Cable Cleats

Introduction

Cable Cleats are approved by DNV(Det Norske Veritas) and ABS(American Bureau of Shipping).

FF-T&FF-S Cable Cleats are designed to support and retain your cables within your cable tray system in every conditions.More importantly, they prevent the damage in short circuit condition. Unfortunately, short circuit always happens, and when it do, it's destructive and dangerous to the cables and cable system.FF-T&FF-S Cable Cleats are one of the first lines of defense to help protect the personnel, the cables and the cable system.

How to select the Cable Cleats

1 Know the Cables

Which type of cable is being used, Single or Multi-Conductor?
What is the outer diameter of Cables?
What is the cable arrangement,Flat or Trefoil?
If a ground wire is installed in the cleats, know the outer
Diameter of the ground wire .

2 Know the System

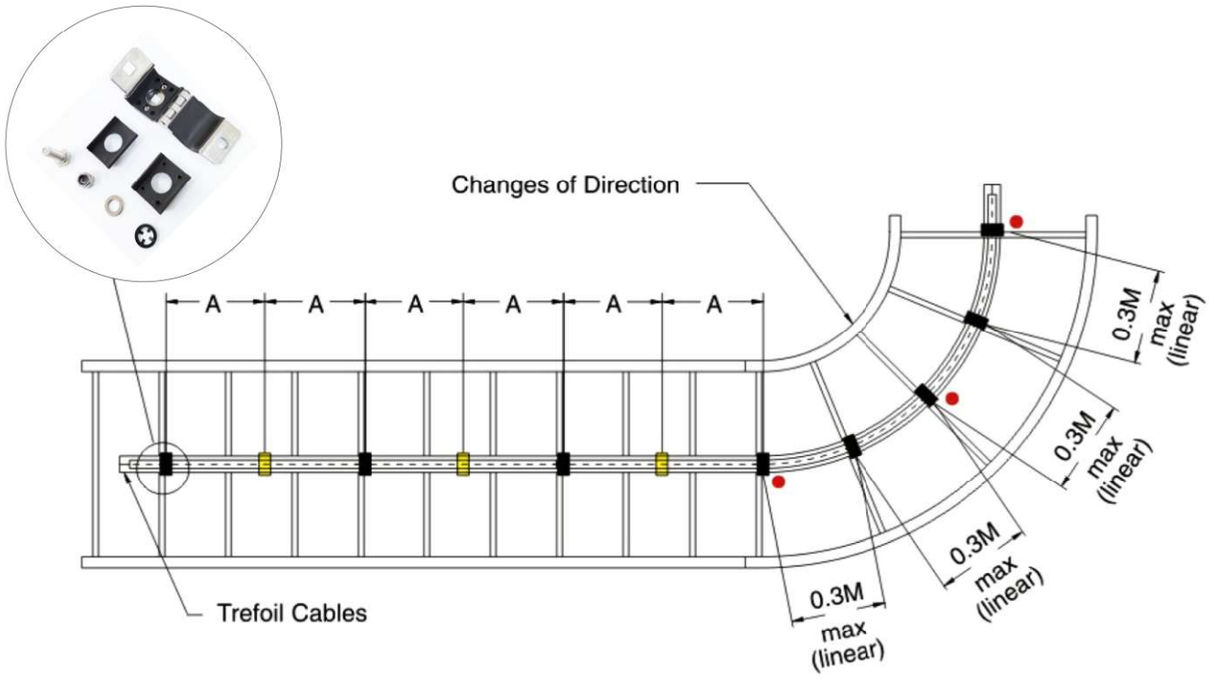
What is the available short circuit current (RMS or IP Peak)?
What type of copper B-line cable tray is installed?

3 Short Circuit Current Test

Short circuit current is an over current resulting from an electrical fault of negligible impedance between live conductors or between a live conductor and an earth, having a difference in potential under normal operating conditions.
RMS current is a calculated value for the initial cycles of the fault.
IP Peak short current is a maximum possible instantaneous value of the short circuit current.
Electromechanical Force is included forces acting on current carrying conductors.
Relevant Standard: IEC 61914

