

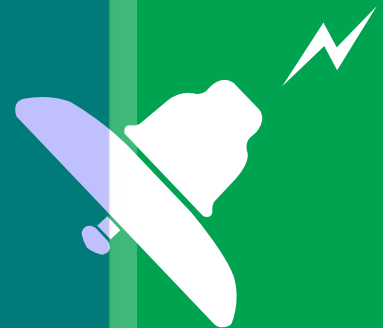
# PORCELAIN INSULATOR

## Application & Key Feature

- Widely used in power station, transmission and distribution line
- Product are in comply with various kinds of standards like NEMA/IEC/AS/BS etc

## Classification

- Disc/Suspension Insulator
- Pin Insulator
- Spindle for Pin Insulator
- Post Insulator
- Long Rod Insulator
- Spool & Shackle Insulator
- Stay Insulator
- LV Insulator & Insulation Accessory



# Colmate

*Electric*

**Disc Suspension Porcelain Insulator ANSI Series**

INSULATORS

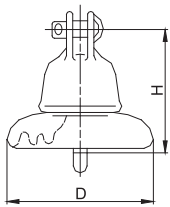
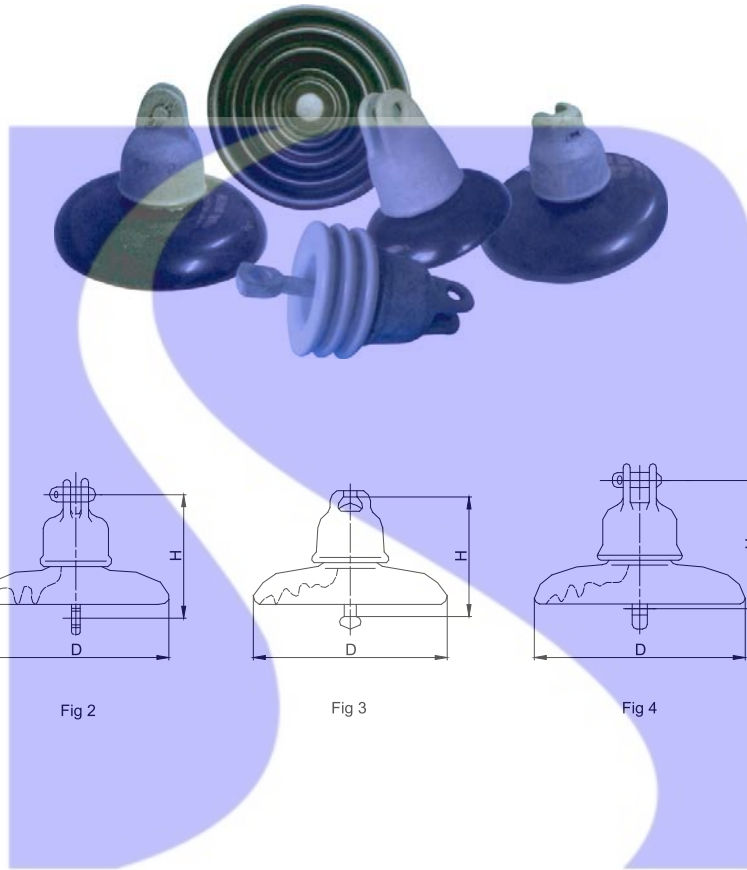


Fig 1

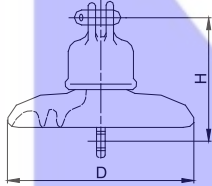


Fig 2

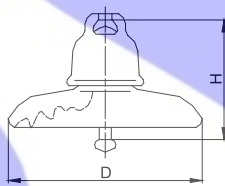


Fig 3

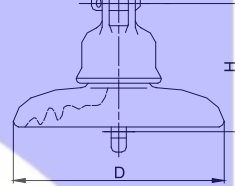


Fig 4

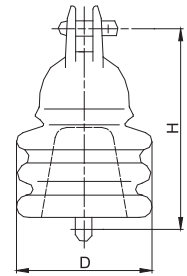


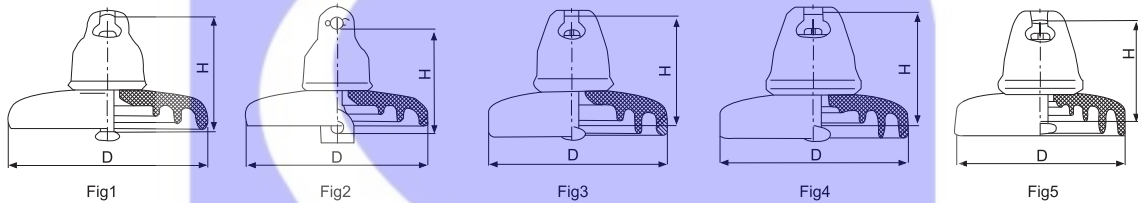
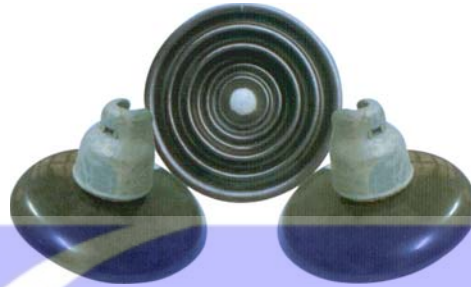
Fig 5

ANSI Class	52-1	52-2	52-3	52-4	52-5	52-6	52-8	52-9	52-10	
IEC Class	XP-45C	XP-70C	XP-70	XP-70C	XP-110	XP-110C	XP-160	XP-45C	XP-160C	
Fig. No.	1	2	3	4	3	4	3	5	4	
Main Dimensions/mm	(H)Unit Spacing/mm	140	146	146	146	146	146	160	165	
	(D)Disc Diameter/mm	165	190.5	254	254	254	254	108	280	
Leakage Distance/mm		178	210	292	292	292	320	171	280	
Power-frequency Puncture Voltage/kV		80	90	110	110	110	110	80	110	
Average Flashover Voltage	Power Frequency	Dry/kV	60	65	80	80	80	80	60	80
		Wet/kV	30	35	50	50	50	50	30	50
	Critical Impulse	Positive/kV	100	115	125	125	125	125	125	100
		Negative/kV	100	115	130	130	130	130	90	130
Combined M & E Strength/kN		45	70	70	70	111	111	160	160	
Impact Failing Load/N.M		5	6	6	6	7	7	10	10	
Routine Tension Load/kN		22	35.5	35.5	35.5	55.5	55.5	80	80	
R.I.V Data	Test Voltage To Ground/kV	7.5	7.5	10	10	10	10	7.5	10	
	Max.R.I.V at 1000 KHZ/μV	50	50	50	50	50	50	50	50	
Weight/kg		2.5	3.9	4.6	4.9	5.6	5.9	2.6	7.2	

INSULATORS



**Disc Suspension Porcelain Insulator IEC Series (AC, Regular)**



Cat. No.	Fig. No.	IEC Class	Key Dimension /mm		Nominal Creepage Distance /mm	Coupling Size	Rated E & M Failing Load /kN	Routine Tension Load/kN	Impact Failing Load /N.m	Power Frequency Voltage/kV		Lightning Impulse Withstand Voltage (Dry) / kV	Power Frequency Puncture Voltage /kV	R.I.V Data		Unit Net Weight /kg
			Unit Spacing (H)	Disc Diameter (D)						Wet	Dry			Test Voltage to Ground/kV	Max R.I.V at 1 MHz / $\mu$ V	
XP-40	1	U40B	110	175	190	11	40	20	5	30	55	75	90	7.5	50	2.4
XP-40C	2	U40C	140	190	200	11C	40	20	5	30	55	76	90	7.5	50	2.7
XP-70	1	U70BL	146	255	295/340	16	70	35	6	40	70	100	110	10	50	4.6/5.3
XP-70C	2	U70C	146	255	295	16C	70	35	6	40	70	100	110	10	50	4.8
XP1-70	1	U70BS	127	255	295/320	16	70	35	6	40	70	100	110	10	50	4.6/4.8
XP4-70	1	U70BL	146	270	330	16	70	35	6	40	70	100	110	10	50	5
XP5-70	1	U70BL	146	200	210	16	70	35	6	30	50	80	110	10	50	3.7
XP-80	1	U80BM/L	140/146	255	295	16	80	40	6	40	70	100	110	10	50	4.9
XP-100	3	U100BL	146	255	295/320	16	100	50	7	40	70	100	110	10	50	5.7/6.0
XP3-100	3	U100BL	146	280	340	16	100	50	7	40	70	100	110	10	50	6.6
XP-120	3	U120B	146	255	295/320	16	120	60	7	40	70	100	110	10	50	5.7/6.0
XP2-120	3	U120B	146	280	320	16	120	60	7	40	70	100	110	10	50	6.8
XP-160	3	U160BM	155	255	305/360	20	160	80	10	40	70	100	110	10	50	7.4/8.2
XP1-160	3	U160BS	146	255	305/320	20	160	80	10	40	70	100	110	10	50	7.4/7.8
XP4-160	4	U160BM	155	300	400	20	160	80	10	45	75	110	110	10	50	9.4
XP5-160	4	U160BS	146	280	350/405	20	160	80	10	42	75	105	110	10	50	8.9/9.1
XP6-160	4	U160BM/L	155/170	280	380	20	160	80	10	42	75	105	110	10	50	8.9
XP8-160	3	U160BS	146	280	315	20	160	80	10	40	70	105	110	10	50	8
XP9-160	3	U160BM	155	280	315/350	20	160	80	10	40	70	105	110	10	50	8.0/8.4
XP13-160	4	U160BL	170	280	350/405	20	160	80	10	42	75	110	110	10	50	8.7/9.1
XP1-210	3	U210B	170	280	335	20/24	210	105	10	40	70	105	120	10	50	10.2/10.4
XP2-210	4	U210B	170	280	380/405	20/24	210	105	10	42	75	105	120	10	50	10.7/10.9
XP4-210	3	U210B	170	300	330	20	210	105	10	40	70	105	120	10	50	10.6
XP5-210	4	U210B	170	300	370/400	20/24	210	105	10	42	75	110	120	10	50	11.1/11.4
XP-240	4	U240B	170	280	405	24	240	120	10	45	75	110	120	10	50	11.1
XP-300	4	U300B	195	320/330	370/390	24	300	150	10	45	75	110	120	10	50	13.2/13.6
XP-400	4	U400B	205	360	525	28	400	200	10	50	90	140	130	10	50	18.6
XP2-400	5	U400B	205	340	550	28	400	200	10	50	90	140	130	10	50	19.5
XP-420	5	U420B	205	340	550	28	420	210	10	50	90	140	130	10	50	19.5
XP-530	5	U530B	205	380	600/700	32	530	265	10	55	95	140	140	10	50	25.5/29.0

