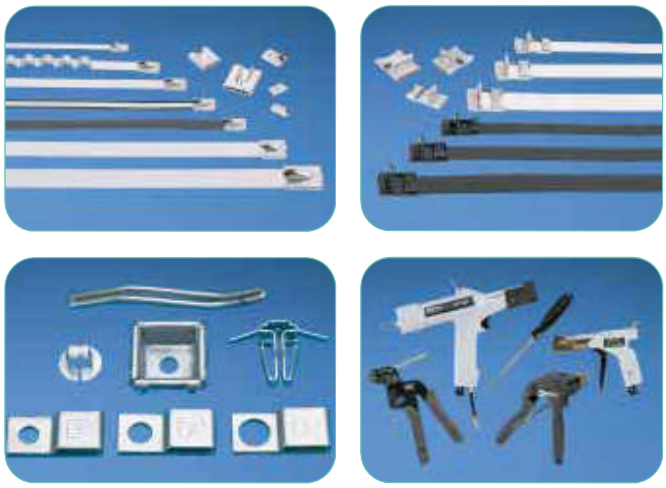
A. System Overview
B1. Cable Ties
B2. Cable Accessories
B3. Stainless Steel
C1. Wiring Duct
C2. Surface Raceway
C3. Abrasion Protection
C4. Cable Management
D1. Terminals
D2. Power & Grounding Connectors
E1. Labeling System
E2. Labels
E3. Pre-Printed & Write-On Markers
E4. Lockout/ Tagout & Safety Solutions
F. Index

PAN-STEEL® SYSTEM

The *PAN-STEEL*® System provides a strong, durable method of bundling and fastening, which can be used in virtually all indoor, outdoor and underground (including direct burial) applications. The ties are designed for use in critical applications where strength, vibration, radiation, weathering, corrosion and temperature extremes are a factor.



Patented locking head construction assures locking in any position, with a high rated loop tensile strength for a durable solution that delivers an extra margin of safety

Base 304 or 316 stainless steel provides a strong, long-lasting method of bundling and fastening in harsh environments

Accessories available to speed and simplify the mounting of wires, cable and tubing for use with *PANDUIT* Stainless Steel cable ties

Complete line of manual and pneumatic installation tools with controlled tension and automatic cut-off for lower installed cost

PANDUIT continues to design stainless steel products for the evolving marketplace, by solving customer problems with innovative products and reliable tooling to achieve lowest installed cost.

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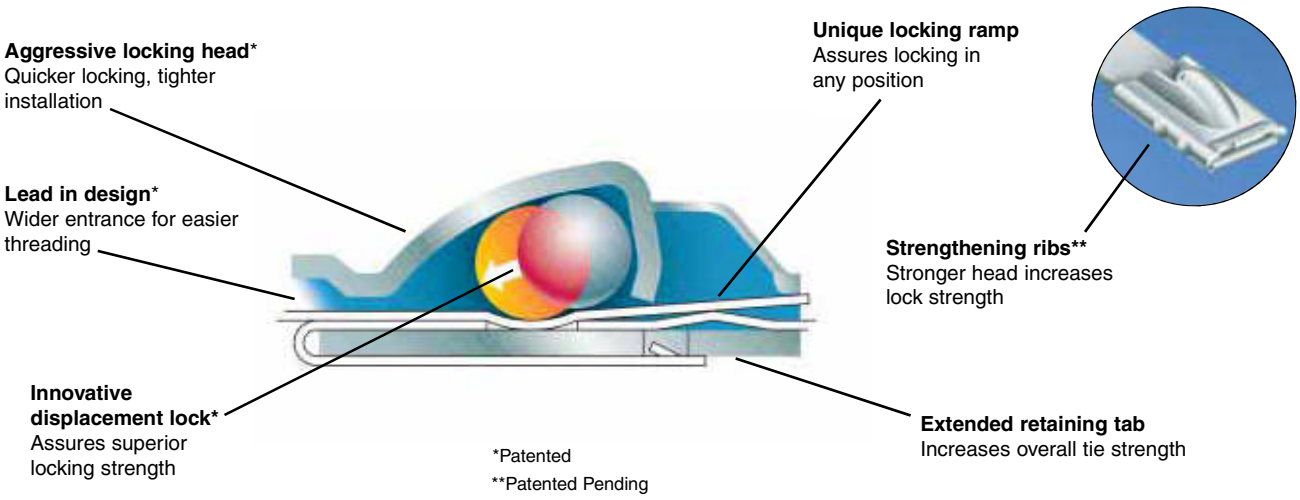
Features and Benefits – *PAN-STEEL*® Stainless Steel Ties

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



*Patented
**Patented Pending

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.

Large selection of installation tools, the proper tool available to meet the requirements of every application. See pages B3.13 – B3.15.

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 – B3.24.

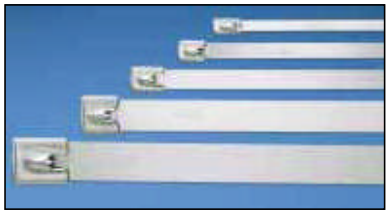
Part Number System for *PAN-STEEL*® Stainless Steel Ties

(Stock Size Tie)

MLT	6	S	—	CP
Type	**Bundle Diameter Reference (In.)**	**Cross Section**		**Standard Package Size**
MLT= Metal Locking Tie		S = Standard LH = Light Heavy H = Heavy EH = Extra Heavy EH-15= Extra Heavy-15 SH = Super Heavy		Q = 25 L* = 50 LP**= 50 CP = 100 *Standard Cross-Section **Heavy Cross-Section

Enhanced *PAN-STEEL*® Self-Locking Stainless Steel Cable Ties – MLT Series

- Strong, durable method of bundling and fastening
- Can be used in virtually all indoor, outdoor and underground (including direct burial) applications
- Provides ultimate support for cables
- AISI 304 stainless steel for general purpose
- 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	.50	12.7	.18	4.6	.010	.25	GS4MT, HTMT, PPTMT, ST2MT or ST3MT	100	500
MLT2S-CP	2.0	51	7.9	201	200	890	.50	12.7	.18	4.6	.010	.25		100	500
MLT2S-L	2.0	51	7.9	201	200	890	.50	12.7	.18	4.6	.010	.25		50	500
MLT2.7S-CP	2.7	69	10.2	259	200	890	.50	12.7	.18	4.6	.010	.25		100	500
MLT4S-CP	4.0	102	14.3	362	200	890	.50	12.7	.18	4.6	.010	.25		100	500
MLT4S-L	4.0	102	14.3	362	200	890	.50	12.7	.18	4.6	.010	.25		50	500
MLT6S-CP	6.0	152	20.5	521	200	890	.50	12.7	.18	4.6	.010	.25		100	500
MLT8S-CP	8.0	203	26.8	679	200	890	.50	12.7	.18	4.6	.010	.25		100	500
MLT10S-CP	10.0	254	33.0	838	200	890	.50	12.7	.18	4.6	.010	.25		100	500
MLT12S-Q	12.0	304	39.3	998	200	890	.50	12.7	.18	4.6	.010	.25		25	125
MLT14S-Q	14.0	355	45.5	1156	200	890	.50	12.7	.18	4.6	.010	.25		25	125
MLT15S-Q	15.0	380	49.2	1250	200	890	.50	12.7	.18	4.6	.010	.25		25	125

*Other lengths available, contact Customer Service.
**Per SAE Standard AS23190/3 (formerly MIL). For additional details, refer to page B3.27.
***For information on installation tools, refer to pages B3.13, B3.14 and B3.15.

Enhanced *PAN-STEEL*® Self-Locking Stainless Steel Cable Ties – MLT Series (continued)

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.
Light-Heavy Cross Section															
MLT2LH-LP	2.0	51	7.9	201	250	1112	.50	12.7	.25	6.4	.010	.25	GS4MT, HTMT, PPTMT, ST2MT or ST3MT	50	250
MLT4LH-LP	4.0	102	14.3	362	250	1112	.50	12.7	.25	6.4	.010	.25		50	250
MLT6LH-LP	6.0	152	20.5	521	250	1112	.50	12.7	.25	6.4	.010	.25		50	250
MLT8LH-LP	8.0	203	26.8	679	250	1112	.50	12.7	.25	6.4	.010	.25		50	250
Heavy Cross Section															
MLT2H-LP	2.0	51	7.9	201	450	2000	.50	12.7	.31	7.9	.010	.25	GS4MT, HTMT, PPTMT, ST2MT or ST3MT	50	250
MLT2.7H-LP	2.7	69	10.2	259	450	2000	.50	12.7	.31	7.9	.010	.25		50	250
MLT4H-LP	4.0	102	14.3	362	450	2000	.50	12.7	.31	7.9	.010	.25		50	250
MLT6H-LP	6.0	152	20.5	521	450	2000	.50	12.7	.31	7.9	.010	.25		50	250
MLT8H-LP	8.0	203	26.8	679	450	2000	.50	12.7	.31	7.9	.010	.25		50	250
MLT10H-LP	10.0	254	33.0	838	450	2000	.50	12.7	.31	7.9	.010	.25		50	250
MLT12H-Q	12.0	304	39.3	998	450	2000	.50	12.7	.31	7.9	.010	.25		25	125
MLT14H-Q	14.0	355	45.5	1156	450	2000	.50	12.7	.31	7.9	.010	.25		25	125
Extra-Heavy Cross Section															
MLT4EH-LP	4.0	102	17.1	434	600	2670	1.0	25.4	.50	12.7	.010	.25	RT1HT or ST3MT	50	250
MLT6EH-LP	6.0	152	23.4	594	600	2670	1.0	25.4	.50	12.7	.010	.25		50	250
MLT8EH-LP	8.0	203	29.7	754	600	2670	1.0	25.4	.50	12.7	.010	.25		50	250
MLT10EH-LP	10.0	254	35.9	912	600	2670	1.0	25.4	.50	12.7	.010	.25		50	250
MLT12EH-Q	12.0	305	42.2	1072	600	2670	1.0	25.4	.50	12.7	.010	.25		25	125
MLT4EH15-LP	4.0	102	17.1	434	700	3115	1.0	25.4	.50	12.7	.015	.38		50	250
MLT6EH15-LP	6.0	152	23.4	594	700	3115	1.0	25.4	.50	12.7	.015	.38		50	250
MLT8EH15-LP	8.0	203	29.7	754	700	3115	1.0	25.4	.50	12.7	.015	.38		50	250
MLT10EH15-LP	10.0	254	35.9	912	700	3115	1.0	25.4	.50	12.7	.015	.38		50	250
MLT12EH15-Q	12.0	305	42.2	1072	700	3115	1.0	25.4	.50	12.7	.015	.38		25	125
Super-Heavy Cross Section															
MLT4SH-LP	4.0	102	17.1	434	900	4005	1.0	25.4	.63	15.9	.015	.38	RT1HT	50	250
MLT6SH-LP	6.0	152	23.4	594	900	4005	1.0	25.4	.63	15.9	.015	.38		50	250
MLT8SH-LP	8.0	203	29.7	754	900	4005	1.0	25.4	.63	15.9	.015	.38		50	250
MLT10SH-LP	10.0	254	35.9	912	900	4005	1.0	25.4	.63	15.9	.015	.38		50	250
MLT12SH-Q	12.0	305	42.2	1072	900	4005	1.0	25.4	.63	15.9	.015	.38		25	125

*Other lengths available, contact Customer Service.
**Per SAE Standard AS23190/3 (formerly MIL). For additional details, refer to page B3.27.
***For information on installation tools, refer to pages B3.13, B3.14 and B3.15.

