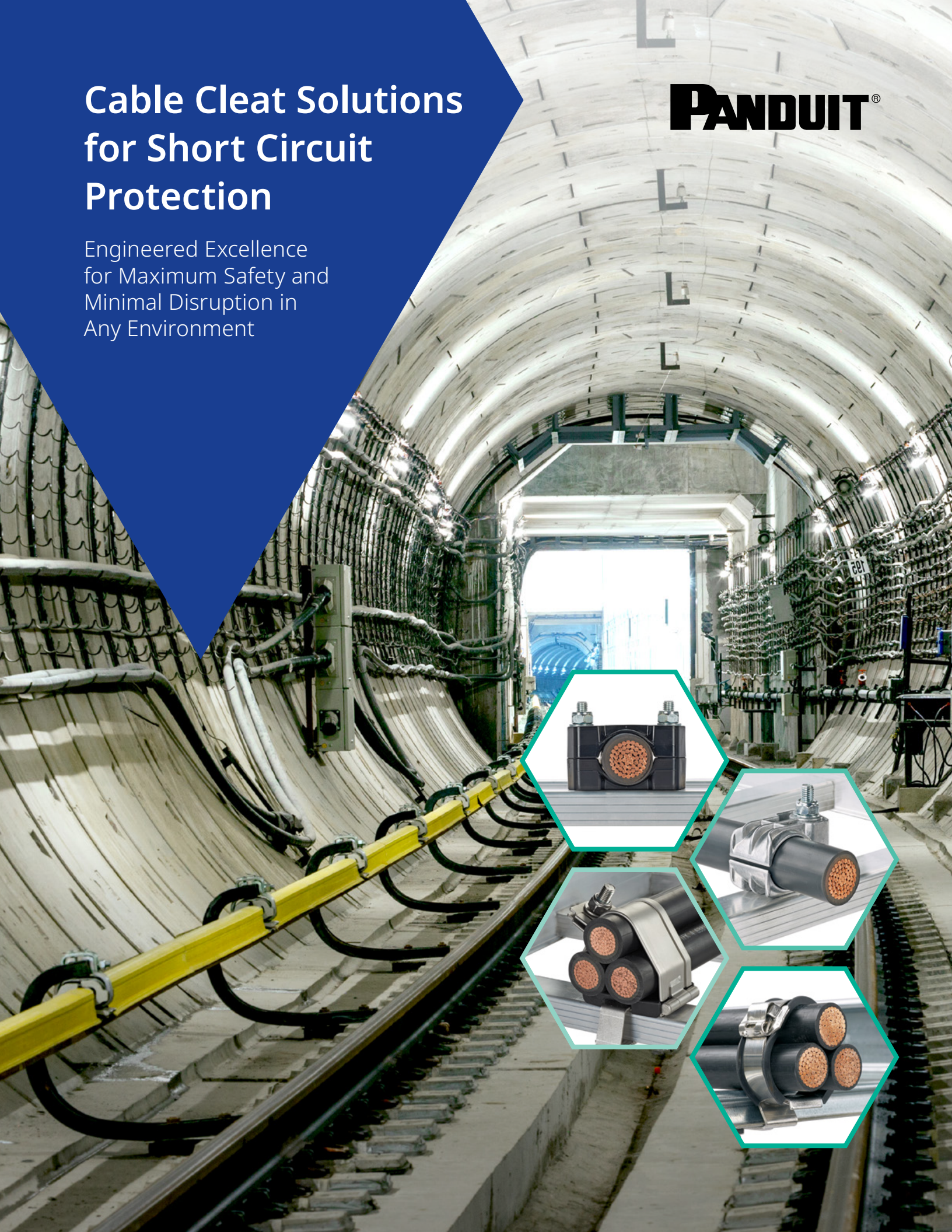
Cable Cleat Solutions for Short Circuit Protection

Engineered Excellence for Maximum Safety and Minimal Disruption in Any Environment

PANDUIT®



Reduce Project Costs and Installation Time

Discover the perfect fit for your cable containment needs with Panduit comprehensive range of cable cleat solutions.

Designed to secure cables in the event of a short circuit fault, our cable cleats prioritize safety and minimize disruption and damage to personnel and property.

Engineered for easy installation in various applications and harsh environments, our cleats offer unmatched reliability and safety. Choose Panduit for on-the-job productivity and peace of mind, knowing you have the right product for your specific project requirements.

- Simple and intuitive design leads to increased productivity
- Compatible with a variety of ladder racks and cables
- Industry-unique mounting brackets and installation tool
- Tested to IEC 61914, the latest and most globally recognized cable cleat testing standard
- Collaborative and consultative approach to cable cleat specification, supported by a team

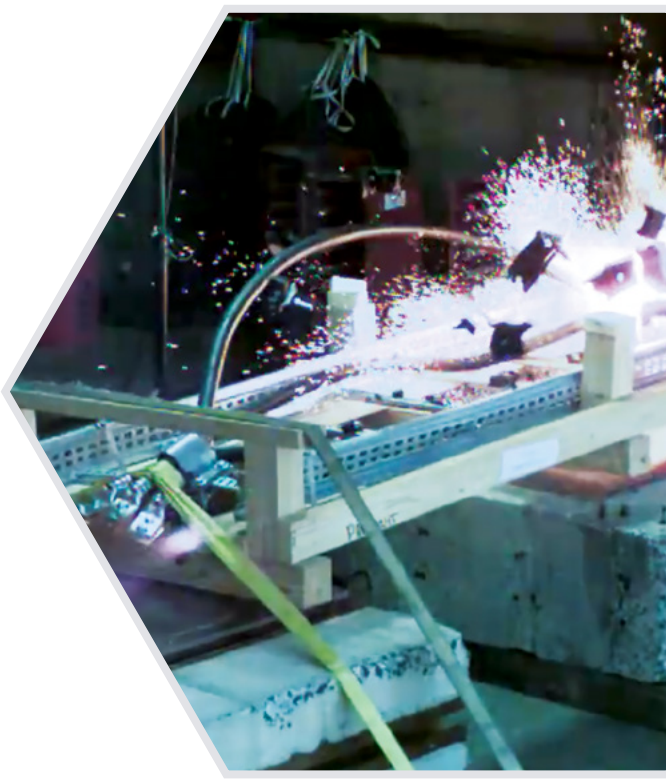
For the full line of Cable Cleat Solutions, visit **panduit.com/cable-cleats**

Why Cable Cleats?

IEC 61914* is the most comprehensive and globally accepted cable cleat testing standard.

It provides requirements for:

- Temperature rating
- Adequate resistance to flame propagation
- Lateral load testing
- Axial load testing
- Impact resistance
- UV resistance
- Resistance to electromechanical forces
- Corrosion resistance



During a short circuit fault, maximum electromechanical stress between conductors occurs at or before 0.005 second

Typical circuit breakers and other protection devices trip and interrupt a fault between 0.06 to 0.1 second

Panduit Cable cleats perform their function within those first 0.005 second (i.e. at peak kA) before a circuit breaker trips and interrupts a fault

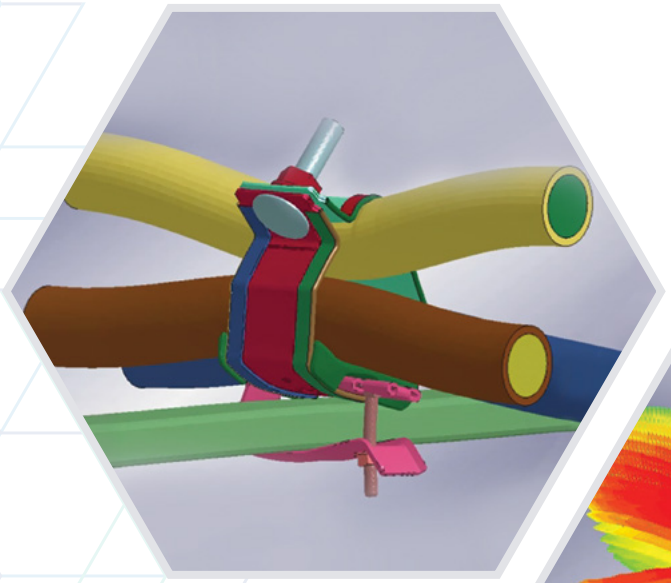
Did You Know?

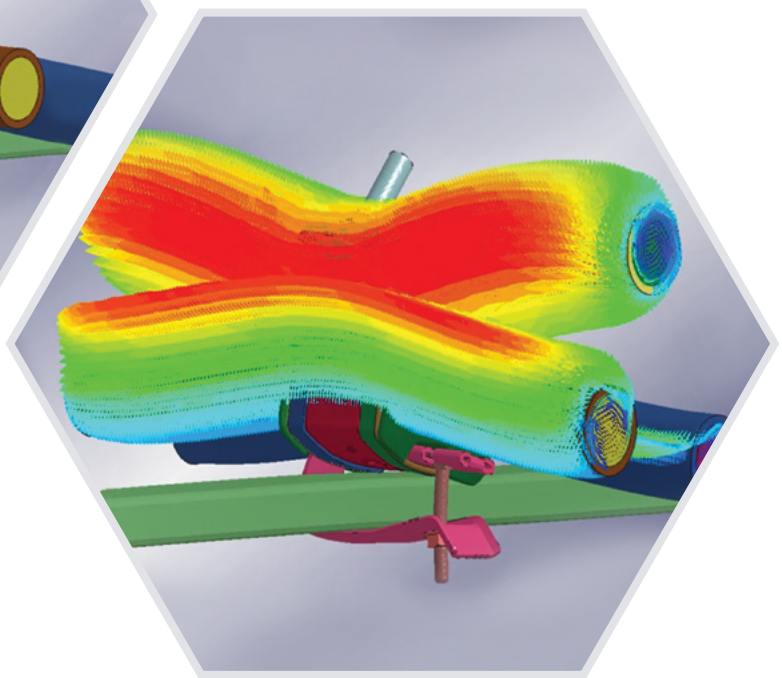
Compliances Qualifications
The NEC 392.20(C) doesn't specify how to protect against excessive cable movement due short circuit, however IEC 61914 provides testing methodology to ensure compliance to the NEC requirements.

*Current industry standards.

Research & Development:
We have created a state-of-the-art ANSYS award-winning program that simulates the material composition of our cable cleats and the electromechanical forces present in a short circuit fault, preparing our cable cleats for testing to IEC 61914 standards.

The cleats are then subjected to a live short circuit fault at a testing laboratory to validate compliance with this standard. The simulation program is a powerful tool that helps us select the most appropriate materials for our cleats, so they perform to their tested kA rating during a short circuit fault.





Live short circuit fault at a testing laboratory to validate compliance with this standard.

