



# 10

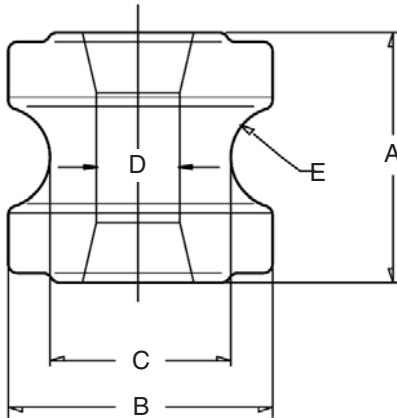
## Insulators

- > Low Voltage Shackle and Pin
- > Guy Strain
- > Standard Line Pin
- > Aerodynamic Line Pin
- > Line Post (Porcelain)
- > Line Post (Composite)
- > Clamp Top Clamps
- > Studs and Pins
- > Disc
- > Long Rod – Distribution
- > Long Rod – Suspension
- > Station Post
- > Others

Insulators

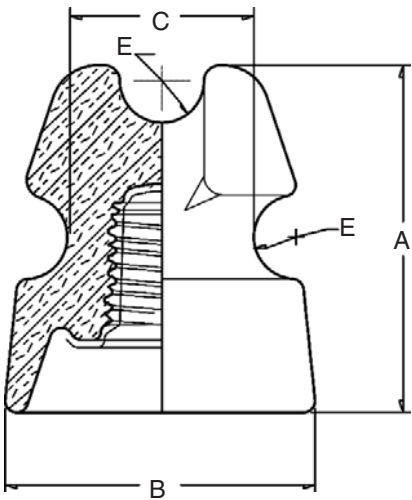
Shackle & Pin

Porcelain LV



Shackle Type

SHLV1 : SHLV2 : SHLV8



Pin Type

LVLP

Cat No.	Dimensions mm					Thread	Pin	Min F.L. kN
	A	Dia. B	Dia. C	Dia. D	Rad. E			
SHLV1	54	57	39	17	17	-	-	9 kN
SHLV2	76	80	54	17	12	-	-	20 kN
SHLV8	32	57	40	17	7	-	-	9 kN
LVLP	91	82	52	-	11	Patt "B"	B/100/3.5	7 kN

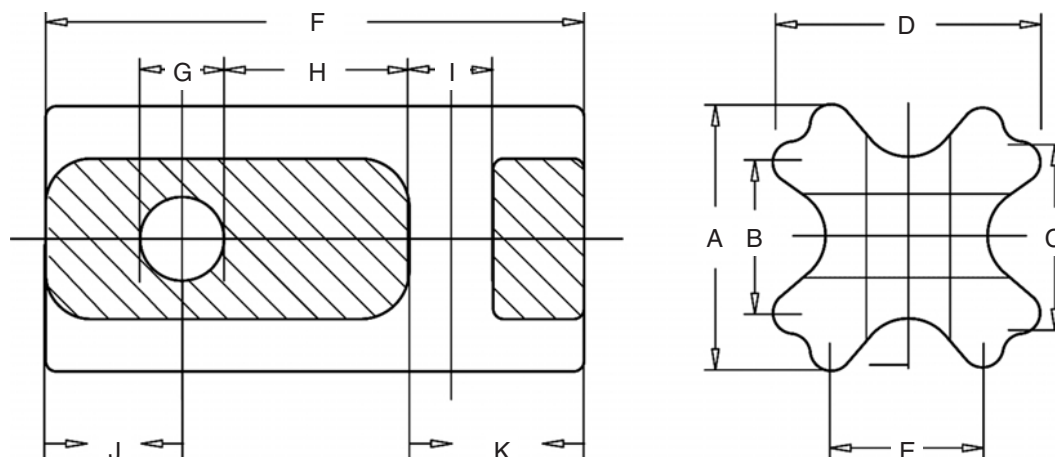
Dimensions and Performance characteristics in accordance with AS3608