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

Prime items appear in **BOLD**.

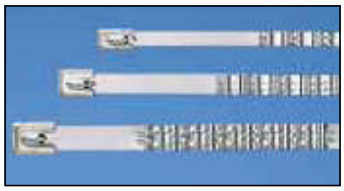
Enhanced *PAN-STEEL*® Self-Locking Stainless Steel Cable Ties – MLT Series (continued)

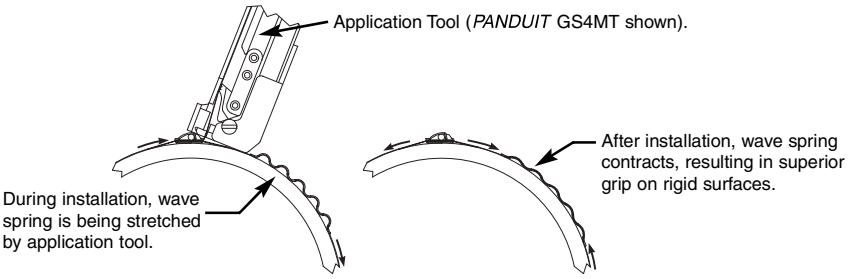
Part Number	Max. Bundle Diameter In.	Max. Bundle Diameter mm	Length* In.	Length* mm	Min. Loop Tensile Strength** Lbs.	Min. Loop Tensile Strength** N	Min. Bundle Diameter In.	Min. Bundle Diameter mm	Width In.	Width mm	Thickness In.	Thickness mm	Recommended Installation Tool***	Std. Pkg. Qty.	Std. Ctn. Qty.
AISI 316 Stainless Steel – For Superior Corrosion Resistance															
Standard Cross Section															
MLT1S-CP316	1.0	25	5.0	127	200	890	.50	12.7	.18	4.6	.010	.25	GS4MT, HTMT, PPTMT, ST2MT or ST3MT	100	500
MLT2.7S-CP316	2.7	69	10.2	259	200	890	.50	12.7	.18	4.6	.010	.25		100	500
MLT2S-CP316	2.0	51	7.9	201	200	890	.50	12.7	.18	4.6	.010	.25		100	500
MLT4S-CP316	4.0	102	14.3	362	200	890	.50	12.7	.18	4.6	.010	.25		100	500
MLT6S-CP316	6.0	152	20.5	521	200	890	.50	12.7	.18	4.6	.010	.25		100	500
MLT8S-CP316	8.0	203	26.8	679	200	890	.50	12.7	.18	4.6	.010	.25		100	500
MLT10S-CP316	10.0	254	33.0	838	200	890	.50	12.7	.18	4.6	.010	.25		100	500
Light-Heavy Cross Section															
MLT2LH-LP316	2.0	51	7.9	201	250	1112	.50	12.7	.25	6.4	.010	.25	GS4MT, HTMT, PPTMT, ST2MT or ST3MT	50	250
MLT4LH-LP316	4.0	102	14.3	362	250	1112	.50	12.7	.25	6.4	.010	.25		50	250
MLT6LH-LP316	6.0	152	20.5	521	250	1112	.50	12.7	.25	6.4	.010	.25		50	250
MLT8LH-LP316	8.0	203	26.8	679	250	1112	.50	12.7	.25	6.4	.010	.25		50	250
Heavy Cross Section															
MLT2H-LP316	2.0	51	7.9	201	450	2000	.50	12.7	.31	7.9	.010	.25	GS4MT, HTMT, PPTMT, ST2MT or ST3MT	50	250
MLT2.7H-LP316	2.7	69	10.2	259	450	2000	.50	12.7	.31	7.9	.010	.25		50	250
MLT4H-LP316	4.0	102	14.3	362	450	2000	.50	12.7	.31	7.9	.010	.25		50	250
MLT6H-LP316	6.0	152	20.5	521	450	2000	.50	12.7	.31	7.9	.010	.25		50	250
MLT8H-LP316	8.0	203	26.8	679	450	2000	.50	12.7	.31	7.9	.010	.25		50	250
MLT10H-LP316	10.0	254	33.0	838	450	2000	.50	12.7	.31	7.9	.010	.25		50	250
Extra-Heavy Cross Section															
MLT4EH-LP316	4.0	102	17.1	434	600	2670	1.0	25.4	.50	12.7	.010	.25	RT1HT or ST3MT	50	250
MLT6EH-LP316	6.0	152	23.4	594	600	2670	1.0	25.4	.50	12.7	.010	.25		50	250
MLT8EH-LP316	8.0	203	29.7	754	600	2670	1.0	25.4	.50	12.7	.010	.25		50	250
MLT4EH15-LP316	4.0	102	17.1	434	700	3115	1.0	25.4	.50	12.7	.015	.38		50	250
MLT6EH15-LP316	6.0	152	23.4	594	700	3115	1.0	25.4	.50	12.7	.015	.38		50	250
MLT8EH15-LP316	8.0	203	29.7	754	700	3115	1.0	25.4	.50	12.7	.015	.38		50	250
Super-Heavy Cross Section															
MLT4SH-LP316	4.0	102	17.1	434	900	4005	1.0	25.4	.63	15.9	.015	.38	RT1HT	50	250
MLT6SH-LP316	6.0	152	23.4	594	900	4005	1.0	25.4	.63	15.9	.015	.38		50	250
MLT8SH-LP316	8.0	203	29.7	754	900	4005	1.0	25.4	.63	15.9	.015	.38		50	250

*Other lengths available, contact Customer Service.
**Per SAE Standard AS23190/3 (formerly MIL). For additional details, refer to page B3.27.
***For information on installation tools, refer to pages B3.13, B3.14 and B3.15.

Enhanced *PAN-STEEL® WAVE-TY™* Superior Grip Stainless Steel Ties – MLTW Series

- Patented wave-form spring maintains greater installed tension on non-resilient objects
- Tightly clamps on applications where other stainless steel ties will not function
- Retains tension on a solid bundle with minimal applied force
- Available in AISI 304 for general purpose and AISI 316 stainless steel material for the most corrosive environments
- Guarantees performance in critical applications
- Self-locking with low thread force





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 Superior Grip on Rigid Bundles															
Standard Cross Section															
MLT2.7WS-LP	2.7	69	10.2	259	200	890	2.0	51	.18	4.6	.010	.25	GS4MT, HTMT, PPTMT, ST2MT or ST3MT	50	250
MLT4WS-LP	4.0	102	14.3	362	200	890	2.0	51	.18	4.6	.010	.25		50	250
MLT6WS-LP	6.0	152	20.5	521	200	890	2.0	51	.18	4.6	.010	.25		50	250
MLT8WS-LP	8.0	203	26.8	679	200	890	2.0	51	.18	4.6	.010	.25		50	250
Light-Heavy Cross Section															
MLT2.7WLH-LP	2.7	69	10.2	259	250	1112	2.0	51	.25	6.4	.010	.25	GS4MT, HTMT, PPTMT, ST2MT or ST3MT	50	250
MLT4WLH-LP	4.0	102	14.3	362	250	1112	2.0	51	.25	6.4	.010	.25		50	250
MLT6WLH-LP	6.0	152	20.5	521	250	1112	2.0	51	.25	6.4	.010	.25		50	250
MLT8WLH-LP	8.0	203	26.8	679	250	1112	2.0	51	.25	6.4	.010	.25		50	250
Heavy Cross Section															
MLT2.7WH-LP	2.7	69	10.2	259	450	2000	2.0	51	.31	7.9	.010	.25	GS4MT, HTMT, PPTMT, ST2MT or ST3MT	50	250
MLT4WH-LP	4.0	102	14.3	362	450	2000	2.0	51	.31	7.9	.010	.25		50	250
MLT6WH-LP	6.0	152	20.5	521	450	2000	2.0	51	.31	7.9	.010	.25		50	250
MLT8WH-LP	8.0	203	26.8	679	450	2000	2.0	51	.31	7.9	.010	.25		50	250
MLT10WH-LP	10.0	254	33.0	838	450	2000	2.0	51	.31	7.9	.010	.25		50	250
AISI 316 Stainless Steel – For Superior Grip on Rigid Bundles															
Standard Cross Section															
MLT2.7WS-LP316	2.7	69	10.2	259	200	890	2.0	51	.18	4.6	.010	.25	GS4MT, HTMT, PPTMT, ST2MT or ST3MT	50	250
MLT4WS-LP316	4.0	102	14.3	362	200	890	2.0	51	.18	4.6	.010	.25		50	250
MLT6WS-LP316	6.0	152	20.5	521	200	890	2.0	51	.18	4.6	.010	.25		50	250
MLT8WS-LP316	8.0	203	26.8	679	200	890	2.0	51	.18	4.6	.010	.25		50	250
Light-Heavy Cross Section															
MLT2.7WLH-LP316	2.7	69	10.2	259	250	1112	2.0	51	.25	6.4	.010	.25	GS4MT, HTMT, PPTMT, ST2MT or ST3MT	50	250
MLT4WLH-LP316	4.0	102	14.3	362	250	1112	2.0	51	.25	6.4	.010	.25		50	250
MLT6WLH-LP316	6.0	152	20.5	521	250	1112	2.0	51	.25	6.4	.010	.25		50	250
MLT8WLH-LP316	8.0	203	26.8	679	250	1112	2.0	51	.25	6.4	.010	.25		50	250
Heavy Cross Section															
MLT2.7WH-LP316	2.7	69	10.2	259	450	2000	2.0	51	.31	7.9	.010	.25	GS4MT, HTMT, PPTMT, ST2MT or ST3MT	50	250
MLT4WH-LP316	4.0	102	14.3	362	450	2000	2.0	51	.31	7.9	.010	.25		50	250
MLT6WH-LP316	6.0	152	20.5	521	450	2000	2.0	51	.31	7.9	.010	.25		50	250
MLT8WH-LP316	8.0	203	26.8	679	450	2000	2.0	51	.31	7.9	.010	.25		50	250
MLT10WH-LP316	10.0	254	33.0	838	450	2000	2.0	51	.31	7.9	.010	.25		50	250

*Other lengths available, contact Customer Service.
**Per SAE Standard AS23190/3 (formerly MIL). For additional details, refer to page B3.27.
***For information on installation tools, refer to pages B3.13, B3.14 and B3.15.