Optimize Your Cable Cleat Selection with the Cleat kAlculator™

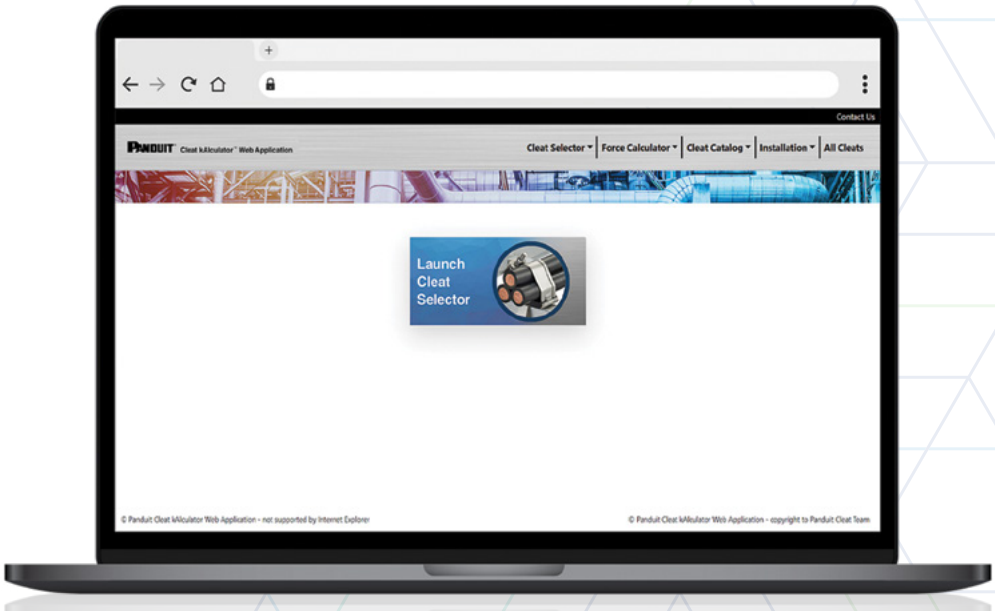
Selecting the **right** Cable Cleat has never been so easy

Access the desktop Cable Cleat web application here, visit **panduit.com/cable-cleat-kalculator**

Prevent damages resulting from a short circuit fault by specifying and installing Panduit Cable Cleats

- **SELECT** cable layout
- **INPUT** peak short circuit current
- **INPUT** cable diameter

The Cleat kAlculator simplifies and accelerates the process of finding the right cable cleat for your specific cable size and current requirements. Say goodbye to time-consuming calculations and ensure precise recommendations effortlessly.



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Cable Layout Legend

Flat Trefoil Quad Multicore

Cable Cleat Products



Product	Trefoil Cleat		Buckle Strap Cleat	Locking Strap Cleat
Material	Stainless Steel			
Diameter Ranges	20 - 25mm 23 - 28mm 26 - 32mm 30 - 36mm 34 - 40mm 38 - 44mm 42 - 48mm 46 - 52mm	50 - 57mm 54 - 61mm 58 - 65mm 62 - 69mm	12 - 45mm 45 - 70mm 70 - 95mm 95 - 120mm 120 - 150mm 150 - 170mm	12 - 95mm 95 - 120mm 95 - 150mm 120 - 150mm 150 - 195mm



Product	Trefoil Cleat		Two-Hole Cleat	One-Hole Cleat	
Material	Aluminum				
Diameter Ranges	23 - 26mm 25 - 28mm 27 - 30mm 29 - 32mm 31 - 35mm 34 - 38mm 37 - 41mm 40 - 44mm	43 - 47mm 46 - 51mm 50 - 56mm 50 - 56mm 55 - 61mm 60 - 67mm 66 – 75mm	38 - 46mm 46 - 58mm 58 - 70mm 70 - 83mm 83 - 97mm 97 - 109mm 109 - 120mm	10 - 13mm 13 - 16mm 16 - 19mm 19 - 23mm 23 - 27mm 27 - 32mm 32 - 38mm 38 - 46mm	46 - 51mm 51 - 57mm



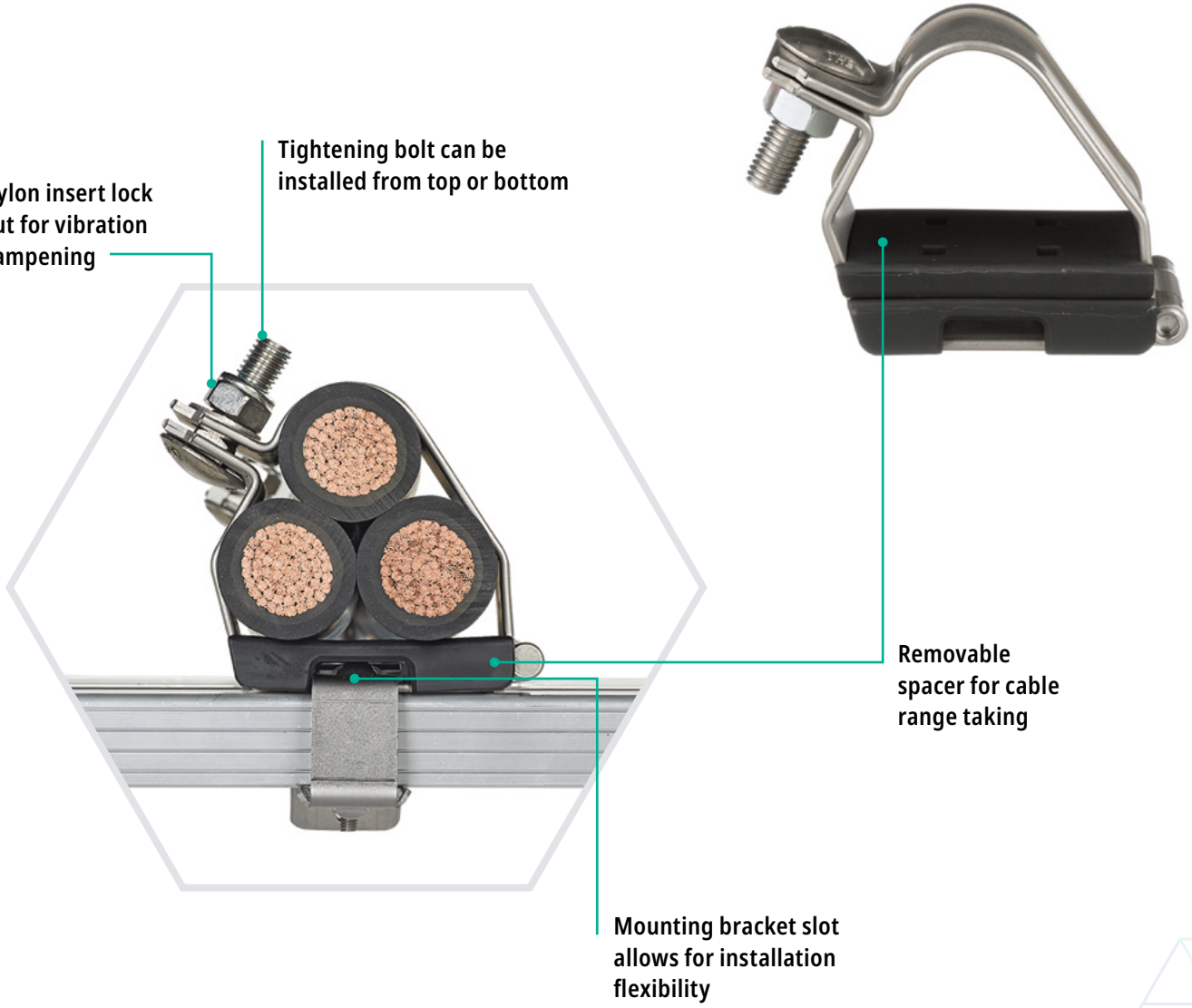
Product	Trefoil Cleat	Two-Hole Cleat		One-Hole Cleat	
Material	Polymer				
Diameter Ranges	22 - 28mm 26 - 33mm 31 - 39mm 37 - 45mm 43 - 52mm 50 - 60mm	38 - 46mm 46 - 58mm 58 - 70mm 70 - 83mm 83 - 97mm 97 - 109mm	109 - 120mm 120 - 135mm 135 - 150mm 150 - 165mm	10 - 13mm 13 - 16mm 16 - 19mm 19 - 23mm 23 - 27mm 27 - 32mm	32 - 38mm 38 - 46mm 46 - 51mm 51 - 57mm

Custom Cleat Solutions Available
For global engineered custom solutions and technical support, visit **panduit.com/cable-cleats**

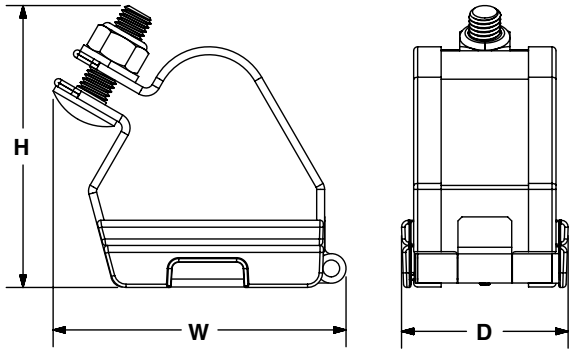
Stainless Steel Trefoil

The **Stainless Steel Trefoil Cable Cleats** offer protection against extreme environments and high short circuit current faults. They are made of 316L stainless steel, available in multiple sizes with cable range taking capability, and suitable for trefoil cable arrangements.

The cable cleat can be installed after running cables using a Panduit mounting bracket or before running cables by installing them directly to the cable tray rung through a fixing hole using a M8 bolt.



Stainless Steel Trefoil



Part Number	Cable Diameter Range In. (mm)	H In. (mm)	W In. (mm)	D In. (mm)	Weight Lb. (g)	Mounting Holes
CCSSTR2025-X	0.79 - 0.98 (20 - 25)	3.43 (87)	3.39 (86)	2.48 (63)	0.92 (417)	1 X M8
CCSSTR2328-X	0.91 - 1.10 (23 - 28)	3.58 (91)	3.54 (90)		0.97 (439)	
CCSSTR2632-X	1.02 - 1.26 (26 - 32)	3.74 (95)	3.82 (97)		1.06 (480)	
CCSSTR3036-X	1.18 - 1.42 (30 - 36)	3.94 (100)	4.13 (105)		1.14 (518)	
CCSSTR3440-X	1.34 - 1.58 (34 - 40)	4.25 (108)	4.37 (111)		1.21 (547)	
CCSSTR3844-X	1.50 - 1.73 (38 - 44)	4.25 (108)	4.69 (119)		1.28 (581)	
CCSSTR4248-X	1.65 - 1.89 (42 - 48)	4.41 (112)	4.96 (126)		1.35 (613)	
CCSSTR4652-X	1.81 - 2.05 (46 - 52)	4.61 (117)	5.24 (133)		1.43 (647)	
CCSSTR5057-X	1.97 - 2.24 (50 - 57)	4.84 (123)	5.63 (143)		1.51 (686)	
CCSSTR5461-X	2.13 - 2.40 (54 - 61)	5.12 (130)	5.91 (150)		1.59 (720)	
CCSSTR5865-X	2.28 - 2.56 (58 - 65)	5.43 (138)	6.18 (157)		1.66 (754)	
CCSSTR6269-X	2.44 - 2.72 (62 - 69)	5.71 (145)	6.50 (165)		1.72 (782)	

Short Circuit Testing Summary*

Learn how Panduit Cable Cleats perform under various short circuit kA, force, and weight.

