	Nylon - Glass Filled	PA66 Glass Filled - 43%
4103; 4128; 4130	AD	Polypropylene	Polypropylene
4129	AB	Polyethylene	Low Density Polyethylene

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