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

Prime items appear in **BOLD**.

Enhanced Patented Nylon 11 Selectively Coated Ties – MLTC Series

- For communication and electrical cables
- Strength of steel, the protection of nylon; the nylon coating provides protection for the cables
- Available in loop tensile strength of 250 lbs.
- Base metal 316 grade stainless steel for excellent resistance to temperature extremes, corrosion, weather, chemicals, salt spray and UV radiation

Nylon 11 Coating:
- Resistance to chemicals and salt spray
- Halogen free
- Temperature tolerance -40°F (-40°C) to 285°F (140°C)
- Coating thickness .003 in. (.08mm)/.005 in. (.13mm) per side

Part Number	Max. Bundle Diameter		Length*		Min. Loop Tensile Strength**		Min. Bundle Diameter		Width		Thickness^		Recommended Installation Tool***	Std. Pkg. Qty.	Std. Ctn. Qty.
	In.	mm	In.	mm	Lbs.	N	In.	mm	In.	mm	In.	mm			
AISI 316 Stainless Steel – For Nylon 11 Selectively Coated Cable Ties															
Heavy Cross Section															
MLTC2H-LP316	2.0	51	7.9	201	250	1112	.50	12.7	.31	7.9	.010	.25	GS4MT, HTMT, PPTMT, ST2MT or ST3MT	50	250
MLTC4H-LP316	4.0	102	14.3	362	250	1112	.50	12.7	.31	7.9	.010	.25		50	250
MLTC6H-LP316	6.0	152	20.5	521	250	1112	.50	12.7	.31	7.9	.010	.25		50	250
MLTC8H-LP316	8.0	203	26.8	679	250	1112	.50	12.7	.31	7.9	.010	.25		50	250
MLTC10H-LP316	10.0	254	33.0	838	250	1112	.50	12.7	.31	7.9	.010	.25		50	250

*Other lengths available, contact Customer Service.
**Per SAE Standard AS23190/3 (formerly MIL). For additional details, refer to page B3.27.
***For information on installation tools, refer to pages B3.13, B3.14 and B3.15
^Base material less coating.

PAN-STEEL® Fully Coated Stainless Steel Cable Ties – MLTFC Series

- Polyester coating
- Base metal is AISI 316 grade stainless steel
- Self-locking with low thread force
- Available in standard, heavy, extra-heavy and super-heavy cross sections
- Low smoke
- Halogen free
- Temperature tolerance -40°F (-40°C) to 302°F (150°C)
- Good UV resistance
- Coating thickness .003 in. (.08mm)/.005 in. (.13mm) per side

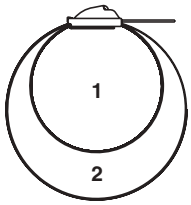
Part Number	Max. Bundle Diameter		Length*		Min. Loop Tensile Strength**		Min. Bundle Diameter		Width		Thickness^		Recommended Installation Tool***	Std. Pkg. Qty.	Std. Ctn. Qty.
	In.	mm	In.	mm	Lbs.	N	In.	mm	In.	mm	In.	mm			
Standard Cross Section															
MLTFC2S-CP316	2.0	51	7.9	201	100	445	.50	12.7	.18	4.6	.010	.25	GS4MT, HTMT, PPTMT, ST2MT, or ST3MT	100	500
MLTFC4S-CP316	4.0	102	14.3	362	100	445	.50	12.7	.18	4.6	.010	.25		100	500
MLTFC6S-CP316	6.0	152	20.5	521	100	445	.50	12.7	.18	4.6	.010	.25		100	500
MLTFC8S-CP316	8.0	203	26.8	679	100	445	.50	12.7	.18	4.6	.010	.25		100	500
Heavy Cross Section															
MLTFC2H-LP316	2.0	51	7.9	201	250	1112	.50	12.7	.31	7.9	.010	.25	GS4MT, HTMT, PPTMT, ST2MT, or ST3MT	50	250
MLTFC4H-LP316	4.0	102	14.3	362	250	1112	.50	12.7	.31	7.9	.010	.25		50	250
MLTFC6H-LP316	6.0	152	20.5	521	250	1112	.50	12.7	.31	7.9	.010	.25		50	250
MLTFC8H-LP316	8.0	203	26.8	679	250	1112	.50	12.7	.31	7.9	.010	.25		50	250
Extra-Heavy Cross Section															
MLTFC4EH-LP316	4.0	102	17.1	434	300	1335	1.0	25.4	.50	12.7	.010	.25	RT1HT or ST3MT	50	250
MLTFC6EH-LP316	6.0	152	23.4	594	300	1335	1.0	25.4	.50	12.7	.010	.25		50	250
MLTFC8EH-LP316	8.0	203	29.7	754	300	1335	1.0	25.4	.50	12.7	.010	.25		50	250
Super-Heavy Cross Section															
MLTFC4SH-LP316	4.0	102	17.1	434	450	2000	1.0	25.4	.63	15.9	.015	.38	RT1HT	50	250
MLTFC6SH-LP316	6.0	152	23.4	574	450	2000	1.0	25.4	.63	15.9	.015	.38		50	250
MLTFC8SH-LP316	8.0	203	29.7	754	450	2000	1.0	25.4	.63	15.9	.015	.38		50	250

*Other lengths available, contact Customer Service.
**Per SAE Standard AS23190/3 (formerly MIL). For additional details, refer to page B3.27.
***For information on installation tools, refer to pages B3.13, B3.14 and B3.15.
^Base material less coating.

Order number of pieces required, in multiples of Standard Package Quantity.
Prime items appear in **BOLD**.

PAN-STEEL® Double Wrapped Stainless Steel Cable Ties – MLTD Series

- Available in 304 and 316 stainless steel for extra high strength in critical applications
- Allow for tighter tensioning on non-resilient bundles
- Available in .31 in. (7.9mm), .50 in. (12.7mm), .625 in. (15.9mm) width
- Loop tensile strength up to 1200 lbs. (5340 N)
- Self-locking ties – no tools required
- Optional tooling is available to speed installation and lower installed costs
- Cable tie body passes through head two times



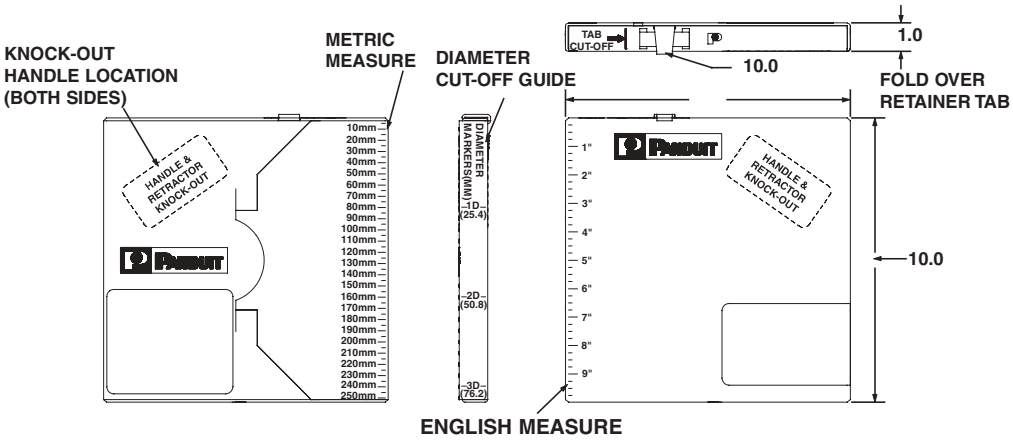
Part Number	Max. Bundle Diameter In.	Max. Bundle Diameter mm	Length* In.	Length* mm	Min. Loop Tensile Strength** Lbs.	Min. Loop Tensile Strength** N	Min. Bundle Diameter In.	Min. Bundle Diameter mm	Width In.	Width mm	Thickness In.	Thickness mm	Recommended Installation Tool***	Std. Pkg. Qty.	Std. Ctn. Qty.
AISI 304 Stainless Steel – MLTD Double Wrapped Ties															
Heavy Cross Section															
MLT2DH-L	2.0	51	18.5	470	600	2670	1.0	25.4	.31	7.9	.010	.25	GS4MT, HTMT, PPTMT, ST2MT, or ST3MT	50	250
MLT4DH-L	4.0	102	28.0	711	600	2670	1.0	25.4	.31	7.9	.010	.25		50	250
MLT5DH-L	5.0	127	34.0	863	600	2670	1.0	25.4	.31	7.9	.010	.25		50	250
MLT6DH-Q	6.0	152	40.0	1016	600	2670	1.0	25.4	.31	7.9	.010	.25		25	250
Extra-Heavy Cross Section															
MLT4DEH-Q	4.0	102	29.5	749	800	3560	1.0	25.4	.50	12.7	.010	.25	RT1HT, ST3MT	25	125
MLT6DEH-Q	6.0	152	41.5	1054	800	3560	1.0	25.4	.50	12.7	.010	.25		25	125
MLT8DEH-Q	8.0	203	53.5	1359	800	3560	1.0	25.4	.50	12.7	.010	.25		25	125
MLT4DEH15-Q	4.0	102	29.5	749	1000	4450	1.0	25.4	.50	12.7	.015	.38		25	125
MLT6DEH15-Q	6.0	152	41.5	1054	1000	4450	1.0	25.4	.50	12.7	.015	.38		25	125
MLT8DEH15-Q	8.0	203	53.5	1359	1000	4450	1.0	25.4	.50	12.7	.015	.38		25	125
Super-Heavy Cross Section															
MLT4DSH-Q	4.0	102	29.5	749	1200	5340	1.0	25.4	.63	15.9	.015	.38	RT1HT	25	125
MLT6DSH-Q	6.0	152	41.5	1054	1200	5340	1.0	25.4	.63	15.9	.015	.38		25	125
MLT8DSH-Q	8.0	203	53.5	1359	1200	5340	1.0	25.4	.63	15.9	.015	.38		25	125
AISI 316 Stainless Steel – For MLTD Double Wrapped Ties															
Extra-Heavy Cross Section															
MLT4DEH-Q316	4.0	102	29.5	749	800	3560	1.0	25.4	.50	12.7	.010	.25	RT1HT, ST3MT	25	125
MLT6DEH-Q316	6.0	152	41.5	1054	800	3560	1.0	25.4	.50	12.7	.010	.25		25	125
MLT8DEH-Q316	8.0	203	53.5	1359	800	3560	1.0	25.4	.50	12.7	.010	.25		25	125
MLT4DEH15-Q316	4.0	102	29.5	749	1000	4450	1.0	25.4	.50	12.7	.015	.38		25	125
MLT6DEH15-Q316	6.0	152	41.5	1054	1000	4450	1.0	25.4	.50	12.7	.015	.38		25	125
MLT8DEH15-Q316	8.0	203	53.5	1359	1000	4450	1.0	25.4	.50	12.7	.015	.38		25	125
Super-Heavy Cross Section															
MLT4DSH-Q316	4.0	102	29.5	749	1200	5340	1.0	25.4	.63	15.9	.015	.38	RT1HT	25	125
MLT6DSH-Q316	6.0	152	41.5	1054	1200	5340	1.0	25.4	.63	15.9	.015	.38		25	125
MLT8DSH-Q316	8.0	203	53.5	1359	1200	5340	1.0	25.4	.63	15.9	.015	.38		25	125

*Other lengths available, contact Customer Service.
**Per SAE Standard AS23190/3 (formerly MIL). For additional details, refer to page B3.27.
***For information on installation tools, refer to pages B3.13, B3.14 and B3.15.