**Anti-Pollution Suspension Porcelain Insulator(Twin-Shed & Tri-Shed Type)**

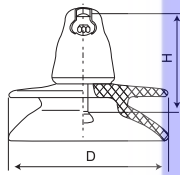


Fig1

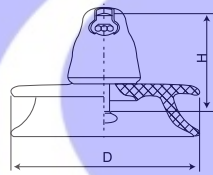


Fig2

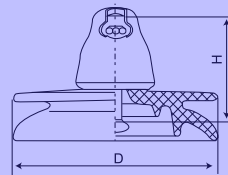


Fig3

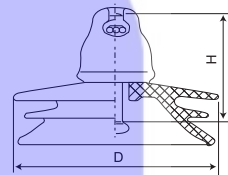


Fig4

Cat. No.	Fig. No.	IEC Class	Main Dimension/mm		Normal Creepage distance /mm	Coupling Size	Rated E & M Failing Load/kN	Routine Tension Load/kN	Power Frequency Voltage /kV		Power Frequency Puncture Voltage/kV	Radio Interference Voltage		Unit Mass /kg
			Unit spacing (H)	Normal diameter (D)					Wet	Dry		Test Voltage to Ground/kV	Max. RIV at 1MHz / $\mu$ V	
XWP-70	1	U70BEL	155/160	255	400	16	70	35	42	80	120	10	50	5.9
XWP2-70	1	U70BLP	146	255	400/450	16	70	35	42	80	120	10	50	5.9/6.4
XWP3-70	1	U70BL/ELP	146/160	280	400/450	16	70	35	45	80	120	10	50	5.9/7.5
XWP4-70	2	U70BL	146	300	400	16	70	35	42	80	120	10	50	6.5
XWP1-100	1	U100BL	160	255	400	16	100	50	42	80	120	10	50	7.3
XWP2-100	1	U100BLP	146	255/280	450	16	100	50	45	80	120	10	50	6.7/8.1
XWP2-120	1	U120BP	146/160	280	450	16	120	60	45	80	120	10	50	8.4
XWP-160	2	U160BM	155	300	400	20	160	80	45	80	120	10	50	9.2
XWP-1-160	1	U160BM	160	280	400	20	160	80	45	80	120	10	50	8.2
XWP2-160	1	U160BM/LP	155/170	300	450	20	160	80	45	80	120	10	50	9.1
XWP3-160	1	U160BMP	155	280	450	20	160	80	45	80	120	10	50	8.6
XWP5-160	3	U160BMP	155	300	450	20	160	80	45	80	120	10	50	9.9
XWP6-160	1	U160BLP	170	330	450	20	160	80	45	80	120	10	50	11
XWP7-160	1	U160BLP	170	340	525	20	160	80	50	90	130	10	50	10.9
XWP1-210	1	U210BP	170	300	450	20/24	210	105	45	80	130	10	50	12/11.7
XWP3-210	1	U210BP	170	350	525/545	20/24	210	105	50	90	130	10	50	13.6/13.8
XWP3-240	1	U240BP	170	360	525	24	240	120	50	90	130	10	50	14.4
XWP-300	1	U300BP	195	330	480	24	300	150	47	85	130	10	50	14.8
XSP-70	4	U70BLP	146	255/280	450	16	70	35	42	80	120	10	50	6.3/7.1
XSP-100	4	U100BELP	155/170	300	545	16	100	50	45	80	120	10	50	9.4
XSP2-100	4	U100BELP	160	280	450	16	100	50	42	80	120	10	50	8.6
XSP-160	4	U160BLP	170	330	545	20	160	80	50	90	130	10	50	11.8
XSP1-160	4	U160BMP	155	320/330	500	20	160	80	45	80	130	10	50	11.7
XSP2-160	4	U160BMP	160	325/330	545	20	160	80	50	90	130	10	50	11.9
XSP-210	4	U210BP	170	340	545	20	210	105	50	90	130	10	50	14
XSP-240	4	U240BP	170	360	545	24	240	20	50	90	130	10	50	15
XSP-30	4	U300BP	195	360	500	24	300	150	50	90	130	10	50	17.1

INSULATORS



Anti-pollution Disc Suspension Porcelain Insulator (Fog & Aerodynamic Series)

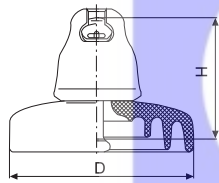
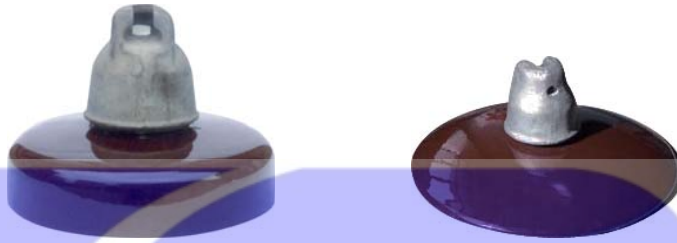


Fig 1

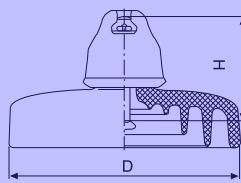


Fig 2

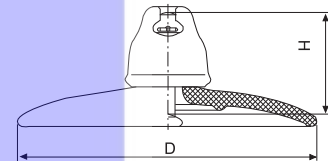
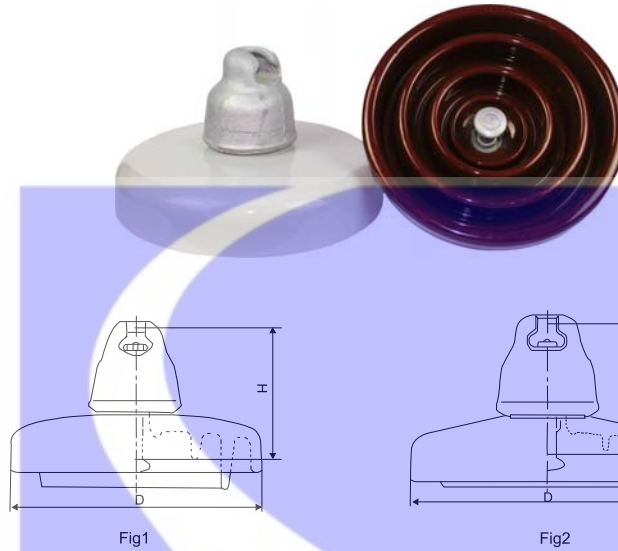


Fig 3

Cat. No.	Fig. No.	IEC Class	Key Dimension /mm		Nominal Creepage Distance /mm	Coupling Size	Rated E & M Failing Load /kN	Routine Tension Load/kN	Impact Failing Load /N.m	Power Frequency Withstand Voltage/kV		Lightning Impulse Withstand Voltage (Dry) / kV	Power Frequency Puncture Voltage /kV	R.I.V Data		Unit Net Weight /kg
			Unit Spacing (H)	Disc Diameter (D)						Wet	Dry			Test Voltage to Ground /kV	Max R.I.V at 1 MHz / $\mu$ V	
XHP-70	1	U70BLP	146	255	132/432	16	70	35	6	42	80	120	120	10	50	6.1/6.3
XHP5-70	1	U70BL	146	280	400	16	70	35	6	42	80	120	120	10	50	6
XHP-80	1	U80BM/LP	140/146	255	432	16	80	40	6	42	80	120	120	10	50	6.5
XHP-100	1	U100BEL	160	280	400/430	16	100	50	7	45	80	120	120	10	50	7.9/8.2
XHP2-100	1	U100BLP	146	255	432/450	16	100	50	7	42	80	120	120	10	50	7.7/7.9
XHP1-120	1	U120BP	146	255/280	432/450	16	120	60	7	45	80	120	120	10	50	760/820
XHP3-120	2	U120BP	146	330/320	555	16	120	60	7	55	80	135	130	10	50	10.3
XHP4-120	1	U120BP	160	255	432	16	120	60	7	42	80	120	120	10	50	8.2
XHP-160	1	U160BMP	155	280/300	450	20	160	80	10	45	80	120	130	10	50	10.1/10.3
XHP2-160	2	U160BMP	170	330/320	525/550	20	160	80	10	55	80	135	130	10	50	11.7/12.0
XHP5-160	2	U160BMP	155	330	450/550	20	160	80	10	45/55	80/90	120/135	130	10	50	10.3/12.0
XHP-210	1	U210BP	170	300	450	20/24	210	105	10	45	80	130	130	10	50	12.6/12.3
XHP1-210	2	U210BP	170	330	550	20	210	105	10	55	90	135	130	10	50	14.5
XHP1-240	2	U240BP	170	330	550	24	240	120	10	55	90	135	130	10	50	15.2
XHP-300	1	U300BP	195	320/330	485/505	24	300	150	10	45	80	130	130	10	50	15.2/15.7
XHP3-300	1	U300BP	200	320/330	450	24	300	150	10	45	80	130	130	10	50	15.1
XHP4-300	2	U300BP	195	380	690	24	300	150	10	60	100	140	140	10	50	21.4
XHP5-300	2	U300BP	195	360	600	24	300	150	10	55	90	135	130	10	50	19.1
XMP-70	3	U70BL	146	350	300	16	70	35	-	40	70	105	120	10	50	5.7
XMP-80	3	U80BL	146	325	305	16	80	40	-	40	70	95	120	10	50	5.6
XMP-100	3	U100BLP	146	350	300	16	100	50	-	40	70	105	120	10	50	6.7
XMP2-160	3	U160BS	146	425	385	20	160	80	-	45	75	110	130	10	50	10.6

