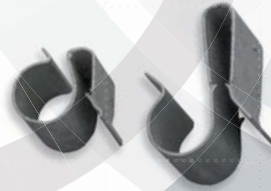




Swivel Clips



Cable Clips

Cable Straps

Over
1,000
solutions!

ARaymond Tinnerman offers a wide range of products that meet wire management needs.

This catalog highlights a compilation of our best practice wire management parts. If you cannot find a product here to fit your need, other solutions are available in our online catalog, www.araymondtinnerman.com.



Wire Management Plastic Clips, Straps, Assemblies

The product displayed on this catalog is a preferred sampling of the larger product offering. For additional products, refer to our website or contact a sales professional.

ARaymond Tinnerman plastic cable clips and straps offer the most reliable means of securing cable, wire and tubing safely away from moving parts and panel edges that can cause damage. Parts are manufactured out of high quality nylon or acetal materials and are available in several standard designs for a wide range of tube and wire diameters and panel thicknesses. In addition, plastic components can be combined with spring steel clips for improved performance and retention.

Tape-On Clips

The assembly of these parts are included in the bundling assembly operation. Once affixed to the wire with tape, the bundle is transported to the final assembly location. These parts have a feature that installs reliably into a hole on an adjacent panel or onto a nearby stud. Parts are simple to install, reliable and inexpensive. Cost of assembly is included within wiring bundle process.

Cable Straps

Standard Tie Straps accommodate a wide range of tube or wire bundle diameters. ARaymond Tinnerman cable straps combine tie straps with additional features to attach to panels or components. Cable straps include fir trees, dart style, and other assembly options. The self retaining features on all ARaymond product ease the assembly of the cable bundle to the cable strap.

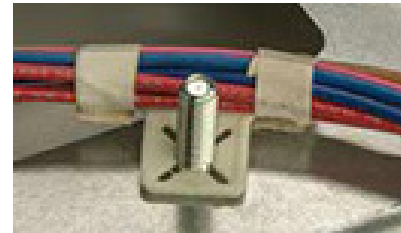
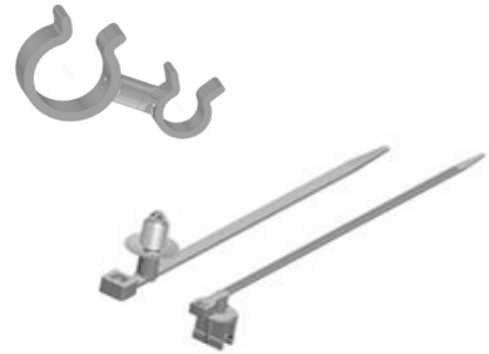
Performance Specification - Tensile strength of the bundle is 45 pounds minimum. Recommended tightening load should not exceed 28 pounds. Application specific testing provided upon request.

ASSEMBLIES - SWIVEL CLIPS

Wire management assemblies combine metal and plastic components to provide the optimized assembly solution. Swivel Clips rotate with respect to each other. The versatile Swivel Clips can accommodate different panel sizes and orientations, eliminating the number of fasteners required in a plant or in the field.

Create your own - Only a select few swivel clip combinations are represented in this brochure. In most cases, the swivel clip component can be combined with other swivel clip components to create a unique solution. If possible, try to select from the list provided. These are more readily available.

Performance Specification - Retention between swivel clip components is 25 lbs minimum. Application specific testing provided upon request.