Custom Length Banding – MBS, MBH, MBEH and MBSH Series

- For bundling applications that require various bundle diameters
- Supplied in reels of 82.5 ft (25M), 200 ft (61M), 250 ft (76M) or 1000 ft (305M)

Polyester coating (optional):
- Low smoke, halogen free
- Temperature tolerance -40°F (-40°C) to 302°F (150°C)
- Good UV resistance
- Coating thickness .003 in. (.08mm) / .005 in. (.13mm) per side



Part Number	Max. Bundle Diameter In.	Max. Bundle Diameter mm	Length* ft	Length* M	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***	Recommended Banding Head	Std. Pkg. Qty.‡
AISI 304 Stainless Steel – For General Purpose Banding															
Standard Cross Section															
MBS-TLR	Any	Any	250	76	100	445	.50	12.7	.18	4.4	.010	.25	GS4MT, HTMT, PPTMT, ST2MT or ST3MT	MTHS-C	1
MBS-MR	Any	Any	1000	305	100	445	.50	12.7	.18	4.4	.010	.25		MTHS-C	1
Heavy Cross Section															
MBH-TLR	Any	Any	250	76	250	1112	.50	12.7	.31	7.9	.010	.25	GS4MT, HTMT, PPTMT, ST2MT or ST3MT	MTHH-C	1
MBH-MR	Any	Any	1000	305	250	1112	.50	12.7	.31	7.9	.010	.25		MTHH-C	1
Extra-Heavy Cross Section															
MBEH-TLR	Any	Any	250	76	300	1335	1.0	25.4	.50	12.7	.010	.25	RT1HT, ST3MT	MTHEH-C	1
Super-Heavy Cross Section															
MBSH-TR	Any	Any	200	61	450	2000	1.0	25.4	.63	15.9	.015	.38	RT1HT	MTHSH-C	1
AISI 316 Stainless Steel – For Superior Corrosion Resistance															
Standard Cross Section															
MBS-TLR316	Any	Any	250	76	100	445	.50	12.7	.18	4.4	.010	.25	GS4MT, HTMT, PPTMT, ST2MT or ST3MT	MTHS-C316	1
MBS-MR316	Any	Any	1000	305	100	445	.50	12.7	.18	4.4	.010	.25		MTHS-C316	1
Heavy Cross Section															
MBH-TLR316	Any	Any	250	76	250	1112	.50	12.7	.31	7.9	.010	.25	GS4MT, HTMT, PPTMT, ST2MT or ST3MT	MTHH-C316	1
MBH-MR316	Any	Any	1000	305	250	1112	.50	12.7	.31	7.9	.010	.25		MTHH-C316	1
Extra-Heavy Cross Section															
MBEH-TLR316	Any	Any	250	76	300	1335	1.0	25.4	.50	12.7	.010	.25	RT1HT, ST3MT	MTHEH-C316	1
Super-Heavy Cross Section															
MBSH-TR316	Any	Any	200	61	450	2000	1.0	25.4	.63	15.9	.015	.38	RT1HT	MTHSH-C316	1

*Other lengths available, contact Customer Service.
**Per SAE Standard AS23190/3 (formerly MIL). For additional details, refer to page B3.27.
***For more information on installation tools, refer to pages B3.13, B3.14 and B3.15.
^Base material less coating.
‡Order in number of reels required.

Prime items appear in **BOLD**.

Custom Length Banding – MBS, MBH, MBEH and MBSH Series (continued)

Part Number	Max. Bundle Diameter		Length*		Min. Loop Tensile Strength**		Min. Bundle Diameter		Width		Thickness^		Recommended Installation Tool***	Recommended Banding Head	Std. Pkg. Qty.‡
	In.	mm	ft	M	Lbs.	N	In.	mm	In.	mm	In.	mm			
Polyester Coated AISI 316 Stainless Steel															
Heavy Cross Section															
MBCH-QR316	Any	Any	82	25	250	1112	.50	12.7	.31	7.9	.010	.25	GS4MT, HTMT, PPTMT, ST2MT or ST3MT	MTHCH-C316	1
Extra-Heavy Cross Section															
MBCEH-QR316	Any	Any	82	25	300	1335	1.0	25.4	.50	12.7	.010	.25	RT1HT, ST3MT	MTHCEH-C316	1
Super-Heavy Cross Section															
MBCSH-QR316	Any	Any	82	25	450	2000	1.0	25.4	.63	15.9	.015	.38	RT1HT	MTHCSH-C316	1

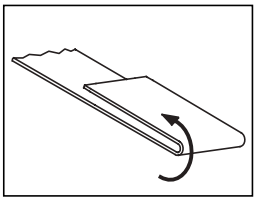
*Other lengths available, contact Customer Service.
**Per SAE Standard AS23190/3 (formerly MIL). For additional details, refer to page B3.27.
***For more information on installation tools, refer to pages B3.13, B3.14 and B3.15.
^Base material less coating.
‡Order in number of reels required.

To determine the proper amount of banding required, use the following formula:

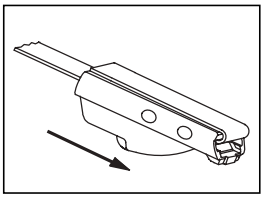
Calculate S and H Cross Section	**Diameter inches (mm) x 3.14 + 3 inches (76mm)**
Calculate EH and SH Cross Section	**Diameter inches (mm) x 3.14 + 4.5 inches (114mm)**

Custom Length Banding Heads – MTH Series

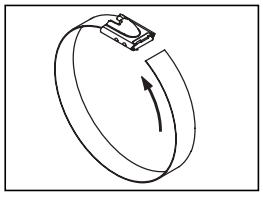
Part Number	Part Description	Std. Pkg. Qty.	Std. Ctn. Qty.
AISI 304 Stainless Steel			
MTHS-C	Loose piece banding head for standard cross section banding.	100	1000
MTHH-C	Loose piece banding head for heavy cross section banding.	100	1000
MTHEH-C	Loose piece banding head for extra-heavy cross section banding.	100	1000
MTHSH-C	Loose piece banding head for super-heavy cross section banding.	100	1000



1) Take one end of the cut banding and bend back 1/2" (13mm).



2) Take a self-locking head and slide it the entire length of the band until it reaches the bend.



3) Bend tail flat against bottom of banding head to complete assembly.

MTH Banding Heads (continued)

Part Number	Part Description	Std. Pkg. Qty.	Std. Ctn. Qty.
AISI 316 Stainless Steel			
MTHS-C316	Loose piece banding head for standard cross section banding.	100	1000
MTHH-C316	Loose piece banding head for heavy cross section banding.	100	1000
MTHEH-C316	Loose piece banding head for extra-heavy cross section banding.	100	1000
MTHSH-C316	Loose piece banding head for super-heavy cross section banding.	100	1000
AISI 316 Coated Stainless Steel			
MTHCH-C316	Loose piece banding head for heavy cross section banding.	100	1000
MTHCEH-C316	Loose piece banding head for extra-heavy cross section banding.	100	1000
MTHCSH-C316	Loose piece banding head for super-heavy cross section banding.	100	1000

PCS Cushion Sleeve

- Black neoprene sleeving used with *PAN-STEEL®* Stainless Steel Ties, Custom Length Banding and MS Strap
- Used on applications requiring improved gripping on non-resilient objects
- Can be used indoors or outdoors (excellent ultraviolet resistance, good resistance to petroleum, and many chemicals)
- Isolation between dissimilar metals allows the ties and straps to be used with aluminum cable tray
- Provides full separation between the ties and the bundle
- Operating temperature range -40°F (-40°C) to 200°F (93°C)

Part Number	Used with *PAN-STEEL®* Ties/Strapping	Width		Length		Std. Pkg. Qty‡
		In.	mm	ft	M	
PCSS-B-CR	MLT/S	.33	8.4	100	30.5	1
PCSH-B-CR	MLT/LH/H	.47	11.9	100	30.5	1
PCSSH-B-CR*	MLT/EH/SH and MS Straps	.91	23.1	100	30.5	1

*Meets MIL-R-6855
‡Order in number of reels required.
Bulk Pkg. –CR = 100 ft. (30.5M) reel.

Order number of pieces required, in multiples of Standard Package Quantity.
Prime items appear in **BOLD**.

PPTMT Pneumatic Installation Tool

- Power assisted tool for fast and effortless installation
- Cable tie side entry for immediate positioning of tie and tool
- Controlled tension, fully adjustable
- Automatic cut-off
- One hand operation – lightweight
- Easy removal of excess tie
- Operates 85 PSI (586 KPA Bar) non-lubricated air and requires no special maintenance

PPTMT

Side Entry

Part Number	Part Description	Std. Pkg. Qty.
PPTMT	Pneumatic hand tool used with *PAN-STEEL*® Type MLT ties, Type MLTC/MLTFC coated ties, Type MLTDH double wrapped ties and *WAVE-TY*™ Stainless Steel Ties. Automatically tensions and cuts off tie when predetermined tension is reached, providing more reliable and consistent installations. Ideal for high production applications. Installs standard .18 in. (4.6mm), light-heavy .25 in. (6.4mm) and heavy .31 in. (7.9mm) cross section ties.	1
PPH10	10 ft. (3M) Hose Assembly (regulator to tool); includes a 1/8" NPT male connector (to regulator) and 1/8" female quick disconnect fitting (to tool).	1
PL289N1	Filter / Regulator .5 micron element, regulated range 3-100 PSIG, 1/8" ports.	1
KPPTMTG	Replacement gripper kit for PPTMT.	1
KPPTMTB	Replacement blade kit for PPTMT.	1

Adjustment Features for PPTMT and GS4MT Tools*

Fast and Easy Selection

The cross-section of the cable tie being installed is clearly indicated on the knob. To change, simply flip knob to proper cross-section indicator.

Tension Indicator

Each cross-section of cable ties can be installed with a variety of tensions to meet the application. The proper tensions (listed on *PANDUIT* cable tie packages) are clearly marked with this indicator.

To Change the Tension:

Turn clockwise to increase.

Turn counter-clockwise to decrease.

