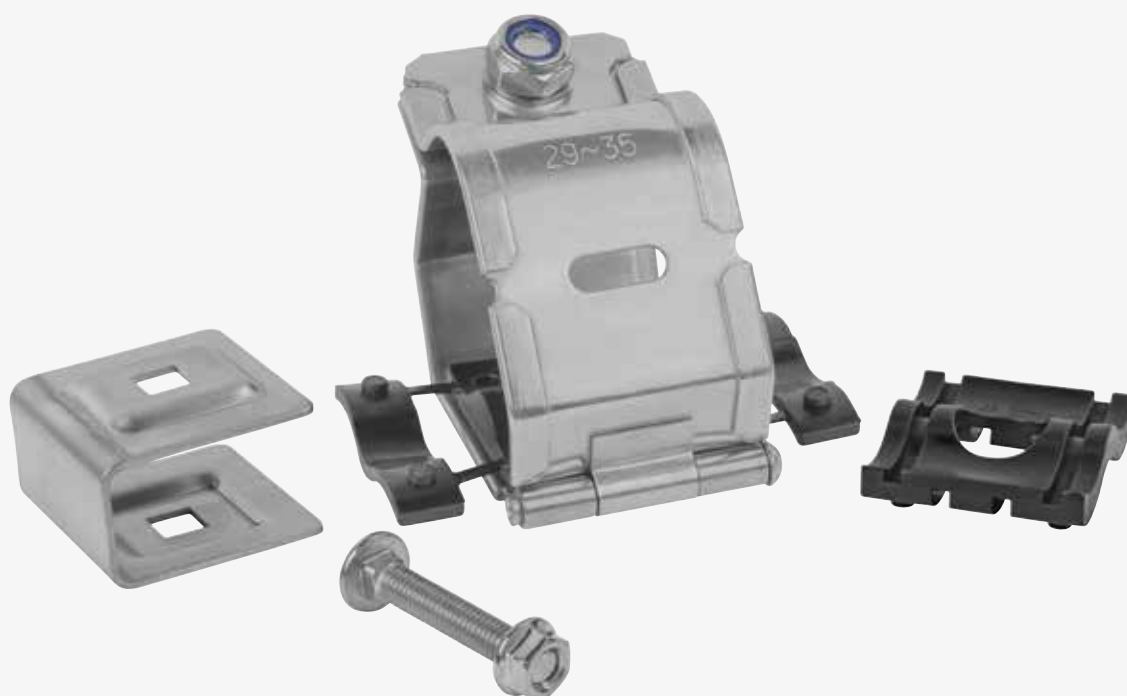


BROCHURE

T&B® Cable Tray

Cable cleats stainless steel 316



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Designed specifically to fit aluminum and steel T&B Cable Tray rungs, new stainless steel 316 cable cleats from ABB retain and support cables within the cable tray. In the event of a short circuit, they also help prevent damage to cables, cable tray and surrounding equipment and reduce the potential for personal injury.

Cable cleats can be used with T&B Cable Tray up to 36" (91 cm) in width. Cleats fit either ladder-style or ventilated tray. Adapter kits are sold separately for non-metallic square-rung tray and AH18 series aluminum tray. Please note that these cable cleats are not rated for use with solid bottom, one-piece, channel, wire basket, non-metallic strut-rung or non-metallic marine tray.

Features

- Available for both single and trefoil cable configurations in an array of range-taking sizes
- Cable cleats stainless steel 316 construction for high resistance to corrosion, weathering, abrasion and extreme temperatures
- Suitable for use in operating temperatures from -60 °C to 120 °C (-76 °F to 248 °F)
- Compact design occupies minimal space on cable tray rungs

Standards/certifications

- IEC 61914:2015



Classification

- Material: Stainless steel 316L
- Temperature range: -60 °C to 120 °C
- Resistance to impact: Very heavy
- Resistance to electromechanical forces: 170 kA peak, 0.33 m spacing, withstanding more than one short circuit
- Resistance to ultraviolet light: No cracks or damage
- Resistance to corrosion: High

