





COMPANY PROFILE

Taban Niroo Company was established in 1997, since then it performs various services and activities including High Voltage Power Transition Projects across the country.

In July 2002, Dena Power Line Insulators (DPL), a unit of the Taban Niroo Co., has started its activities which mainly concentrate in producing polymer insulators within the range of 24KV to 1000KV.



Under the leadership of the Managing Director, Mr. A. Zamani, Taban Niroo employs some 50 highly skilled, motivated, well-trained and enthused artisans and technocrats. Mr. Zamani's mission statement has been one of work place safety, industrial excellence and innovation by way of exemplary manufacturing standards.

DPL is located in Shiraz Special Economic Zone, Shiraz, Iran.



GUIDE FOR THE APPLICATION OF SILICONE RUBBER INSULATORS

Insulator contamination is a common problem on overhead lines. The essential element for interruption with contaminated insulators is moisfure. Wet atmospheric condition results in water filming on insulator surfaces and leakage currents develop.

Silicone offers the ultimate solution in distirbution & transmission insulators. The material inherently resists watar filming there by limiting leakage currents. Insulators with reduced leakage currents, even when contaminated, require less frequent washing. The saving maintenance cost is yet other benefit in using silicone rubber insulators.







MATERIALS

1. Inner Core

The inner core of distribution & transmission suspension / dead-end and line post insulators are made of a high quality fiber glass that has been specially formulated for electrical and mechanical applications.

2. Housing and sheds

The housing and sheds of the insulator are one piece, injection molded silicone rubber is chemically bonded to the inner core.

This ensues that the interface between the rubber and inner core is impenetrable against moisture ingress.

3. End Fittings

The end fitting on the distribution & transmission suspension / dead-end insulator is made of high strength, forged steel. The insulators have Specified Mechanical Load (SML) rating of 70KN, 90KN, 120KN, 160KN, 210KN, 300KN.

All insulators Routine Test Load (RTL) are proof tested to 1/2 SML in tension.



SUSPENSION & DEAD END INSULATORS











SUSPENSIONS & DEAD END INSULATORS

TECHNICAL DATA

Catalogue No.	·		DPL6-24	DPL7-24	DPL8-36	DPL9-36
Rated Voltage		KV	24	24	36	36
Shed No.			6	7	8	9
Specified mechanical load(SM	ML)	KN	70	70	70	70
Section length		H.mm	465±1	465±1	540±1	540±1
Large shed diameter		D.mm	105±1	105±1	110±1	124±1
Small shed diameter d.mm		80±1	80±1	85±1	100±1	
Space between two sheds B.mm		44	38	44	38	
Leakage distance mm		710±5	770±5	920±5	1120±5	
Dry arcing distance		h.mm	325	325	420	420
Lightning impuls		Positive	240	250	275	290
withstand voltage	κv	Negative	250	265	285	300
60 Hz flashover power		Dry	145	150	155	160
frequency withstand voltage		Wet	130	135	140	145
Net Weight		Kg	1.450	1.500	1.610	1.840
Standard Package			12	12	12	12



SUSPENSION & DEAD END INSULATORS



SUSPENSIONS & DEAD END INSULATOR

TECHNICAL DATA

Catalogue No.			DPL 4-11	DPL 6-24	DPL 8-36	DPL10-36
Rated Voltage		KV	13.8	24	36	36
Shed No.			4	6	8	10
Specified mechanical load(SML) KN			70	70	70	70
Section length H.mm			393	465	537	609
Shed diameter	124	124	124	124		
Space between two sheds B.mm			36	36	36	36
Leakage distance mm		560	815	1080	1330	
Dry arcing distance		mm	298	370	440	510
Lightning impuls		Positive	180	240	260	290
withstand voltage	r\v	Negative	205	255	290	380
60 Hz flashover		Dry	110	135	150	175
withstand voltage	κv	Wet	58	110	125	150
Standard Package			12	12	12	9