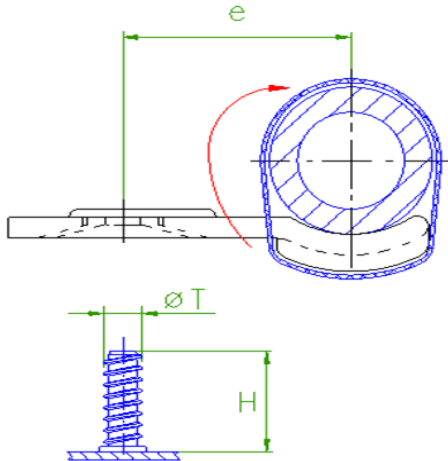


Wire Management

Plastic Cable Clips and Straps

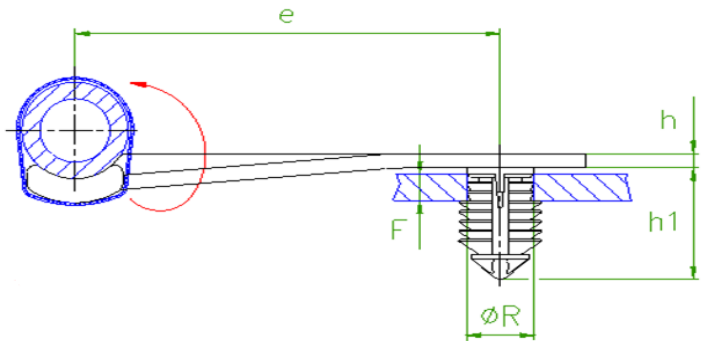
Material: Most products are made with high quality nylon and acetal materials. Additives are added to improve the strength, temperature resistance, and UV stabilization.

Tape On - Stud



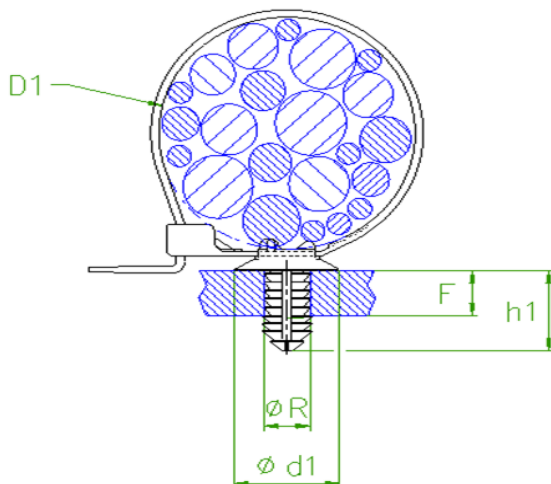
Part Number	(T) Screw Specification	(e) Off-set (mm)
164440	M6x1.0 or 1/4-20	14.0

Tape On - Hole



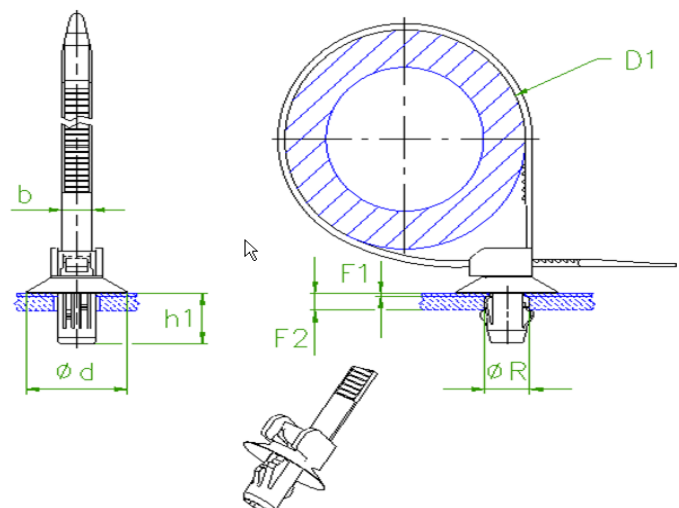
Part Number	(F) Panel Thickness	(R) Hole Diameter	(e) Off-set (mm)
164452	0.70 / 4.0	6.1 / 6.5	32.0

Cable Strap - Fir Tree



Part Number	(D1) Tube / Bundle Dia.	(F) Panel Thickness	(R) Hole Diameter
164460	1.0 / 40.0	.70 / 4.0	6.1 / 6.5

Cable Strap - Dart (Universal)



Part Number	(D1) Tube / Bundle Dia.	(F) Panel Thickness	(R) Hole Diameter
175200	1.0 / 40.0	.60 / 3.0	6.2 / 7.2