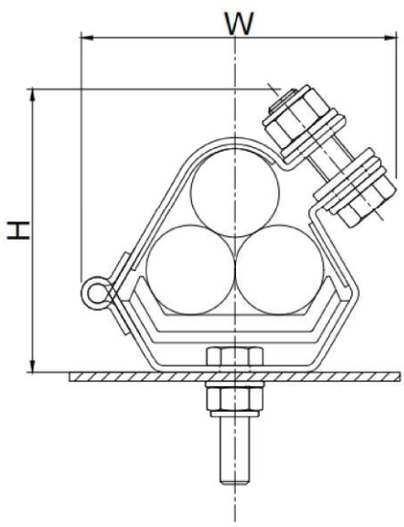
DETERMINE THE CLEAT SPACE FOR INSTALLATION

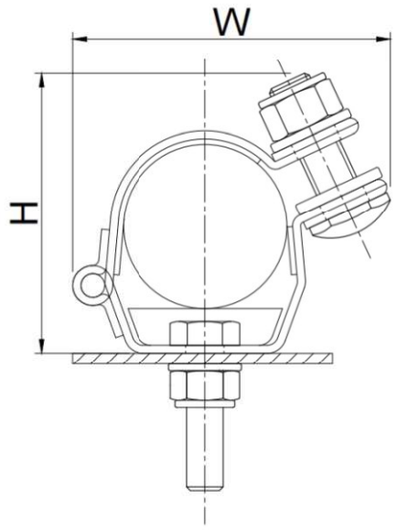
Single Conductor Short Circuit Withstand Table																					
Max. Cable Cleat Spacing(A)		Spacing Between Conductor Centers (mm)																			
		23	25	27	29	31	33	35	37	39	41	43	45	47	49	51	53	55	57	59	61
mm	In.	IP peak(KA)																			
225	8.86	168	175	182	189	195	201	207	213	219	224	230	235	240	245	250	255	260	265	269	274
300	11.81	145	152	158	163	169	174	180	185	190	194	199	204	208	212	217	221	225	229	233	237
450	17.72	119	124	129	133	138	142	146	151	155	159	162	166	170	173	177	180	184	187	190	194
600	23.62	103	107	111	115	119	123	127	130	134	137	141	144	147	150	153	156	159	162	165	168
675	26.57	97	101	105	109	112	116	119	123	126	129	133	136	139	141	144	147	150	153	155	158
900	35.43	84	87	91	94	97	100	103	106	109	112	115	117	120	122	125	127	130	132	134	137



Installation Notes

The cleats should be installed properly to secure the cables. It is not necessary for every cleat to be attached onto the tray. Every cleat should be restrained to keep cables bundling. The bend radius should be 8 to 12 times of the cable diameter. The cleats should always be installed at the beginning, the middle, the end of the bend part. The distance between the cleats on the bend should be no more than 0.3M from center to center.





Performance on the Cable Cleats	
Resistance to Electromechanical Force	180kA Perk 300mm Spacing 125kA Perk 600mm Spacing
Lateral Load Test	Average 25kg
Axial Load Test	Pass
Max and Min Temperature	-40℃~60℃
Resistance to Impact	Very Heavy
Needle Flame Test	30 Seconds
Resistant to UV light Test	1000 hours

Construction Data of the Cable Cleats	
Cleat Material	Composite
Frame	50mm*2.1mm, marine grade, Non-magnetic 316L
Closure Hardware	316L SS M8, M10 or M12 bolt and Nylon Lock Nut
Integral Pad	Low Smoke, Low Fume, Halogen Free
Tools Required	Wrench
Mounting Bolt	Provided with the Cable Cleat

FF-T Trefoil Cable Cleats								
Part Number	Cable Range				Diamensions			
	Min. Dia.		Max. Dia.		H		W	
	mm	in.	mm	in.	mm	in.	mm	in.
FF-T1823	18	0.71	23	0.91	79	3.11	82	3.23
FF-T2328	23	0.91	28	1.10	84	3.31	93	3.66
FF-T2732	27	1.06	32	1.26	91	3.58	99	3.90
FF-T3035	30	1.18	35	1.38	96	3.78	103	4.06
FF-T3338	33	1.30	38	1.50	101	3.98	107	4.21
FF-T3642	36	1.42	42	1.65	107	4.21	113	4.45
FF-T4046	40	1.57	46	1.81	114	4.49	119	4.69
FF-T4450	44	1.73	50	1.97	121	4.76	126	4.96
FF-T4855	48	1.89	55	2.17	129	5.08	137	5.39
FF-T5158	51	2.01	58	2.28	134	5.28	143	5.63
FF-T5562	55	2.17	62	2.44	141	5.55	152	5.98
FF-T5966	59	2.32	66	2.60	148	5.83	161	6.34
FF-T6370	63	2.48	70	2.76	155	6.10	169	6.65
FF-T6774	67	2.64	74	2.91	161	6.34	178	7.01
FF-T7178	71	2.80	78	3.07	168	6.61	186	7.32
FF-T7482	74	2.91	82	3.23	175	6.89	195	7.68
FF-T7785	77	3.03	85	3.35	180	7.09	202	7.95
FF-T8288	82	3.23	88	3.46	185	7.28	208	8.19
FF-T8896	88	3.46	96	3.78	199	7.83	225	8.86
FF-T96103	96	3.78	103	4.06	210	8.27	240	9.45
FF-T103111	103	4.06	111	4.37	224	8.82	258	10.16
FF-T111119	111	4.37	119	4.69	237	9.33	275	10.83
FF-T119128	119	4.69	128	5.04	253	9.96	295	11.61

FF-S Single Cable Cleats								
Part Number	Cable Range				Diamensions			
	Min. Dia.		Max. Dia.		H		W	
	mm	in.	mm	in.	mm	in.	mm	in.
FF-S3239	32	1.26	39	1.54	74	2.91	81	3.19
FF-S3745	37	1.46	45	1.77	77	3.03	88	3.46
FF-S4452	44	1.73	52	2.05	83	3.27	94	3.70
FF-S5159	51	2.01	59	2.32	87	3.43	102	4.02
FF-S5866	58	2.28	66	2.60	91	3.58	110	4.33
FF-S6573	65	2.56	73	2.87	97	3.82	116	4.57
FF-S7385	73	2.87	85	3.35	101	3.98	131	5.16
FF-S8494	84	3.31	94	3.70	110	4.33	140	5.51
FF-S94118	94	3.70	118	4.65	134	5.28	163	6.42
FF-S118130	118	4.65	130	5.12	146	5.75	175	6.89
FF-S127150	127	5.00	150	5.91	166	6.54	195	7.68