Technical specifications

- Frame: 55 mm x 1.5 mm marine-grade, non-magnetic 316L stainless steel
- Closure hardware: Captive 316 stainless steel M10 bolt and nylon locknut
- Integral pad: Low-smoke, low-fume, halogen-free
- Tools required to install: Wrench
- Mounting hardware: Supplied with 316 stainless steel cable tray mounting bracket, 3/8" carriage bolt and flange nut

Typical applications

- Oil and gas
- Mining
- Utilities



Short circuits and short circuit testing

When an electrical circuit allows a current to travel along an unintended path, either between live conductors or between a live conductor and a ground, this is known as a short circuit fault. A short circuit fault can generate significant mechanical forces between conductors, and the closer the conductors are, the greater those mechanical forces will be. If not properly restrained, cables subjected to short circuit can break, fly around, damage cable tray and other nearby equipment and potentially injure personnel.

Short circuit current is expressed either as a peak or as an RMS (root-mean-square) value. Peak current occurs once within the first few milliseconds of the start of a fault and is the maximum current experienced by any of the phases. The RMS current is a calculated value for the initial cycles of a fault. The relationship between peak current and RMS current varies depending on the installation.

The mechanical forces experienced by a cable cleat during a short circuit fault are a function of short circuit current, cleat spacing and the distance between cable centers (in the case of a trefoil cable arrangement, this is the cable diameter).

During an AC short circuit, the forces on the cables and their direction are changing continuously. No simple formula and no static test can assess the effect of these dynamic forces. The ultimate proof of any product to withstand a short circuit is to undertake a short circuit test.

ABB cable cleats have passed short circuit testing per IEC 61914:2015. A DNV-GL survey report is available on request.

Actual short circuit test parameters

Test cable diameter	Peak short circuit current kA	Initial RMS short circuit kA	Cleat spacing m (in.)
33.5 mm in trefoil configuration	170	77	0.33 (13)

NOTE: The physical condition of the cable tray, cable cleats and intermediate restraints after short circuit application have only been evaluated under laboratory conditions. The continued use of the cable cleats and cable tray following an actual short circuit incident is solely at the discretion of the party responsible for the installation. The published cable tray load does not apply to damaged cable trays.

01 Before short circuit test

02 After short circuit test



01



02

Cable cleat selection and specification

All power phases in a circuit must be contained within the same cleat. Single cleats are only for use with multi-conductor cable.

Step 1 — Know your cables.

- What type of cable is being used? Single- or multi-conductor?
- What is the outside diameter of your cable(s)?

Step 2 — Know your system.

- What is the available short circuit current — RMS or peak?
- What type of cable tray is installed?

Step 3 — Select your cable cleats.

- ABB cable cleats come with hardware to mount to most standard T&B Cable Tray steel and aluminum ladder trays.
- Adapter kits for use with AH18 series aluminum and non-metallic square-rung cable tray are sold separately.

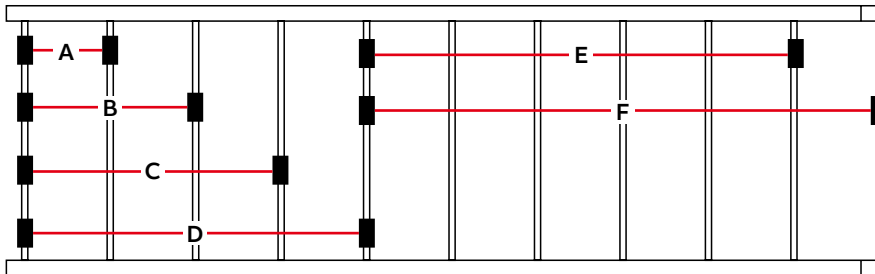
Step 4 — Determine cleat spacing for installation.

- Find the value equal to or greater than the available short circuit current for your system.