### Disc Suspension Porcelain Insulator Direct Current Type(DC Type)

INSULATORS

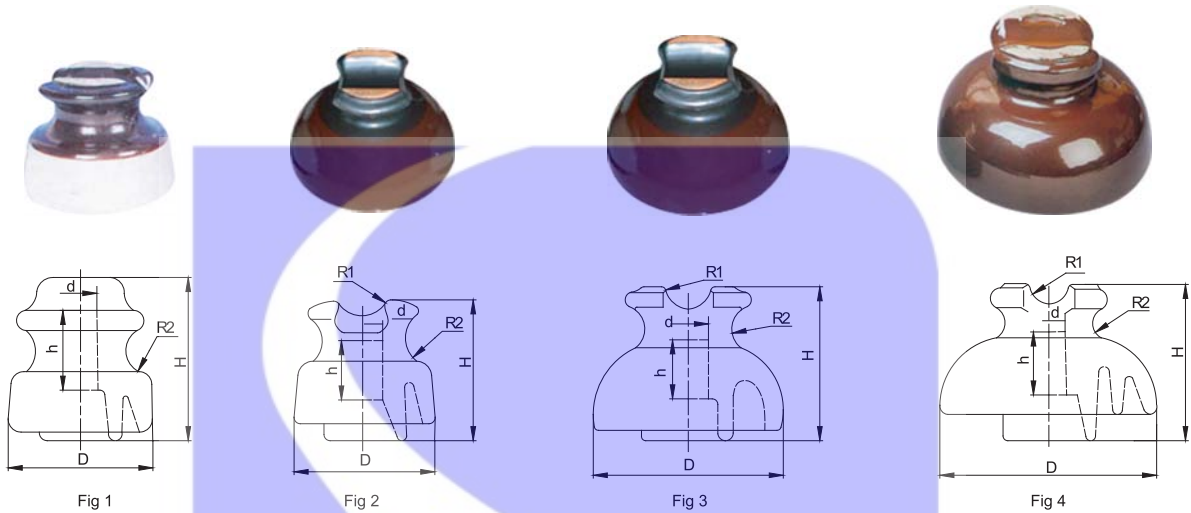


	Cat No.	XZP-120	XZP-160	XZP-210	XZP1-300
	Fig. No.	2	1	1	2
	IEC Class	U120B	U160B	U210B	U300B
Key Dimension/mm	Unit Spacing(H)	146	170	170	195
	Disc Diameter (D)	280	320	320	400
	Normal Creepage Distance /mm	445	545	545	635
	Coupling Size	16	20	20	24
	Rated E & M Failing Load /kN	120	160	210	300
	Routine Tension Load /kN	60	80	105	150
	Impact Failing Load /N.m	6.8	10	10	10
DC Flashover Voltage/ kV	Wet	±65	±70	±70	±75
	Dry	±155	±170	±170	±180
Lightning Impulse Flashover /kV	Positive	135	150	150	160
	Negative	140	160	160	170
	DC Wet Withstand Voltage/kV	±50	±55	±55	±60
	Lightning Impulse Withstand Voltage(Dry) / kV	125	140	140	140
	Power Frequency Puncture Voltage/kV	130	130	130	140
R.I.V Data	Test Voltage to Ground /kV	10	10	10	10
	Max R.I.V at 1 MHZ/μV	50	50	50	50
	Unit Net Weight/kg	7.2	11.1	12.2	19.5



INSULATORS

Pin Type Porcelain Insulator ANSI 55 Series



ANSI Class	55-1	55-2	55-3	55-4	55-5	55-6	55-7
Fig. No.	1	2	3	4	4	4	4
Main Dimension/mm	H	88.9	82.6	95.3	111.0	123.8	139.7
	h	44.5	38.1	38.1	44.5	50.8	57.2
	D	82.6	95.3	120.7	139.7	177.8	212.7
	d	25.4	25.4	25.4	25.4	25.4	34.9
	R1	-	-	14.3	25.4	25.4	25.4
	R2	12.7	15.9	14.3	14.3	14.3	15.9
Minimum Pin Height/mm	101.6	101.6	127.0	127.0	152.4	190.5	190.5
Leakage Distance/mm	101.6	127.0	177.8	228.6	304.8	381.0	381.0
Dry Arcing Distance/mm	57.2	85.7	114.3	127.0	158.8	203.2	203.2
Low Flashover Voltage/kV	Dry	35	50	65	70	85	100
	Wet	20	25	35	40	45	50
Critical-impulse Flashover Voltage/kV	Puncture	50	70	90	95	115	135
	Positive	50	75	100	110	140	150
	Negative	70	95	130	140	170	170
R.I.V Data	Test Voltage To Ground/kV	5	5	10	10	15	22
	Max.R.I.V at 1000 KHZ/ $\mu$ V	2500	2500	5500	5500	8000	8000
Cantilever Strength/LB.	3000	2500	2500	3000	3000	3000	3000
Weight /kg	0.5	0.65	1.0	1.55	2.75	4.15	4.15

**Pin Type Porcelain Insulator ANSI 56 Series**

INSULATORS

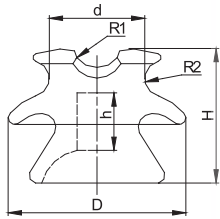
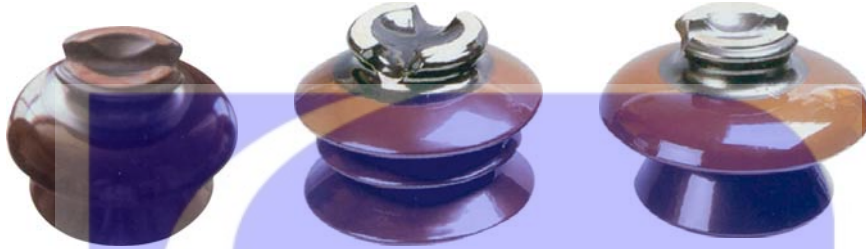


Fig 1

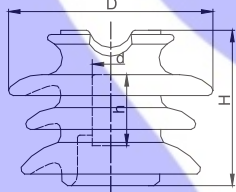


Fig 2

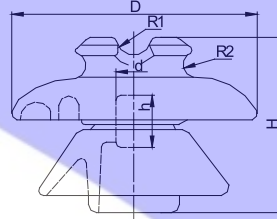


Fig 3

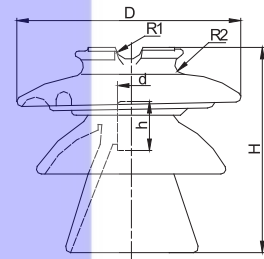


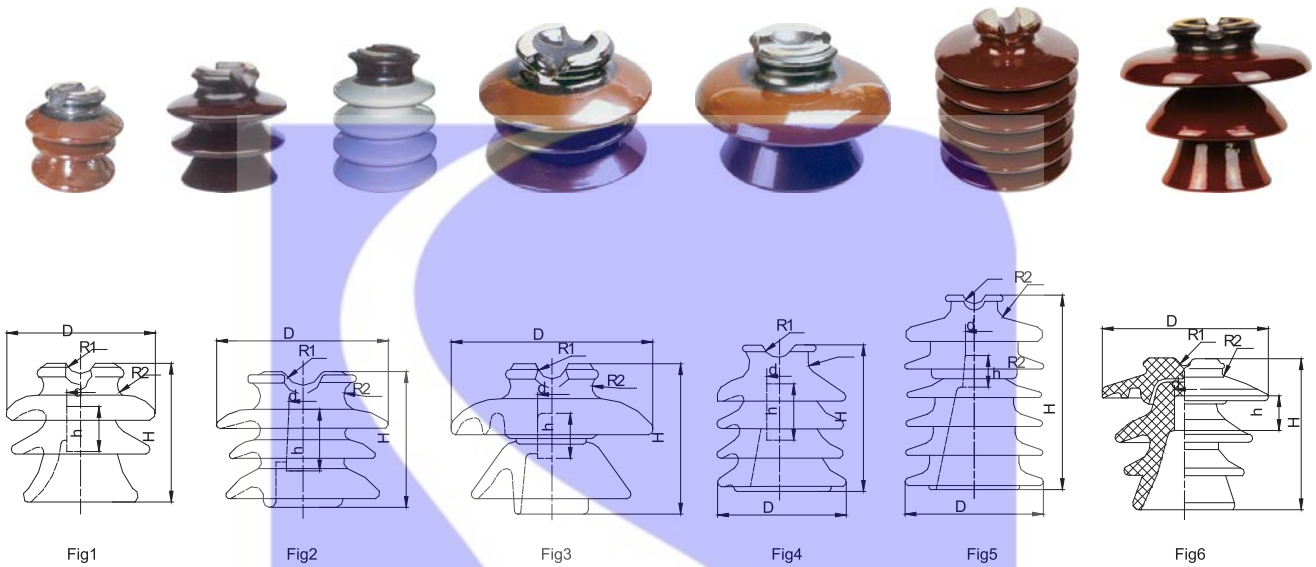
Fig 4

ANSI Class		56-1	56-2	56-3	56-4	56-5	
Fig. No.		1/2	1/2	3	3	4	
Main Dimension/mm	H	146	165	191	241	318	
	h	50.8	50.8	50.8	50.8	63.5	
	D	191	229	268	305	343	
	d	34.9	34.9	34.9	34.9	34.9	
	R1	19	19	19	19	19	
	R2	14	14	14	14	14	
	Recommended Pin Height/mm		153	178	203	254	305
Leakage Distance/mm		330	432	533	686	865	
Dry Arcing Distance/mm		178	210	241	285	356	
Average Flashover Voltage/kV	Power Frequency	Dry	95	110	125	140	175
		Wet	60	70	80	95	125
	Critical Impulse	Positive	150	175	200	225	270
		Negative	190	225	265	310	340
R.I.V Data	Test Voltage To Ground/kV	15	22	30	30	44	
	Max.R.I.V at 1000 KHZ/μV	100	100	100	200	200	
Power-frequency Puncture Voltage/kV		130	145	165	186	225	
Cantilever Failing Load/kN		12	14	14	14	14	
Weight/kg		3.5	5	8	11	14	



INSULATORS

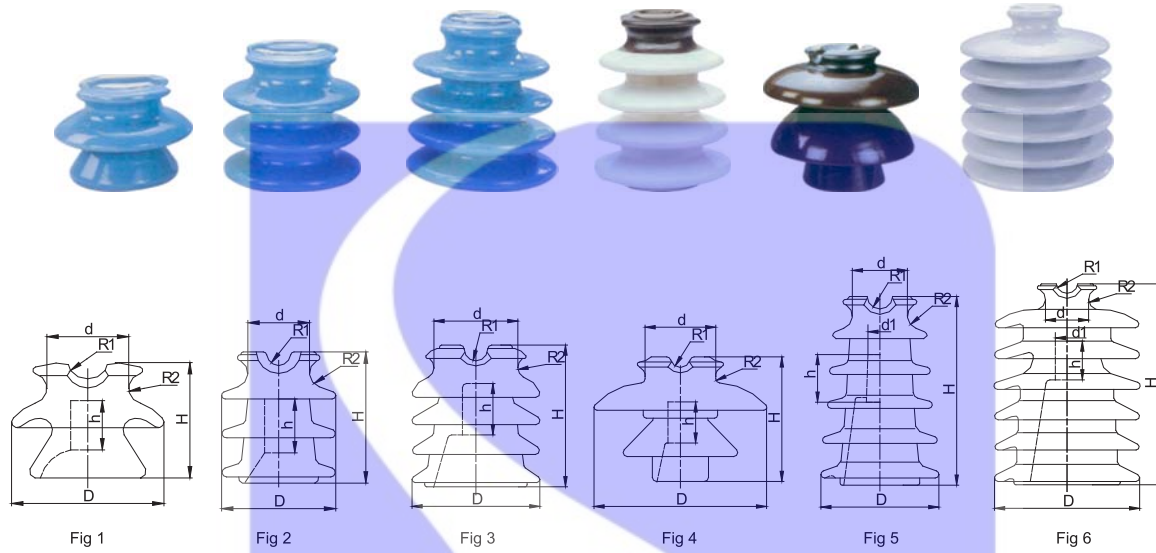
Pin Type Porcelain Insulator BS/DIN Standard