Threads in accordance with AS2947.3

## Insulators

### Guy Strain

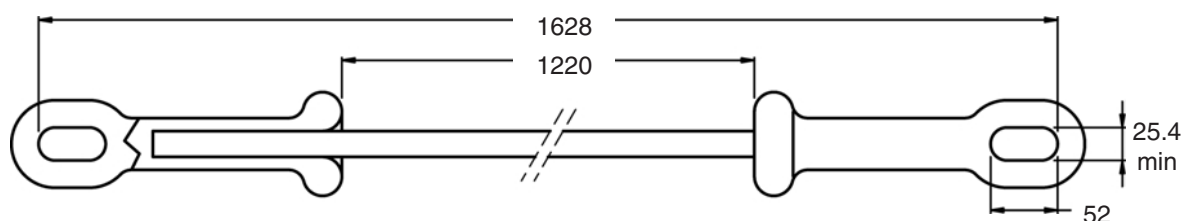
Porcelain, LV



Cat No.	Dimensions mm											Min F.L. kN
	A	B	C	D	E	F	G	H	I	J	K	
GY2	73	41	44	73	44	146	22	51	22	37	37	71 kN
GY3	115	57	67	115	57	216	38	51	38	63	63	222 kN
GY4	115	57	67	115	57	280	38	51	38	95	95	222 kN

Dimensions and Performance characteristics in accordance with AS3609

### Fibreglass, HV

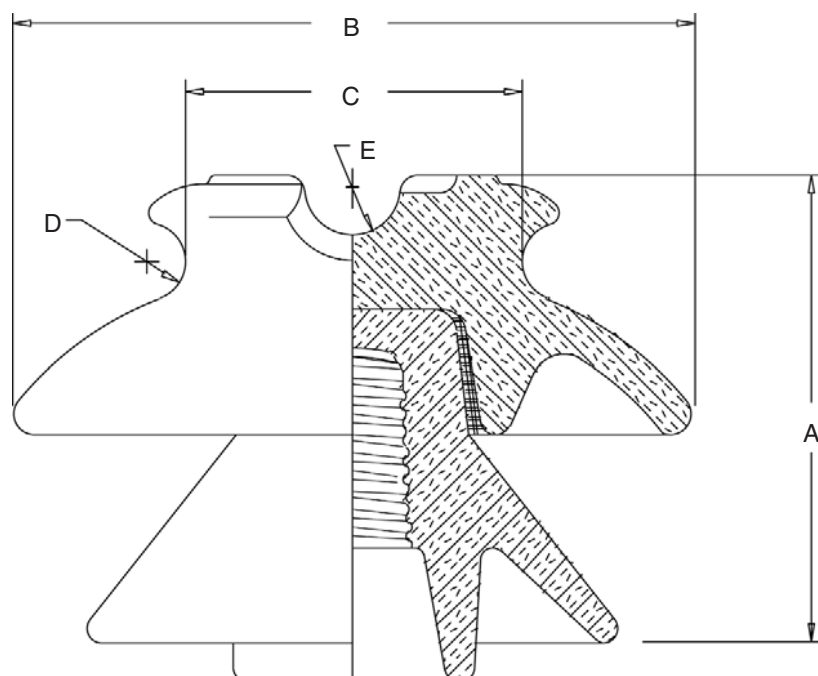


Cat No.	Min. F.L. kN	Arcing Distance mm	End Fitting
NEE220N1630	220	1220	Eye/Eye
NEE220N1630H	220	1094	Eye/Eye + Arcing Horns

## Insulators

### Standard Line Pin

Porcelain



Cat No.	Voltage	Creepage mm	Dimensions mm					Thread	Pin	Min F.L. kN
			A	B	C	D	E			
P11	11 kV	180	106	140	76	R13	R16	Patt "A"	A/130/7	7 kN
P22	22 kV	420	168	228	113	R13	R16	Patt "C"	C/150/11	11 kN
P33	33 kV	534	194	279	113	R13	R16	Patt "C"	C/200/11	11 kN

