

Wiring Solutions

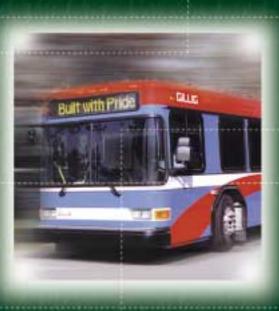








For commercial vehicle manufacturers





Let Panduit Help You Simplify Your Installation Of Wires, Cables and Hoses

Panduit Commercial Vehicle Team

Panduit is recognized as a world-class manufacturer of wiring solutions for the commercial vehicle market, offering innovative technologies, global engineering, high-quality products and state-of-the-art service. The Commercial Vehicle Team is dedicated to developing products that meet the special needs of truck and bus manufacturers.

For over 40 years, manufacturers have relied on Panduit for high-quality products that meet their fastening applications. Our commitment to quality is evident in our ISO 9001/QS 9000 registered manufacturing facilities. In addition to manufacturing plants in North America, Panduit operates facilities in Europe, Latin America and Asia to bring sources of production closer to each of our customers, providing them with fast delivery and outstanding local service. Panduit's chain of international susidiaries and distribution facilities ensures local inventory, sales and technical support throughout the world.

Application Focused Products

Customer applications are our primary focus in product development. Commercial vehicles can really punish components during operation. It takes a thorough understanding of the application requirements to design products that withstand this environment. Panduit products are designed to hold up under vibration, shock and exposure to nature's elements. After all, a vehicle is only as good as its weakest link.

A \$100,000 truck, for example, can fail to deliver its million dollar load if it suffers wiring problems. A bus load of people could be stranded if a hose isn't properly secured and works loose.

Panduit specializes in wire, cable and hose management solutions. Rather than custom molders looking for another product line, our job is to maintain the highest quality products in the industry. So, whether the application is for a long-haul truck, a heavy-duty off road vehicle or a commercial bus, Panduit has products designed especially for your challenging needs. We invite you to take a look at a few of the products that make Panduit <u>the</u> partner for cable and hose management solutions.

Route wires in headliners

Attach heatshields to exhaust manifolds

Panduit[®] Cable Tie Stud Mounts* Make For A Rock Solid Anchor



Vehicle Applications

Applications

- Run cable and hose along the frame rails
- · Secure a bundle under a chassis assembly
- Manage wire harnesses in the cab, sleeper and trailer
- · Use exposed threads from fasteners already in the vehicle
- · Maintain a standoff from the frame to avoid bundle abrasion

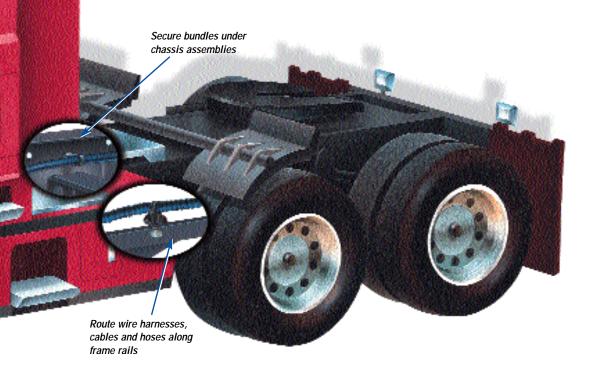
Solution

Panduit Cable Tie Stud Mounts are designed to utilize threaded fasteners already present in the vehicle. These easy-to-use wiring accessories can be easily applied with a light hammer blow, by threading them onto the fastener, or by using Panduit's specialized application tool. Use these mounts with a variety of Panduit cable ties.

Features

- · Installs onto fasteners such as bolts, Huck® fasteners and welded studs
- · Fits a wide variety of common stud sizes and cable ties
- Offers multiple position configurations for flexibility in application
- Installs faster than metal clamps with threaded fasteners
- Stands up to tough application environments with a weather-resistant nylon 6.6 material
- Provides a standoff from the frame rail to help prevent bundle abrasion during vehicle operation
- Stands up under vibration
- · Secures bundle with Panduit cable ties...up to 4 discrete bundles per mount
- Remains in vehicle during service or repair reattach bundle with new cable ties

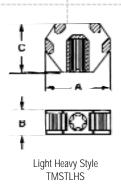
Huck[®] is a registered trademark of Cordant Technologies *See page 4 for details.