BS Class (P-xy) DIN Class (ST-xx)	Fig. No.	Main Dimension /mm						Recommended Pin Height/mm	Leakage Distance /mm	Dry Arcing Distance /mm	Average Flashover Voltage/kV				Cantilever Failing Load/kN	Power Frequency Puncture Voltage/kV	R.I.V Data		Unit Net Weight /kg
		H	h	D	d	R1	R2				Power Frequency Dry	Power Frequency Wet	Critical Impulse Dry	Critical Impulse Wet			Test Voltage to Ground /kV	Max R.I.V at 1 MHz/ $\mu$ V	
P-6-Y	1	110	48	102	28.3	9.5	9.5	127	178	76	60	35	95	120	11	95	10	50	0.95
P-11-Y	1	130	48	140	18.3	13	9.5	152	240	102	75	45	100	110	11	135	15	100	1.8
P-15-Y	1	137	48	152	18.3	13	11	165	298	133	80	55	130	175	11	135	15	100	2.0
P-22-Y	2	165	52.6	229	27.8	19	14.3	178	432	200	100	60	160	205	11	145	22	100	5.0
P-33-Y	3	244	52.6	279	27.8	19	13	280	630	381	135	85	185	237	13	185	30	200	10.0
P-33-M	3	200	52.6	320	27.8	20	16	330	825	450	150	100	200	260	10	175	30	200	12.0
P-44-Y	3	318	52.6	343	27.8	19	14.3	330	864	483	155	110	240	305	13	250	44	200	13.6
Pw-15-Y	4	185	52.6	170	27.8	16	16	216	432	197	100	65	150	190	11	150	22	100	4.7
Pw-22-Y	5	255	52.6	205	27.8	16	16	280	673	267	125	95	190	235	11	200	30	200	9.1
Pw-33-Y	5	320	52.6	240	27.8	16	16	330	851	419	140	110	210	245	11	210	44	200	12.5
Pw-33-Y1	5	250	52.6	225	27.8	16	16	330	900	420	120	95	170	200	12	170	44	200	10.0
Pw-33-Y2	5	320	52.6	240	27.8	16	16	330	990	490	120	95	200	235	10	210	44	200	12.5
Pw-33-Y3	5	280	52.6	225	27.8	15	16	330	1000	490	130	100	200	235	10	190	44	200	11.5
St-10	1	130	45	135	19.5	12.5	12.5	127	230	73	60	45	100	120	11	120	10	50	1.5
St-15	1	150	45	150	19.5	12.5	12.5	152	265	110	70	50	120	150	11	130	15	100	2.2
St-20	1	185	45	175	19.5	12.5	12.5	165	350	305	80	65	140	175	13	150	22	100	3.4
St-35	6	250	61	230	26	14	14	178	540	420	100	85	180	205	13	180	30	200	12.0

**Pin Type Porcelain Insulator Australia Standard**

INSULATORS



Cat.No.	AS Class	Fig.No.	Main Dimension /mm							Nominal Voltage /kV	Leakage Distance /mm	Power Flashover Voltage /kV(r.m.s≥)			50% Impulse Flashover Voltage (peak) /kV	Cantilever Strength /kN	Unit Net Weight /kg
			H	h	D	d	R1	R1	R2			Dry Flashover	Wet Flashover	Puncture			
Pw-10-A	A10K37	1	110	40	150	76	16	16	13	11	180	60	30	105	95	7	1.3
Pw1-15-A	A10K38	2	160	46	150	76	16	16	16	11	275	60	30	105	95	7	1.3
Pw-1-28-A	A10K39	3	200	63.5	160	113	16	16	13	22	450	80	50	150	150	11	4.6
Pw20-22-A	A10K40	3	250	63.5	165	78	16	16	16	22	490	110	50	160	150	11	7
Pw-22-A	A10K41	4	200	63.5	250	113	16	16	13	22	480	110	50	150	150	11	5.5
Pw3-32-A	A10K42	5	210	66.5	200	76	16	16	16	22	520	-	50	150	160	11	4.2
Pw1-33-A	A10K43	5	265	63.5	220	113	16	16	13	33	710	120	90	220	170	11	6.3
Pw-32-A	A10K44	6	320	66.5	240	86	16	16	16	33	920	90	90	220	210	11	14.3

INSULATORS



Pin Type Porcelain Insulator For High Voltage

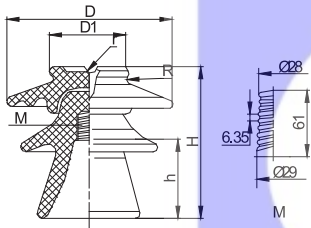


Fig1

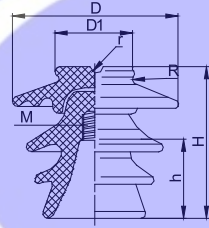


Fig2

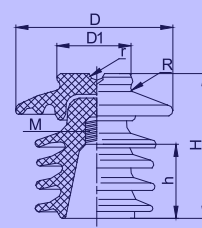


Fig3

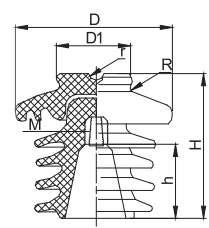
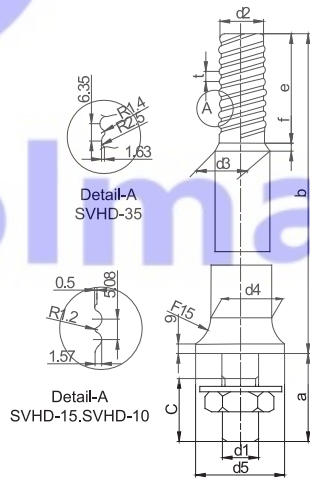


Fig4

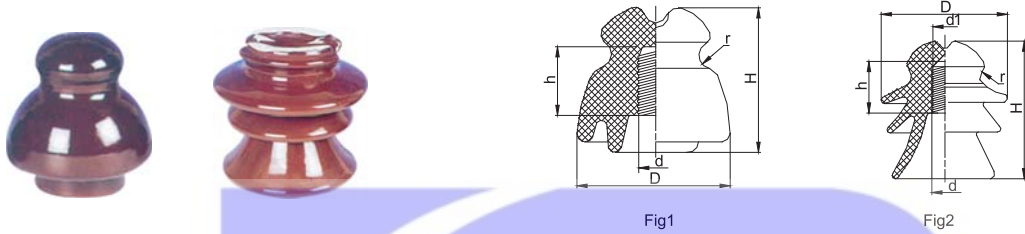
Cat.No.	Fig. No.	Main Dimension /mm						Leakage Distance /mm	Minimum Breaking Load/kg	One Minute Withstand Voltage Wet /kV	Puncture Voltage /kV	Impulse Withstand Voltage/kV	Unit Net Weight /kg
		H	h	D	D1	R	r						
VHD-35-N	1	270	133	270	135	14	14	630	1200	70	180	170	11
VHD-35-S1	2	270	133	270	135	14	14	720	1200	75	180	175	11.8
VHD-35-S11	3	295	160	270	135	14	14	900	1200	80	180	180	13.3
VHD-35-G	4	256	124	267	101.5	14.7	19	900	1200	90	180	180	13

Spindie For Pin Insulator VHD Series



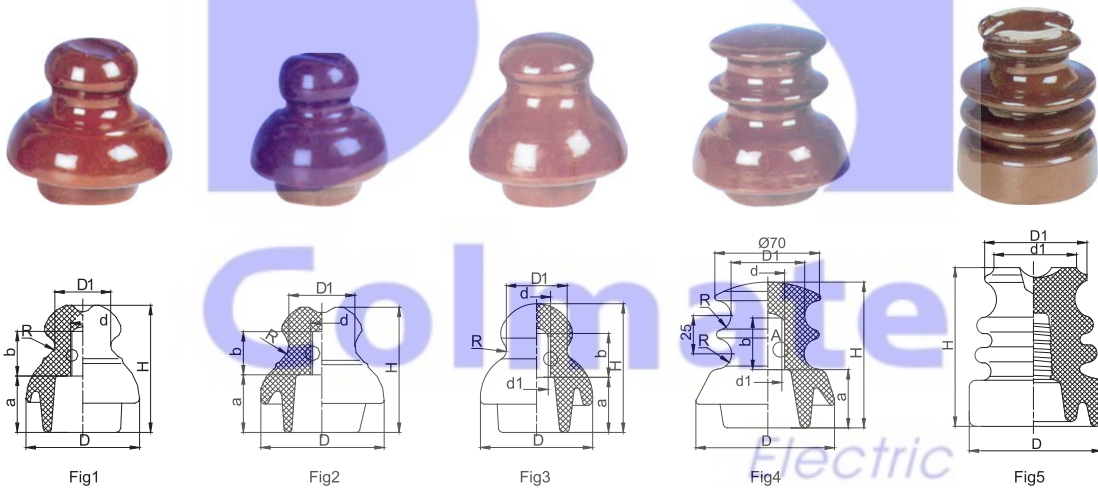
Cat.No.	Main Dimension/mm											
	a	b	c	d1	d2	d3	d4	d5	e	f	g	t
SVHD-35	135	280	75	25.4	25	28	35	51	61	4	8	6.35
SVHD-20	135	215	75	20	19	24	30	44	45	4	5	5.05
SVHD-15	135	165	75	160	19	24	30	41	45	4	5	5.05
SVHD-10	135	127	75	16	19	24	30	41	45	4	5	5.05

**Pin Type Porcelain Insulator**



Cat.No.	Fig. No.	Main Dimension/mm					Leakage Distance/mm	Low-frequency Flashover/kV		Puncture Voltage/kV	Cantilever Failing Load/kg	Weight/kg
		H	h	D	d	r		Dry	Wet			
CN918	1	75	33	80	23	7	-	40	12	-	600	0.4
CN919	1	95	48	105	26	9	-	50	20	-	900	0.9
CN920	1	120	48	135	26	12	-	55	30	-	1500	1.6
CN945	2	145	60	135	26/28	9	200	75	55	110	1500	1.6
CN946	2	160	80	160	26/28	9	320	85	65	120	1800	2.18
CN948	2	205	85	178	28/30	10	440	100	75	135	2000	3.14

