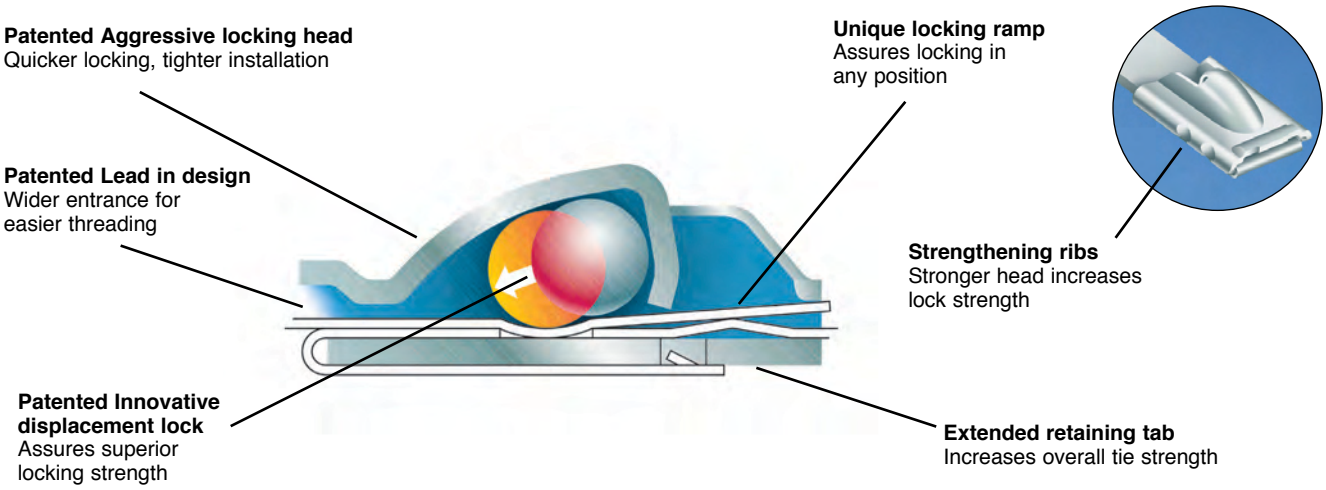
Features and Benefits – Pan-Steel® Cable Ties

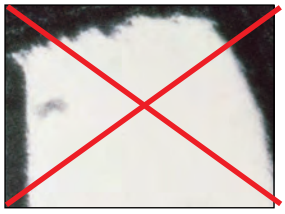
Panduit® Pan-Steel® Stainless Steel Ties are engineered for safety, productivity, and durability by providing round edges and smooth surfaces, easy threading, high loop tensile strength and tight clamping.

Self-Locking Head Construction



Fully Rounded Edges

Panduit tie body



Other manufacturer's tie body

The Pan-Steel® Stainless Steel Cable Tie features fully rounded edges to assure bundle protection and operator safety. Panduit not only removes the burr, but actually passes the material through a secondary process which removes the top and bottom corners of the material.

Self-Locking for Fast Installation

Self-locking design can be fastened by hand requiring no fold over or additional installation steps.

Pan-Steel® Installation Tools for adjustable tension control and automatic cut-off for quick, consistent, and secure installation.

Pan-Steel® System Accessories are used with Pan-Steel® Stainless Steel Cable Ties to speed and simplify the mounting of wires, cables, and tubing. Installation methods include screw mounts and push mounts. See pages B3.22 – B3.25.

Order number of pieces required, in multiples of Standard Package Quantity.

Part Number System for Pan-Steel® Cable Ties

MLT — **6** — **S** — – — **CP**

Type

MLT = Metal Locking Tie

Bundle Reference Diameter (In.)

Cross Section

S = Standard
LH = Light-Heavy
H = Heavy
EH = Extra-Heavy
EH15 = Extra-Heavy-15
SH = Super-Heavy

Standard Package Size

Q = 25
L* = 50
LP** = 50
CP = 100

*Standard Cross Section
**Heavy Cross Section

Material

(blank) = 304
316 = 316

Pan-Steel® Self-Locking Cable Ties – MLT Series

- Self-locking head design speeds installation and locks into place at any length along the tie body
- Provides a strong, durable method of cable bundling
- Can be used in a wide range of indoor, outdoor, and underground (including direct burial) applications
- Smooth surfaces and rounded edges assures cable protection and worker safety
- Available in AISI 304 stainless steel for general-purpose applications
- Available in AISI 316 stainless steel for the most corrosive environments