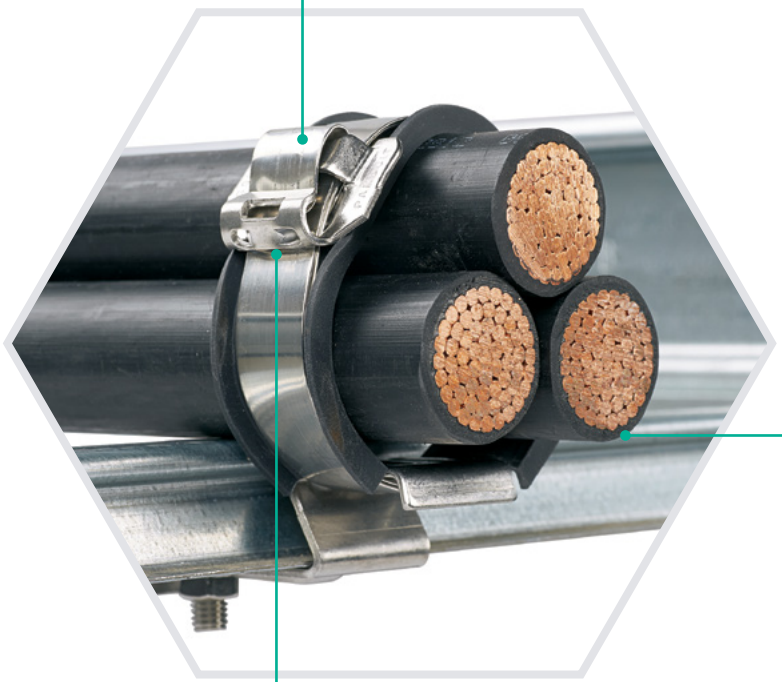
Trefoil Formation			
38mm Cable Diameter	**38mm Cable Diameter**	**35mm Cable Diameter**	**38mm Cable Diameter**
One Short Circuit Event (Clause 6.4.4) 300mm spacing	Two Short Circuit Events (Clause 6.4.5) 300mm spacing	One Short Circuit Event (Clause 6.4.4) 600mm spacing	Two Short Circuit Events (Clause 6.4.5) 600mm spacing
0.1 sec	0.1 sec	0.1 sec	0.1 sec
172 kA Peak	167 kA Peak	143 kA Peak	125 kA Peak
8926 lbs. force (39.77 kN)	8415 lbs. force (37.4 kN)	13398 lbs. force (59.5 kN)	9429 lbs. force (41.9 kN)

*Test compliance to IEC 61914 utilizing KEMA facility; Independent, ISO 17025 accredited testing, inspection, and certification services (IEEE, IEC, UL, and ANSI) for electric power equipment.

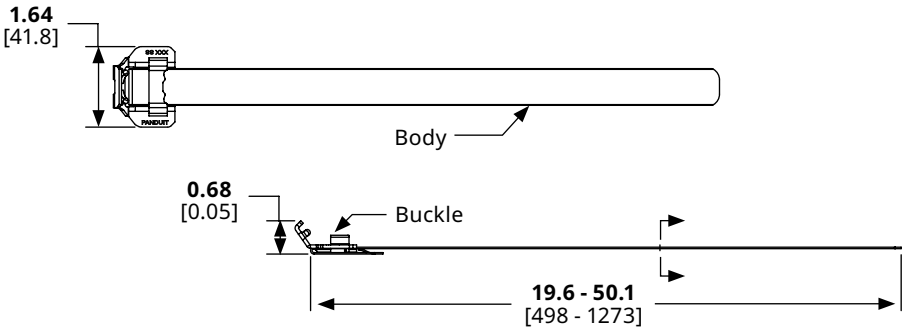
Stainless Steel Buckle Strap

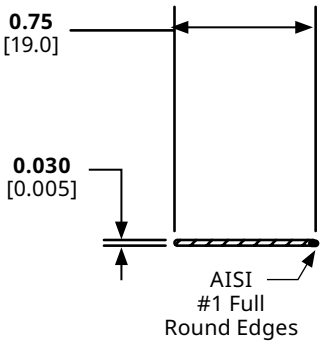
The **Stainless Steel Buckle Strap Cable Cleats** are an effective option for protecting against high short circuits in harsh environments. The strap is made of 316L stainless steel, has inherent cable range-taking, and is compatible with quad, trefoil, and multicore cables.

The cable cleat is installed after running the cable via a unique in the industry mounting bracket. It is tensioned and cut using a manually-operated, ratchet-style installation tool or a tension screw driver. The straps have rounded edges to protect from damaging the cable and are often used in combination with a cushion sleeve inserted between the strap and cable for added protection.



Stainless Steel Buckle Strap





Dimensions are in inches.
[Dimensions in brackets are metric].

Part Number	Flat/Multicore		Trefoil		Quad		Width In. (mm)	Length In. (mm)	Std. Pkg. Qty.
	Double Loop Cable Diameter Range In. (mm)	Triple Loop Cable Diameter Range In. (mm)	Double Loop Cable Diameter Range In. (mm)	Triple Loop Cable Diameter Range In. (mm)	Double Loop Cable Diameter Range In. (mm)	Triple Loop Cable Diameter Range In. (mm)			
MS4W75T30-Q6	0.47 - 1.77 (12 - 45)	0.47 - 1.18 (12 - 30)	0.47 - 0.79 (12 - 20)	–	–	–	0.75 (19.10)	19.6 (498)	25
MS6W75T30-Q6	1.77 - 2.76 (45 - 70)	1.18 - 1.81 (30 - 46)	0.79 - 1.18 (20 - 30)	0.47 - 0.79 (12 - 20)	0.47 - 0.98 (12 - 25)	–		26.5 (673)	
MS8W75T30-Q6	2.76 - 3.74 (70 - 95)	1.81 - 2.48 (46 - 63)	1.18 - 1.65 (30 - 42)	0.79 - 1.02 (20 - 26)	0.98 - 1.42 (25 - 36)	0.47 - 0.87 (12 - 22)		32.7 (831)	
MS10W75T30-Q6	3.74 - 4.72 (95 - 120)	2.48 - 3.15 (63 - 80)	1.65 - 2.28 (42 - 58)	1.02 - 1.38 (26 - 35)	1.42 - 1.93 (36 - 49)	0.87 - 1.18 (22 - 30)		39.0 (991)	
MS12W75T30-Q6	4.72 - 5.91 (120 - 150)	3.15 - 3.94 (80 - 100)	2.28 - 2.83 (58 - 72)	1.38 - 1.73 (35 - 44)	1.93 - 2.4 (49 - 61)	1.18 - 1.46 (30 - 37)		44.7 (1135)	
MS14W75T30-Q6	5.91 - 6.69 (150 - 170)	3.94 - 4.45 (100 - 113)	2.83 - 3.39 (72 - 86)	1.73 - 2.09 (44 - 53)	2.4 - 2.87 (61 - 73)	1.46 - 1.77 (37 - 45)		50.1 (1273)	

Short Circuit Testing Summary[1]

MS##W75T30-Q6 Double Loop Product			
Trefoil Formation			
37mm Cable Diameter	**38mm Cable Diameter**	**39mm Cable Diameter**	**39mm Cable Diameter**
One Short Circuit Event (Clause 6.4.4) 300mm spacing	Two Short Circuit Events (Clause 6.4.5) 300mm spacing	One Short Circuit Event (Clause 6.4.4) 600mm spacing	Two Short Circuit Events (Clause 6.4.5) 600mm spacing
153 kA	142 kA	109 kA	109 kA
7254 lbs. force (32.3 kN)	6084 lbs. force (27.1 kN)	6960 lbs. force (31.0 kN)	6960 lbs. force (31.0 kN)

All MS Part Numbers Listed Above	
Trefoil Formation	
39mm Cable Diameter	**39mm Cable Diameter**
One Short Circuit Event (Clause 6.4.4) 300mm spacing	Two Short Circuit Events (Clause 6.4.5) 300mm spacing
188 kA	188 kA
10391 lbs. force (46.2 kN)	10391 lbs. force (46.2 kN)

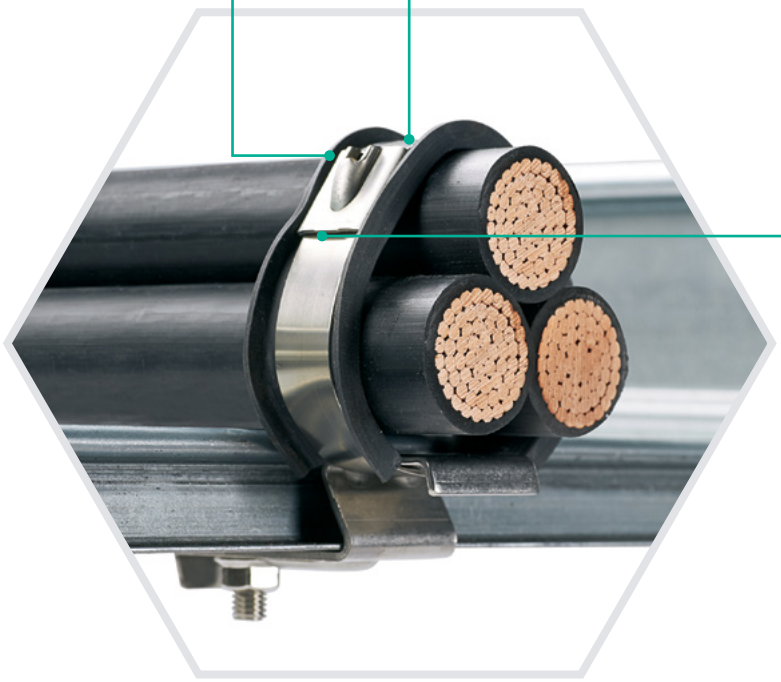
[1]Test compliance to IEC 61914 utilizing KEMA facility; Independent, ISO 17025 accredited testing, inspection, and certification services (IEEE, IEC, UL, and ANSI) for electric power equipment.

While Cable Cleats are tested to meet the CSA standard C22.2 No.61914 it is the responsibility of the installer to ensure that the installation complies with all applicable local codes and regulations.