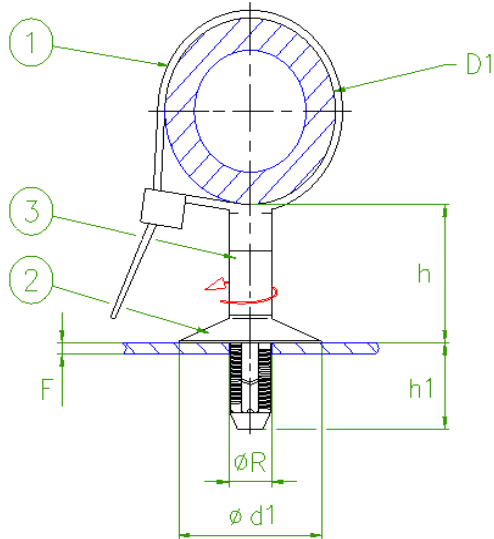
All dimensions are in metric

Wire Management

Swivel Clip Assemblies

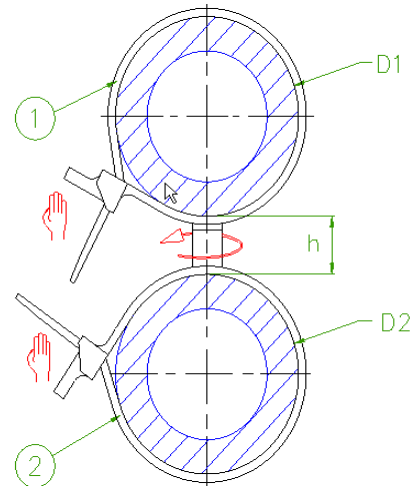
Material: Most products are made with high quality nylon and acetal materials. Additives are added to improve the strength, temperature resistance, and UV stabilization. Edge-biter components are made with spring steel.

Panel - Tie Strap - Fir Tree



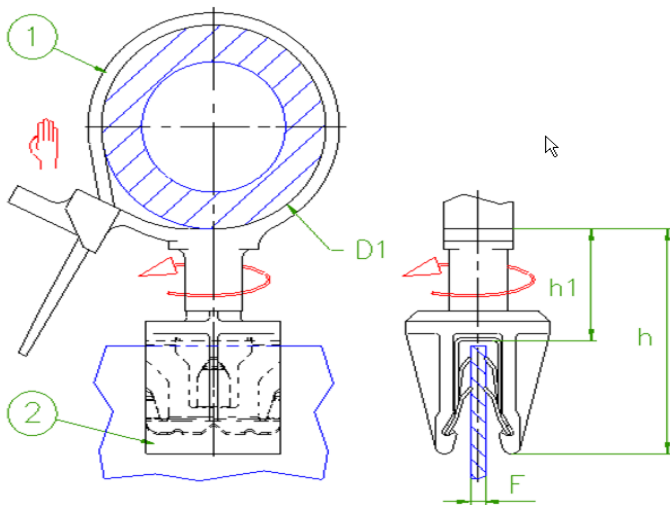
Part Number	(D1) Tube / Bundle Dia.	(F) Panel Thickness	(R) Hole Diameter
168821	33.0 / 8.0	6.0 / 0.8	6.7 / 6.5

Tie Strap - Tie Strap



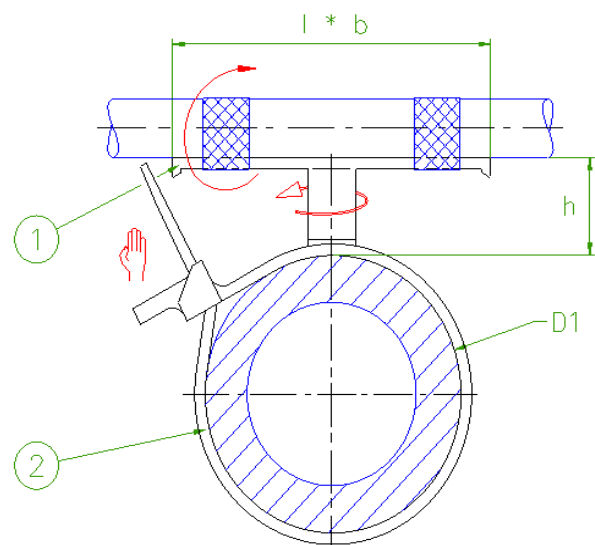
Part Number	(D1) Tube / Bundle Dia.	(D2) Tube / Bundle Dia.
168780	50.0 / 8.0	50.0 / 8.0