**Pin Type Porcelain Insulator**



Cat.No.	Fig. No.	Main Dimension/mm								Leakage Distance/mm	Minimum Breaking Load/kg	One Minute Withstand Voltage Wet/kV	Weight/kg
		H	D	D1	d	d1	a	b	r				
N80	1	85	80	42	16	-	38	38	17.5	120	1250	10	0.4
N95	2	95	95	50	16	-	43	32	14	140	1250	10	0.57
E-80	3	87	80	42	19	21	38	30	9	120	1250	10	0.4
E-95	3	97	95	50	22	24	41	35	14	140	1250	10	0.55
E95/2	4	100	95	50	22	24	41	35	10	160	1250	10	0.625
E95/3	5	120	102	80	60	-	-	-	-	230	1380	45	-
E95/4	5	152	130	80	25	-	-	51	14	318	1380	50	-

INSULATORS



**Spindle For Pin Type Porcelain Insulator( BS Standard)**

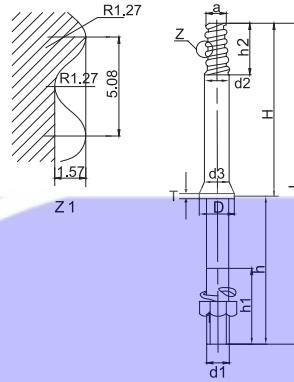
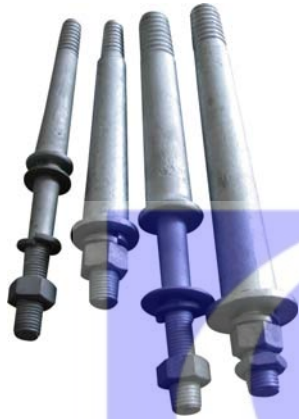


Fig1

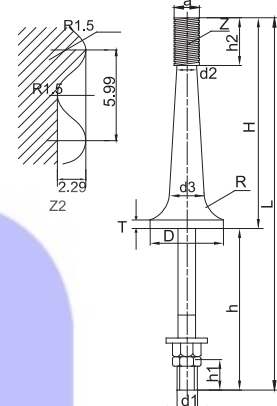
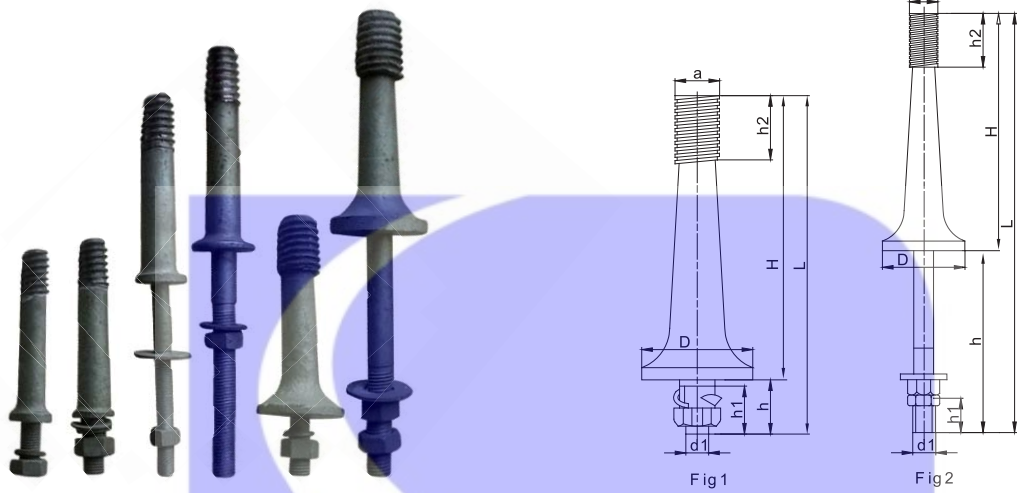


Fig2

Cat. No.	Top Size	Fig No.	Main Dimensions/mm											Cantilever Strength (kN)	
			L	H	D	h	h1	h2	a	d1	d2	d3	R		T
BS05165	BS small	1	165	115	32	50	45	44.45	18.29	18/20	24	23	13	5	5
BS05255	BS small	1	255	115	32	140	75	44.45	18.29	18/20	24	23	13	5	5
BS10165	BS small	1	165	115	40	50	45	44.45	18.29	18/20	24	28	13	6	10
BS10255	BS small	1	255	115	40	140	75	44.45	18.29	18/20	24	28	13	6	10
BS05215	BS small	1	215	165	37	50	45	44.45	18.29	18/20	24	24	13	5	5
BS05305	BS small	1	305	165	37	140	75	44.45	18.29	18/20	24	24	13	5	5
BS10215	BS small	1	215	165	43	50	45	44.45	18.29	18/20	24	31	13	6	10
BS10305	BS small	1	305	165	43	140	75	44.45	18.29	18/20	24	31	13	6	10
BS05280	BS small	1	280	230	40	50	45	44.45	18.29	20/22	24	28	13	6	5
BS05370	BS small	1	370	230	40	140	75	44.45	18.29	20/22	24	28	13	6	5
BS10280	BS small	1	280	230	50	50	45	44.45	18.29	20/22	24	37	13	6	10
BS10370	BS small	1	370	230	50	140	75	44.45	18.29	20/22	24	37	13	6	10
BS05180	BS small	1	180	130	40	50	45	44.45	18.29	18/20	24	23	13	5	5
BS05315	BS small	1	315	165	43	150	75	44.45	18.29	18/20	24	23	13	5	5
BL05215	BS Large	2	215	165	37	50	45	47.60	27.28	18/20	24	24	13	5	5
BL05305	BS Large	2	305	165	37	140	75	47.60	27.28	18/20	24	24	13	5	5
BL10215	BS Large	2	215	165	43	50	45	47.60	27.28	20/22	24	31	13	6	10
BL10305	BS Large	2	305	165	43	140	75	47.60	27.28	20/22	24	31	13	6	10
BL05280	BS Large	2	280	230	40	50	45	47.60	27.28	22	25	28	13	6	5
BL05370	BS Large	2	370	230	40	140	75	47.60	27.28	22	25	28	13	6	5
BL10280	BS Large	2	280	230	50	50	45	47.60	27.28	22	25	37	13	6	10
BL10370	BS Large	2	370	230	50	140	75	47.60	27.28	22	25	37	13	6	10
BL05355	BS Large	2	355	305	43	50	45	47.60	27.28	22	24	31	13	6	5
BL05445	BS Large	2	445	305	43	140	75	47.60	27.28	22	24	31	13	6	5
BL10355	BS Large	2	355	305	63	50	45	47.60	27.28	22	27	40	13	6	10
BL10445	BS Large	2	445	305	63	140	75	47.60	27.28	22	27	40	13	6	10
BL10400	BS Large	2	400	230	50	170	120	47.60	27.28	22	31	40	13	6	10
BL10475	BS Large	2	475	305	63	170	120	47.60	27.28	22	31	40	13	6	10

**Spindle For Pin Type Porcelain Insulator(ANSI Standard)**

INSULATORS



Cat. No.	ANSI Class	Fig No.	Main Dimension (mm)								Cantilever Strength(kN)	Net Weight (kgs)
			L	H	D	h	h1	h2	a	d1		
AN55-2S	55-2	1	165	115	38	50	45	45	25.4	20	6	0.8
AN55-2L	55-2	2	255	115	38	140	70	45	25.4	20	6	1.05
AN55-3S	55-3	1	190	140	38	50	45	45	25.4	20	6	0.9
AN55-3L	55-3	2	280	140	38	140	70	45	25.4	20	6	1.05
AN55-4S	55-4	1	215	165	38	50	45	45	25.4	20	6	1
AN55-4L	55-4	2	305	165	38	140	70	45	25.4	20	6	1.25
AN55-5S	55-5	1	215	165	38	50	45	45	25.4	22	6	1.11
AN55-5L	55-5	2	305	165	38	140	70	45	25.4	22	6	1.35
AN56-1S	56-1	1	243	198	76	45	46	51	34.9	20	11	1.54
AN56-1L	56-1	2	508	330	76	178	76	51	34.9	20	11	1.19
AN56-2S	56-2	1	268	223	76	45	40	51	34.9	20	9	1.87
AN56-2L	56-2	2	534	356	76	178	76	51	34.9	20	9	2.2
AN56-3S	56-3	1	319	274	89	45	40	51	34.9	20	10	2.17
AN56-3L	56-3	2	585	407	89	178	76	51	34.9	20	10	2.5
AN56-4S	56-4	1	344	299	89	45	40	51	34.9	20	9	2.7
AN56-4L	56-4	2	610	432	89	178	76	51	34.9	20	9	3.25
AN56-2S1	56-2	1	268	223	45	45	40	51	34.9	20	6	1.3
AN56-2L1	56-2	2	432	356	76	76	76	51	34.9	16	5	1.9
AN56-2L2	56-2	2	508	343	45	165	76	51	34.9	20	6	1.6

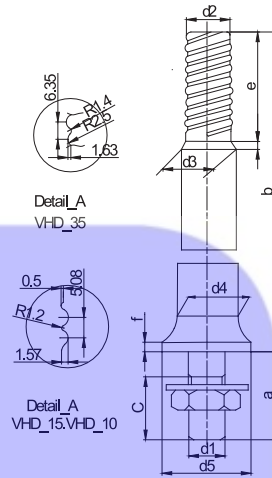
Remark: With 1 3/8" Lead thread in comply with ANSI C29.6~1969



INSULATORS

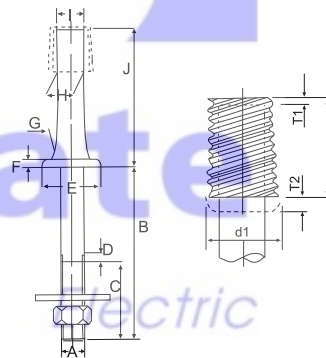


**Spindle For Pin Type Porcelain Insulator(DIN Standard)**



Cat.No.	Main Dimension/mm										Net Weight (kgs)	Cantilever Strength (kgs)	Code No as per DIN 48004
	a	b	c	d1	d2	d3	d4	d5	e	h			
VHS10/15A	105	170	65	24	25	-	-	40	57	4	1.2	125	St10/ St15
VHS20A	105	205	65	24	28	-	-	45	65	4	1.57	145	St20
VHS30A	125	280	65	24	32	-	-	50	85	4	2.45	165	St30
VHS10/15B	140	170	75	24	25	37	34	50	57	5	1.65	300	St10/ St15
VHS20B	140	205	75	24	28	30	38	60	62	5	2.1	365	St20
VHS30B	145	280	75	30	32	34	44	70	85	6	3.6	420	St30