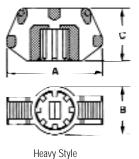


Panduit Cable Tie Stud Mounts apply easily to existing bolts or studs with a light tap from a hammer or by threading them onto the fastener.

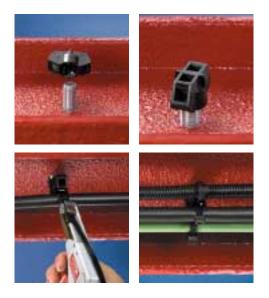
The mounts are designed for use with cable ties to mount wire bundles, air, water and hydraulic lines.

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TMSTHS

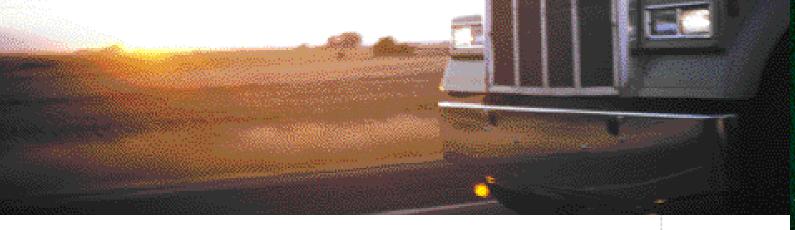


	Used	Dimen	sions Inches	s (mm)						Packa	iging*		
Part Number	With Cable Ties**	А	в	с	Material	Color	Where Used	Mounting Method	Std. Pkg. Qty.	Std. Ctn. Qty.	Bulk Pkg. Qty.	Bulk Ctn. Qty.	
TMSTLHS5-M0	M, I, S, LH	1.25 (31.8)	0.48 (12.2)	0.95 (24.1)				#12 Stud Dia. (5 mm)	100	1000	1000	5000	
TMSTLHS6-M0	M, I, S, LH	1.25 (31.8)	0.48 (12.2)	0.95 (24.1)				1/4" Stud Dia. (6 mm)	100	1000	1000	5000	
TMSTLHS8-M0	M, I, S, LH	1.25 (31.8)	0.48 (12.2)	0.95 (24.1)				5/16" Stud Dia. (8 mm)	100	1000	1000	5000	
TMSTHS10-D0	M, I, S, LH, H	1.99 (50.6)	1.01 (25.6)	1.10 (27.9)	Weather Resistant Nylon	Resistant	Black	Outdoors	3/8" Stud Dia. (10 mm)	100	1000	500	500
TMSTHS13-D0	M, I, S, LH, H	1.99 (50.6)	1.01 (25.6)	1.10 (27.9)				1/2" Stud Dia.	100	1000	500	500	
TMSTHS16-D0	M, I, S, LH, H	1.99 (50.6)	1.01 (25.6)	1.10 (27.9)				(10 mm)	100	1000	500	500	
TMSTHS19-D0	M, I, S, LH, H	1.99 (50.6)	1.01 (25.6)	1.10 (27.9)				3/4" Stud Dia.	100	1000	500	500	

*Order number of pieces required in multiples of packaging quantities.

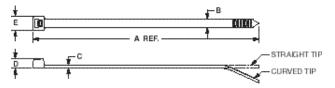
**Cable tie cross section sizes: M = Miniature, I = Intermediate, S = Standard, LH = Light Heavy and H = Heavy





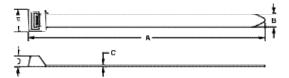
Cable Ties - Secure and Rattle-Free

Panduit Cable Tie Stud Mounts can be used with a variety of Panduit cable ties. Listed below are some of the Standard, Light Heavy and Heavy cross-section ties that are commonly used with these mounts. Also listed are some of



Tensile Strength: 50, 120 and 175 lbs. (222, 534 and 778 N)

Panduit's Extra Heavy ties that offer a minimum loop tensile strength of 250 lbs. All of these ties are made from a weather resistant nylon 6.6 and are popular in many transportation applications.