400 KV Double Circuite Line , Foulad Neiriz , Fars



TRANSMISSION SILICONE RUBBER INSULATORS







66 KV TRANSMISSION SILICONE RUBBER INSULATORS



Catalogue No.			DPL66/80-19 BS DPL66/120-19 BS	DPL66/80-21 BS DPL66/120-21 BS	DPL66/80-23 BS DPL66/120-23 BS
Rated Voltage		KV	66	66	66
Shed No.			19	21	23
Diameter of innercore		mm	18	18	18
Specified mechanical load(SML)	KN	80/120	80/120	80/120
Section length		H.mm	910±2	970±2	1030±2
Large shed diameter D.mm		140±1	140±1	140±1	
Small shed diameter d.mm		105±1	105±1	105±1	
Space between two sheds B.mm		60	60	60	
Leakage distance mm		2530±5	2730±5	2930±5	
Dry arcing distance		h.mm	720	780	840
Lightning impuls	KV/	Positive	410	440	460
withstand voltage	Γ	Negative	440	460	480
60 Hz flashover power		Dry	320	330	340
frequency withstand voltage		Wet	240	250	260
Net weight		Kg	3.550	3.800	4.050
Standard Package			3	3	3



66 KV TRANSMISSION SILICONE RUBBER INSULATORS



66 KV TRANSMISSION SILICONE RUBBER INSULATORS

IECHNICAL DAIA				
Catalogue No.		DPL66/80-19 BS DPL66/120-19 BS	DPL66/80-21 BS DPL66/120-21 BS	DPL66/80-23 BS DPL66/120-23 BS
Rated Voltage	KV	66	66	66
Shed No.		19	21	23
Diameter of innercore	22	22	22	
Section length	970±2	1030±2	1090±2	
Greapage Distance	2400	2650	2950	
Arcing Distance mm		800	860	920
Lightning impulse	, Positive	440	450	460
withstand voltage	Negative	460	470	480
60 Hz flashover power	Dry	320	330	340
frequency withstand voltage	Wet	240	250	260
Net weight	Kg	5.500	5.750	6.000
Standard Package		3	3	3



66 KV TRANSMISSION SILICONE RUBBER INSULATORS



66 KV TRANSMISSION SILICONE RUBBER INSULATORS

Catalogue No.			DPL66/80-23 BS DPL66/120-23 BS	DPL66/80-25 BS DPL66/120-25 BS	DPL66/80-27 BS DPL66/120-27 BS
Rated Voltage		KV	66	66	66
Shed No.			19	21	23
Diameter of innercore mm			22	22	22
Section length mm			818±2	878±2	938±2
Greapage Distance mm			2250	2450	2650
Arcing Distance		mm	658	718	778
Lightning impuls		Positive	440	450	460
withstand voltage	κv	Negative	460	470	480
60 Hz flashover power		Dry	320	330	340
frequency withstand voltage		Wet	240	250	260
Net weight		Kg	5.300	5.550	5.800
Standard Package			3	3	3



132 KV TRANSMISSION SILICONE RUBBER INSULATORS





ILCINICAL DAIA					
Catalogue No.			DPL 132/120-37BS DPL 132/160-37BS	DPL 132/120-43BS DPL 132/160-43BS	DPL 132/120-49BS DPL 132/160-49BS
Rated Voltage		KV	132	132	132
Shed No.			37	43	49
Section length mm			1588	1768	1948
Greapage Distance mm			4570	5280	5990
Arcing Distance mm		1340	1520	1700	
Lightning impuls		Positive	770	860	910
withstand voltage	ΓV	Negative	800	880	935
60 Hz flashover power	K)/	Dry	450	540	560
voltage		Wet	380	460	480
Net weight		Kg	9.000	9.900	11.000
Standard Package			1	1	1



230 KV TRANSMISSION SILICONE RUBBER INSULATORS



			-		
Catalogue No.			DPL 230/160-65BS DPL 230/210-65BS	DPL 230/160-73BS DPL 230/210-73BS	DPL 230/160-81BS DPL 230/210-81BS
Rated Voltage		KV	230	230	230
Shed No.			65	73	81
Section length mm			2428	2668	2908
Greapage Distance mm			7885	8830	9775
Arcing Distance mm			2180	2420	2660
Lightning impuls		Positive	1200	1300	1380
withstand voltage	rν	Negative	1240	1360	1450
60 Hz flashover power		Dry	610	650	690
trequency withstand voltage		Wet	510	540	580
Net weight		Kg	13.800	15.200	16.600
Standard Package			1	1	1