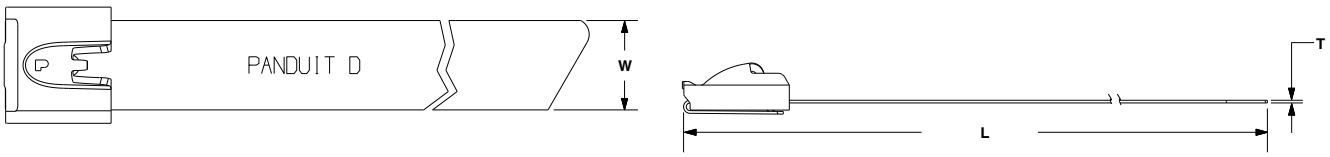
Stainless Steel Locking Strap

The **Stainless Steel Locking Strap Cable Cleats** are an effective option for protecting against lower to medium short circuits in harsh environments. The strap is made of 316L stainless steel, has inherent cable range-taking, and is compatible with quad, trefoil, and multicore cables.

The cable cleat is installed after running the cable via a mounting bracket. It is tensioned and cut using a battery-operated, electromechanical or manually-operated, ratchet-style installation tool. The straps have rounded edges to protect from damaging the cable and are often used in combination with a cushion sleeve inserted between the strap and cable for added protection.



Stainless Steel Locking Strap



Part Number	Trefoil Double Loop Cable Diameter Range In. (mm)	Flat Multicore Double Loop Cable Diameter Range In. (mm)	Quad Double Loop Cable Diameter Range In. (mm)	W In. (mm)	T In. (mm)	L In. (mm)
MLT4DH-L316	0.47 - 1.65 (12 - 42)	0.47 - 3.74 (12 - 95)	0.47 - 1.42 (12 - 36)	0.31 (7.9)	0.010 (0.25)	28.0 (711)
MLT4DH-L						
MLT4DEH15-Q316				0.50 (12.7)	0.015 (0.38)	29.5 (749)
MLT4DSH-Q316				0.63 (15.9)		
MLT4DSH-Q						
MLT6DEH15-Q316	1.65 - 2.84 (42 - 72)	3.74 - 5.91 (95 - 150)	1.42 - 2.40 (36 - 61)	0.50 (12.7)		41.5 (1054)
MLT6DSH-Q316				0.62 (15.9)		
MLT6DSH-Q						
MLT8DEH15-Q316	2.84 - 3.94 (72 - 100)	5.91 - 7.68 (150 - 195)	2.40 - 3.35 (61 - 85)	0.50 (12.7)		53.5 (1359)
MLT8DSH-Q316				0.63 (15.9)		
MLT8DSH-Q						

Short Circuit Testing Summary[1]

MLT#DH-L316 Product			
Trefoil Formation			
39mm Cable Diameter	39mm Cable Diameter	39mm Cable Diameter	39mm Cable Diameter
One Short Circuit Event (Clause 6.4.4) 300mm spacing	Two Short Circuit Events (Clause 6.4.5) 300mm spacing	One Short Circuit Event (Clause 6.4.4) 600mm spacing	Two Short Circuit Events (Clause 6.4.5) 600mm spacing
47.0 kA	47.0 kA	42.2 kA	33.2 kA
649 lbs. force (2.89 kN)	649 lbs. force (2.89 kN)	1047 lbs. force (4.66 kN)	648 lbs. force (2.88 kN)

MLT#DSH-Q316 Product			
Trefoil Formation			
38mm Cable Diameter	38mm Cable Diameter	39mm Cable Diameter	39mm Cable Diameter
One Short Circuit Event (Clause 6.4.4) 300mm spacing	Two Short Circuit Event (Clause 6.4.5) 300mm spacing	One Short Circuit Event (Clause 6.4.4) 600mm spacing	Two Short Circuit Events (Clause 6.4.5) 600mm spacing
75.1 kA	75.1 kA	60.4 kA	60.4 kA
1702 lbs. force (7.57 kN)	1702 lbs. force (7.57 kN)	2145 lbs. force (9.45 kN)	2145 lbs. force (9.45 kN)

MLT#DEH15-Q316 Product		
Trefoil Formation		
38mm Cable Diameter	39mm Cable Diameter	39mm Cable Diameter
One Short Circuit Event (Clause 6.4.4) 300mm spacing	One Short Circuit Event (Clause 6.4.4) 600mm spacing	Two Short Circuit Events (Clause 6.4.5) 600mm spacing
56.1 kA	42.4 kA	35.7 kA
925 lbs. force (4.11 kN)	1057 lbs. force (4.70 kN)	749 lbs. force (3.33 kN)

[1]Test compliance to IEC 61914 utilizing KEMA facility; Independent, ISO 17025 accredited testing, inspection, and certification services (IEEE, IEC, UL, and ANSI) for electric power equipment.

While Panduit's Cable Cleats are tested to meet the CSA standard C22.2 No.61914 it is the responsibility of the installer to ensure that the installation complies with all applicable local codes and regulations.

Installation Tools for Stainless Steel Buckle Strap Cable Cleats

The **manually-operated BT2HTI** and **BT75SDT** tools are used to install the buckle strap cleats.

The **BT2HTI** is a ratchet-style installation tool, allowing for high tension with minimal effort.

The **BT75SDT** strapping tool tensions the strap using a screw drive mechanism, providing high tension while reducing operator fatigue.

Both tools use a lever to cut the strap so there is an appropriate length remaining to fold over and secure with the buckle tab. A side entry slot allows for easy strap insertion, streamlining installation. The BT2HTI is more suitable for higher volume installations, and the BT75SDT for lower volume.

BT2HTI

BT75SDT

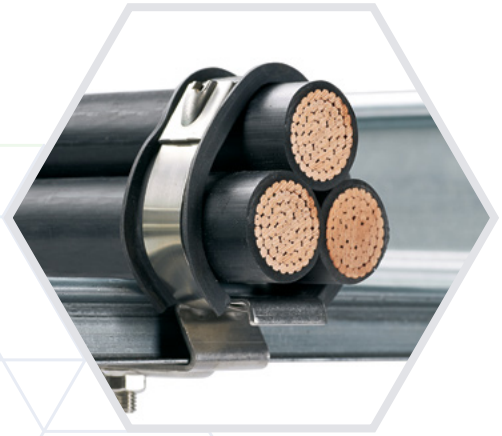
Part Number	Description	Length In. (mm)	Width In. (mm)	Used With	Std Pkg. Qty.
BT2HTI	Installation tool for use with MS75 buckles.	6.94 (176)	7.64 (194)	Stainless Steel Buckle Strap Cleat	1
BT75SDT	Designed to allow for easy strap insertion, our hand-operated installation tool tensions strapping using a screw drive mechanism that provides high tension while reducing operator fatigue.	15 (381)	8 (203)		

Installation Tools for Stainless Steel Locking Strap Cable Cleats

The **battery-operated PBTMT** and **manually-operated, ratchet-style RT2HT** tools are used to install the locking strap cleats.

Both tools tension the strap through its locking head using a gripping tooth mechanism and then cut the end flush, eliminating any sharp edges.

A side entry slot allows for easy strap insertion, streamlining installation. The PBTMT is more suitable for higher volume installations, and the RT2HT for lower volume.



PBTMT/E

RT2HT

Part Number	Description	Length In. (mm)	Width In. (mm)	Used With	Std Pkg. Qty.
PBTMT/E	Battery powered installation tool, for use with Pan-Steel® Heavy, Extra-heavy, and Super-Heavy, Cross Section MLT Style Ties, and MLTD Double Wrapped Style Ties, 2–12 volt lithium-ion batteries and 115 volt, 60 Hz charger included.	10.33 (262.4)	3.17 (80.5	Stainless Steel Locking Strap Cleat	1
RT2HT	Hand Operated Tool for use with Extra-Heavy and Super-Heavy Cross Section Pan-Steel® Type MLT Ties.	7.1 (180	4.05 (103		

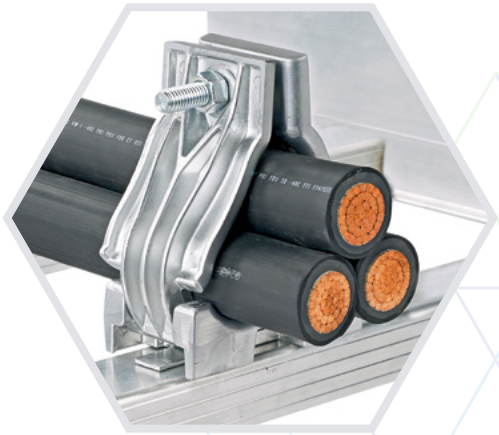
Mounting Brackets

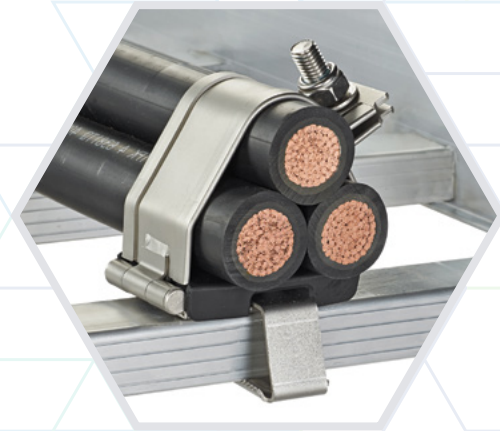
Mounting Brackets for Easy Installation and Labor Savings

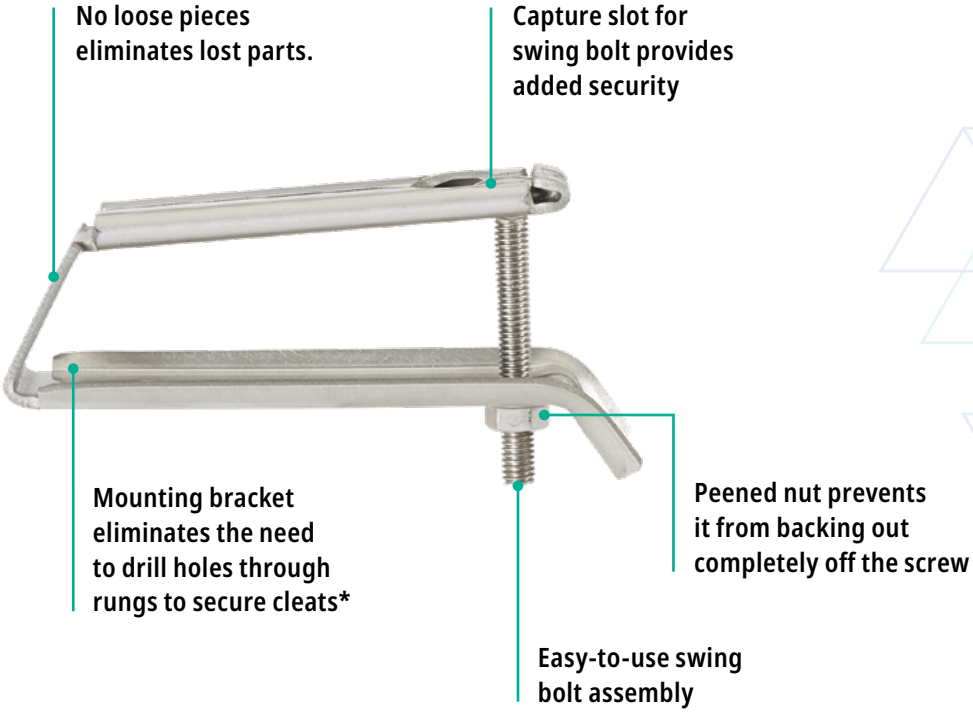
Install cable cleats after the cable is pulled with Panduit mounting brackets that affix to the cable tray and cleat after the cable is run in the tray.