Tensile Strength: 250 lbs. (1112 N)

				D	Е	Maximum	Min. Loop	Recommended		Packa	iging*	
Part Number	A Length In. (mm)	B Width In. (mm)	C Thickness In. (mm)	Head Height In. (mm)	Head Width In. (mm)	Bundle Diameter In. (mm)	Tensile Strength Lbs. (N)	PANDUIT [®] Installation Tool Part No.	Std. Pkg. Qty.	Std. Ctn. Qty.	Bulk Pkg. Qty.	Bulk Ctn. Qty.
50 Lb. Minimum Loc	p Tensile											
PLT2S-M0	7.4 (188)	.190	.052	.316 (8.0)	.337	1.88 (48)	50	GTS, GS2B, GS4H,	100	1000	1000	10000
PLT4S-M0	14.5 (368)	(4.8)	(1.3)	.337 (8.6)	(8.6)	4.00 (102)	(222)	PPTS, STS2 or STH2	100	1000	1000	5000
120 Lb. Minimum Lc	op Tensile											
PLT2H-L0	8.1 (206)			.290 (7.4)		2.00 (51)		GS4H, GS4EH PPTEH, or STH2	50	500	250	2500
PLT4H-L0	14.5 (368)	.300	.075	.290 (7.4)	.480 (12.2)	4.00 (102)	120 (534)		50	500	250	2500
PLT8LH-L0	27.6 (701)	(7.6)	(1.9)	.325 (8.3)		8.00 (203)			50	500	100	2000
PLT9LH-L0	30.5 (775)			.325 (8.3)		9.00 (229)			50	500	100	1000
175 Lb. Minimum Lo	op Tensile											
PLT5H-L0	17.7 (450)	.350	.078	.340	.560	5.00 (127)	175	GS4H, GS4EH PPTEH or	50	500	250	2500
PLT8H-L0	30.6 (779)	(8.9)	(2.0)	(8.8)	(14.2)	9.00 (229)	(778)	ST2EH	50	500	100	1000
250 Lb. Minimum Lo	op Tensile	1	· · · · · ·			<u>.</u>	<u>.</u>					
PLT2EH-NB-C0	8.7 (221)					2.00 (51)			-	-	100	1000
PLT3EH-NB-C0	12.2 (310)	.50	.075	.40	.80	3.30 (83.8)	250	GS4EH	_	-	100	1000
PLT5EH-NB-C0	19.8 (503)	(12.7)	(1.9)	(10.2)	(20.3)	5.00 (127.0)	(1112)	PPTEH, or ST2EH	_	-	100	1000
PLT6EH-NB-C0	21.8 (554)					6.00 (152.4)			-	-	100	1000

Panduit[®] Chassis Mount Ties Secure Without The Need For Separate Fasteners



Applications

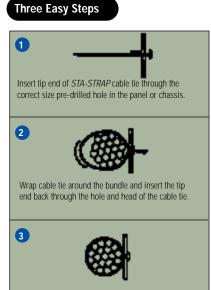
- Run cable and hose along the frame rails
- Secure a bundle under a chassis assembly
- Manage wire harnesses in the cab and sleeper
- Use a through-hole in frame/chassis to mount

Solution

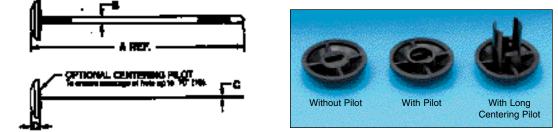
Panduit **STA-STRAP** [®] Chassis Mount Ties are uniquely designed to secure a bundle directly to a chassis or panel utilizing a through-hole.

Features

- Eliminates the need for separate fasteners to reduce costs and decrease installation time
- · Remains adjustable and releasable until tie is tensioned and cut-off
- Installs easily with Panduit hand-operated tools
- Engages clearance hole with optional centering pilot (2 designs) to prevent tie from shifting or abrading during vehicle operation



Pull tip end until *STA-STRAP* cable tie is snug on bundle. Tension and cut off excess portion with Panduit cable tie installation tool.