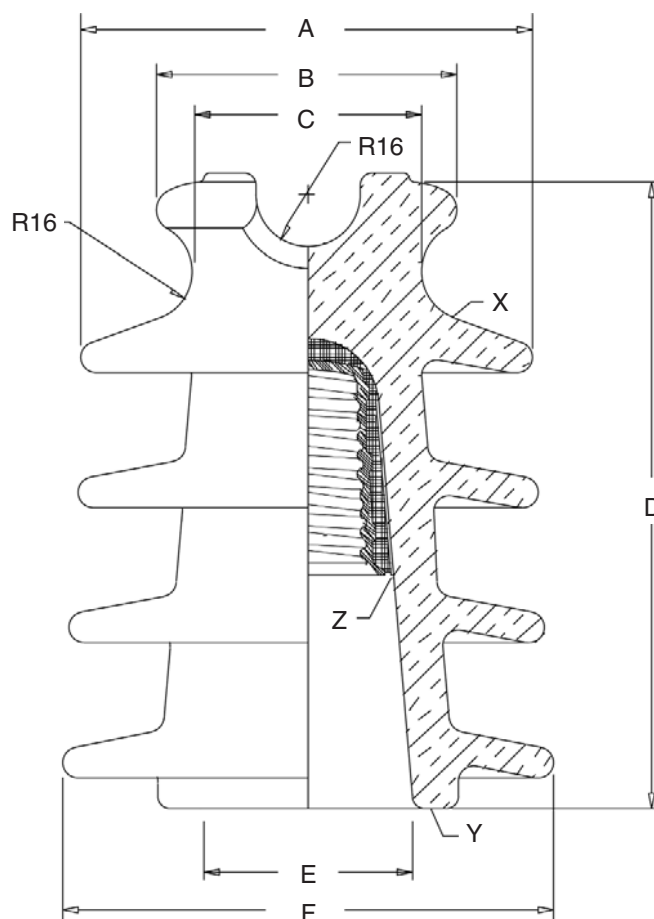
Dimensions and Performance characteristics in accordance with AS2947.2

Threads in accordance with AS2947.3

## Insulators

### Aerodynamic Line Pin

Porcelain



Cat No.	Voltage	Creepage		Dimensions mm						Pin	Min F.L. kN
		X - Y	X - Z	A	B	C	D	E	F		
ALP/11/275	11 kV	235	275	136	102	76	152	76	136	C/150/7	7 kN
ALP/22/450	22 kV	365	450	148	102	76	200	74	160	C/200/11	11 kN
ALP/22/490	22 kV	380	490	127	102	76	240	89	165	C/200/11	11 kN
ALP/33/920	33 kV	755	920	240	102	76	320	133	240	C/300/7	11 kN