400 KV TRANSMISSION SILICONE RUBBER INSULATORS



Catalogue No.		DPL 400/160-111BS DPL 400/160-127BS DPL 400/210-111BS DPL 400/210-127BS DPL 400/210-127BS		DPL 400/160-143BS												
			D1 E 400/210 11100	DI E 400/210 12/ DO	D1 E 400/210 140D0											
Rated Voltage		KV	400	400	400											
Shed No.			111 127		143											
Section length	Section length mm		3808	4288	4768											
Greapage Distance mm		13340	15230	17120												
Arcing Distance mm		3560 4040		4520												
Lightning impuls		Positive	1800	2100	2300											
withstand voltage	κv	κv	ΝV	r\v	Γ\V	ΓҲ V	rv	ΓŃ	κv	κv	ΚV	ΚV	Negative	1850	2200	2450
60 Hz flashover power frequency KV withstand voltage		Dry	925	1020	1150											
		Wet	720	850	920											
Net weight		Kg	23.500	26.300	28.500											
Standard Package			1	1	1											





LINE POST INSULATORS







LINE POST INSULATORS

TECHNICAL DATA

Catalogue No.		DPL3-24L	DPL4-24L	DPL5-24L	DPL5-36L	DPL6-36L	DPL8-36L
Rated Voltage	KV	24	24	24	36	36	36
Shed No.		3	4	5	5	6	8
Specified mechanical load(SML)	KN	6	6	6	4.5	4.5	4.5
Section length	H.mm	265	265	265	320	320	320
Large shed diameter	D.mm	140±1	140±1	145±1	140±1	142±1	142±1
Small shed diameter	d.mm	124±1	124±1	125±1	124±1	120±1	120±1
Space between two sheds	B.mm	41.5	41.5	41.5	41.5	43	31
Leakage distance	mm	420±5	550±5	700±5	720±5	770±5	980±5
Dry arcing distance	mm	240	240	240	330	330	330
Lightning impuls	, Positive	155	180	190	190	200	220
withstand voltage	Negative	165	190	205	205	210	235
60 Hz flashover	Dry	95	115	120	120	125	125
power frequency KV withstand voltage	Wet	70	90	100	100	105	105
Net weight	Kg	1.170	1.510	1.690	1.690	1.690	1.915
Standard Package		12	12	12	12	12	12











LINE POST INSULATOR

	DPL 5-11	DPL 7-24L	DPL 11-36
KV	13.8	24	36
	5	7	11
KN	14	13	12.5
H.mm	340	400	520
D.mm	170/140	170/140	170/140
B.mm		30	30
mm		900	1400
mm	250	310	430
Positive	180	240	260
Negative	205	255	290
Dry	110	135	150
Wet	85	110	125
-	3	3	3
	KV KN H.mm D.mm B.mm Mm Mm Positive Negative Dry Wet	DPL 5-11 KV 13.8 5 KN 14 H.mm 340 D.mm 170/140 B.mm 30 mm 660 mm 250 Positive 180 Negative 205 Dry 110 Wet 85 3	DPL 5-11 DPL 7-24L KV 13.8 24 5 7 KN 14 13 H.mm 340 400 D.mm 170/140 170/140 B.mm 30 30 mm 660 900 mm 250 310 Positive 180 240 Negative 205 255 Dry 110 135 Wet 85 110 3 3 3



LINE POST INSULATORS

24KV

36KV

66 KV





LINE POST INSULATORS TECHNICAL DATA

Product		24 KV	36 KV	66 KV
End fitting Material		Steel & Alu	Steel & Alu	Steel & Alu
Rod Material		Fiber Glass	Fiber Glass	Fiber Glass
Maximum Contailever Load	Kn	14	12	10
Power frequency withstand Voltage Dry One Minute	KV	90	120	215
Wet One Minute	KV	70	95	170
Lighting impulse withstand Voltage	KV	180	230	350
Greepage Distance	mm	780	1170	1650
Net Weigth	Kgs	9.150	10.200	11.300



RAIL WAY SUSPENSION & DEAD END INSULATOR







RAIL WAY SUSPENSION & DEAD END INSULATOR TECHNICAL DATA

Catalogue No.		DPL9-36 RW	DPL13-36 RW	
Rated Voltage	KV	36	36	
Shed No.		9	13	
Cantilever strength	KN	70/120	70/120	
Section lenght	560	660		
shed diameter	170/140	170/140		
Space between two sheds	pace between two sheds B.mm			
Leakage distance	mm	1160	1500	
Dry arcing distance	mm	250	310	
Lightning impuls	Positive	250	270	
withstand voltage	Negative	265	290	
60 Hz flash over with stand	Dry	140	160	
voltage	Wet	110	125	
Standard Package		3	3	