Part Number	Max. Bundle Diameter In.	Max. Bundle Diameter mm	Length* In.	Length* mm	Min. Loop Tensile Strength** Lbs.	Min. Loop Tensile Strength** N	Min. Bundle Diameter In.	Min. Bundle Diameter mm	Width In.	Width mm	Thickness In.	Thickness mm	Recommended Installation Tool***	Std. Pkg. Qty.	Std. Ctn. Qty.
AISI 304 Stainless Steel — For General Purpose															
Standard Cross Section															
MLT1S-CP	1.0	25	5.0	127	200	890	0.50	12.7	0.18	4.6	0.010	0.25	GS4MT, HTMT, PPTMT, ST2MT	100	500
MLT2S-CP	2.0	51	7.9	201	200	890	0.50	12.7	0.18	4.6	0.010	0.25		100	500
MLT2S-L	2.0	51	7.9	201	200	890	0.50	12.7	0.18	4.6	0.010	0.25		50	500
MLT2.7S-CP	2.7	69	10.2	259	200	890	0.50	12.7	0.18	4.6	0.010	0.25		100	500
MLT4S-CP	4.0	102	14.3	362	200	890	0.50	12.7	0.18	4.6	0.010	0.25		100	500
MLT4S-L	4.0	102	14.3	362	200	890	0.50	12.7	0.18	4.6	0.010	0.25		50	500
MLT6S-CP	6.0	152	20.5	521	200	890	0.50	12.7	0.18	4.6	0.010	0.25		100	500
MLT8S-CP	8.0	203	26.8	679	200	890	0.50	12.7	0.18	4.6	0.010	0.25		100	500
MLT10S-CP	10.0	254	33.0	838	200	890	0.50	12.7	0.18	4.6	0.010	0.25		100	500
MLT12S-Q	12.0	304	39.3	998	200	890	0.50	12.7	0.18	4.6	0.010	0.25		25	125
MLT14S-Q	14.0	355	45.5	1156	200	890	0.50	12.7	0.18	4.6	0.010	0.25		25	125
MLT15S-Q	15.0	380	49.2	1250	200	890	0.50	12.7	0.18	4.6	0.010	0.25		25	125

*Other lengths available, contact Panduit Customer Service.
**Per SAE Standard AS23190/3 (formerly MIL). For additional details, refer to page B3.28.
***For information on installation tools, refer to www.panduit.com/tools.

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Heat Trace Applications

- Electric Heat Trace is commonly used for temperature maintenance, viscosity control and freeze protection
- Installing Heat Trace Wavy-Ty™ tie does not damage mineral insulated heat trace and prevents damage to electric heat trace due to installation
- Installs 2-3 times faster than tie wire depending upon fixture
- Significantly lowers risk of health and safety concerns vs tie wire

Features and Benefits

Safety:	Significantly lower risk of health and safety concerns vs. tie wire. Tie wire can result in puncture risk along with blood poisoning concerns due to residual coating. Tie wire installation can result in repetitive strain injuries and carpel tunnel syndrome.
Installation Speed:	Installs 2 – 3 times faster than tie wire depending upon fixture. Ball valve took 883 seconds to install using tie wire and only 271 seconds using a Heat Trace Wave-Ty™ for 225% savings (time).
Lower Installed Cost:	Can deliver approximately 30% lower overall installed cost versus tie wire depending upon pipe diameter. Approximately 50% of the overall cost for installation of heat trace can be attributed to labor.
Reliability:	Heat Trace Wave-Ty™ tie does not damage mineral insulated electric heat trace. Wide, flat profile along with spring design does not damage heat trace.
Reduced Down Time:	Prevents damage to electric heat trace due installation. Over tensioning of tie wire can result in damage to electric heat trace ultimately lead to failures and an increase in downtime.

Information based upon results of Test Report SS-PLR-367 – Heat Trace Wire and Insulation Installation Time Study.

Application

Electric Heat Trace is commonly used for temperature maintenance, viscosity control or freeze protection. This is typically done by using traced pipes with insulation and cladding. The traced pipes can be accomplished in several ways. For the purposes of this document, we will be focusing solely on mineral insulated electric heat trace.

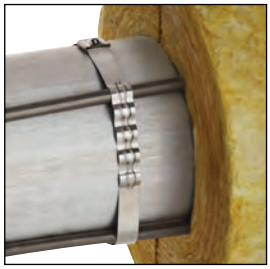
Tie wire is commonly used within the industry to install mineral insulated electric heat trace. Heat trace installation using tie wire requires training and tensioning is dependent on installer skill and experience. Tooling used with tie wire consists of a pair of nippers or linesman's pliers. The installer twists and turns the tie wire in order pull the heat trace closer to the pipes. Too much tension can result in damage to the heat trace. The installation process requires a great deal of repetitive twisting and pulling to position the heat trace close to the pipes.

Heat trace tie wire is generally applied approximately every 12 inches on vertical and horizontal runs. In a time study, Panduit found that the installers took approximately 1.6 minutes on average for vertical and horizontal runs. Elbows, ball valves, flanges and T-valves just added to the complexity with average times ranging from 2.58 minutes to 14.72 minutes depending upon fixture. Installation problems associated with tie wire tend to fall into two categories. The first are safety concerns ranging from puncture hazards (from cut tie wire), blood poisoning, pulling and twisting tie wire (RSI, CTS) and more. The other area is around damage to, and system reliability of the heat trace. Tie wire if over tensioned can damage the heat trace.

Technical Information

Material:	**304 Grade Stainless Steel**
Minimum Loop Tensile Strength:	**700 lbs., 3115 Newtons**
Maximum Temperature Rating:	**538 °C, 1000 °F**
Minimum Temperature Rating:	**-80 °C, -112 °F**
RoHS:	**Compliant**
Flammability:	**Non Flammable**
Ultra-Violet Light Resistance:	**Excellent**

Heat Trace Wave-Ty™ Cable Ties



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