Panel - Tie Strap - Edge Biter



Part Number	(D1) Tube / Bundle Dia.	(F) Panel Thickness
168971	50.0 / 8.0	4.0 / 2.0

Tie Strap - Tape On



Part Number	(D1) Tube / Bundle Dia.
168806	50.0 / 8.0

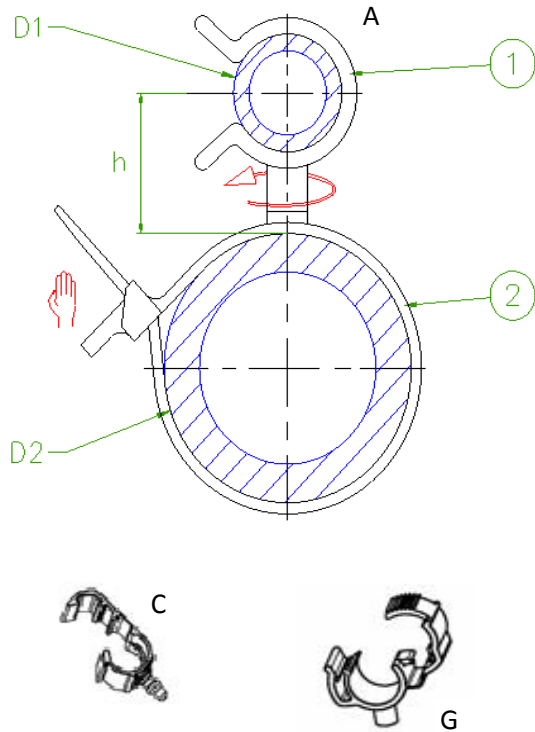
All dimensions are in metric

Wire Management

Swivel Clips

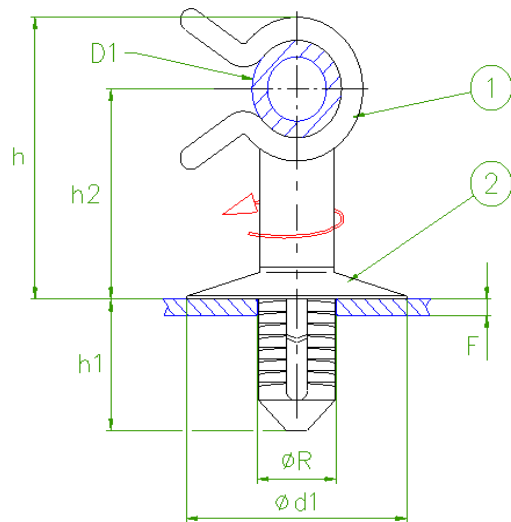
Material: Most products are made with high quality nylon and acetal materials. Additives are added to improve the strength, temperature resistance, and UV stabilization.

Tube - Tie Strap



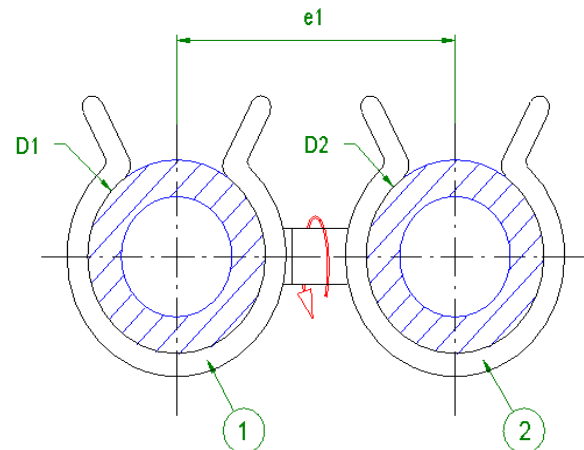
Part Number	(D1) Tube Diameter	(D2) Tube / Bundle Dia.	Design Variation
168750	6.0 / 6.5	8.0 / 50.0	A
081717	8.0 / 9.0	8.0 / 20.0	A
168869	8.0 / 9.0	8.0 / 50.0	A
168787	9.5 / 10.5	8.0 / 20.0	A
168797	9.5 / 10.5	8.0 / 33.0	A
168853	9.5 / 10.5	8.0 / 50.0	A
168803	11.0 / 13.0	8.0 / 33.0	A
168752	15.0 / 16.0	8.0 / 50.0	A
168804	15.0 / 16.0	8.0 / 33.0	A
082282	16.0 / 18.0	8.0 / 33.0	A
168751	18.0 / 20.0	8.0 / 20.0	A
168781	18.0 / 20.0	8.0 / 33.0	A
081190	22.0 / 24.0	8.0 / 33.0	A
202609	28.0 / 30.0	8.0 / 33.0	A
214116	12.6 / 13.2	8.0 / 33.0	C
082646	7.8 / 8.5	8.0 / 33.0	G