RAIL WAY POST





RAIL WAY POST INSULATOR

Catalogue No.			DPL7-24 RW
Rated Voltage		KV	36
Shed No.			7
Cantilever strength		KN	13
Section lenght		H.mm	400
shed diameter	170/140		
Space between two sheds	30		
Leakage distance	900		
Dry arcing distance		mm	310
Lightning impuls		Positive	240
withstand voltage	Γ	Negative	255
60 Hz flash over with stand		Dry	135
voltage	κv		110
Standard Package			3



RAIL WAY CROSS ARMINSULATOR





RAIL WAY POST INSULATOR

Catalogue No.			DPL9-36 RW
Rated Voltage		KV	36
Shed No.			9
Cantilever strength		KN	70/120
Section lenght		H.mm	560
shed diameter	170/140		
Space between two sheds	30		
Leakage distance	1160		
Dry arcing distance		mm	250
Lightning impuls		Positive	250
withstand voltage	Negative	265	
60 Hz flash over with stand		Dry	140
voltage	κν		110
Standard Package			3





POST INSULATORS

	DPL 66P	DPL 132P	DPL 230P		
KV	66	132	230		
	19	45	62		
mm	45	80	80		
Section lenght mm					
Greapage Distance mm					
Arcing Distance mm					
Positive	410	500	1000		
Negative	430	540	1035		
Dry	270	315	530		
Wet	185	230	445		
Kg	9	35	60		
	1	1	1		
	KV mm mm Positive Negative Dry Wet Kg	DPL 66P KV 66 19 19 mm 45 mm 760 mm 2280 mm 630 Positive 410 Negative 430 Dry 270 Wet 185 Kg 9 1 1	DPL 66P DPL 132P KV 66 132 19 45 19 45 mm 45 80 mm 760 1600 mm 2280 4780 mm 630 1445 Positive 410 500 Negative 430 540 Dry 270 315 Wet 185 230 Kg 9 35 1 1 1		



Parallel - grooye connector:

Tin-plated cast red brass. For ease of conductor connection, accommodates two conductors of unlike size in a single connector. Other styles of connectors are also avaliable.

TWO - PLACE LOCKING:

To Prevent Side Movement Of Hood, Contacts Or Hooks

Upper contacts:

Silver-to- Silver, stainless-steel spring provides high contact Pressure

Galvanized-Steel Channel

Rugged attachment hooks:

for Loadbuster guide tube during closing.

Parallel - groove connector:

Tin-plated cast red brass. for ease of conductor connection, accommodates two conductors of unlike size in a single connector. Other styles of connectors are also available.

Lower contacts:

(not visible)-silver-to-silver porvide dual current path. independent of hinge pivots. Stainless-steel Backup spring prevent arcing when tube rises in hinge during recoil.

Fuse tube:

Features Multi Wind-liner thats virtully impervious to water ingress. Special UV- resistant finish assures long life. Models also available with disconnect blade.

Filpper:

Gives high-speed terminal operation, quick cable flip - out, and (in conjunction with the toggle joint) reduces transmission of force to fuse link during closing.

Trunnion:

High-strength cast bronze. silver plated Surfaces. around trunnion bear on broad hinge surfaces to keep tube in alignment during closing.

Sturdy ferrules:

Cast red pinned to top and bottom of tube for permanent alignment. Either the large, accessible lifting ring or the keyhole (not visible in photo) may be engaged with a hookstick for secure control of fuse tube during fuse-tube installation or removal.



24&36KV STANDARD CUTOUT FUSE





CUTOUT FUSES

Nominal System Voltage	KV	20	33
Maximum Design Voltage	KV	24	36
Rated Current	100	100	
Breaking	6000	6000	
Impulse Voltage (BIL)	145	170	
power frequency withstand voltage	KV	60	70
Leakage To Ground	UP(mm)	975	1150
metal to metal	Down(mm)	975	1150
leakage distance	mm	1450	1850
Weight	Kg	5.150	5.750