CBH Series Brackets are compatible with the CCSSTR series stainless steel trefoil cleats and CCALTR series aluminum trefoil cleats.

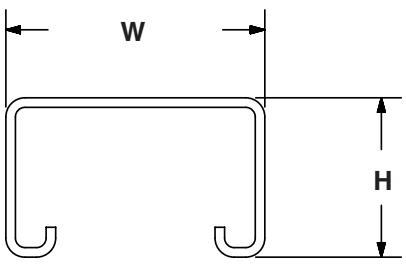
UC Series Brackets work in concert with Panduit unique MLT series locking strap cleats and MS75 series buckle strap cleats.







MOUNTING BRACKETS			
Part Number	Rung Height In. (mm)	Rung Width In. (mm)	Part Weight Lb. (g)
CBH15L50-V6	0.59 (15)	1.97 (50)	0.32 (145)
CBH20L50-V6	0.59 - 0.79 (15 - 20)		
CBH25L50-V6	0.79 - 0.98 (20 - 25)		0.33 (151)
CBH30L50-V6	0.98 - 1.18 (25 - 30)		0.34 (154)



Mounting Brackets and Cushion Sleeves

1

I-Beam Mounting Bracket*

2

Top Hat Mounting Bracket*

3

Round Type Mounting Bracket*

4

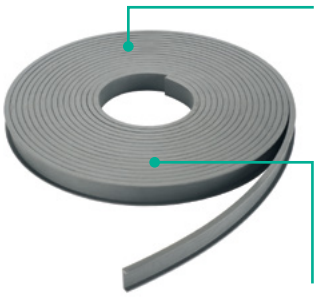
Strut Mounting Bracket*

MOUNTING BRACKET OPTIONS		
Type	Part Number	Std. Pkg. Qty.
4	UCSQ1-VC	5
3	UCRND1-VC	
1	UCIB1-VC	
2	UCTH1-VC	
–	UCFG1-V316	
4	UCSQ1-V316	
3	UCRND1-V316	
1	UCIB1-V316	
2	UCTH1-V316	

*Available in 316L stainless steel and galvanized steel.

CUSHION SLEEVE			
Part Number	Length In. (mm)	Width In. (mm)	Std. Pkg. Qty.
PCSLSH-B-CR	12 (304.8)	1.05 (26.8)	1

Pkg. –CR = 100 ft. (30.5m) reel.



Available in 100 ft. (30.5m) rolls

TPE low-smoke, halogen-free, and flame-resistant

INDIVIDUAL CUSHION SLEEVES							
Part Number	Flat/Multicore Cable Diameter Range In. (mm)	Trefoil Cable Diameter Range In. (mm)	Quad Cable Diameter Range In. (mm)	Length In. (mm)	Width In. (mm)	Thickness In. (mm)	Std. Pkg. Qty.
CSB42-150-230-Q	1.38 – 2.75 (35 – 70)	0.71 – 1.26 (18 – 32)	0.63 – 1.14 (16 – 29)	10.80 (274)	2.62 (66.70)	0.10 (2.50)	25
CSB42-230-330-Q	2.75 – 3.94 (70 – 100)	1.26 – 1.97 (32 – 50)	1.14 – 1.73 (29 – 44)	14.80 (376)			
CSB42-330-430-Q	3.94 – 5.12 (100 – 130)	1.97 – 2.75 (50 – 70)	1.73 – 2.28 (44 – 58)	18.80 (478)			

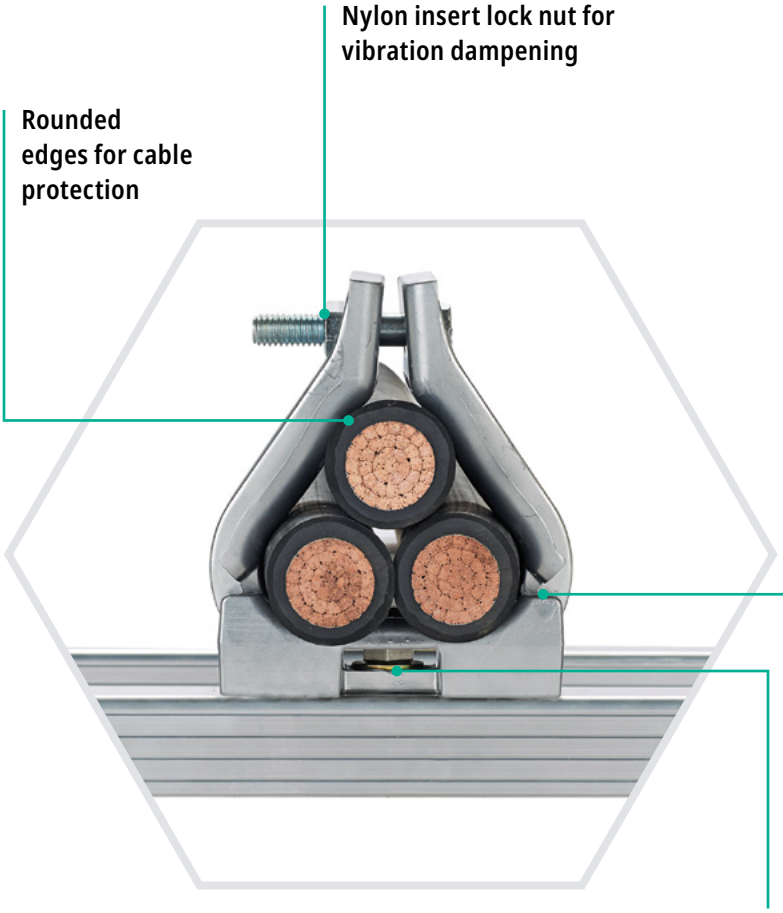
CUSHION SLEEVE REELS					
Part Number	Material	Length In. (m)	Width In. (mm)	Thickness In. (mm)	Std. Pkg. Qty.
PCSLSH-B-CR	TPE Low Smoke, Halogen Free	100 (30.5)	1.05 (26.8)	0.08 (2.2)	1
PCSSH-B-CR	Neoprene		0.91 (23.1)	0.12 (3.1)	

= Best Seller Products

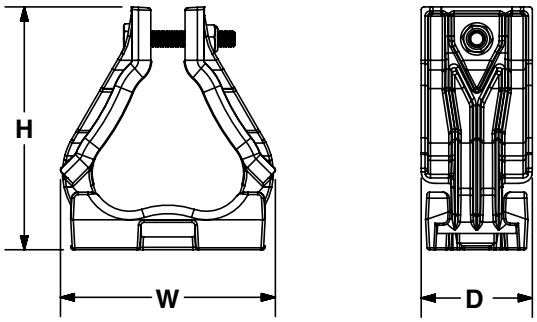
Aluminum Trefoil

The **Aluminum Trefoil Cable Cleats** are ideal for medium-high short circuit faults in less corrosive environments. They are available in multiple sizes with cable range-taking capability and are suitable for trefoil cable arrangements.

The cleat can be installed after running cable via a unique in the industry mounting bracket or before running cable through it by installing direct to the cable tray rung via a fixing hole and M8 bolt. Insulating spacers and washers are available to protect against galvanic corrosion between dissimilar cable tray rung and cable cleat materials.



Aluminum Trefoil



Part Number	Cable Diameter Range In. (mm)	H In. (mm)	W In. (mm)	D In. (mm)	Weight Lb. (g)	Mounting Holes
CCALTR2326-X	0.91 - 1.02 (23 - 26)	3.92 (100)	3.98 (101)	2.17 (55)	0.81 (370)	1 x M8
CCALTR2528-X	0.98 - 1.10 (25 - 28)	4.06 (103)	4.15 (105)		0.85 (385)	
CCALTR2730-X	1.06 - 1.18 (27 - 30)	4.19 (107)	3.86 (98)		0.85 (388)	
CCALTR2932-X	1.14 - 1.26 (29 - 32)	4.33 (110)	3.87 (98)		0.87 (397)	
CCALTR3135-X	1.22 - 1.38 (31 - 35)	4.55 (116)	3.96 (101)		0.92 (418)	
CCALTR3438-X	1.34 - 1.50 (34 - 38)	4.77 (121)	4.18 (106)		0.93 (424)	
CCALTR3741-X	1.46 - 1.61 (37 - 41)	4.99 (127)	4.41 (112)		0.98 (448)	
CCALTR4044-X	1.57 - 1.73 (40 - 44)	5.24 (133)	4.63 (118)		1.05 (477)	
CCALTR4347-X	1.69 - 1.85 (43 - 47)	5.52 (140)	4.85 (123)		1.14 (516)	
CCALTR4651-X	1.81 - 2.01 (46 - 51)	5.83 (148)	5.05 (128)		1.23 (558)	
CCALTR5056-X	1.97 - 2.20 (50 - 56)	6.20 (158)	5.50 (140)		1.32 (602)	
CCALTR5561-X	2.17 - 2.40 (55 - 61)	6.57 (167)	5.72 (145)		1.42 (647)	
CCALTR6067-X	2.36 - 2.64 (60 - 67)	7.01 (178)	6.15 (156)		1.55 (706)	
CCALTR6675-X	2.60 - 2.95 (66 - 75)	7.93 (193)	6.72 (171)		1.73 (787)	

Short Circuit Testing Summary[1]

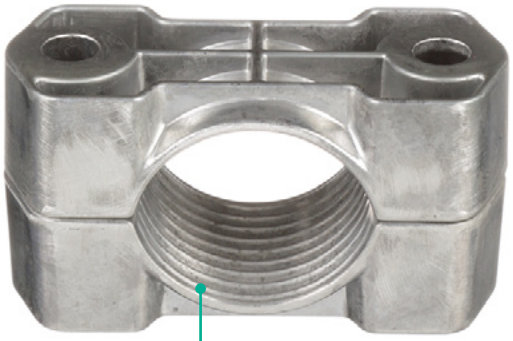
Trefoil Formation			
38mm Cable Diameter	**38mm Cable Diameter**	**38mm Cable Diameter**	**38mm Cable Diameter**
One Short Circuit Event (Clause 6.4.4) 300mm spacing	Two Short Circuit Events (Clause 6.4.5) 300mm spacing	One Short Circuit Event (Clause 6.4.4) 600mm spacing	Two Short Circuit Events (Clause 6.4.5) 600mm spacing
114 kA	109 kA	94.6 kA	94.6 kA
3921 lbs. force (17.4 kN)	3585 lbs. force (15.9 kN)	5401 lbs. force (24.0 kN)	5401 lbs. force (24.0 kN)