Dimensions and Performance characteristics in accordance with AS2947.2

Threads - Pattern C in accordance with AS2947.3

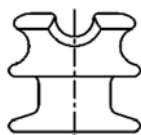
## Insulators

### Line Post

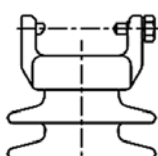
Porcelain

#### LIVE END

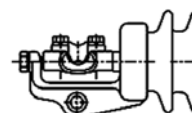
Tie-Top T



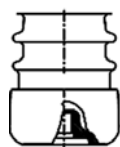
Vertical  
Clamp Top C



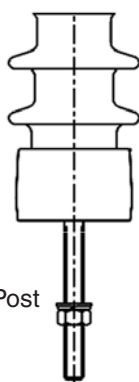
Horizontal  
Clamp Top H



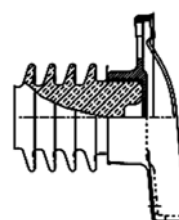
#### GROUND END



X-Arm



Pin Post



Gain Base

Cat No.	Designation	Nominal Voltage kV	Height	Creepage	Base Mount	Line End	Net Weight kg
H11536	R7ET105N	11	276	275	Pin Post	T	5
H11358	R18ET150N	11/22	285	452	X-Arm	T	10
H11376	R12EH150N	11/22	352	460	X-Arm	H	12
H11213	R11EHG150N	11/22	390	540	Gain Base	H	15
H11357	R11ET150N	22	318	575	X-Arm	T	11
H11632	R11ET150N	22	365	480	Pin Post	T	9
H11368	R11ET200N	22/33	487	610	X-Arm	T	16
H11173	R11ET150N	22	487	610	X-Arm	T	16
H11174	R11EH150N	22	560	634	X-Arm	H	20
H11461	R12.5ET200L	33	487	920	X-Arm	T	16
H11472	R11EC200N	33	530	825	X-Arm	C	20
H11529	R11EH200N	33	560	825	X-Arm	H	20
H11654	R11ET250N	44/66	532	1300	X-Arm	T	19
H11663	R12.5EH250N	44/66	617	1295	X-Arm	H	23
H11669	R12.5EHG250N	44/66	598	1295	Gain Base	H	31
H11647	R12.5ET350L	66	752	1510	X-Arm	T	25
H11167	R12.5ET350L	66	784	1920	X-Arm	T	32
H11170	R12.5EC350L	66	820	1920	X-Arm	C	35
H11171	R12.5EH350L	66	848	1920	X-Arm	H	35
H11251	R12.5EHG350L	66	829	1920	Gain Base	H	42
H14056	R12.5EHG650L	132	1500	3300	Gain Base	H	91

Dimensions and performance characteristics in accordance with AS2947.2

## Insulators

### Line Post

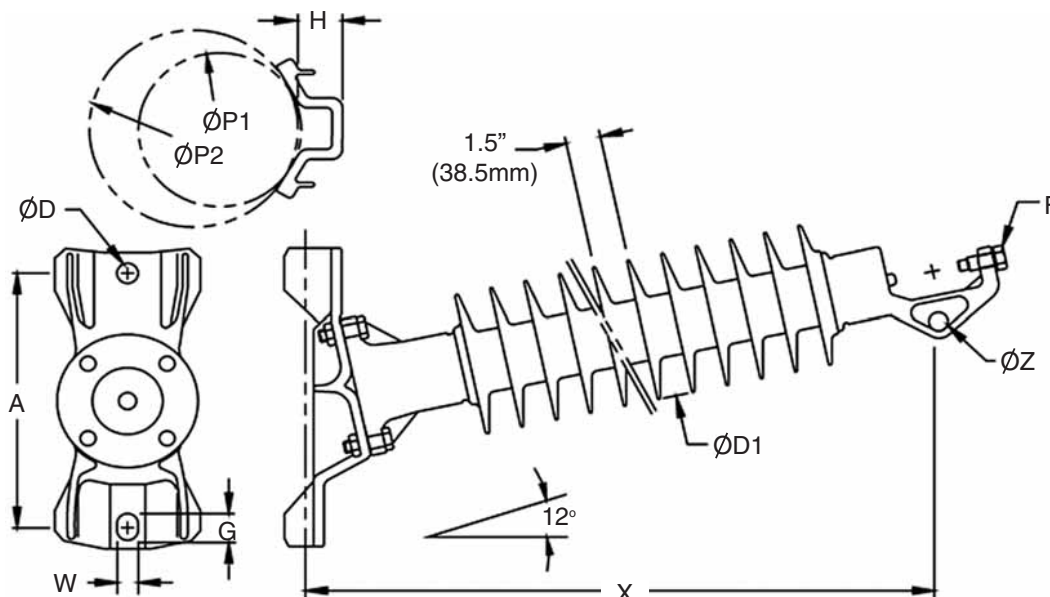
#### Synthetic (Composite)

P1/P2 = 7"/10" (178mm/254mm)

H = 2.2" (55mm)

F = 5/8" (11mm) bolt & lockwasher

Z = Min. 0.79" (20mm)



A = 12" (305mm)

G = 1.5" (38mm)

D = 0.94" (24mm)

W = 0.94" (24mm)

D1 = 6.8" (173mm)

Cat No.	Nominal Voltage kV	MDCL	Spacing	Creepage	Ground End Fitting	Line End Fittings
PKG30XH016	66	11kN	889	1958	Std. Gain Base	HCT
NPKN30XH019	66	9kN	966	2354	Flange	HCT
NPKN30XH030	132	6kN	1389	3736	Flange	HCT
PKG30XH030	132	6kN	1417	3700	Std. Gain Base	HCT
BKG30XH030	132	6kN	1421	3700	Bendable Gain Base	HCT