24KV & 36KV 10KA SURGE ARRESTER DISTRIBUTION CLASS POLYMERIC HOUSING



36 KV





SURGE ARRESTER DISTRIBUTION CLASS

TECHNICAL DATA

DESCRIPTION		24KV/10KA	36KV/10KA	
TYPE		CLASS-1	CLASS-1	
STANDARD		IEC60099-4 OR ANSI C62,11	IEC60099-4 OR ANSI C62,11	
ARRESTER RATING	KV	24	36	
M.C.O.V.	KV	19.5	29	
RATED FREQUNCY	ΗZ	50-60	50-60	
MAX.RESIDUAL VOLTAGE (8.20us) 10KA	KV	75	110	
INSULATION WITHSTAND VOLTAGE 1,2/50 IMPULSE	KV	125/150	170	
POWER FREQUENCY WITHSTAND VOLTAGE	KV	50	70	
HIGH CURRENT IMPULSE WITHSTAND	KA	100	100	
GREEPAGE DISTANCE	mm	850	1340	
ACCESSORIES : GROUND LEAD DISCONNECTOR INSULATOR BRACKET NEMA CROSS ARM BRACKET LINE TERMINAL WITH STAINLESS STEEL WIRE CLAMP & NUT GROUND TERMINAL WITH STAINLESS STEEL WIRE CLAMP & NUT		YES YES YES YES YES YES		





HYBRID INSULATOR Polymeric - Ceramic

Specificaton for Protected Areas Creepage Designe 20KV & 33KV Class Insulators







HYBRID - PIN TYPE & LINE POST TYPE INSULATORS

TECHNICAL DATA

Type of insulators		Line Post type insulator	Pin type insulator
Dry arc distance	mm	235	315
Leakage distance	mm	790	880
Cantilever strength	KN	10.5	8
Dry power frequency withstand voltage	KV rms	135	145
Wet power frequency withstand voltage	KV rms	70	95
lightning impulse withstand voltage	KV Peak	175	210
puncture withstand test	KV	>200	>200
Net weight	Kg	5.4	4.2
WATER PENETRATION TEST	LWIWG-02(96), clause 5.1K		
1000HRS SALT FOG TEST	IEC 62217 (2005), clause 9.3.3.1		
TEMPERATURE CYCLE TEST	IEC 60383-1(1993), clause 23.1		
ACCELERATED WEATHERING TEST	IEC 62217(2005), clause 9.3.2		

1.Foreword

The Taban Niroo Co. line post and pin type insulators combine a ceramic core and a silicone Elastomer housing to exploit the material property advantages of each component. To the present time there is no standard, which defines the qualification tests that have to be done on hybrid insulators.

This specification is a combination of relevant tests from present standards for porcelain insulators and composite insulators. From these standards the critical test procedures for the used components were adopted to assure the performance and quality of this product.

2. Referenced and Related Stand ards

IEC 62217 (2005):

Insulators for overhead lines - Composite line post insulators for A.C. systems with a nominal voltage greater than 1000V - Definitions, test methods and acceptance criteria.

IEC 60383-1 (1993):

Ceramic or glass insulator units for A.C. systems definition, test methods and acceptance criteria.

LWIWG-02 (96):

Line Post Composite Insulator for Overhead Distribution Lines CEA Purchasing Specification.

IEC 60060-1 (1989):

High voltage test techniques;

Part 1: General specifications and test requirements. IEC 61952 (2008):

Insulators for overhead lines – Composite line post insulators for A.C. systems with a nominal voltage greater than 1000 V – Definitions, test methods and acceptance criteria.

3. Test Samples

Each sample of the Taban Niroo Co. insulators has to be taken from the production line. The insulators dimensionally have to conform to their drawing.

4. Testing

4.1 Overview

The outline of all testing is as follows:

Type and design Tests

- 4.1.1 4.1.2
- Dry power frequency withstand voltage Test Wet power frequency withstand voltage Test Lightning Impulse withstand voltage test Mechanical failing load test Hardness test
- 4.1.3
- 4.1.5
- 4.1.6
- Flammability Water penetration test Salt fog test 4.1.7
- 4.1.8
- 4.1.9 Accelerated weathering test

Sample tests

- Verification of dimensions 4.2.1
- 4.2.2 4.2.3 4.2.4 Temperature cycle test
- Mechanical failing load test Porosity Test Galvanizing test
- 4.2.5

Test Description and Requirements

Type and design Tests

4.1.1 Dry power frequency withstand voltage Test **Requirement:**

Three insulators shall be selected and tested in accordance with section 12.1 of IEC 60060-1. All three insulators withstood specified dry power frequency withstand voltage in 60 seconds without flashover.

4.1.2 Wet power frequency withstand voltage Test **Requirement:**

Three insulators shall be selected and tested in accordance with section 14 of IEC 60383-1. All three insulators withstood specified wet power frequency withstand voltage in 60 seconds without flashover.