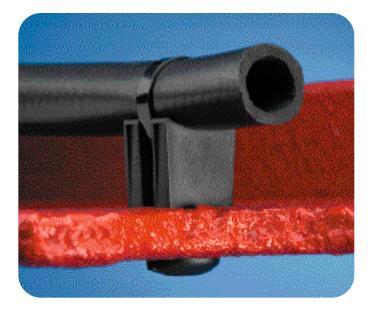


Optional Long Centering
 Pilot

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 Pilot ears protect strap body from clearance hole edges

					D	Recommended	Maximum	Min. Loop	Recommended		Packa	ging*	
Part Nur	nber	A Length In. (mm)	B Width In. (mm)	C Thickness In. (mm)	Head Height In. (mm)	Panel Hole Diameter In. (mm)	Bundle Diameter In. (mm)	Tensile Strength Lbs. (N)	PANDUIT® Installation Tool Part No.	Std. Pkg. Qty.	Std. Ctn. Qty.	Bulk Pkg. Qty.	Bulk Ctn. Qty.
Without Pilo	ot – Heavy	Cross Sect	tion										
SSPM2.5H	1-L300	10.19 (259)	.30	.062	248	.316 to 820	2.76 (70)	120	GS4H, GS4EH PPTEH, STH2	50	2500	250	2500
SSPM4H	-L300	14.8 (376)	(7.6)	(1.6)	(6.3)	(8.0 to 21)	4.00 (102)	(534)	or ST2EH	50	2500	250	2500
With Pilot – Heavy Cross Section													
SSPM2.5H	P-L300	10.19 (259)	.30	.062	248	.440 to 820	2.76 (70)	120	GS4H, GS4EH PPTEH, STH2 or ST2EH	50	2500	250	2500
SSPM4HF	P-L300	14.8 (376)	(7.6)	(1.6)	(6.3)	(11.2 to 21)	4.00 (102)	(534)		50	2500	250	2500
With Long C	Centering	Pilot – Heav	vy Cross Se	ction									
SSPM25HL	P-TL300	10.1 (257)	.30 (7.6)	.062 (1.6)	248 (6.3)	.316 to 820 (8.0 to 21)	2.76 (70)	120	GS4H, GS4EH	_	_	250	2500
SSPM4HLP	P-TL300	14.8 (376)	.30 (7.6)	.062 (1.6)	248 (6.3)	.440 to 820 (11.2 to 21)	4.00 (102)	(534)	PPTEH, STH2 or ST2EH			250	2500



Application

• Maintain a standoff from the frame rail in Chassis Tie applications

Solution

Panduit Spacer Mounts are used along with Panduit Chassis Mount Ties in applications where bundles must be secured away from the frame to avoid abrasion.

Features

- Uses clearance hole in frame
- Provides a standoff of 1" (25 mm)
- Reduces cable and hose abrasion during vehicle operation
- Provides a secure mounting surface with curved bundle cradle
- Installs easily after cable tie has been threaded through hole and around bundle
- Includes centering pilot to prevent assembly from abrading or shifting in hole

Three Easy Steps



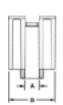
Thread tie through chassis and around bundle



Install mount



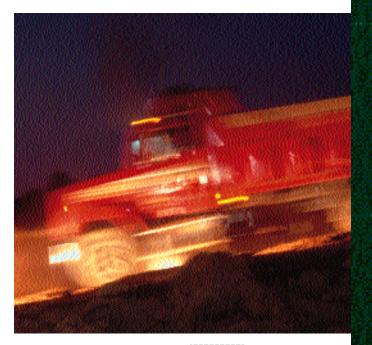
Tighten and cutoff tie











	Α		С	D	E		Packa	ging*	
	Cable Tie	В	Standoff	Base	Recommended	Std.	Std	Bulk	Bulk
Part Number	Channel	Width	Height	Depth	Panel Hole Dia.	Pkg.	Ctn.	Pkg.	Ctn.
In. (mm)	In. (mm)	In. (mm)	In. (mm)	In. (mm)	In. (mm)	Qty.	Qty.	Qty.	Qty.
TMSH50-T300	0.310	1.00	1.00	1.00	0.50				
1105050-1300	(7.875)	(25.4)	(25.4)	(25.4)	(12.7)	100	1000	200	1000