Available in EPDM or Silicon

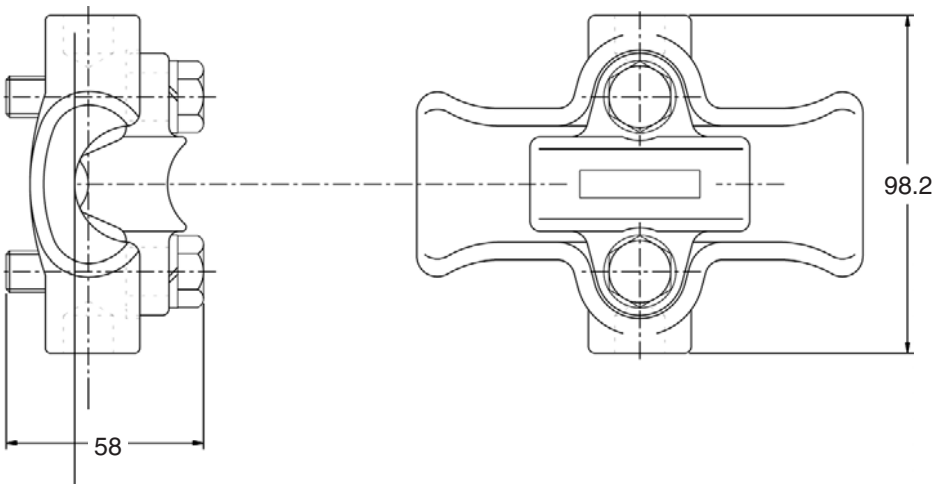
Other voltage and MDCL available on request.

Dimensions and performance characteristics in accordance with IEC601109 & AS4435.4

Insulators

Clamp Top Clamps

Aluminium and Copper conductors

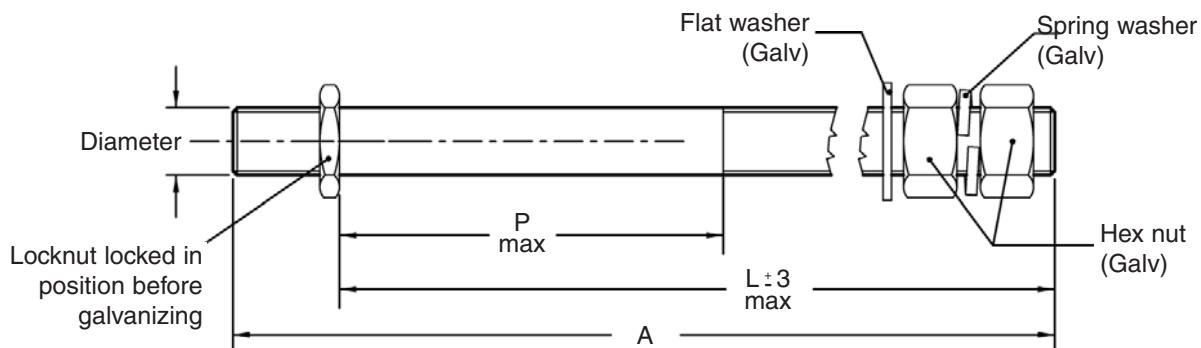


Cat No.		Conductor Dia. mm	
Ferrous	Aluminium	Max.	Min.
	Y11195	7	32
47101	42111	14.2	6.35
47102		21.3	8.89
47103		26.9	12.7
47104	47114	38.1	25.4

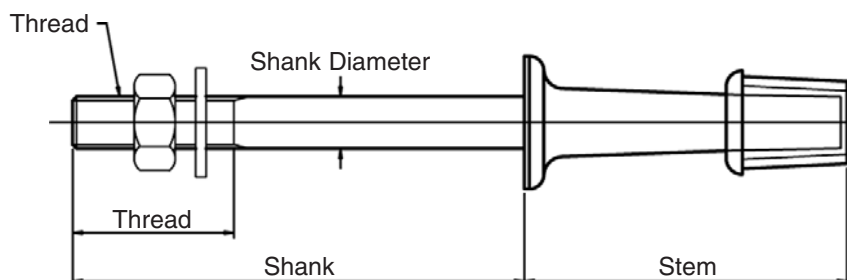


## Insulators

### Studs & Pins



Cat No.	Thread	Overall Length A	Shank Length L	Length P max.	To suit X-arm min.	To suit X-arm max.
11007	M24	239	200	77	71	150
10885	M24	219	180	78	72	130
10886	M24	100	61	5	-	12
10887	M20	239	200	77	71	156