*For information on GS4MT installation tool, refer to page B3.14.

GS4MT Hand Operated Installation Tool

- Single handle operation for fast installation
- Cable tie side entry for immediate positioning of tie and tool
- Controlled tension, fully adjustable
- Easy removal of excess tie
- Qualified product listed per SAE Standard MS90387-3
- Automatically tensions and cuts off tie when predetermined tension is reached
- Installs standard .18 in. (4.6mm), light-heavy .25 in. (6.4mm) and heavy .31 in. (7.9mm) cross section ties

GS4MT

Part Number	Part Description	Std. Pkg. Qty.
GS4MT	Used with standard, light-heavy and heavy cross section *PAN-STEEL*® Type MLT ties, Type MLTC/MLTFC Coated ties, Type MLTDH Double Wrapped ties and *WAVE-TY*™ Stainless Steel Ties.	1
K4M-BLD	Replacement cutter blade for GS4MT.	1
K4MTG	Replacement tension gripper for GS4MT.	1
CAMT	Cut-off accessory. Use this accessory with GS4MT tool to cut MBH or MBS continuous banding. Accessory drops in place for use.	1

Side Entry

CAMT

Tool Tension Lock Kits

- For applications requiring a locking device on either the selector knob (one cross-section size and tension only) or tension level adjustment (but allow cross-section size changes)

To lock selector knob and tension level.

To lock fine adjustment.

Part Number	Part Description	Std. Pkg. Qty.
TTLK3	Tool Tension Locking Kit for GS4MT and PPTMT installation tools.	1

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

Prime items appear in **BOLD**.

ST2MT Installation Tool

- Cable tie side entry for immediate positioning of tie and tool
- One hand operation – lightweight
- Easy removal of excess tie
- Tool tension is controlled by installer – twist action cut-off
- Rugged, lightweight, easy-to-operate pliers-type tool provides mechanical advantage

Part Number	Part Description	Std. Pkg. Qty.
ST2MT	Used with standard, light-heavy and heavy cross section *PAN-STEEL*® Type MLT ties, Type MLTC/MLTFC coated ties, Type MLTDH double wrapped ties and *WAVE-TY*™ Stainless Steel Ties.	1

ST3MT Installation Tool

- Cable tie side entry for immediate positioning of tie and tool
- One hand operation – lightweight
- Easy removal of excess tie
- Tool tension is controlled by installer – lever action cut-off
- Rugged, lightweight, easy-to-operate pliers-type tool provides mechanical advantage

Part Number	Part Description	Std. Pkg. Qty.
ST3MT	Used with standard, light-heavy, heavy, and extra-heavy cross section *PAN-STEEL*® Type MLT ties, Type MLTC/MLTFC coated ties, Type MLTDH double wrapped ties and *WAVE-TY*™ Stainless Steel Ties.	1
KT3MG	Replacement tension gripper for ST3MT tool.	1

RT1HT Installation Tool

- Cable tie side entry for immediate positioning of tie and tool
- One or two hand tensioning with multi-position rear handle
- Adjustable tension control
- Lever actuated cut-off
- Easy removal of excess tie
- Ratchet style tool for high tension

Part Number	Part Description	Std. Pkg. Qty.
RT1HT	Used with extra-heavy and super-heavy cross section *PAN-STEEL*® Type MLT ties.	1

HTMT Installation Tool

- Economical
- Coiled tie end remaining after tensioning assures a safe end
- Manual tension, no cut-off
- Installs ties parallel to the bundle

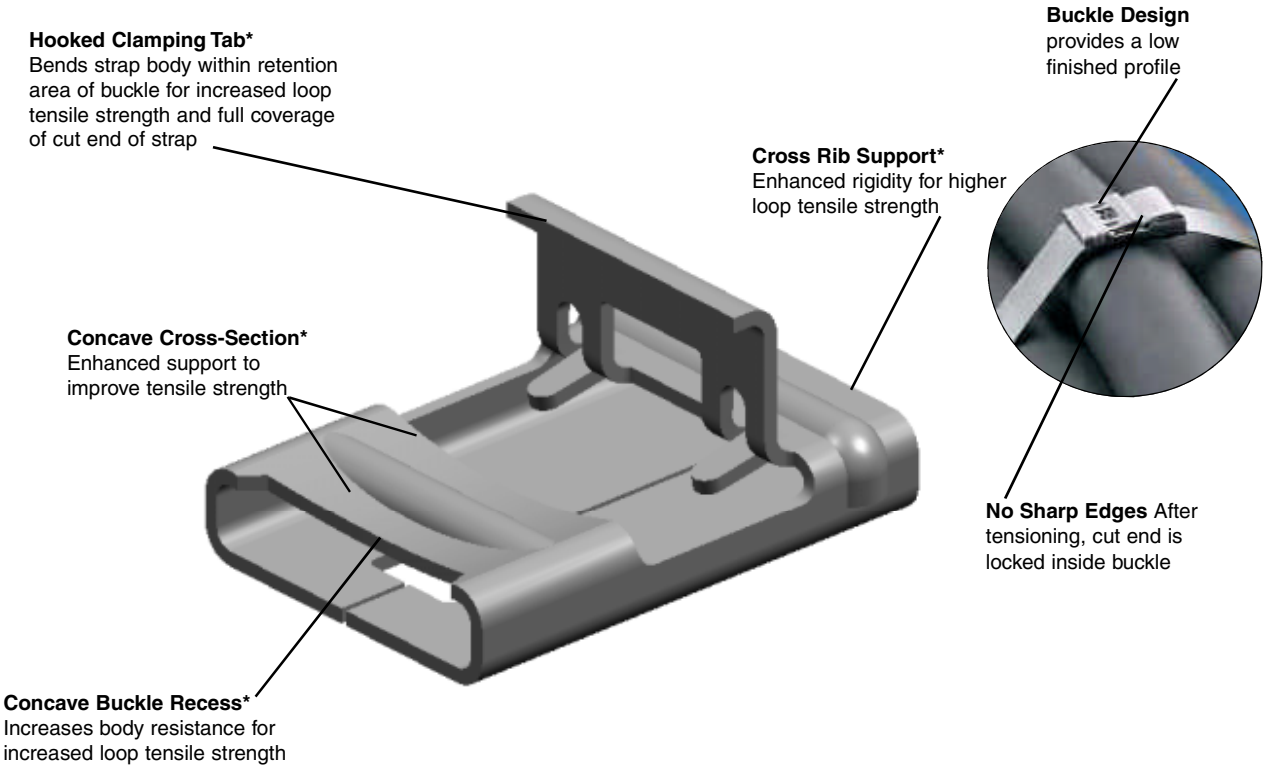
Part Number	Part Description	Std. Pkg. Qty.
HTMT	Used with standard, light-heavy and heavy cross section *PAN-STEEL*® Type MLT ties, Type MLTC/MLTFC coated ties, Type MLTDH double wrapped ties and *WAVE-TY*™ Superior Grip Stainless Steel Ties.	1

A. System Overview
B1. Cable Ties
B2. Cable Accessories
B3. Stainless Steel
C1. Wiring Duct
C2. Surface Raceway
C3. Abrasion Protection
C4. Cable Management
D1. Terminals
D2. Power & Grounding Connectors
E1. Labeling System
E2. Labels
E3. Pre-Printed & Write-On Markers
E4. Lockout/ Tagout & Safety Solutions
F. Index

Features and Benefits – *PAN-STEEL*® Stainless Steel Strapping System

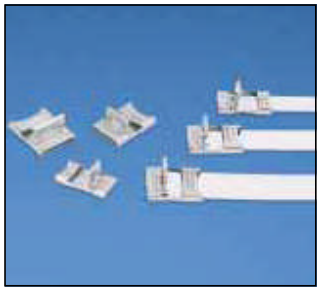
The *PANDUIT*® *PAN-STEEL*® Stainless Steel Strapping is the ultimate solution for strapping applications. The buckle design and tension controlled installation tool offer a quick and safe installation for all harsh environments. Available in three widths 3/8 in. (9.5mm), 1/2 in. (12.7mm) and 5/8 in. (15.9mm) in base 304 or 316 stainless steel with a temperature range of -112°F (-80°C) to 1000°F (538°C).

Unique Patented Locking Method



*Patents Pending

Hand operated installation tools used with all widths of *PANDUIT*® *PAN-STEEL*® Strapping. Tensions, cuts strapping, and secures the buckle tab. Easy to operate. See page B3.21.



Custom length strapping available for applications that require various bundle diameters, to provide job safety and versatility with minimum inventory. See page B3.20.

The *PANDUIT* Method Reduces Installation Time

1) Place strap around the material, insert tail of strap through buckle. Pull strapping tight and bend up to hold in place. Insert tail of strapping into tool nose section. Squeeze handle to tension.

2) Once proper tension is reached, maintain tension and raise tool 90° – 120° over buckle and pull down on cutter lever, cutting strap.

3) Remove tool, press cut end down and toward retaining tab.

4) Using the closure lever on the handle of the tool, bend retaining tab down and over cut end. Provides finished, safe, low profile closure.

Part Numbering System for Discrete Length Stainless Strap

MS	4	W	38	T	15	L	4
Type	**Bundle Diameter In.**	**Width**	**Inches**	**Thickness**	**15 = 0.015"**	**Standard Package Size**	**Thickness**
MS = Metal Strap C = Coated Blank = Uncoated			38 = 3/8 50 = 1/2 63 = 5/8			L = 50 Pcs.	4 = 304 SS 6 = 316 SS

Part Number System for Stainless Steel Coil Strap

MS	W	50	T	15	CR	6
Type	**Width**	**Inches**	**Thickness**	**15 = 0.015"**	**Standard Package Size**	**Material**
MS = Metal Strap C = Coated Blank = Uncoated		38 = 3/8 50 = 1/2 63 = 5/8			L = 50 Pcs. CR = 100 ft	4 = 304 SS 6 = 316 SS

Part Number System for Stainless Steel Buckle

MS	B	W	63	C	4
Type	**B = Buckle**	**Width**	**Inches**	**Standard Package Size**	**Material**
MS = Metal Strap			38 = 3/8 50 = 1/2 63 = 5/8	C = 100 Pcs.	4 = 304 SS 6 = 316 SS

PAN-STEEL® Stainless Steel Strapping – MS Series

- Strong, durable method of bundling and fastening
- Buckle design provides a low finished profile
- After tensioning, cut end is locked inside buckle – no sharp edges
- Fold over design provides high retained tension on all bundles
- Buckle locked in place – will not slip down strap
- AISI 304 stainless steel for general purpose
- Available in AISI 316 material for the most corrosive environments