Cable cleat load rating

Short circuit peak current rating (kA) based on tray bottom style and cleat positioning

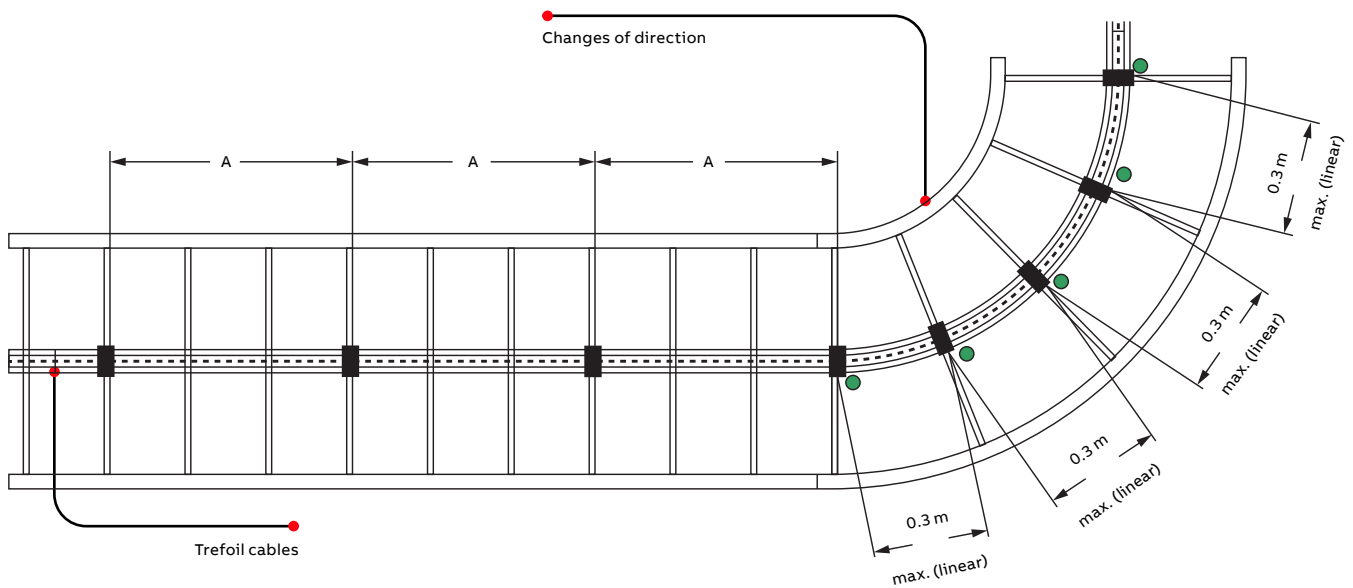
Tray Bottom Style	Cable cleat positioning					
	(A) On every rung	(B) Skip 1 rung	(C) Skip 2 rungs	(D) Skip 3 rungs	(E) Skip 4 rungs	(F) Skip 5 rungs
V	170	170	145	126	112	102
L06	170	154	126	109	97	89
L09	170	130	106	92	-	-
L12	164	116	95	-	-	-



Recommended installation procedures for cable cleats

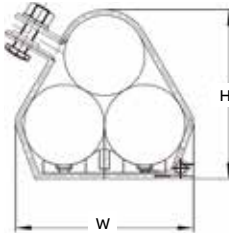
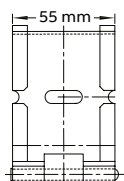
It is critical to install cleats properly using the following guidelines to secure your cables:

- Load ratings are based on spacing between attached cleats.
- Bend radius should be 8 to 12 times the cable diameter.
- Cleats should always be installed and attached to the cable tray at the beginning, middle and end of a bend (indicated by a green circle in the illustration), and at no time should the distance between cleats on a bend be more than 0.3 m center to center.
- Make sure to leave room on the rungs between cleats so they can be opened for cable installation.
- Additional cables should not be stacked on top of cable cleats.



Ordering information

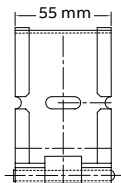
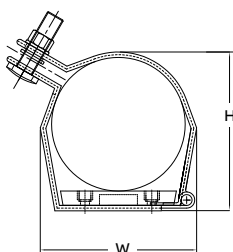
Cable cleats stainless steel 316 — trefoil style