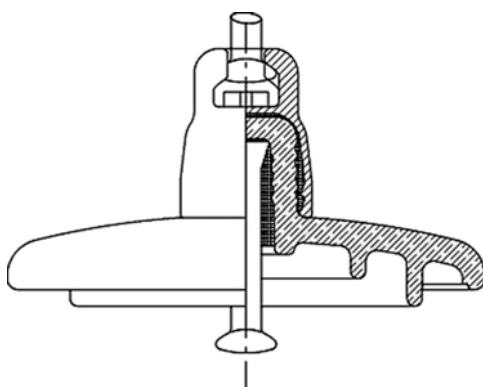
Insulator Pin Type reference	Min. Failing Load kN	Shank			Stem	
		Diameter  A	Length  B	Thread Length min.  C	Length  J	Head Pattern
Standard Units						
B10035	3.5	16	140	50	98	B
A1307	7	20	165	80	128	A
C1507	7	20	165	80	148	C
C15011	11	24	165	80	148	C
C20011	11	24	165	80	198	C
C3007	7	24	165	80	298	C
Special Units						
B100SP	3.5	16	165	70	98	B
A030SP	7	20	200	100	128	A
C150SP	7	20	200	100	148	C
C20011L	11	24	200	100	198	C

## Insulators

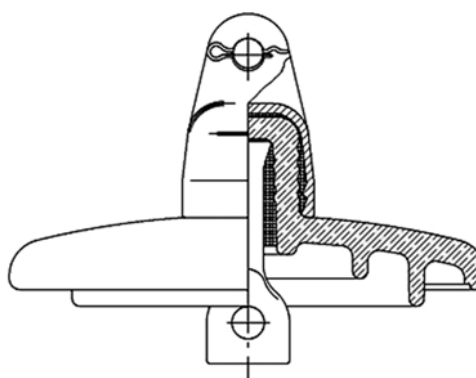
### Disc

Porcelain and Toughened Glass

Ball & Socket (B & S)



Tongue & Clevis (T & C)