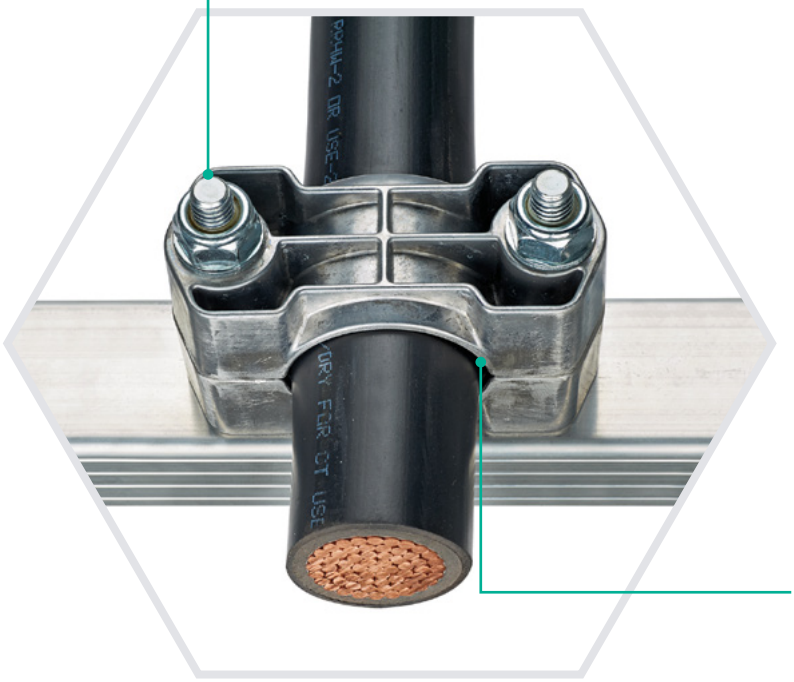
[1]Test compliance to IEC 61914 utilizing KEMA facility; Independent, ISO 17025 accredited testing, inspection, and certification services (IEEE, IEC, UL, and ANSI) for electric power equipment.

Aluminum Two-Hole

The **Aluminum Two-Hole Cable Cleats** are ideal for medium-high short circuit faults in less corrosive environments. They are available in multiple sizes with cable range-taking capability and is suitable for single conductor cables.

The cable cleat is installed after running cables by installing direct to the cable tray rung via fixing holes and two M10 bolts. Insulating spacers and washers are available to protect against galvanic corrosion in case of dissimilar cable tray rung and cable cleat materials.



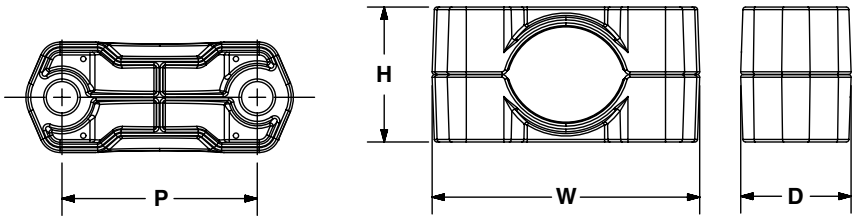


Tightening bolts can be installed from top or bottom

Ridges to hold cable in place

Rounded edges for cable protection

Aluminum Two-Hole



Part Number	Cable Diameter Range In. (mm)	H In. (mm)	W In. (mm)	D In. (mm)	P In. (mm)	Weight Lb. (g)	Mounting Holes
CCAL2H3846-X	1.50 - 1.81 (38 - 46)	2.01 (51)	3.98 (101)	1.64 (42)	2.91 (74)	0.50 (226)	2 x M10
CCAL2H4658-X	1.81 - 2.28 (46 - 58)	2.36 (60)	4.52 (115)	1.69 (43)	3.39 (86)	0.64 (291)	
CCAL2H5870-X	2.28 - 2.76 (58 - 70)	2.87 (73)	5.18 (132)	1.75 (45)	3.96 (101)	0.89 (404)	
CCAL2H7083-X	2.76 - 3.27 (70 - 83)	3.39 (86)	5.71 (145)	1.81 (46)	4.47 (114)	1.09 (496)	
CCAL2H8397-X	3.27 - 3.82 (83 - 97)	3.94 (100)	6.36 (162)	1.87 (47)	5.06 (129)	1.39 (630)	
CCAL2H97109-X	3.82 - 4.29 (97 - 109)	4.53 (115)	6.87 (175)	1.93 (49)	5.55 (141)	1.66 (754)	
CCAL2H109120-X	4.29 - 4.72 (109 - 120)	5.04 (128)	7.33 (186)	1.98 (50)	5.99 (152)	1.92 (873)	

Short Circuit Testing Summary[1]

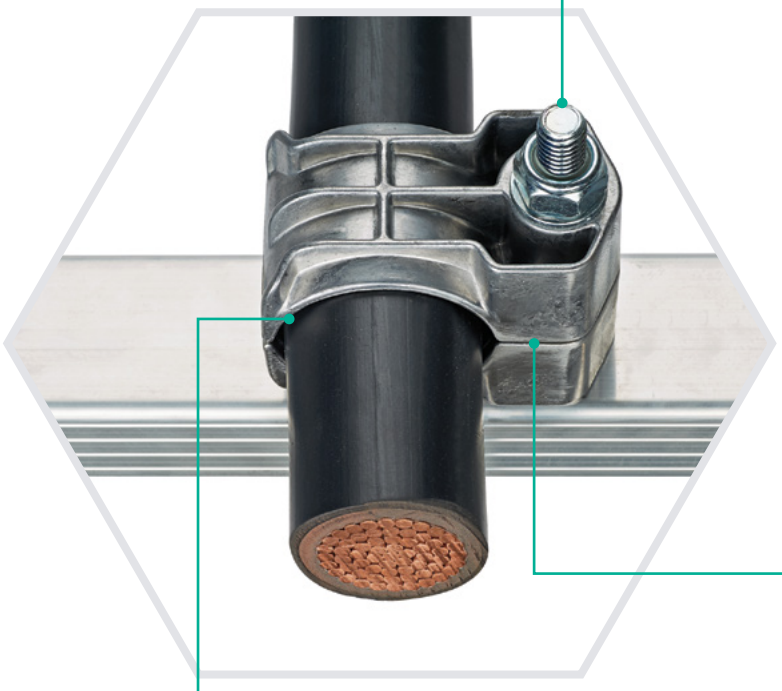
Flat Formation	
105mm Cable Spacing	105mm Cable Spacing
One Short Circuit Event (Clause 6.4.4) 600mm spacing	Two Short Circuit Events (Clause 6.4.5) 600mm spacing
131 kA	131 kA
3748 lbs. force (16.7 kN)	3748 lbs. force (16.7 kN)

[1]Test compliance to IEC 61914 utilizing KEMA facility; Independent, ISO 17025 accredited testing, inspection, and certification services (IEEE, IEC, UL, and ANSI) for electric power equipment.

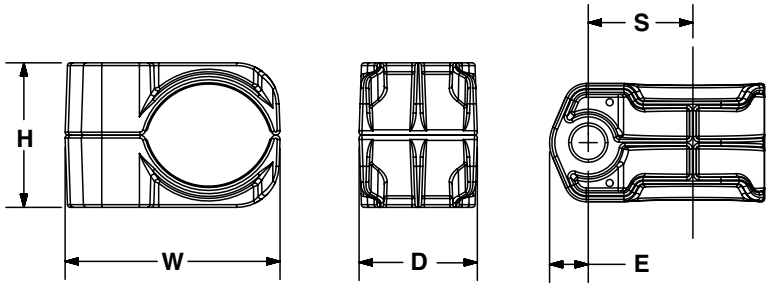
Aluminum One-Hole

The **Aluminum One-Hole Cable Cleats** are ideal for lower to medium short circuit faults in less corrosive environments. They are available in multiple sizes with cable range-taking capability and is suitable for single conductor cables.

The cable cleat is installed after running cables by installing direct to the cable tray rung via a fixing hole and M10 bolt. Insulating spacers and washers are available to protect against galvanic corrosion in case of dissimilar cable tray rung and cable cleat materials.



Aluminum One-Hole



Part Number	Cable Diameter Range In. (mm)	H In. (mm)	W In. (mm)	D In. (mm)	E In. (mm)	S In. (mm)	Weight Lb. (g)	Mounting Holes
CCAL1H1013-X	0.39 - 0.51 (10 - 13)	0.91 (23)	1.59 (40)	1.60 (41)	0.48 (12)	0.77 (20)	0.11 (50)	1 x M10
CCAL1H1316-X	0.51 - 0.63 (13 - 16)	1.02 (26)	1.72 (44)	1.61 (41)		0.83 (21)	0.13 (59)	
CCAL1H1619-X	0.63 - 0.75 (16 - 19)	1.14 (29)	1.88 (48)		0.50 (13)	0.91 (23)	0.15 (68)	
CCAL1H1923-X	0.75 - 0.91 (19 - 23)	1.26 (32)	2.04 (52)			0.99 (25)	0.17 (77)	
CCAL1H2327-X	0.91 - 1.06 (23 - 27)	1.42 (36)	2.28 (58)	1.62 (41)	0.51 (13)	1.07 (27)	0.20 (89)	
CCAL1H2732-X	1.06 - 1.26 (27 - 32)	1.57 (40)	2.44 (62)	1.63 (42)	0.53 (14)	1.19 (30)	0.24 (107)	
CCAL1H3238-X	1.26 - 1.50 (32 - 38)	1.77 (45)	2.68 (68)			1.30 (33)	0.27 (125)	
CCAL1H3846-X	1.50 - 1.81 (38 - 46)	2.01 (51)	2.98 (76)	1.64 (42)	0.54 (14)	1.45 (37)	0.33 (149)	
CCAL1H4651-X	1.81 - 2.01 (46 - 51)	2.36 (60)	3.25 (83)	1.65 (42)	0.56 (14)	1.58 (40)	0.40 (181)	
CCAL1H5157-X	2.01 - 2.24 (51 - 57)	2.56 (65)	3.49 (89)	1.66 (42)	0.57 (14)	1.70 (43)	0.44 (202)	

Short Circuit Testing Summary[1]