Panduit[®] Stud Mount Cable Ties



Looking for a one-piece wire fastener that takes advantage of free (or partially used) weld studs? Panduit's new Stud Mount Cable Ties could be the perfect

· Secures and bundles as a primary fastener, saving costs and reducing

• Presses easily onto threaded stud - high pulloff force required to remove

• Mounts flush to surface with a 1/4" (6mm) weld stud or bolt

· Steering control bundles; brake sensor control wiring

Applications

Solution

Features

part numbers

Frame rail weld studs
Dashboard bundles
Trailer wiring applications

answer for your application.

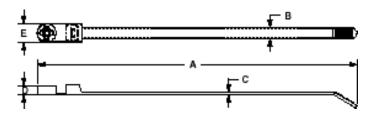


Mounts to 1/4" stud

Only 1/4" of stud needed to engage



Stackable and reversible



				D	Е	Max.	Min.	Recm. S	tud Size		Packa	aging*
Part Number	A Length In. (mm)	B Width In. (mm)	C Thickness In. (mm)	Head Height In. (mm)	Head Width In. (mm)	Bundle Diameter In. (mm)	Loop Tensile Strength Lbs. (N)	Screw In. (mm)	Length In. (mm)	Recommended PANDUIT [®] Installation Tool Part No.	Bulk Pkg. Qty.	Bulk Ctn. Qty.
Heavy Cross Section	n											
PLST2HS25-TL300	8.2 (208)	300 (7.6)	.075 (1.9)	.265 (6.7)	.515 (13.1)	2.00 (50.8)		1/4" (M6)	.25 (6.3))	250	2500
PLST3HS25-TL300	12.2 (310)	300 (7.6)	.075 (1.9)	.265 (6.7)	.515 (13.1)	3.00 (76)	120 (534)	1/4" (M6)	.25 (6.3)	GS4H, GS4EH or PPTEH	250	2500
PLST4HS25-TL300	15.3 (389)	300 (7.6)	.075 (1.9)	.265 (6.7)	.515 (13.1)	4.00 (102.1)		1/4" (M6)	.25 (6.3)		250	2500





Applications

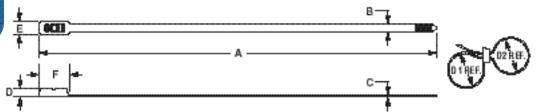
- Underhood hose and harness routing
- · Areas where bundles must be secured parallel to each other or another element

Solution

Looking for a labor saving alternative to butterflied cushioned clamps when securing hoses and wire bundles? Panduit's Multiple Loop Cable Ties are the perfect solution.

Features

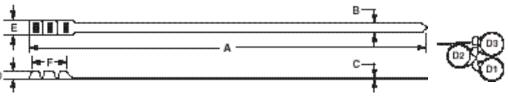
- Offers multiple loop capability
- Prevents bundle damage with a wide strap body that spreads the clamping forces
- Provides high tensile strength to route bundles securely
- · Installs easily by hand use PANDUIT® tooling for repeatable tension and cutoff
- Reduces part number inventory with a single product to cover multiple bundle sizes



	Max.				D	Е	F	Min. Loop		Packa	aging*
Part Number	Combined Bundle Dia. D1 & D2 In. (mm)	A Length In. (mm)	B Width In. (mm)	C Thickness In. (mm)	Head Height In. (mm)	Head Width In. (mm)	Head Length In. (mm)	Tensile Strength Lbs. (N)	Recommended PANDUIT [®] Installation Tool Part No.	Bulk Pkg. Qty.	Bulk Ctn. Qty
Heavy Cross Section											
PLB4H-TL	3.6 (91.4)	14.7 (373)	.300 (7.6)	.075 (1.9)	.322 (8.2)	.490 (12.4)	1.1 (27.9)	120 (534)	GS4H, GS4EH or PPTEH	250	2500
PLB4H-TL0	3.6 (91.4)	14.7 (373)	.300 (7.6)	.075 (1.9)	.322 (8.2)	.490 (12.4)	1.1 (27.9)	120 (534)	GS4H, GS4EH or PPTEH	250	2500