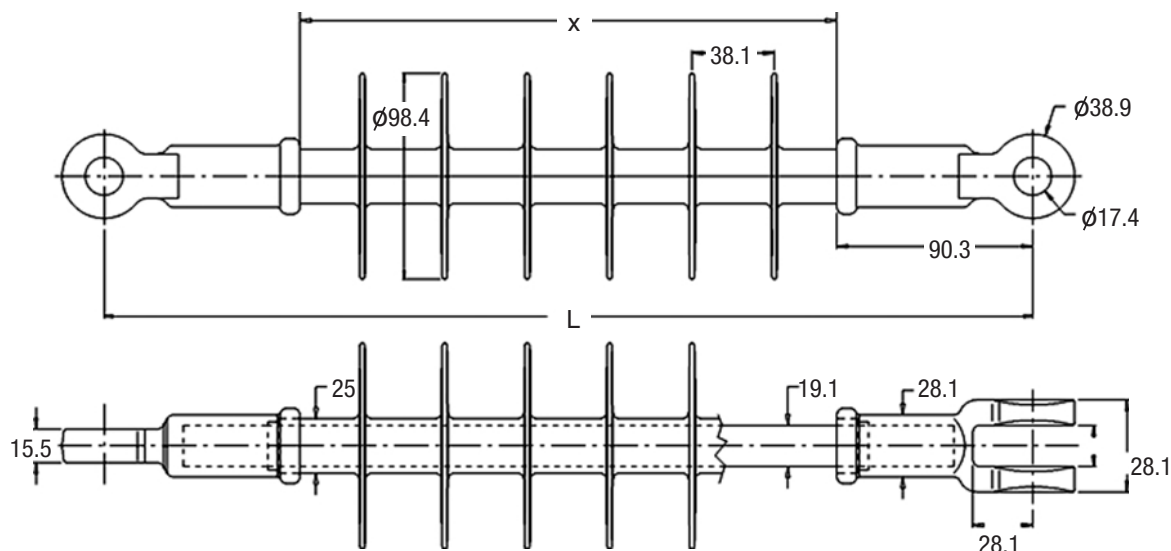


Catalogue No.	Fixing	Diameter mm	Pitch mm	Rating kN	Zinc Collar	Std Pack
Toughened Glass Standard Profiles						
CT70-8/146DC	T & C	205	146	70	Yes	6
B8/146	B & S	255	146	70		6
CT70/146	T & C	255	146	70		6
B13/146	B & S	255	146	125		6
Fog Profiles						
F9P/146DC	B & S	255	146	70	Yes	6
CTV8/146H	T & C	255	146	70		6
Aerodynamic Profiles						
F12D-A/146DC	B & S	380	146	120	Yes	4
Porcelain						
D70S	B & S	255	146	70		6
D70C	T & C	255	146	70		6
D160S	B & S	280	146	160		4

## Insulators

### Long Rod - Distribution

Synthetic (Composite)

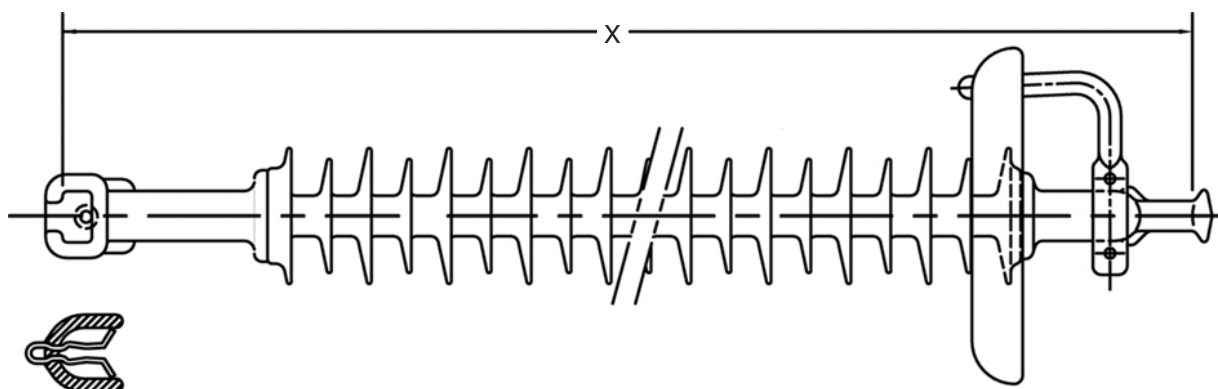


Specifications	Unit	Catalogue No.			
		GLPDS-15	GLPDS-28	GLPDS-35	GLPDS-46
Recommended application	kV max	15	28	35	46
Section length = L	mm	330	438	480	574
Insulation length = X	mm	151	247	299	394
Dry arcing distance	mm	190	285	345	432
Leakage distance	mm	422	645	838	1171
Low frequency flashover	Dry	95	130	150	173
	Wet	71	114	122	156
Critical impulse flashover pos.	kV	155	211	239	326
Radio influence Max. Riv. at 1000 kHz	μV	2.9	0.1	2.9	7.8
Design tension strength	kN	107	107	107	107
Routine test load	kN	37	37	37	37
Tensile rating	kN	70	70	70	70
Design torsion rating	Nm	67	67	67	67
Quantity of sheds	units	4	6	8	10
Net weight	kg	1.09	1.24	1.33	1.51
Standard package	units	15	15	15	12

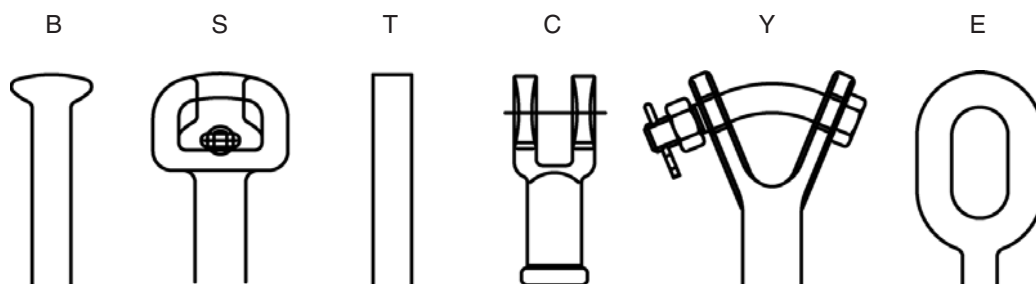
## Insulators

### Long Rod - Transmission

Synthetic (Composite)