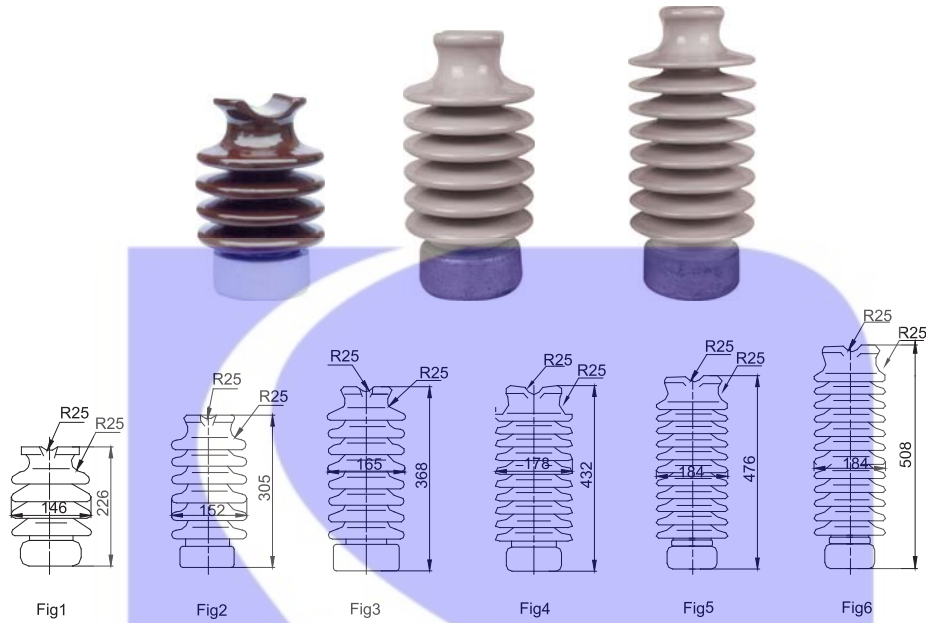
**Spindle For Pin Type Insulator(AS Standard)**



Cat.No.	Cantilever Strength (kN)	Main Dimension/mm											Head Type		
		A	B	C	D	E	F	G	H	I	J	T1		T2	d1
B/100/35	3.5	16	140	50	5	40	6	20	17.3	16	98	2	5	32	B
A/130/7	7	20	165	80	6	50	6	29	22.8	20	128	2	5	36	A
C/150/7	7	20	165	80	6	60	9	30	24.4	20	148	2	-	-	C
C/150/11	11	24	165	80	7	60	9	35	28.9	24	148	2	-	-	C
C/200/11	11	24	165	80	7	65	9	38	28.6	24	198	2	-	-	C
C/300/7	7	24	165	80	7	75	9	37	26.8	24	298	2	-	-	C

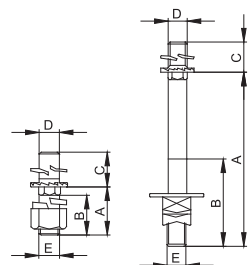
Remark: With Lead-Antimony Head or Lead Head.

**Post Type Porcelain Insulator ANSI 57 Series**



Cat No.	Fig No.	Leakage Distance /mm	Dry Arcing Distance /mm	Cantilever Strength /kN	Power Frequency Flashover Voltage /kV		Critical Impulse Flashover Voltage/kV		R.I.V Data		Unit Net Weight /kg
					Dry	Wet	Positive	Negative	Test Voltage to Ground /kV	Max R.I.V at 1 MHz /μV	
57-1	1	356	165	12.5	70	50	120	155	15	100	5.2
57-2	2	559	241	12.5	100	70	160	205	22	100	9
57-3	3	737	311	12.5	125	95	200	260	30	200	11
57-4	4	1016	368	12.5	140	110	230	340	44	200	18
57-5	5	1143	438	12.5	160	130	265	380	44	200	18
57-6	6	1364	489	12.5	180	150	300	440	44	200	20.5

**Spindle For Post Type Porcelain Insulator ANSI 57 Series**

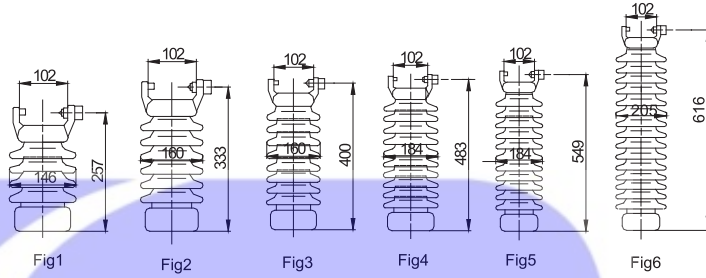


Stud Type	Crossarm Type	Dimension(mm)				
		A	B	C	D	E
Short	Steel	45	97	31	M20	M16/M20
Long	Wooden	178	89	31	M20	M16/M20

INSULATORS

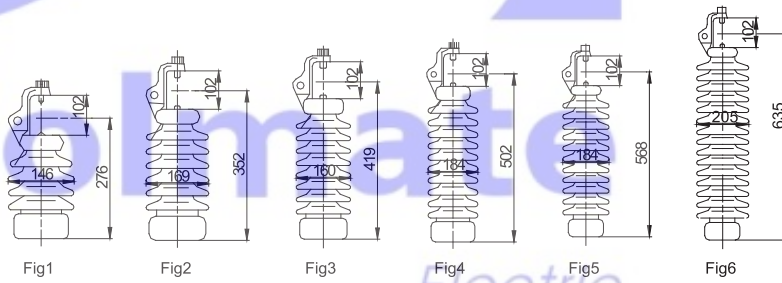


**Line Post Insulator(ANSI Type, Vertical)**



ANSI Class	Fig. No.	Leakage Distance /mm	Cantilever Strength /kN	Flashover Voltage/kV		Critical Impulse Flashover Voltage/kV		R.I.V Data		Unit Net Weight/kg
				Dry	Wet	Positive	Negative	Test Voltage to Ground/kV	Max R.I.V at 1 MHz / $\mu$ V	
57-11	1	356	12.5	70	50	120	155	15	100	7.5
57-12	2	559	12.5	110	70	160	205	22	100	10.5
57-13	3	797	12.5	125	95	200	260	30	200	12.7
57-14	4	1016	12.5	140	110	230	340	44	200	16.8
57-15	5	1143	12.5	160	130	265	380	44	200	19.5
57-16	6	1346	12.5	180	140	300	390	44	200	-

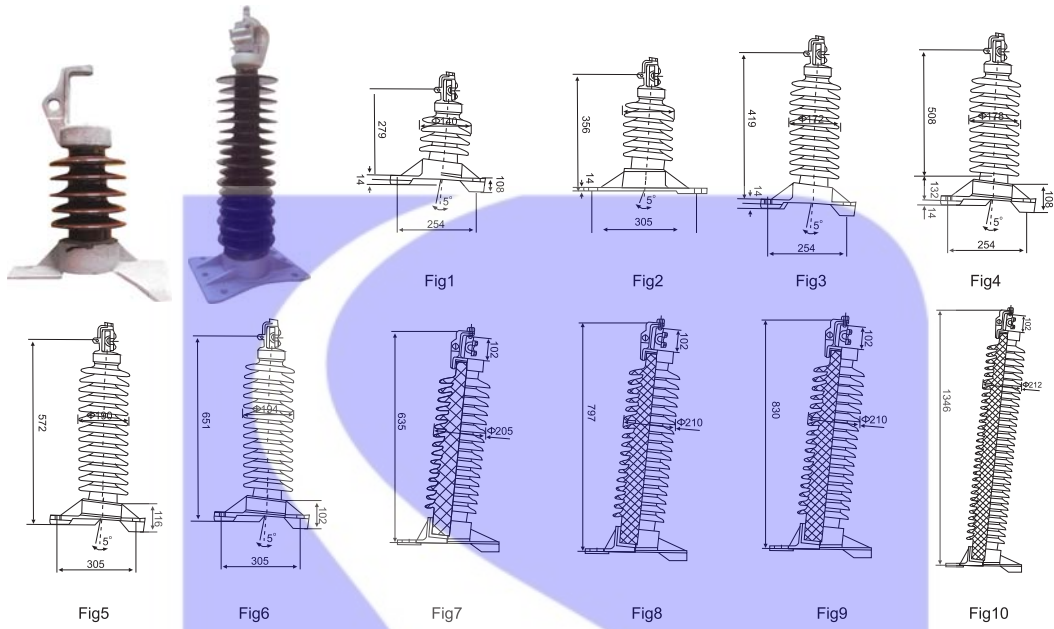
**Line Post Insulator(ANSI Type, Horizontal)**



ANSI Class	Fig. No.	Leakage Distance/mm	Cantilever Strength/kN	Flashover Voltage/kV		Critical Impulse Flashover Voltage/kV		R.I.V Data		Unit Net Weight/kg
				Dry	Wet	Positive	Negative	Test Voltage to Ground /kV	Max R.I.V at 1 MHz / $\mu$ V	
57-21	1	356	12.5	70	50	120	155	15	100	6.8
57-22	2	559	12.5	110	70	160	205	22	100	10
57-23	3	797	12.5	125	95	200	260	30	200	11.8
57-24	4	1016	12.5	140	110	230	340	44	200	15.9
57-25	5	1143	12.5	160	130	265	380	44	200	18.6
57-26	6	1346	12.5	180	140	300	390	44	200	-

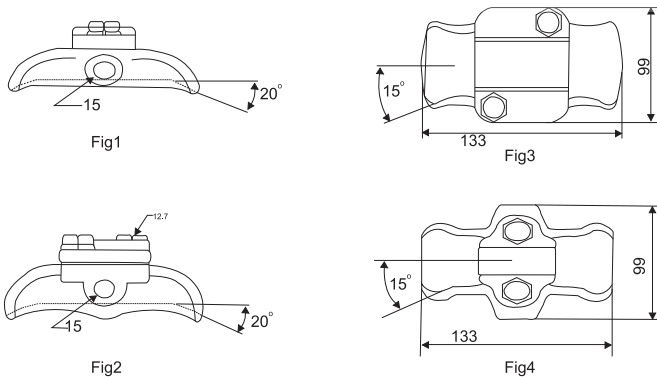
**Post Type Porcelain Insulator ANSI 57 Series With Horizontal Clamp & Mounting Bracket**

INSULATORS



Cat No	Fig No	Creepage Distance(Min) /mm	Drying Arcing Distance /mm	Cantilever Strength /kN	Power Frequency Flashover Voltage/kV		Critical Impulse Flashover Voltage/kV		R.I.V Data		Unit Net Weight /kg	Applicable Standard
					Dry	Wet	Positive	Negative	Test Voltage to Ground /kV	Max R.I.V at 1 MHZ / $\mu$ V		
57-31	1	356	165	12.5	70	50	120	155	15	100	9.5	ANSI
57-32	2	559	241	12.5	100	70	160	205	22	100	12.5	
57-33	3	737	311	12.5	125	95	200	260	30	200	15.7	
57-34	4	1016	368	12.5	140	110	230	340	44	200	18.8	
57-35	5	1143	438	12.5	160	130	265	380	44	200	21.5	
57-36	6	1346	489	12.5	200	180	330	425	44	200	70/31.8	
57-37	7	1800	489	12.5	-	-	300	-	-	200	-	
57-38	8	1728	-	12.5	-	-	390	-	-	-	-	
57-39	9	1805	-	12.5	-	-	430	-	-	-	-	
57-40	10	2920	-	12.5	-	-	550	-	-	-	-	