	Cat. no.	Cable outer diameter				Cleat dimensions			
		Minimum		Maximum		Height		Width	
		in.	mm	in.	mm	in.	mm	in.	mm
Diagrams	ATCC1723	0.67	17	0.91	23	2.15	54.5	2.09	53.2
	ATCC1925	0.75	19	0.98	25	2.30	58.5	2.26	57.4
	ATCC2329	0.91	23	1.14	29	2.58	65.5	2.59	65.8
	ATCC2531	0.98	25	1.22	31	2.70	68.5	2.76	70.0
	ATCC2733	1.06	27	1.30	33	2.85	72.5	2.92	74.2
	ATCC2935	1.14	29	1.38	35	3.01	76.5	3.09	78.4
	ATCC3238	1.26	32	1.50	38	3.25	82.5	3.34	84.8
	ATCC35415	1.38	35	1.63	41.5	3.48	88.5	3.63	92.1
	ATCC38445	1.50	38	1.75	44.5	3.68	93.5	3.87	98.4
	ATCC4248	1.65	42	1.89	48	3.98	101.0	4.16	105.7
	ATCC4551	1.77	45	2.01	51	4.19	106.5	4.41	112.0
	ATCC4753	1.85	47	2.09	53	4.31	109.5	4.59	116.6
	ATCC4955	1.93	49	2.17	55	4.49	114.0	4.74	120.4
	ATCC5157	2.01	51	2.24	57	4.63	117.5	4.91	124.6
	ATCC5359	2.09	53	2.32	59	4.78	121.5	5.07	128.8
	ATCC5561	2.17	55	2.40	61	4.94	125.5	5.24	133.0
	ATCC5763	2.24	57	2.48	63	5.08	129.0	5.40	137.2
	ATCC5965	2.32	59	2.56	65	5.22	132.5	5.57	141.4
	ATCC6167	2.40	61	2.64	67	5.37	136.5	5.73	145.6
	ATCC6369	2.48	63	2.72	69	5.52	140.3	5.90	149.8
	ATCC6571	2.56	65	2.80	71	5.67	144.0	6.06	154.0
	ATCC6773	2.64	67	2.87	73	5.82	147.7	6.23	158.2
	ATCC6975	2.72	69	2.95	75	5.96	151.4	6.39	162.4
	ATCC7177	2.80	71	3.03	77	6.11	155.2	6.56	166.6
	ATCC7379	2.87	73	3.11	79	6.26	158.9	6.72	170.8
	ATCC7581	2.95	75	3.19	81	6.40	162.6	6.89	175.0
	ATCC7783	3.03	77	3.27	83	6.55	166.4	7.06	179.2
	ATCC7985	3.11	79	3.35	85	6.70	170.1	7.22	183.4
	ATCC8187	3.19	81	3.43	87	6.84	173.8	7.39	187.6
	ATCC8389	3.27	83	3.50	89	6.98	177.4	7.55	191.8
	ATCC8692	3.39	86	3.62	92	7.21	183.2	7.80	198.1
	ATCC8896	3.47	88	3.78	96	7.50	190.6	8.07	205.0
	ATCC9199	3.58	91	3.90	99	7.72	196.2	8.38	212.8
	ATCC96103	3.78	96	4.06	103	8.02	203.7	8.71	221.2
	ATCC99107	3.90	99	4.21	107	8.32	211.2	9.04	229.6
	ATCC103111	4.06	103	4.37	111	8.61	218.6	9.37	238.0
	ATCC107115	4.21	107	4.53	115	8.90	226.1	9.70	246.4
	ATCC111119	4.37	111	4.69	119	9.20	233.6	10.03	254.8
	ATCC115123	4.53	115	4.84	123	9.49	241.0	10.36	263.1
	ATCC119129	4.69	119	5.08	129	9.93	252.2	10.85	275.7

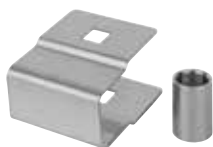
Ordering information

Cable cleats stainless steel 316 — single cable style (only for use with multi-conductor cable)