End fittings available:



Catalogue No.	Nom. Voltage kV	SML kN	Spacing mm	Creepage mm	Ground End Fitting	Line End Fitting
NCT70XM021	66	70	749	1822	Clevis	Tongue
FSB70XM021	66	70	755	1960	Socket	Ball
FYB120XM023	66	120	924	1935	Y-Clevis	Ball
FSB70XM043	132	70	1337	3647	Socket	Ball
NEY120XM043	132	120	1484	3641	Eye	Y-Clevis
FSB160XM043	132	160	1474	3641	Socket	Ball

Available in EPDM or Silicon.

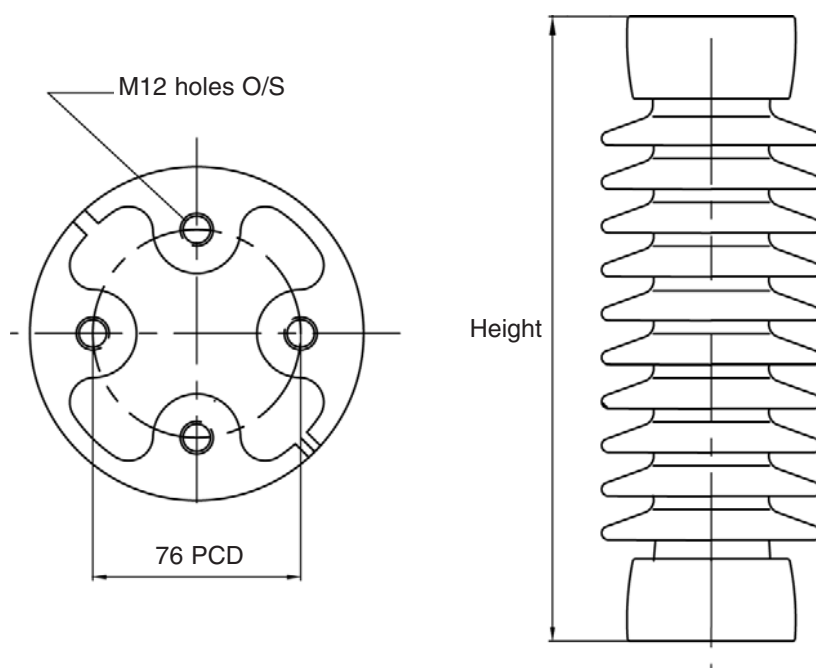
Other voltage and SML's available on request.

Dimensions and performance characteristics in accordance with IEC601109 and AS4435.1

## Insulators

### Station Post

Porcelain



Cat No.	Designation	Nom. Voltage kV	Impulse Voltage kV	Height mm	Creepage mm	Net Wt kg
H11656	C6-95-I	11	95	254	305	7
H10903	C8-110-II	11	110	254	400	9
H10841	C6-125-II	22	125	305	607	10
H11103	C4-150-I	22	150	355	630	11
H10747	C4-150-II	22	150	355	750	13
H10755	C6-170-I	22/33	170	381	760	14
H10965	C4-200-I	33	200	458	885	16
H10843	C4-200-II	33	200	458	956	17
H10765	C10-200-II	33	200	458	995	15
H11666	C9-200-II	33	200	475	995	15
H11132	C6-200-I	33	200	508	885	20
H14009	C9-250-I	33	250	559	1170	17
*H11610	C6-350-II	66	350	762	1740	44
*H14002	C8-350-II	66	350	762	1765	36

**Note:** H11610 and H14002 have M16 O/S holes on 127 PCD. Dimensions and performance characteristics in accordance with AS4398.1.  
Details of Station Posts above 66kV available on request.