**Horizontal Clamp & Mounting Bracket For Post Type Porcelain Insulator ANSI 57 Series**



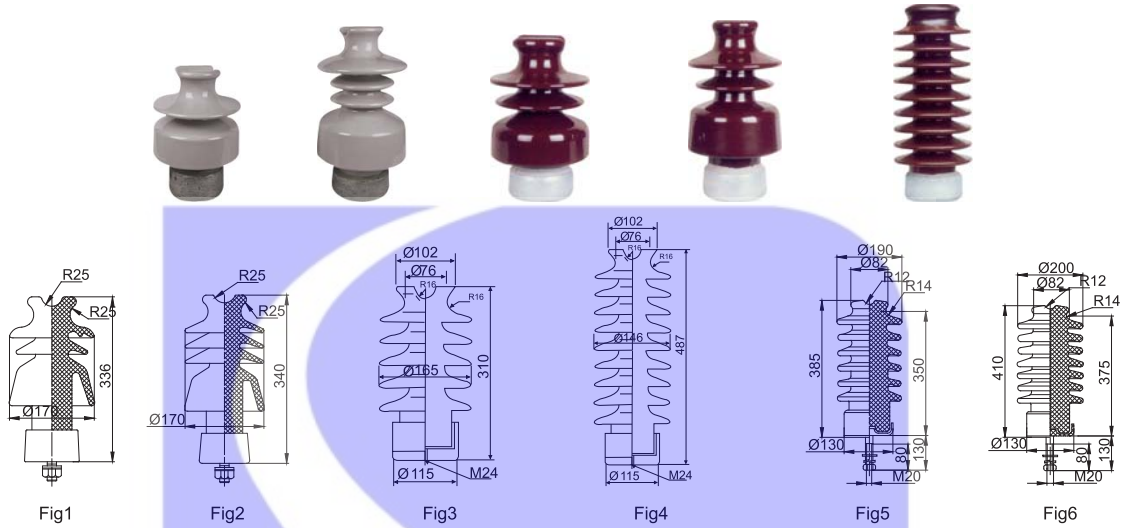
Electric

Cat No.		Outside Diameter of Conductor/mm	
Malleable	Aluminum Alloy	Min	Max
57-11A1	57-11A2	6.35	14.2
57-11B1	57-11B2	8.89	21.3
57-11C1	57-11C2	12.7	26.9
57-11D1	57-11D2	25.4	38.1

INSULATORS

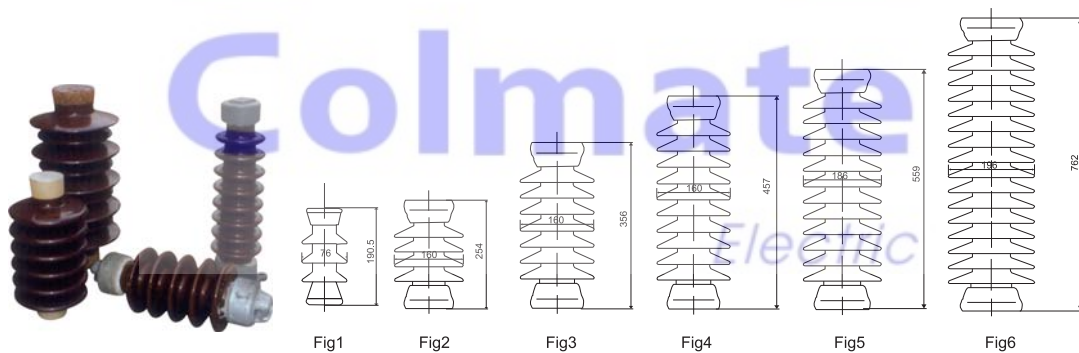


Line Post Type Porcelain Insulator For High Voltage



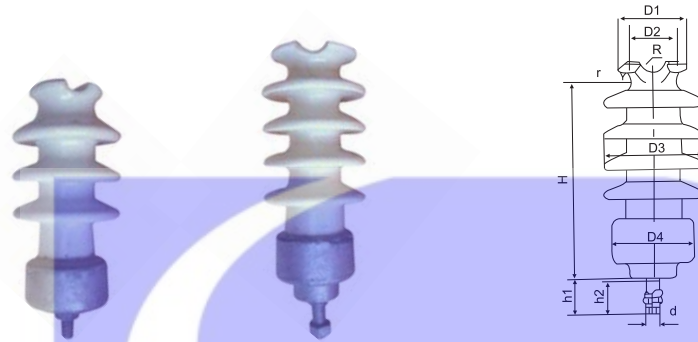
Cat No.	Fig. No.	Leakage Distance Min./mm	Protective Leakage Distance Min./mm	Min.Cantilever Failing Load /kN	Power Frequency Withstand Voltage-Wet/kV	Lighting Impulse Withstand Voltage /kV	Unit Net Weight /kg	Applicable Standard
PM-25/500	1	500	250	12.5	50	150	9.4	IEC 383 AS2947.2
PM-25/530	2	530	250	12.5	65	150	9.8	
PM-25/565	3	565	220	12.5	50	150	7.5	
PM-35/610	4	610	240	12.5	50	150	13.3	
PM-25/720	5	720	-	8	70	170	-	DIN
PM-25/900	6	900	-	8	70	170	-	

Line Post Type Porcelain Insulator For High Voltage



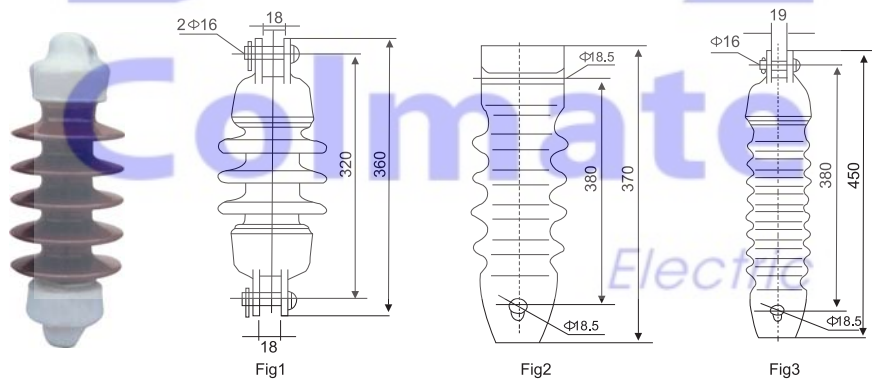
Cat.No.	Fig.No.	Creepage Distance /mm	Cantilever Strength /kN	Tension Strength /kN	Torsion Strength /kN	Compression Strength /N-m	Low Frequency Flashover Voltage/kV		Critical Impulse Flashover Voltage/kV		Low Frequency Withstand Voltage/kV		Impulse Withstand Voltage/kV	Unit Net Weight /kg
							Dry	Wet	Positive	Negative	Dry	Wet		
TR-201	1	267	8.9	38	678	44.5	60	40	105	120	36	30	95	4.5
TR-202	2	394	8.9	38	791	44.5	85	55	125	200	50	45	110	7
TR-203	3	610	8.9	44.5	904	44.5	110	75	170	250	70	60	150	11
TR-204	4	940	8.9	53	1130	66.7	145	100	225	290	95	80	200	15.4
TR-205	5	1092	8.9	62	1356	66.7	170	125	180	340	120	100	250	20.5
TR-206	6	1829	6.7	71	1695	111	235	180	390	475	175	145	350	29

**Line Post Type Porcelain Insulator For High Voltage**



Cat No.	Main Dimension/mm										Shed Qty.	Impulse Withstand Voltage/kV	Cantilever Failing Load/kN	Leakage Distance /mm	Unit Net Weight /kg	Bottom Dia./mm
	H	D1	D2	D3	D4	R	r	h1	h2	d						
PS-105/3Z	200	100	55	120	-	14	13	-	-	M16	3	105	3	300	-	90
PS3-15	256	100	55	125	102	18	13	50	43	M16/M18	4	105	5	360	5	60
PS4-15	295	100	58	126	102	18	13	50	43	M16	6	125	5	427	5.5	60
PS-20	325	100	70	150	115	18	13	50	45	M20	6	125	7	590	8.85	100
PS-35	420	100	80	160	120	20	13	140	80	M20	8	170	7	720	11.5	90

**Strain Long Rod Porcelain Insulator**

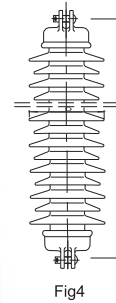
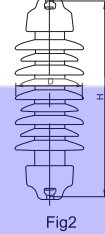
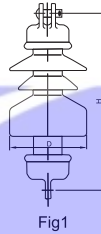


Cat. No.	Fig.No.	Type	Nominal Voltage /kV	Tension Strength /kN	Creepage Distance /mm	Impulse Withstand Voltage/kV	Power Frequency Voltage/kV		Unit Net Weight /kg
							Dry	Wet	
10381	1	XS-10/30	10	30	260	105	45	75	5.2
10382	2	XS-10/20	10	20	360	105	45	75	4.8
10383	3	XSC-10/20	10	20	310	105	45	75	4.5



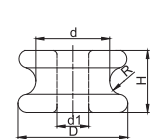
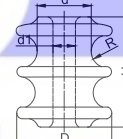
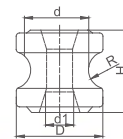
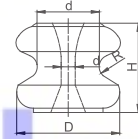
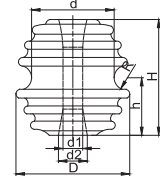
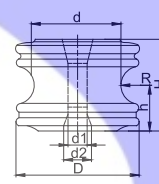
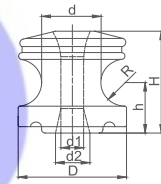
INSULATORS