Tube - Panel



Part Number	(D1) Tube Diameter	(F) Panel Thickness	(R) Hole Diameter
081568	9.0 / 8.0	6.0 / 0.8	6.7 / 6.3

Tube - Tube



Part Number	(D1) Tube Diameter	(D2) Tube Diameter
168791	9.0 / 8.0	5.2 / 4.3

All dimensions are in metric

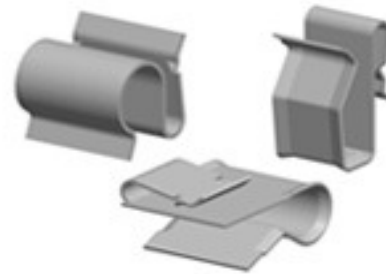
Wire Management

Spring Clips

The product displayed on this catalog is a preferred sampling of the larger product offering. For additional product refer to our web-site or contact our sales professional.

CABLE CLIPS

ARaymond Tinnerman spring clips offer the most efficient means of securing cable, wire and tubing safely away from dangerous areas. Made of high carbon spring steel and heat-treated, they are one-piece and self-retaining in most cases, requiring only a mounting hole, flange end, or panel edge for fast, easy installation. Available in several standard designs for a wide range of wire diameters and panel thicknesses, many have rolled edges as an added safeguard against fraying or chafing and can also be supplied with a dipped, neoprene cushion. Spring clips are easy to install and provide positive retention for reliable, trouble-free service.



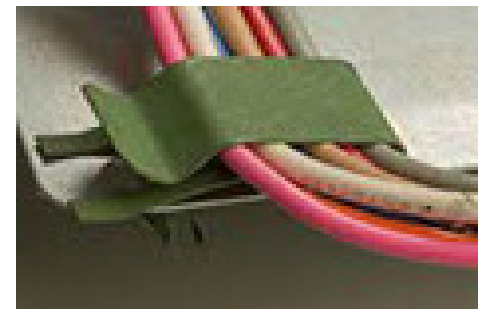
Bundle - Edge Biter Clips

Parts secure hoses and wire bundles by self-retaining to adjacent panels via barbs. After easily snapping into place, cables or wires are installed to a serviceable wire retention feature. Opening diameter of spring clip is designed for small wires, but the diameter of the clip itself is designed to hold multiple wires.



Tube - Edge Biter Clips

Parts work similarly to Bundle - Edge Biter Clips except clip is designed to hold one cable, tube or wire.



Dart Clips

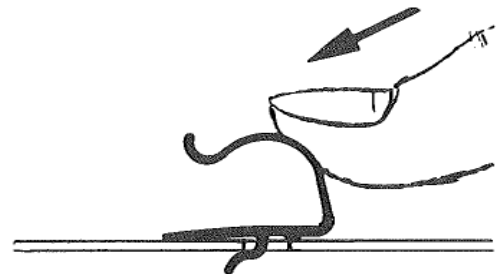
Parts work similarly to Bundle/Tube - Edge Biter Clips, but instead of retaining to the panel via barbs, the part is assembled through a hole or slot in a panel via a dart feature. The design of the hose retaining feature can accommodate one single tube or multiple smaller tubes, wires, and/or cables.

Heel Toe Clips

These self-retaining clips are simply positioned in the mounting hole. 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 parts, these clips can either hold one single tube or multiple smaller tubes, wires, and/or cables.

Benefits - Parts are simple to install, are reliable and inexpensive.