Part Number	Max. Bundle Diameter		Length*		Min. Loop Tensile Strength**		Min. Bundle Diameter		Width		Thickness		Recommended Tool***	Std. Pkg. Qty.	Std. Ctn. Qty.
	In.	mm	In.	mm	Lbs.	N	In.	mm	In.	mm	In.	mm			
AISI 304 Stainless Steel															
MS2W38T15-L4	2.0	51	11.8	300	500	2225	1.0	25.4	.38	9.5	.015	.38	BT1HT, BT2MS75	50	250
MS4W38T15-L4	4.0	102	18.0	457	500	2225	1.0	25.4	.38	9.5	.015	.38		50	250
MS6W38T15-L4	6.0	152	24.4	620	500	2225	1.0	25.4	.38	9.5	.015	.38		50	250
MS8W38T15-L4	8.0	203	30.7	780	500	2225	1.0	25.4	.38	9.5	.015	.38		50	250
MS10W38T15-L4	10.0	254	37.0	940	500	2225	1.0	25.4	.38	9.5	.015	.38		50	250
MS4W50T15-L4	4.0	102	18.0	457	700	3115	1.0	25.4	.50	12.7	.015	.38		50	250
MS6W50T15-L4	6.0	152	24.4	620	700	3115	1.0	25.4	.50	12.7	.015	.38		50	250
MS8W50T15-L4	8.0	203	30.7	780	700	3115	1.0	25.4	.50	12.7	.015	.38		50	250
MS10W50T15-L4	10.0	254	37.0	940	700	3115	1.0	25.4	.50	12.7	.015	.38		50	250
MS4W63T15-L4	4.0	102	18.0	457	800	3560	1.0	25.4	.63	15.9	.015	.38		50	250
MS6W63T15-L4	6.0	152	24.4	620	800	3560	1.0	25.4	.63	15.9	.015	.38		50	250
MS8W63T15-L4	8.0	203	30.7	780	800	3560	1.0	25.4	.63	15.9	.015	.38		50	250
MS10W63T15-L4	10.0	254	37.0	940	800	3560	1.0	25.4	.63	15.9	.015	.38		50	250
AISI 316 Stainless Steel															
MS2W38T15-L6	2.0	51	11.8	300	500	2225	1.0	25.4	.38	9.5	.015	.38	BT1HT, BT2MS75	50	250
MS4W38T15-L6	4.0	102	18.0	457	500	2225	1.0	25.4	.38	9.5	.015	.38		50	250
MS6W38T15-L6	6.0	152	24.4	620	500	2225	1.0	25.4	.38	9.5	.015	.38		50	250
MS8W38T15-L6	8.0	203	30.7	780	500	2225	1.0	25.4	.38	9.5	.015	.38		50	250
MS10W38T15-L6	10.0	254	37.0	940	500	2225	1.0	25.4	.38	9.5	.015	.38		50	250
MS4W50T15-L6	4.0	102	18.0	457	700	3115	1.0	25.4	.50	12.7	.015	.38		50	250
MS6W50T15-L6	6.0	152	24.4	620	700	3115	1.0	25.4	.50	12.7	.015	.38		50	250
MS8W50T15-L6	8.0	203	30.7	780	700	3115	1.0	25.4	.50	12.7	.015	.38		50	250
MS10W50T15-L6	10.0	254	37.0	940	700	3115	1.0	25.4	.50	12.7	.015	.38		50	250
MS4W63T15-L6	4.0	102	18.0	457	800	3560	1.0	25.4	.63	15.9	.015	.38		50	250
MS6W63T15-L6	6.0	152	24.4	620	800	3560	1.0	25.4	.63	15.9	.015	.38		50	250
MS8W63T15-L6	8.0	203	30.7	780	800	3560	1.0	25.4	.63	15.9	.015	.38		50	250
MS10W63T15-L6	10.0	254	37.0	940	800	3560	1.0	25.4	.63	15.9	.015	.38		50	250

*Other lengths available, contact Customer Service.
**Per SAE Standard AS23190/3 (formerly MIL). For additional details, refer to page B3.27.
***For information on installation tools, refer to page B3.21.

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

Prime items appear in **BOLD**.

PAN-STEEL® Nylon Coated Stainless Steel Strapping – MSC Series

- The strength of steel, the protection of nylon; the nylon coating provides protection for the bundles
- Available in loop tensile strength up to 800 lbs. (3560N)
- Base metal is 316 grade stainless steel for excellent resistance to temperature extremes, corrosion, weather, chemicals, salt sprays and UV radiation

Nylon 11 Coating:

- 100% coated with Black Nylon 11, coating thickness .003 in. (.08mm)/.005 in. (.13mm) per side
- Halogen free
- Good in applications at temperatures down to -40°F (-40°C)
- Excellent resistance to chemicals and salt sprays
- Upper temperature limit 285°F (140°C)

Part Number	Max. Bundle Diameter		Length*		Min. Loop Tensile Strength**		Min. Bundle Diameter		Width		Thickness^		Recommended Installation Tool***	Std. Pkg. Qty.	Std. Ctn. Qty.
	In.	mm	In.	mm	Lbs.	N	In.	mm	In.	mm	In.	mm			
MSC2W38T15-L6	2.0	51	11.8	300	300	1335	1.0	25.4	.38	9.5	.015	.38	BT1HT, BT2MS75	50	250
MSC4W38T15-L6	4.0	102	18.0	457	300	1335	1.0	25.4	.38	9.5	.015	.38		50	250
MSC6W38T15-L6	6.0	152	24.4	620	300	1335	1.0	25.4	.38	9.5	.015	.38		50	250
MSC8W38T15-L6	8.0	203	30.7	780	300	1335	1.0	25.4	.38	9.5	.015	.38		50	250
MSC10W38T15-L6	10.0	254	37.0	940	300	1335	1.0	25.4	.38	9.5	.015	.38		50	250
MSC4W50T15-L6	4.0	102	18.0	457	500	2225	1.0	25.4	.50	12.7	.015	.38		50	250
MSC6W50T15-L6	6.0	152	24.4	620	500	2225	1.0	25.4	.50	12.7	.015	.38		50	250
MSC8W50T15-L6	8.0	203	30.7	780	500	2225	1.0	25.4	.50	12.7	.015	.38		50	250
MSC10W50T15-L6	10.0	254	37.0	940	500	2225	1.0	25.4	.50	12.7	.015	.38		50	250
MSC4W63T15-L6	4.0	102	18.0	457	800	3560	1.0	25.4	.63	15.9	.015	.38		50	250
MSC6W63T15-L6	6.0	152	24.4	620	800	3560	1.0	25.4	.63	15.9	.015	.38		50	250
MSC8W63T15-L6	8.0	203	30.7	780	800	3560	1.0	25.4	.63	15.9	.015	.38		50	250
MSC10W63T15-L6	10.0	254	37.0	940	800	3560	1.0	25.4	.63	15.9	.015	.38		50	250

*Other lengths available, contact Customer Service.
**Per SAE Standard AS23190/3 (formerly MIL).
***For information on installation tools, refer to page B3.21.
^Base material less coating.

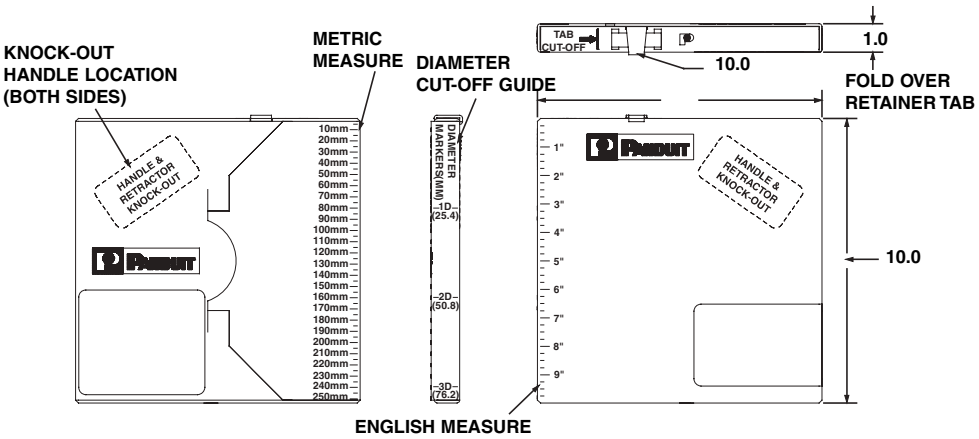
Buckles for Custom Length Strapping

- Buckle design provides a low finished profile
- After tensioning cut end is locked inside buckle, no exposed sharp edge

Part Number	Material	Width		Part Description	Std. Pkg. Qty.	Std. Ctn. Qty.
		In.	mm			
AISI 304 Stainless Steel						
MSBW38-C4	304	.38	9.5	Individual low profile buckles used with custom length strapping.	100	1000
MSBW50-C4	304	.50	12.7		100	1000
MSBW63-C4	304	.63	15.9		100	1000
AISI 316 Stainless Steel						
MSBW38-C6	316	.38	9.5	Individual low profile buckles used with custom length strapping.	100	1000
MSBW50-C6	316	.50	12.7		100	1000
MSBW63-C6	316	.63	15.9		100	1000

Custom Length Strapping

- For applications that require various bundle diameters
- Supplied in reels of 100 ft. (30.5M) and 82.5 ft. (25M)
- 304 and 316 stainless steel
- Provides job-site versatility with minimum inventory
- Available with Nylon 11 coating for additional edge protection
- Coating thickness .003 in. (.08mm)/.005 in. (.13mm) per side



Part Number	Length* ft	Length* M	Min. Loop Tensile Strength** Lbs.	Min. Loop Tensile Strength** N	Width In.	Width mm	Thickness^ In.	Thickness^ mm	Used with Buckle	Recommended Installation Tool***	Std. Pkg. Qty.‡
304 Stainless Steel											
MSW38T15-CR4	100	30.5	500	2225	.38	9.5	.015	.38	MSBW38-C4	BT1HT, BT2MS75	1
MSW50T15-CR4	100	30.5	700	3115	.50	12.7	.015	.38	MSBW50-C4		1
MSW63T15-CR4	100	30.5	800	3560	.63	15.9	.015	.38	MSBW63-C4		1
316 Stainless Steel											
MSW38T15-CR6	100	30.5	500	2225	.38	9.5	.015	.38	MSBW38-C6	BT1HT, BT2MS75	1
MSW50T15-CR6	100	30.5	700	3115	.50	12.7	.015	.38	MSBW50-C6		1
MSW63T15-CR6	100	30.5	800	3560	.63	15.9	.015	.38	MSBW63-C6		1
Nylon Coated Custom Length Strapping											
MSCNW38T15-QR6	82.5	25	300	1335	.38	9.5	.015	.38	MSBW38-C6	BT1HT, BT2MS75	1
MSCNW50T15-QR6	82.5	25	700	3115	.50	12.7	.015	.38	MSBW50-C6		1
MSCNW63T15-QR6	82.5	25	800	3560	.63	15.9	.015	.38	MSBW63-C6		1

*Other lengths available, contact Customer Service.
**Per SAE Standard AS23190/3 (formerly MIL). For additional details, refer to page B3.27.
***For information on installation tools, refer to page B3.21.
^Base metal less coating.
‡Order in number of reels required.