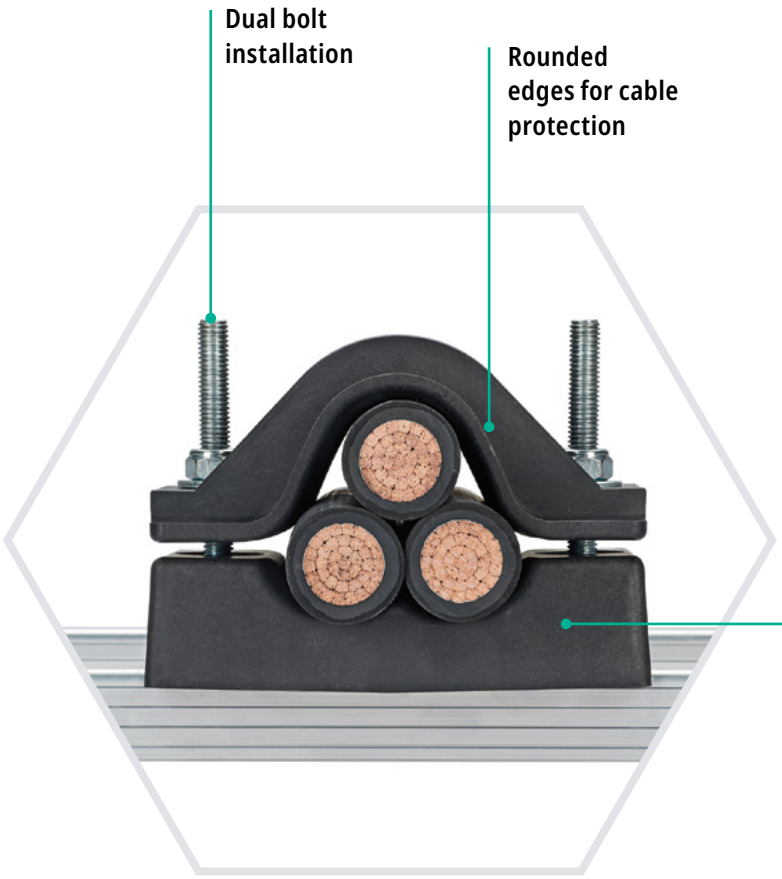
Flat Formation	
105mm Cable Spacing	**105mm Cable Spacing**
One Short Circuit Event (Clause 6.4.4) 600mm spacing	Two Short Circuit Events (Clause 6.4.5) 600mm spacing
93.4 kA	93.4 kA
1904 lbs. force (8.47 kN)	1904 lbs. force (8.47 kN)

[1]Test compliance to IEC 61914 utilizing KEMA facility; Independent, ISO 17025 accredited testing, inspection, and certification services (IEEE, IEC, UL, and ANSI) for electric power equipment.

Polymer Trefoil

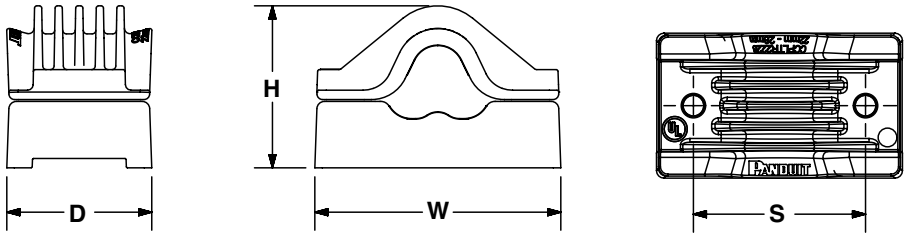
The **Polymer Trefoil Cable Cleats** are ideal for medium-high short circuit faults in less harsh environments. They are available in multiple sizes with cable range-taking capability and is suitable for trefoil cable arrangements.

The cable cleat is installed after running cables by installing direct to the cable tray rung via a fixing hole and M10 bolt.



Ridges to hold cable in place

Polymer Trefoil



Part Number	Cable Diameter Range In. (mm)	H In. (mm)	W In. (mm)	D In. (mm)	S In. (mm)	Weight Lb. (g)	Mounting Holes
CCPLTR2228-X	0.87 - 1.10 (22 - 28)	3.46 (88)	5.20 (132)	3.07 (78)	3.62 (92)	1.29	1 X M10, 2 X M10
CCPLTR2633-X	1.02 - 1.30 (26 - 33)	3.86 (98)	5.59 (142)		4.02 (102)	1.39 (630)	
CCPLTR3139-X	1.22 - 1.54 (31 - 39)	4.13 (105)	6.06 (154)		4.49 (114)	1.51 (685)	
CCPLTR3745-X	1.46 - 1.77 (37 - 45)	4.61 (117)	6.54 (166)		4.96 (126)	1.64 (745)	
CCPLTR4352-X	1.69 - 2.05 (43 - 52)	5.04 (128)	7.09 (180)		5.51 (140)	1.80 (815)	
CCPLTR5060-X	1.97 - 2.36 (50 - 60)	5.55 (141)	7.76 (197)		6.14 (156)	1.97 (895)	

Short Circuit Testing Summary[1]

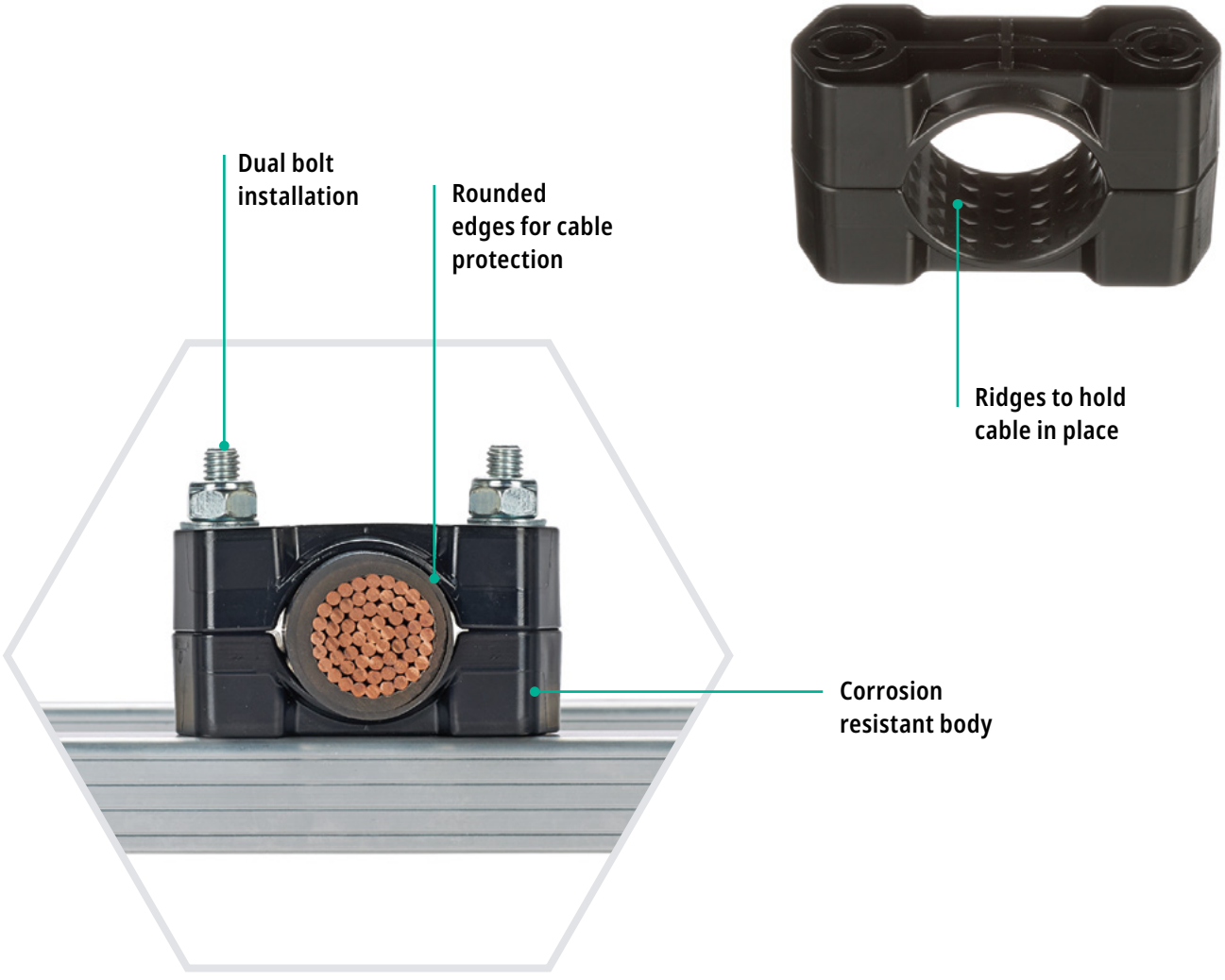
Trefoil Formation		Flat Formation	
38mm Cable Diameter	**38mm Cable Diameter**	**38mm Cable Diameter**	**38mm Cable Diameter**
One Short Circuit Event (Clause 6.4.4) 300mm spacing	Two Short Circuit Events (Clause 6.4.5) 300mm spacing	One Short Circuit Event (Clause 6.4.4) 600mm spacing	Two Short Circuit Events (Clause 6.4.5) 600mm spacing
136 kA	130 kA	109 kA	109 kA
5581 lbs. force (24.8 kN)	5099 lbs. force (22.7 kN)	7170 lbs. force (31.8 kN)	7170 lbs. force (31.8 kN)

[1]Test compliance to IEC 61914 utilizing KEMA facility; Independent, ISO 17025 accredited testing, inspection, and certification services (IEEE, IEC, UL, and ANSI) for electric power equipment.

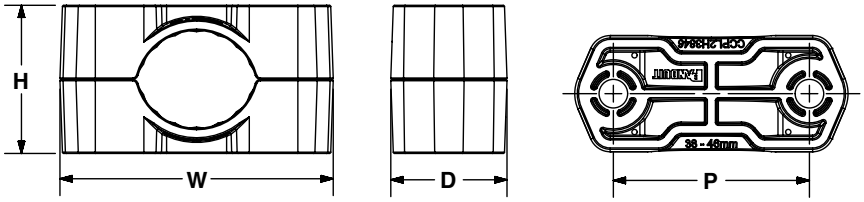
Polymer Two-Hole

The **Polymer Two-Hole Cable Cleats** are ideal for lower to medium short circuit faults in less harsh environments. They are available in multiple sizes with cable range-taking capability and is suitable for single conductor cable arrangements.

The cable cleat is installed after running cables by installing direct to the cable tray rung via fixing holes and two M10 bolts.