Performance Specifications - Application dependent but most cable clips install around 10 lbs. and retain about 15 to 20 lbs. Application specific testing provided upon request.



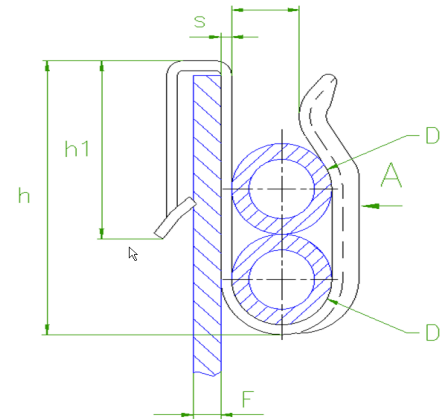
Wire Management

Spring Clips

Most of the products featured on this page are manufactured with spring steel. Parts may also be available in stainless steel. ARaymond Tinnerman offers these parts in corrosion protection and/or aesthetically pleasing finishes.

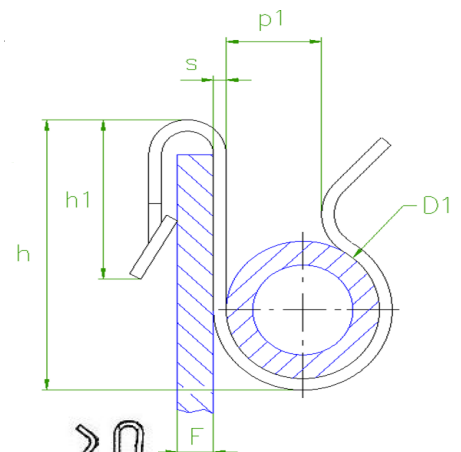
Bundle - Edge Biter

Part Number	(F) Panel Thickness	(D) Tube Diameter	Max # of Tubes	(h) Height of Part	(b) Width of Part	(s) Material Thickness
C23747-017	.025 / .055	.085 / .095	12	0.830	0.375	0.017
C41892-017	.032 / .052	.185 / .195	2	0.710	0.375	0.017
C43641-017	.031 / .082	.120 / .130	9	0.710	0.375	0.017
D98281-017	.054 / .089	.085 / .095	7	0.695	0.375	0.017
C45065-017	.060 / .089	.151 / .161	3	0.670	0.375	0.017
C24837-017	.115 / .135	.120 / .130	9	0.720	0.375 </td <td>0.017</td>	0.017
D46088-017	.040 / .080	.245 / .255	1	0.800	0.565	0.017

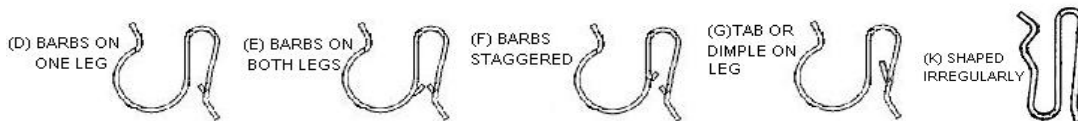


Tube - Edge Biter

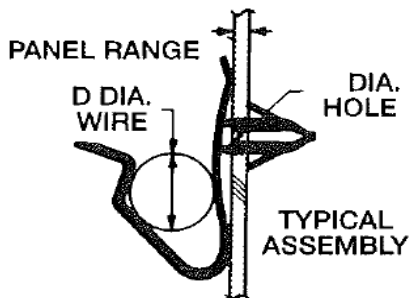
Part Number	(F) Panel Thickness	(D1) Tube Diameter	Design Variations	(h) Height of Part	(b) Width of Part	(s) Material Thickness
C20154-017	.036 / .044	.085 / .095	GK	0.360	0.375	0.017
<i>D99145-051M</i>	<i>2.35 / 3.20</i>	<i>9.0 / 9.5</i>	<i>D</i>	<i>10.200</i>	<i>12.700</i>	<i>0.510</i>
<i>C58548-051M</i>	<i>4.00 / 3.00</i>	<i>10.5 / 9.0</i>	<i>F</i>	<i>23.100</i>	<i>15.880</i>	<i>0.510</i>
<i>D99207-051M</i>	<i>5.80 / 6.20</i>	<i>8.51 / 8.76</i>	<i>CD</i>	<i>15.200</i>	<i>12.700</i>	<i>0.510</i>
C55726-020	.250 / .290	.335 / .345	CD	0.615	0.500	0.020