To determine the proper amount of strapping required, use the following formula:

Calculate	**Diameter inches (mm) x 3.14 + 6 inches (152.4 mm)**

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

Prime items appear in **BOLD**.

BT1HT Hand Operated Installation Tool for Strapping

- Strap side entry
- One or two hand tensioning with multi-position rear handle
- Adjustable tension control
- Lever actuated cut-off
- Easy removal of excess strap
- Installs all (3) sizes: 3/8 in. (9.5mm), 1/2 in. (12.7mm) and 5/8 in. (15.9mm)

Part Number	Part Description	Std. Pkg. Qty.
BT1HT	Installation tool. Used for all widths of *PANDUIT® PAN-STEEL®* strapping. Tensions, cuts strapping, and secures the buckle tab. Ratchet-type tool provides mechanical advantage for tensioning. Easy to operate.	1

BT2MS75 Hand Operated Installation Tool for Strapping

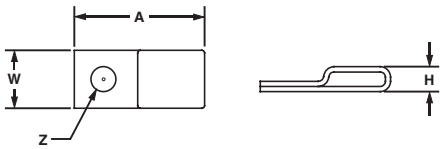
- Strap side entry
- One or two hand tensioning with multi-position rear handle
- Twist cut-off
- Easy removal of excess strap
- Installs all (3) sizes: 3/8 in. (9.5mm), 1/2 in. (12.7mm) and 5/8 in. (15.9mm)

Part Number	Part Description	Std. Pkg. Qty.
BT2MS75	Installation tool. Used for all widths of *PANDUIT® PAN-STEEL®* strapping. Tensions, cuts strapping, and secures the buckle tab. Allows one hand operation in otherwise difficult areas to install. Pliers-type tool provides mechanical advantage for tensioning. Easy to operate.	1
BT2N75	Replacement nose section for BT2MS75 tool. Provides the economy of repair vs. total tool replacement. Easy to install on tool.	1
KT2MG	Replacement tension gripper for BT2MS75 and ST2MT tool. Easy to install on tool. Can be part of a maintenance program. Extends life of tool.	1

Stainless Steel Tie Mounts

- Low profile
- One hole mounting

- For use with standard, light-heavy and heavy cross section *PAN-STEEL*® Ties as well as .375 in. (9.5mm) wide strapping
- 304 Stainless Steel



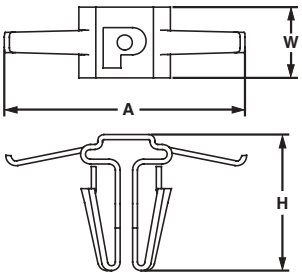
Part Number	Used with *PAN-STEEL*® Ties/Strapping	Mounting Method*	Length A		Width W		Height H		Hole Diameter Z		Std. Pkg. Qty.	Std. Ctn. Qty.
			In.	mm	In.	mm	In.	mm	In.	mm		
MTM1H-C	MLTS/LH/H, MLTC/H, MLTFC/S/LH/H or MSW38	#8 (4mm) screw	.90	22.6	.40	10.2	.17	4.4	.17	4.4	100	1000
MTM1H10-C		#10 (5mm) screw	.90	22.6	.40	10.2	.17	4.4	.21	5.4	100	1000
MTM1H25-C		1/4" (6mm) screw	.90	22.6	.40	10.2	.17	4.4	.28	7.1	100	1000

*Stainless steel screws are recommended for fastening to avoid corrosion problems associated with dissimilar metals.

Stainless Steel Push Mount

- No tapping required
- Used where only one side of the panel is accessible
- Nothing to assemble

- For use with standard, light-heavy and heavy cross section *PAN-STEEL*® Ties
- 304 Stainless Steel
- Patented



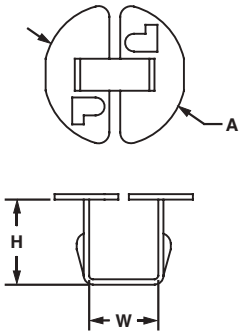
Part Number	Used with *PAN-STEEL*® Ties/Strapping	Mounting Method	Length A		Width W		Height H		Panel Thickness		Std. Pkg. Qty.	Std. Ctn. Qty.
			In.	mm	In.	mm	In.	mm	In.	mm		
MPWM-H56-Q	MLTS/LH/H, MLTC/H or MLTFC/S/LH/H	Inserted into pre-drilled hole 5/16 in. (8mm)	.98	24.7	.29	7.3	.56	14.2	.03 – .09	.8 – 2.4	25	250

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

Prime items appear in **BOLD**.

Stainless Steel Push Button Mount

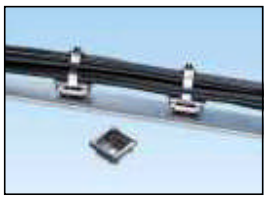
- Low profile
- No tapping required
- Designed for use only where both sides of the panel are accessible
- For use with standard cross section *PAN-STEEL®* Ties
- 304 Stainless Steel

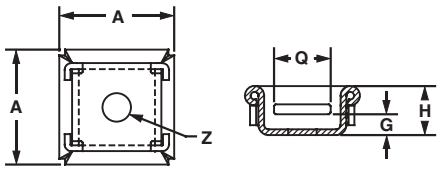


Part Number	Used with *PAN-STEEL®* TIES/STRAPPING	Mounting Method	Diameter A		Width W		Height H		Panel Thickness		Std. Pkg. Qty.	Std. Ctn. Qty.
			In.	mm	In.	mm	In.	mm	In.	mm		
MBM-H25-Q	MLT/S or MLTFC/S	Inserted into pre-drilled hole .25 in. (6.4mm)	.40	10.0	.20	5.0	.26	6.5	.03 – .12	.8 – 3.0	25	250

Stainless Steel 2-Way Tie Mount

- Two-way mount allows stainless steel cable ties to be inserted from either of two sides
- Low profile
- Single hole center mounting for maximum holding and stability
- Maximum screw head height .09 in. (2.3mm)
- For use with standard, light-heavy and heavy cross section *PAN-STEEL®* Ties
- 304 Stainless Steel
- Patented



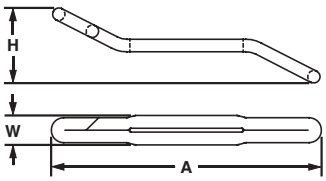


Part Number	Used with *PAN-STEEL®* Ties/Strapping	Mounting Method*	Length A		Height H		Screw Head Height G		Slot Width Q		Hole Diameter Z		Std. Pkg. Qty.	Std. Ctn. Qty.
			In.	mm	In.	mm	In.	mm	In.	mm	In.	mm		
MTM2H-Q	MLTS/LH/H, MLTC/H or MLTFC/S/LH/H	#8 (4mm) screw	.71	18.0	.30	8.0	.09	2.3	.35	9.0	.17	4.5	25	250

*Stainless steel screws are recommended for fastening to avoid corrosion problems associated with dissimilar metals.

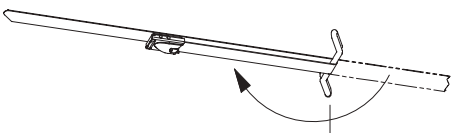
Stainless Steel Bulkhead Mount

- Zero profile
- Mounts directly to surface
- Used where only one side of the panel is accessible
- Permanent, secure application
- Used with standard, light-heavy and heavy cross section *PAN-STEEL®* Ties
- 304 Stainless Steel

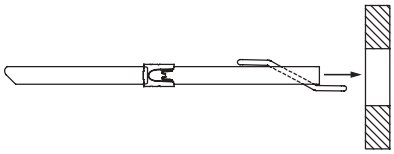


Part Number	Used with *PAN-STEEL®* Ties/Strapping	Mounting Method	Length A		Width W		Height H		Max. Panel Thickness		Std. Pkg. Qty.	Std. Ctn. Qty.
			In.	mm	In.	mm	In.	mm	In.	mm		
MTMBH-Q	MLTS/LH/H/EH/SH, MLTC/H, or MLTFC/S/LH/H/EH/SH	Pre-drill hole size Standard and Light Heavy cross section MLT-S/LH .375 in. (9.5mm) – .500 in. (12.7mm) Heavy cross section MLT-H .500 in. (12.7mm) – .625 in. (15.9mm)	1.92	48.5	.21	5.3	.54	13.7	.50	12.7	25	250

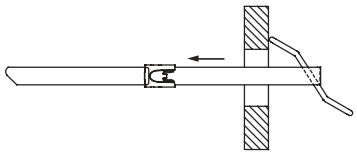
To Install Bulkhead Mount:



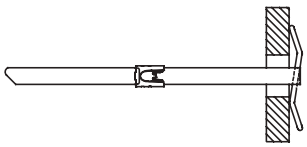
1) Insert cable tie through mount slot and fold cable tie.



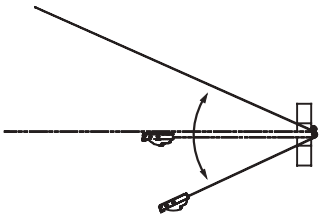
2) Insert cable tie and mount through panel/framework hole.



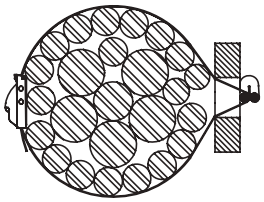
3) Pull cable tie back to secure the mount in the panel/framework.



4) Mount shown in correct position for installation.



5) Separate cable tie to allow for bundling of cables/wires, etc.



6) Install cable tie around bundle and fasten.

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

Prime items appear in **BOLD**.