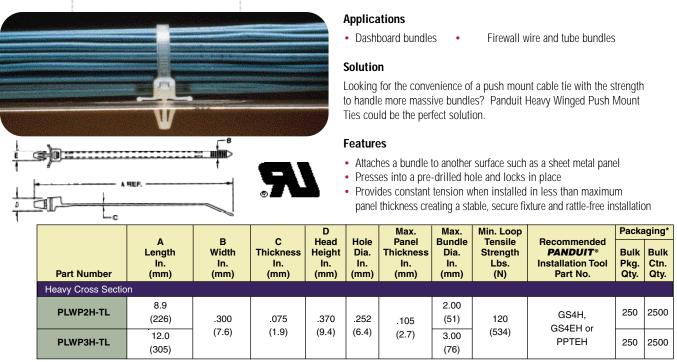
*Order number of pieces required in multiples of packaging quantities. Part numbers shown for natural nylon (-TL) and weather resistant nylon (-TL0).





	Max.				D	Е	F	Min. Loop		Packaging*	
Part Number	Combined Bundle Dia. D1, D2 & D3 In. (mm)	A Length In. (mm)	B Width In. (mm)	C Thickness In. (mm)	Head Height In. (mm)	Head Width In. (mm)	Head Length In. (mm)	Tensile Strength Lbs. (N)	Recommended PANDUIT [®] Installation Tool Part No.	Bulk Pkg. Qty.	Bulk Ctn. Qty
Extra Heavy Cros	s Section										
PL3B5EH-C0	5.0 (127.0)	20.0 (508)	.500 (12.7)	.075 (1.9)	.40 (10.2)	.80 (20.3)	1.8 (45.7)	125 (556)	GS4EH or PPTEH	100	1000

Panduit[®] Winged Push Mount Ties



*Order number of pieces required in multiples of packaging quantities.

Panduit[®] Umbrella Winged Push Mount Cable Ties

Applications

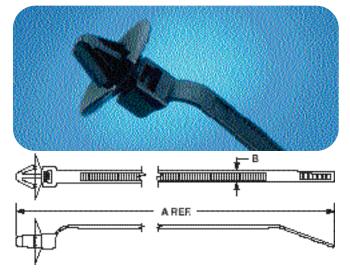
- · Cab and door wire or tubing routings
- Dashboard bundles

Solution

Looking for a quick, rattle-free fastener to secure bundles in clearance holes? Panduit's Umbrella Winged Push Mount Cable Ties could be the perfect solution.

Features

- Stabilizes the anchor barb with an umbrella shaped wing
- Provides maximum resistance to vibration-induced rattles
- Forms a dust-tight and semi-liquid tight seal against the surface of panel



Use these unique ties to lower installed cost when fastening bundles into your product. The tie's anchor barb clicks into a clearance hole in a light gauge metal or plastic panel – no screws or other fasteners required. The umbrella shaped

disc stabilizes the anchor barb and ensures a tight, rattle-free fit. In addition, the umbrella disc provides a semi-liquid tight seal against the panel surface.

	Maximum		_		Min. Loop	Mountii Diam	-	Panel Thickness Range		Recommended		aging*
 Part Number	Bundle Diameter In. (mm)	A Length In. (mm)	B Width In. (mm)	Cross Section	Tensile Strength Lbs. (N)	Min. In. (mm)	Max. In. (mm)	Min. In. (mm)	Max. In. (mm)	PANDUIT [®] Installation Tool Part No.	Bulk Pkg. Qty.	Bulk Ctn. Qty.
Standard Cross Se	ection											
PLUP30S-D30	1.18 (30)	5.79 (147)								GTS, PPTS, GS2B, GS2BL, STS2, GS4H	500	5000
PLUP40S-D30	1.57 (40)	6.97 (177)	.19 (4.83)	Std.	50 (222)	0.24 (6.2)	0.28 (7.2)	0.03 (0.7)	0.05 (1.2)		500	5000
PLUP50S-D30	1.97 (50)	8.15 (207)									500	5000

PANOSTEEL WAVE-TY

Stainless Steel Cable Ties Standup To Adverse Conditions



Unique WAVE FORM Spring Explained

Applications

- · Fasten insulation blanket on exhaust manifold
- · Fasten heat shield on exhaust manifold

Solution

PAN-STEEL WAVE-TY[™] Stainless Steel Cable Ties are designed to handle demanding applications including heat, water and salt spray. These ties utilize the unique WAVE FORM Spring to provide a tight, secure clamp in difficult applications where other stainless steel ties may not maintain bundle tension after installation.