Italics: Metrics



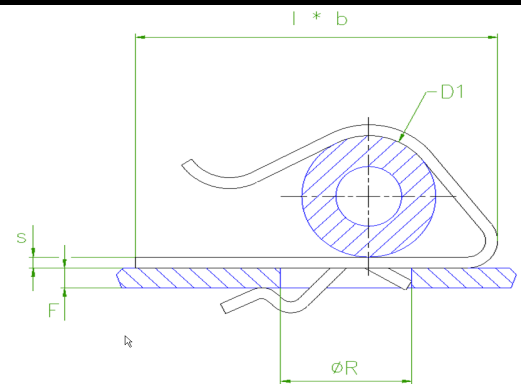
Dart



Part Number	Panel Range	(D) Dia. Wire	Max # of Tubes
D22999-017	0.8 / 1.0	2.8 / 12.7	1

Italics: Metric

Heel Toe



Part Number	(F) Panel Thickness	(D) Tube Diameter	Max # of Tubes
C55966-022	.054 / .089	.187 / .250	1
C58497-064M	.064 / 1.02	7.0 / 9.0	1

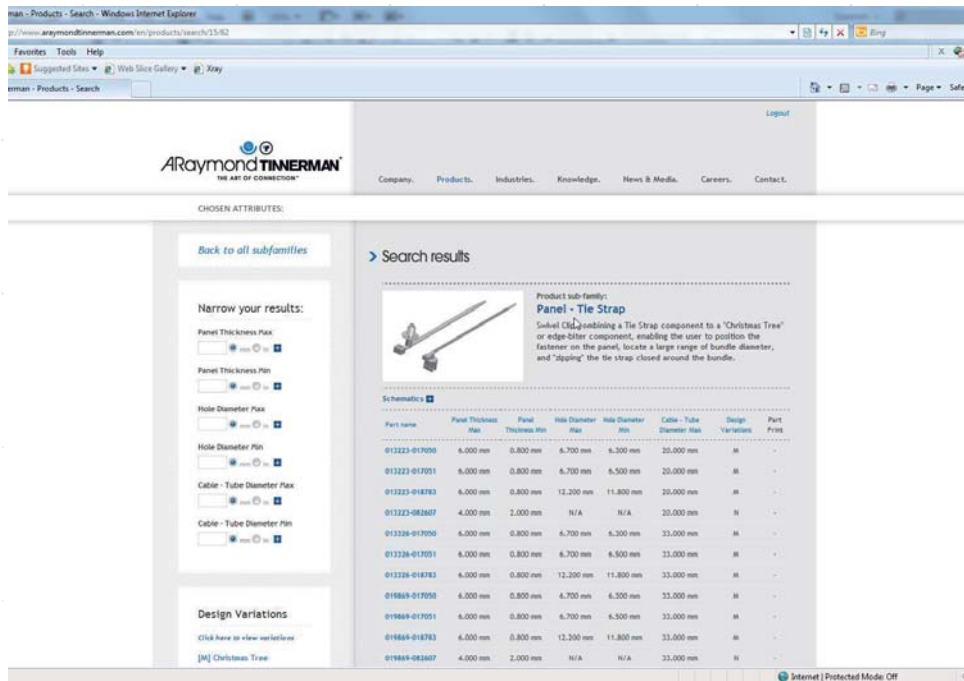
Italics: Metric



"Company Information"

Website

This brochure is a representation of the best practice wire management parts we have available and want to promote. If you cannot find a part to fit your needs here, we may have a solution available for you in our online catalog. Please visit, www.araymondtinnerman.com to search for additional wire management products.



ARaymond Tinnerman is one of the global leaders in fastening and connection solutions. The company has always valued being inventive, and spent many years developing and manufacturing innovative fastening solutions for the automotive industry. Since then, ARaymond Tinnerman has transferred its expertise and skills into new markets such as, energies, building and industrial equipment.

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Connecting together

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