**Strain Long Rod Porcelain Insulator**



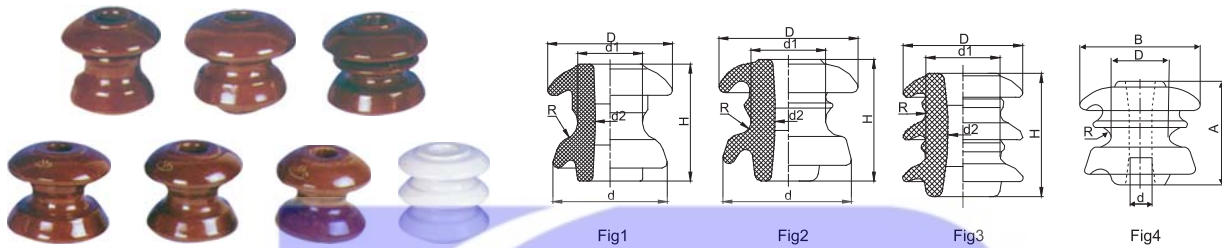
Cat.No.	Fig. No.	Main Dimension/mm		Creepage Distance /Protected Creepage Distance /mm	Tension Strength/kN	Impulse Withstand Voltage/kV	Power Frequency Puncture Voltage/kV	Standard Coupling to IEC 120	Unit Net Weight /kg
		H	D						
LR-70	1	381	175	635/318	70	125	65	16	9
LR-70B	2	550	180	1000	70	250	95	16	15
LR-100	3	1250	190	3150	100	550	230	16	38
LR-160	4	1480	210	4500	160	650	275	19L	54

**Spool Type Porcelain Insulator ANSI/AS/BS Series**



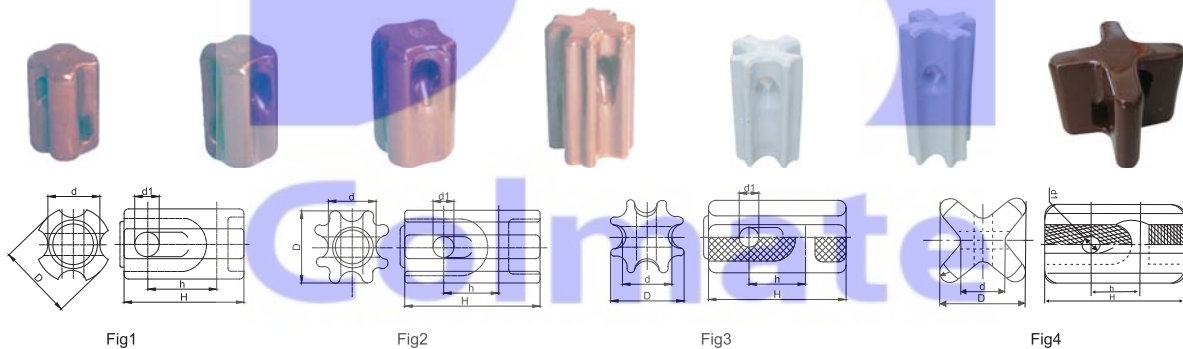
Standard	Cat.No.	Fig. No.	Main Dimensions/mm							Combined M & E Strength/kN	Low Frequency Voltage/kV			Weight/kg
			H	h	D	d	d1	d2	R		Dry Flashover	Wet Flashover		
												Vertical	Horizontal	
ANSI C29.3	53-1	2	54	27	57	45	18	22	11	8.9	20	8	10	0.22
	53-2	1	76	38	79	45	18	24	18	13.3	25	12	15	0.55
	53-3	2	81	40.5	76	45	18	24	11	17.8	25	12	15	0.60
	53-4	2	76	38	105	73	18	24	16	20	25	12	15	1.15
	53-5	3	105	52.5	102	73	18	24	11	26.7	35	18	25	1.20
AS1137	R-1	5	54	-	57	39	17.5	-	11	-	-	15	20	0.25
	R-2	5	76	-	80	54	17.5	-	17.5	-	-	15	20	0.60
AS1137	R-6	6	80	-	70	40	18	-	7	0.24	12	15	20	0.40
	R-8	7	32	-	57	40	17.5	-	7	-	-	15	20	0.13
BS137	1617	4	65	-	76	46	17.5	-	9	9	20	9	9	0.40
	1617-1	4	65	-	78	-	17.5	-	12.5	-	-	-	-	-
	1617-2	4	67	-	73	-	16	-	14.3	-	-	-	-	-
	1618-1	4	75	-	89	52	17	-	13	10	20	9	-	-
	1618-2	4	75	-	89	52	17	-	12.5	13	25	12	12	-
	1618-3	4	88	-	95	-	22	-	16	-	-	-	-	-

**Shackle Type Porcelain Insulator**



Cat.No.	Fig. No.	Main Dimension /mm						Power-frequency Flashover Voltage/kV		Mechanical Failing Load/kg	Weight /kg
		H	D	d	d1	d2	R	Dry	Wet		
ED-1	1	90	100	95	50	22	12	22	10	1200	0.75
ED-2	1	75	80	75	42	20	10	18	9	1000	0.4
ED-3	1	65	70	65	36	16	8	16	7	800	0.25
ED-4	1	50	60	55	30	16	6	14	6	500	0.15
ED-2(B)	2	76	89	83	48	21	10	20	9	1300	0.48
ED-2(B)1	2	76	89	83	48	17.5	10	25	12	1300	0.5
ED-2(B)2	2	76	90	79	41	19	9.5	23	10	1568	0.48
ED-2(C)	3	80	80	-	50	22	6	25	12	1350	0.47
S.03	4	57	63	-	35	11	5	17	8	638	0.23
S.05	4	75	88	-	41	17	8	22	11	1815	0.65
S.01	4	88	100	-	57	18	13	26	14	1815	0.83
S.02	4	100	114	-	63	21	16	35	19	2270	1.32

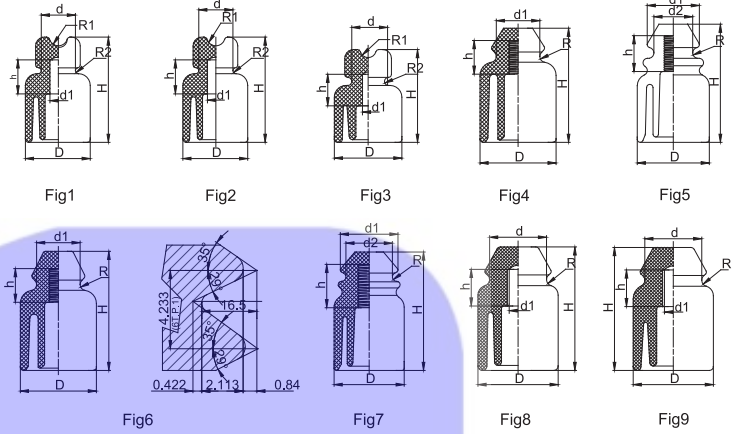
**Stay Type Porcelain Insulator ANSI 54 Series**



Standard	Cat.No.	Fig.No.	Main Dimension /mm					Routine Tension Load /kN	Power-frequency Flashover Voltage/kV		Leakage Distance /mm	Weight /kg
			H	h	D	d	d1		Dry	Wet		
ANSI C29.4	54-1	1	89	45	64	45	16	45	25	12	41	0.35
	54-2	1	108	57	73	54	22	54	30	15	48	0.68
	54-3	1	140	79	86	60	25.4	89	35	18	57	1.3
	54-4	2	171	67	89	60	25.4	89	40	23	76	1.9
AS 1137	GY1	3	90	48	68	44	16	27	15	10	40	0.6
	GY2	3	146	73	83	67	22	72	25	15	53	1.1
	GY3	3	216	89	115	67	38	222	30	20	90	4.3
	GY4	3	280	89	115	67	38	222	55	30	110	5.7
BS137	H24-3	4	95	48	100	52	22	65	50	26	85	1.33
	H24	4	175	60	100	52	22	-	-	-	-	-
	X24	4	220	76	100	52	22	-	-	-	-	-

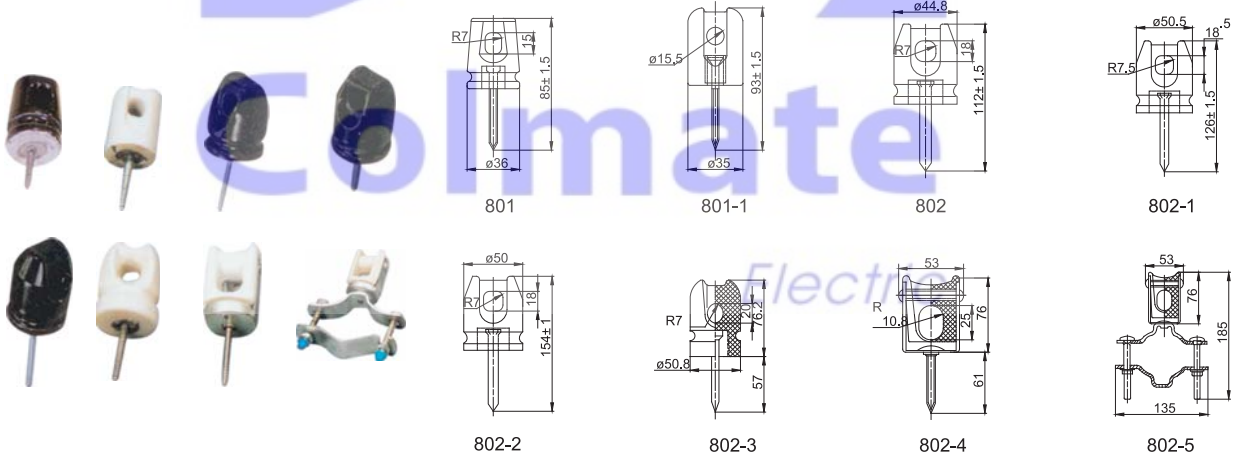
INSULATORS

LV Porcelain Insulator Pin Type For Telegraph



Standard	Cat.No.	Fig. No.	Main Dimension/mm							Insulation Resistance/KMΩ	Leakage Distance/mm	Shearing Strength/kg	Weight/kg
			H	h	D	d	d1	R1	R2				
DIN Class	RM-1	1	140	49.5	86	51	22.5	12	4	50	298	-	1.10
	RM-2	2	100	32	70	44	18.5	8.5	3.5	40	215	-	0.50
	RM-3	3	80	30	60	35	13	7	3	20	150	-	0.30
	T-4	8	95	31	60	40	13	-	4	40	-	600	0.34
	T-5	9	112	31	76	43	16.4	-	4	50	-	800	0.60
BS Class	CM701	5	119	35	76	54	44	-	5	10	298	-	0.62
	CM702	6	102	35	60	38	-	-	5	10	219	-	0.38
	CM703	4	51	32	54	-	12.7	-	4.8	18	57	-	0.23
	CM707	4	119	35	76	44	-	-	5	10	260	-	0.67
	CM708	7	102	35	60	44	38	-	5	10	210	-	0.40

LV Porcelain Insulator ANSI Pin Type For Telegraph



Cat.No.	801	801-1	802	802-1	802-2	802-3	802-4	802-5
Carton Meas/cm	48X35X15	36X21X32	41X31X18	39X36X21	-	34X32X29	38X31X19	45X31X30
QTY/CTN/PCS	288	200	24	60	60	100	60	30
G.W./kg	26	20	22	30	-	17	22	21
N.W./kg	25	18	84	28	-	15	20	19



**LV Porcelain Insulator & Insulation Accessory**