Features

- · Retains tension on a solid bundle with minimal applied force
- Incorporates all of the features of Panduit's original stainless steel cable ties
- Ensures that the cable tie head remains locked with the unique NO-SLIP[™] Head Design – regardless of orientation or tension
- Installs using state-of-the-art tooling, available in a range of models from manual to pneumatic operation
- · Offers self-locking feature with low thread force
- · Presents fully rounded sides and smooth surfaces for safe handling
- Accommodates bundle diameters ranging from 2" to 10" with a variety of cable tie sizes
- Provides solutions for demanding environments with material options in Type 304 or 316 stainless steel (contact Panduit for a complete listing of part numbers)

After installation WAVE FORM spring contracts, resulting in superior grip on rigid surfaces.

During installation WAVE FORM spring is being stretched by application tool.

Application Tool (Panduit **GS4MT** shown)

Part Number WAVE-TY Series	Material & Cross Section	Min. Loop Tensile Strength Lbs. (N)	Min. Bundle Diameter In. (mm)	Max. Bundle Diameter In. (mm)	Length In. (mm)	Recommended PANDUIT ® Installation Tool Part No.	Packa Std. Pkg. Qty.	ging* Std. Ctn. Qty.
MLT2.7WH-LP			2.00 (51)	2.70 (70)	10.2 (259)	РРТМТ	50	250
MLT4WH-LP	304		2.00 (51)	4.00 (102)	14.2 (361)	GS4MT	50	250
MLT6WH-LP	0.31"	200	2.00 (51)	6.00 (152)	20.5 (521)	ST2MT	50	250
MLT8WH-LP	x .010"	(890)	2.00 (51)	8.00 (203)	26.8 (681)	or HTMT	50	250
MLT10WH-LP			2.00 (51)	10.00 (254)	33.0 (838)		50	250



Other Panduit Solutions To Speed and Simplify Installations

Panduit offers a wide selection of additional products to meet commercial vehicle application requirements. Some of our most popular products are shown below. Ask for Panduit catalog SA101N275C-WC to see our complete line of cable ties and accessories. If your application demands a unique solution, Panduit's engineering and design resources can work with you to develop a product to meet your needs.



Panduit[®] Lashing Ties and Mounting Clips are ideal for securing cable bundles and hoses with a rivet or threaded fastener. The ties offer a minimum loop tensile strength of 250 lbs. (1112 N) and both products are made from a weather resistant nylon.



Panduit[®] Cable Spacers are designed to accommodate hoses or cable bundles while maintaining separation. The spacers work with Panduit[®] Cable Ties up to heavy crosssection.



Adhesive Backed Mounts are designed to work in a variety of OEM applications. Panduit manufactures both the mounts and the tape for superior performance and quality control. For adhesives that truly stick in demanding applications, choose Panduit.



Panduit[®] Harness Clips provide a rattle-free method of securing wire harnesses. Available in push mount and edge clips that accommodate a wide variety of bundle diameters.

The products in this brochure are part of the Full Line of Panduit® Wiring and Communication Products.













Our products are warranted to be free from defects in material and workmanship at the time of sale but our obligation under this warranty is limited to the replacement of any product proved to be defective within 6 months (for product) or 90 days (for tools) from the date of delivery. Tool warranty is void if Panduit tools are modified, altered or misused in any way. Use of Panduit tooling with any product other than the specified Panduit products for which the tool was designed, constitutes misuse. Before using, user shall determine the suitability of the product for his intended use and user assumes all risk and liability whatsoever in connection therewith.

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