	Cat. no.	Cable outer diameter				Cleat dimensions			
		Minimum		Maximum		Height		Width	
		in.	mm	in.	mm	in.	mm	in.	mm
Diagrams	ASCC2832	1.10	28	1.26	32	1.81	46.0	1.84	46.7
	ASCC3034	1.18	30	1.34	34	1.89	48.0	1.87	47.4
	ASCC3236	1.26	32	1.42	36	1.97	50.0	1.87	47.4
	ASCC3438	1.34	34	1.50	38	2.05	52.0	1.95	49.5
	ASCC3640	1.42	36	1.58	40	2.13	54.0	2.03	51.5
	ASCC3842	1.50	38	1.65	42	2.21	56.0	2.11	53.6
	ASCC4044	1.58	40	1.73	44	2.28	58.0	2.30	58.4
	ASCC4246	1.65	42	1.81	46	2.36	60.0	2.33	59.1
	ASCC4448	1.73	44	1.89	48	2.45	62.1	2.35	59.8
	ASCC4650	1.81	46	1.97	50	2.52	64.0	2.44	61.9
	ASCC4852	1.89	48	2.05	52	2.60	66.0	2.52	63.9
	ASCC5054	1.97	50	2.13	54	2.68	68.0	2.60	66.0
	ASCC5256	2.05	52	2.21	56	2.70	68.5	2.68	68.0
	ASCC5458	2.13	54	2.28	58	2.84	72.0	2.76	70.1
	ASCC5660	2.21	56	2.36	60	2.91	74.0	2.84	72.1
	ASCC5862	2.28	58	2.44	62	2.99	76.0	2.92	74.2
	ASCC6064	2.36	60	2.52	64	3.07	78.0	3.00	76.3
	ASCC6266	2.44	62	2.60	66	3.15	80.0	3.09	78.4
	ASCC6468	2.52	64	2.68	68	3.23	82.0	3.17	80.4
	ASCC6670	2.60	66	2.76	70	3.31	84.0	3.25	82.5
	ASCC6872	2.68	68	2.84	72	3.39	86.0	3.33	84.6
	ASCC7074	2.76	70	2.91	74	3.41	86.5	3.41	86.6
	ASCC7276	2.84	72	2.99	76	3.54	90.0	3.49	88.7
	ASCC7478	2.91	74	3.07	78	3.62	92.0	3.57	90.7
	ASCC7680	2.99	76	3.15	80	3.70	94.0	3.63	92.3
	ASCC7882	3.07	78	3.23	82	3.78	96.0	3.74	94.9
	ASCC8084	3.15	80	3.31	84	3.86	98.0	3.82	96.9
	ASCC8286	3.23	82	3.39	86	3.94	100.0	3.90	99.0
	ASCC8488	3.31	84	3.47	88	4.02	102.0	3.98	101.1
	ASCC8690	3.39	86	3.54	90	4.09	104.0	4.06	103.1
	ASCC8892	3.47	88	3.62	92	4.17	106.0	4.14	105.2
	ASCC9094	3.54	90	3.70	94	4.25	108.0	4.22	107.2
	ASCC9296	3.62	92	3.78	96	4.33	110.0	4.30	109.3
	ASCC94106	3.70	94	4.17	106	4.72	120.0	4.71	119.6
	ASCC100112	3.94	100	4.41	112	4.96	126.0	4.95	125.8
	ASCC106118	4.17	106	4.65	118	5.20	132.0	5.20	132.0
	ASCC112124	4.41	112	4.88	124	5.43	138.0	5.44	138.2
	ASCC118130	4.65	118	5.12	130	5.61	142.5	5.69	144.4
	ASCC127139	5.00	127	5.47	139	6.02	153.0	6.05	153.6
	ASCC132144	5.20	132	5.67	144	6.22	158.0	6.25	158.8
	ASCC138150	5.43	138	5.91	150	6.46	164.0	6.50	165.0



Ordering information



Adapter kits

Cat. no.	Description	For use with T&B Cable Tray type
ABBCCBSRT	AH18 Series kit includes: bolt, channel spring nut and square washer	AH18 Series aluminum
ABBCCBSR	Kit for non-metallic cable tray includes: bracket and round spacer	Non-metallic square rung



Replacement Parts

Cat. no.	Description	For use with cable cleat type
ABBCCHDW	M10 bolt and nut	All series



ABB Electrification Canada ULC
 700 Thomas Avenue
 Saint-Jean-sur-Richelieu, Quebec J2X 2M9
 Tel.: +1 (450) 347 5318
 Toll Free: +1 (800) 362 2952
 Fax: +1 (450) 347 1976

tnb.ca.abb.com

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