Polymer Two-Hole



Part Number	Cable Diameter Range In. (mm)	H In. (mm)	W In. (mm)	D In. (mm)	P In. (mm)	Weight Lb. (g)	Mounting Holes
CCPL2H3846-X	1.50 - 1.81 (38 - 46)	2.20 (56)	4.07 (103)	1.73 (44)	2.92 (74)	0.31 (143)	2 x M10
CCPL2H4658-X	1.81 - 2.28 (46 - 58)	2.56 (65)	4.53 (115)	1.74 (44)	3.37 (86)	0.38 (175)	
CCPL2H5870-X	2.28 - 2.76 (58 - 70)	3.07 (78)	5.04 (128)	1.76 (45)	3.85 (98)	0.48 (220)	
CCPL2H7083-X	2.76 - 3.27 (70 - 83)	3.19 (81)	5.56 (141)	1.85 (47)	4.36 (111)	0.60 (273)	
CCPL2H8397-X	3.27 - 3.82 (83 - 97)	4.13 (105)	6.13 (156)	1.95 (50)	4.91 (125)	0.74 (335)	
CCPL2H97109-X	3.82 - 4.29 (97 - 109)	4.72 (120)	6.64 (169)	2.06 (50)	5.40 (137)	0.88 (402)	
CCPL2H109120-X	4.29 - 4.72 (109 - 120)	5.24 (133)	7.10 (180)	2.09 (53)	5.84 (148)	1.01 (460)	
CCPL2H120135-X	4.72 - 5.31 (120 - 135)	5.71 (145)	7.69 (195)	2.17 (55)	6.42 (163)	1.17 (533)	
CCPL2H135150-X	5.31 - 5.91 (135 - 150)	6.34 (161)	8.31 (211)	2.19 (56)	7.01 (178)	1.35 (615)	
CCPL2H150165-X	5.91 - 6.50 (150 - 165)	6.97 (177)	8.92 (227)	2.29 (58)	7.61 (193)	1.57 (712)	

Short Circuit Testing Summary[1]

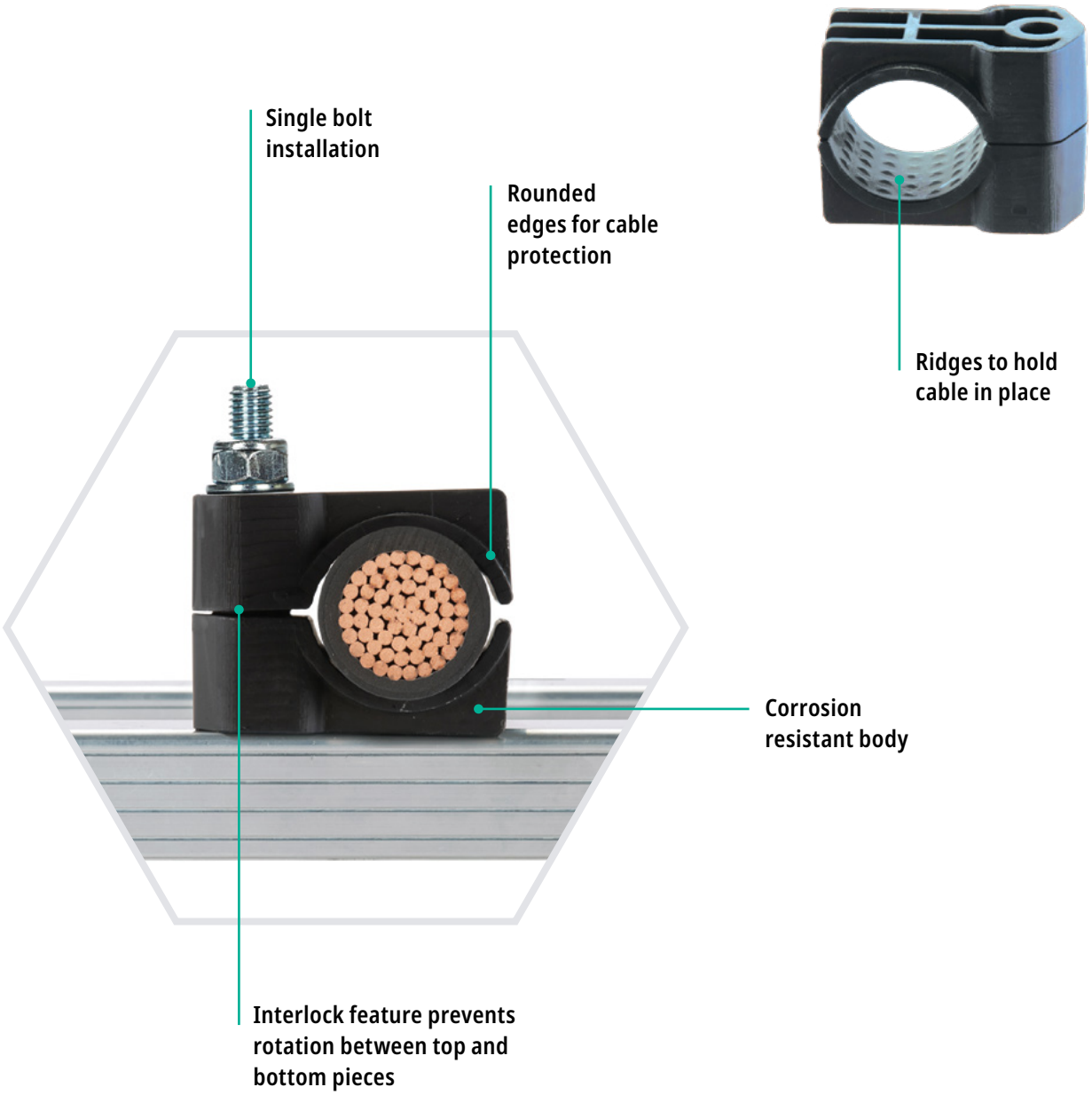
Flat Formation	
105mm Cable Spacing	**105mm Cable Spacing**
One Short Circuit Event (Clause 6.4.4) 600mm spacing	Two Short Circuit Events (Clause 6.4.5) 600mm spacing
85.4 kA	85.4 kA
1593 lbs. force (7.09 kN)	1593 lbs. force (7.09 kN)

[1]Test compliance to IEC 61914 utilizing KEMA facility; Independent, ISO 17025 accredited testing, inspection, and certification services (IEEE, IEC, UL, and ANSI) for electric power equipment.

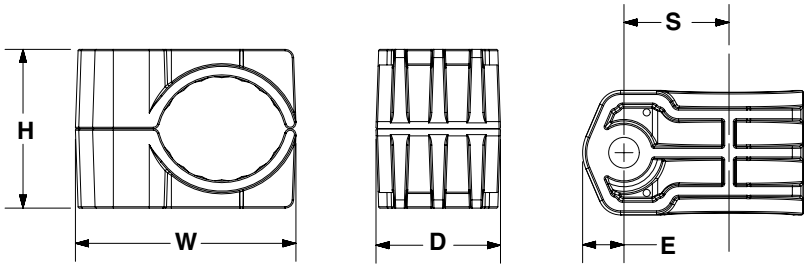
Polymer One-Hole

The **Polymer One-Hole Cable Cleats** are ideal for lower to medium short circuit faults in less harsh environments. They are available in multiple sizes with cable range-taking capability and is suitable for single conductor cable arrangements.

The cable cleat is installed after running cables by installing direct to the cable tray rung via fixing holes and two M10 bolts.



Polymer One-Hole



Part Number	Cable Diameter Range In. (mm)	H In. (mm)	W In. (mm)	D In. (mm)	E In. (mm)	S In. (mm)	Weight Lb. (g)	Mounting Holes
CCPL1H1013-X	0.39 - 0.51 (10 - 13)	1.10 (28)	1.74 (44)	1.69 (43)	0.56 (14)	0.81 (21)	0.08 (38)	1 x M10
CCPL1H1316-X	0.51 - 0.63 (13 - 16)	1.22 (31)	1.87 (48)			0.87 (22)	0.10 (44)	
CCPL1H1619-X	0.63 - 0.75 (16 - 19)	1.34 (34)	2.00 (51)	1.70 (43)		0.94 (24)	0.11 (49)	
CCPL1H1923-X	0.75 - 0.91 (19 - 23)	1.46 (37)	2.15 (55)			1.01 (26)	0.12 (56)	
CCPL1H2327-X	0.91 - 1.06 (23 - 27)	1.61 (41)	2.32 (59)	1.71 (43)		1.09 (28)	0.14 (63)	
CCPL1H2732-X	1.06 - 1.26 (27 - 32)	1.77 (45)	2.52 (64)		0.57 (15)	1.19 (30)	0.16 (72)	
CCPL1H3238-X	1.26 - 1.50 (32 - 38)	1.97 (50)	2.75 (70)	1.72 (44)		1.31 (33)	0.18 (82)	
CCPL1H3846-X	1.50 - 1.81 (38 - 46)	2.28 (58)	3.06 (78)	1.73 (44)		1.46 (37)	0.21 (96)	
CCPL1H4651-X	1.81 - 2.01 (46 - 51)	2.56 (65)	3.29 (84)	1.74 (44)	0.58 (15)	1.57 (40)	0.25 (114)	
CCPL1H5157-X	2.01 - 2.24 (51 - 57)	2.76 (70)	3.53 (90)	(44)		1.69 (43)	0.28 (125))	

Short Circuit Testing Summary[1]

Flat Formation	
105mm Cable Spacing	**105mm Cable Spacing**
One Short Circuit Event (Clause 6.4.4) 600mm spacing	Two Short Circuit Events (Clause 6.4.5) 600mm spacing
69.5 kA	69.5 kA
1055 lbs. force (4.69 kN)	1055 lbs. force (4.69 kN)

[1]Test compliance to IEC 61914 utilizing KEMA facility; Independent, ISO 17025 accredited testing, inspection, and certification services (IEEE, IEC, UL, and ANSI) for electric power equipment.

Comprehensive Solutions for Electrical and Networking Installations

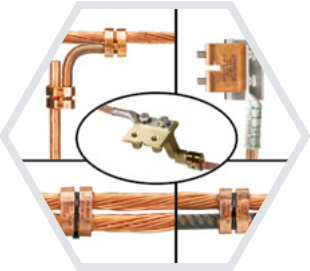
From Breaking Ground to Routine Maintenance and Repair, Panduit Products Impact Your Entire Project Lifecycle

Partner with a company committed to meeting the daily challenges you face. We offer a full solution of over 30,000 readily available parts — from cable ties to power connectors, terminals to identification — Panduit products are engineered for all aspects of designing, installing and maintaining infrastructures within heavy-duty industrial environments.

PRODUCTIVITY
Reduce costs and meet deadlines with products and tools engineered to improve efficiency

RELIABILITY
Ensure performance and design consistency of products that are vital to the success of the job

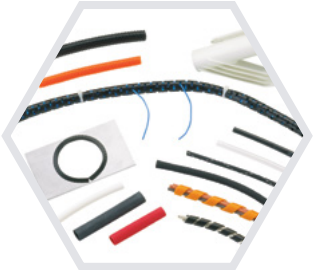
SAFETY
Protect personnel, equipment and infrastructure



StructuredGround™ Grounding System

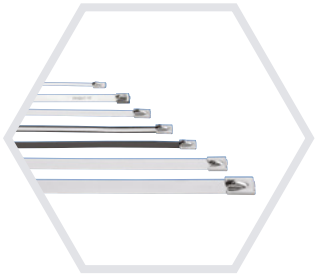
Crimp Tools

Power Connectors



Abrasion Protection

Comprehensive Solutions for Electrical and Networking Installations



Stainless Steel Cable Ties

Printers and Labels

Cable Ties

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VeriSafe™ Absence of Voltage Tester

Network Solutions

Identification

Cable Management Accessories

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