Physical Characteristics of Stainless Steel Cable Ties (MLT Series)

PAN-STEEL® Ties	Stainless Steel
Tensile Strength@73°F (23°C)	90,000*PSI
Color	Stainless
Flammability	Non-flammable
Radiation Resistance	2 X 10^8 Rads
Water Absorption	None

PAN-STEEL® Ties	Stainless Steel
Max. Continuous Use Temperature	1000°F (538°C) for 304 and 316 material
Min. Continuous Use Temperature	–112°F (–80°C) for 304 and 316 Material
Ultraviolet Light Resistance	Excellent

*ASTME8 Test Method

PANDUIT Stainless Steel Cable Tie and Strapping Approvals

Logo (Symbol)	Agency	Spec /Approval	Requirement	Applicable Products
UL LISTED	Underwriters Laboratories, Inc.	Listing E56854	Dimensional, tensile, temp., cycling, humidity	MLT-S, MLT-LH, MLT-H, MLT-WS, MLTWH, MLTEH15, MLTSH, MLTDEH and MLTDSH in 304, 316 and 321 material. MSW38T15, MSW50T15, MSW63T15, MSBW38, MSBW50, MSBW63 in both 304 and 316 material. MSCW38T15, MSCW50T15, MSCW63T15, MSCNW38T15, MSCNW50T15, and MSW63T15 in 316 material
CE	Conformite European	Low Voltage Directive 73/23/EEC (amended 93/68/EEC) MLT cable ties and MS straps also meet the requirements from EN50146	CE Marking is required for products sold within the European Union. CE Marking Directives specify the minimum performance of these products. Applying the CE mark signifies compliance with essential requirements of specific directives.	MLT-S, MLT-LH, MLT-H, MLT-WS, MLTWH, MLTEH15, MLTSH, MLTDEH and MLTDSH in 304, 316 and 321 material. MSW38T15, MSW50T15, MSW63T15, MSBW38, MSBW50, MSBW63 in both 304 and 316 material
ABS TYPE APPROVAL PROGRAM	Amer. Bureau of Shipping	Cert. # 03-HS373867-PDA 04-HS476898-PDA CH543563-X	Mechanical	MLT-S, MLT-H, MLT-H in both 304 & 316 material and MLTC in 316 material
	Bureau Veritas	Cert. # 04048/CIB	Material specification, dimensional, visual	MLT-S, MLT-H in 316 material
	Det Norske Veritas	Cert. # E-6540 E-6539	Salt mist test, tensile test, accelerated aging, vibration tests	MLT-S, MLT-H and MS ties and straps in 316 material
	Germanischer Lloyd	Cert. # 32666-83HH 51796-89HH	Mechanical	All MLT Ties and MS Straps
	Lloyd's Register of Shipping	Cert. # 89/60123(E2)	Material specification, tensile test, vibration tests	All MLT and MS ties and straps in both 304 and 316 material
	RINA	Cert. # ELE71502CS	Mechanical	All MLT ties and MS Straps
	SAE Int'l formerly US MIL	AS23190 formerly MS23109E	Dimensional, visual, vibration, temp. cycling, immersion, melting point	MLT-S and MLT-H Series and heavy cable ties in both 304 & 316 material
	US Coast Guard	File No.16703/46	Mechanical	MLT-H Series Cable Ties
	US Military	MIL-T-81306A/ MS90387-3	Mechanical	GS4MT Installation tools

Chemical Resistance at 70°F (21°C) Temperature

Chemical	%	304 & 316 Stainless Steel*	Chemical	%	304 & 316 Stainless Steel*	Chemical	%	304 & 316 Stainless Steel*	Chemical	%	304 & 316 Stainless Steel*
Arsenic Acid	40	E	Cider		E	Methyl Alcohol	100	E	Sodium Bisulfate	10	E
Acetone	100	E	Diochloroethane	100	E	Methyl Chloride	100	E	Sodium Borate	All	E
Aluminum Hydroxide	AQ C.S.	E	Diethyl Ether	100	E	Methyl Ethyl Ketone	100	E	Sodium Carbonate	5	E
Ammonium Carbonate	5	E	Ethyl Alcohol	100	E	Naphtha	100	E	Sodium Chlorate	25	E
Ammonium Hydroxide	10	E	Ethyl Chloride	100	E	Nitric Acid	30-70	E	Sodium Chloride	2	E
Ammonuim Nitrate		E	Ethyl Glycol	100	E	Nitrous Acid	5	E	Sodium Fluoride	5	F
Ammonium Sulfate	10	S	Ferric Hydroxide	All	E	Oleic Acid	100	E	Sodium Hydroxide	10	E
Barium Carbonate	All	E	Ferric Nitrate	10	E	Oxalic Acid	10	E	Sodium Hyposulfite	AQ C.S.	E
Barium Chloride	5	E	Ferrous Sulfate	10	E	Paraffin	100	E	Sodium Nitrate	5	E
Barium Sulfate	10	E	Fuel Oil	100	E	Petroleum Ether	100	E	Sodium Nitrite	AQ C.S.	E
Barium Sulfide	10	E	Furfural	100	E	Phenol	90	E	Sodium Percholate	10	E
Benzene	100	E	Gallic Acid	AQ C.S.	E	Phosphoric Acid	10	E	Sodium Phosphate	5	E
Benzoic Acid	100	E	Gasoline	100	E	Picric Acid	1	S	Sodium Sulfate	5	E
Butyric Acid	50	E	Glycerine	100	E	Potassium Bromide	AQ C.S.	S	Sodium Thiosulfate	5	S
Calcium Carbonate	AQ C.S.	E	Hydrocyanic Acid	All	E	Potassium Carbonate 1%		E	Stearic Acid	100	E
Calcium Chlorate	10	E	Hydrogen Peroxide	30	E	Potassium Chlorate	AQ C.S.	E	Sulfur	100	E
Calcium Hydroxide	20	E	Hydrogen Sulfide	Dry	E	Potassium Dichromate	40	E	Sulfur Dioxide	All	E
Calcium Hydrochlorite	2	F	Idoform	100	E	Potassium Ferrocyanide	25	E	Sulfuric Acid	100	E
Calcium Sulfate	2	E	Isopropyl Alcohol	100	E	Potassium hydroxide	5	E	Sulfuric Acid	5	F
Carbon Tetrachloride			Jet Fuel	100	E	Potassium Iodide	All	E	Tannic Acid	10	E
Chlorine (Wet)		F	Lactic Acid	100	E	Potassium Nitrate	50	E	Tartaric Acid	50	E
Chlorine (Dry)		F	Lanolin	10	E	Potassium Permanganate	5	E	Tetrahydrofuran	100	E
Chloroacetic Acid	30	F	Lead Acetate	5	E	Potassium Sulfate	5	E	Toluene	100	F
Chloroform	100	E	Magnesium Carbonate	All	E	Potassium Sulfide	AQ C.S.	E	Xylene	100	E
Chromic Acid	5	E	Magnesium Chloride	10	F	Propyl Alcohol	100	E	Zinc Chloride	70	E
Citric Acid	50	E	Magnesium Nitrate	All	E	Silver Nitrate	10	E	Zinc Nitrate	AQ C.S.	E
Copper Cyanide	10	E	Malic Acid	AQ C.S.	E	Sodium Acetate	60	E	Zinc Sulfate	AQ C.S.	E
Copper Nitrate	50	E	Mercury	100	E	Sodium Bicarbonate	All	E			

*E = Excellent S = Satisfactory F = Fair AQ C.S. = Aqueous Cold Saturated All = All % Concentrations

Rigorous Tests and Physical Properties of Stainless Steel Ties

STRENGTH: *PANDUIT*® *PAN-STEEL*® Stainless Steel Ties are tested per the SAE Standard AS23190 formerly U.S. Military Specification MIL-S-23190, minimum loop tensile test. This test consists of applying a tie to a split mandrel and then measuring the force required to separate the (2) halves until the tie fails. These minimum loop tensile strengths are given for the various products on pages B3.3 through B3.20.

TEMPERATURE EXTREMES: *PANDUIT*® *PAN-STEEL*® Stainless Steel Ties are 100% stainless steel in the alloy provided (locking head, locking ball and body all provided from the same grade of material ordered).

Various temperature tests have been successfully completed. One such test is the U.S. Military Temperature Cycling Test per Thermal Shock Method 107, Test Condition B of MIL-STD-202F. This test exposes the parts from low temperature 85°F (-65°C) to high temperature 275°F (135°C) to low temperature -85°F (-65°C). After exposure, the parts must be free of cracks, distortions, breaks, release of locking device, and meet the minimum loop tensile requirements.

SHOCK AND VIBRATION: *PANDUIT*® *PAN-STEEL*® standard and heavy cross section ties have passed the U.S. Military random vibration Test Method 214. Test Condition II, Letter J of MIL-STD-202. This test consists of applying parts to a bundle and then vibrating them with random vibration for 8 hours in each of two mutually perpendicular directions. The parts are then subjected to further temperature testing and finally have to pass the minimum loop tensile strength test.

PANDUIT® *PAN-STEEL*® Extra Heavy, Super Heavy, MSW50 Strapping, and MSW63 Strapping have passed the U.S. Military Shock and Vibration Testing per MIL-STD-167 and MIL-S-901D. The ties were subjected to vibrations in all three planes from 4 – 50Hz and Shock testing in all three planes utilizing a hammer shock machine.

SALT SPRAY: *PANDUIT*® *PAN-STEEL*® Stainless Steel Ties have been subjected to salt spray tests without signs of corrosion or reduction in performance.

OUTDOOR EXPOSURE: *PANDUIT*® *PAN-STEEL*® Stainless Steel Ties have been exposed outdoors at New Lenox, Illinois USA since 1985. At the printing of this catalog, there has been no sign of corrosion or loss of performance.

FLUID IMMERSION: *PANDUIT*® *PAN-STEEL*® Stainless Steel Ties were immersed in: 1-Hydraulic Fluid, 2-Turbine Fuel, 3-Lubricating Oil, and 4-Isopropyl Alcohol for four hours at temperatures of 122°F (50°C). Per SAE Standard AS23190/3, the parts were then subjected to and passed the minimum loop tensile test.

RADIATION: Installed cable ties of various materials have been exposed to different amounts of radiation to determine the maximum acceptable limit. These tests were conducted by *PANDUIT* to determine the acceptability for use in various areas of nuclear power plants (accumulated over 40 year life). Radiation resistance is $2x10^8$ rads.

Military Cross Reference (AS23190)

Current Military Standard Part Number	*PANDUIT* Part Number
AS23190/3-1	MLT2S-CP
AS23190/3-1	MLT2S-CP316
AS23190/3-2	MLT4S-CP
AS23190/3-2	MLT4S-CP316
AS23190/3-3	MLT6S-CP
AS23190/3-3	MLT6S-CP316
AS23190/3-4	MLT8S-CP
AS23190/3-4	MLT8S-CP316
AS23190/3-5	MLT2H-LP
AS23190/3-5	MLT2H-LP316
AS23190/3-6	MLT4H-LP
AS23190/3-6	MLT4H-LP316
AS23190/3-7	MLT6H-LP
AS23190/3-7	MLT6H-LP316
AS23190/3-8	MLT8H-LP
AS23190/3-8	MLT8H-LP316
AS23190/3-9	MLT10H-LP
AS23190/3-9	MLT10H-LP316

Gage Conversion Chart

Gage	Inches	mm
10	.135	3.571
11	.120	3.175
12	.105	2.778
13	.090	2.381
14	.075	1.984
15	.067	1.778
16	.060	1.587
17	.054	1.422
18	.048	1.270
19	.042	1.118
20	.036	0.965
21	.033	0.865
22	.030	0.793
23	.027	0.711
24	.024	0.635
25	.021	0.559
26	.018	0.483
27	.016	0.432
28	.015	0.396
29	.014	0.356
30	.012	0.330
31	.011	0.279
32	.010	0.254
33	.009	0.229
34	.008	0.216