4.1.3 Lightning Impulse withstand voltage test **Requirement:**

Three insulators shall be selected and tested in accordance with section 13 of IEC 60383-1. The 50% lightning impulse flashover voltage determined by the above procedure was not less than 1.04 times the specified lightning impulse withstand voltage.

4.1.4 Mechanical failing load test

Requirement:

Three insulators shall be selected and tested in accordance with section 19.1 of IEC 60383-1. Failure of any one insulator under the specified mechanical failing load shall constitute failure of the lot to meet the requirement of this standard.

4.1.5 Hardness test

Requirement:

Two specimens of the housing material shall be taken from the housing of two insulators and tested in accordance with section 9.3.1 of IEC 62217. Measure the hardness of the two samples and then the samples shall be kept immersed in boiling water for 42 h. At the end of the boiling period, the samples shall be allowed to cool an, within 3 h., their hardness shall be measured. The hardness of each specimen shall not change from the pre-boiling value by more than 20%.

4.1.6 Flammability test

Requirement:

The specimen of the housing material shall be taken from the housing of insulator and tested in accordance with section 9.3.4 of IEC 62217.

The test is passed if the test specimen belongs to category HB40 and V0.

4.1.7 Water Penetration Test

Requirement:

(1) Each sample shall be tested per Section 5.1 of LWIWG-02.

(2) The hardness of the Weathershed material shall be measured in accordance with ASTM D2240 with a Shore A durometer

(3) Each sample is boiled in 0.1 % by weight NaCl solution for 100 h.

(4) After 100 h., each sample is maintained at 50 °C in the NaCl solution, until it can be steep wave impulse tested to 10 flashovers each polarity with a wave having a rise time not less than 1 MV/µs in accordance with section 18.2.4 of IEC 60060-1/1989. Each impulse should cause external flashover. Internal damage or breakdown during this test constitutes failure of the test.

The period from the end of the boiling period to the completion of the impulse test should not exceed 48h. (5) Each sample is then retested to per section 8.2.1 of ANSI C29.7

(6) The hardness of the Weathershed material shall be measured in accordance with ASTM D2240 with a Shore A durometer. The hardness must not change from the pre-boiled specimen by more than 20%.

(7) A final visual examination should be made. There shall be no cracks and no signs of dissolving or crumbling.

4.1.8 Salt Fog Testing

Test of housing:

Tracking and erosion tests as per section of 9.3.3.1 of IEC 62217 to verify polymer housing resistance to a specified set of contamination conditions. The test has to be conducted according to this section.

Test requirements:

Duration of the test: 1000 h.

Water flow rate: with accordance fog calibration in testing chamber in begin of the test

Size of droplets: 5 µm to 10 µm

Temperature: 20 °C ± 5°C

NaCl content of water: between 1 to 8 Kg /m³ according to number of flashover is carried out.

The water flow rate is defined in liters per hour and per cubic meter of test chamber volume. It is not permitted to re-circulate the water.

Because of the protected creepage design the inner part of the bell can be removed to reduce the total leakage distance and in order to test a nominal operating voltage. The procedure specifies a fixed stress 34.6 kV/mm. If tested with the original creepage would result in an abnormally high voltage.

The test voltage in kilovolts is determined by dividing the creepage distance in millimeters by 34.6 (equal to a specific creepage distance of 20 mm/kV).

The test shall be regarded as passed if no tracking occurs, if erosion does not reach the porcelain core and if no shed is punctured.

4.1.9 Accelerated weathering test

Purpose:

To demonstrate the resistance of weather shed material to UV exposure.

Requirement:

The Testing was conducted according to section 9.3.2 of IEC 62217 which produced the UV spectrum closely matching that of natural sunlight. Duration of

this test is 100 h. and Surface defects such as cracks and blisters are not permitted.

Sample tests 4.2.1 Verification of dimensions Requirement:

E2 samples chosen at random shall comply with the Manufacturing Control Drawings, If any one of the insulators fail then twice are selected at random and checked again for compliance. If any one of the second three fail then the entire lot must be checked prior to shipment. Any insulator not meeting the dimensional requirements shall constitute failure and shall be discarded.

4.2.2 Temperature cycle test **Requirement:**

E1 + E2 insulators shall be selected at random and tested for three complete cycles in accordance with section 23.1 of IEC 60383-1. The temperature of the hot water bath shall be 70°C higher than the temperature of the cold water bath. If one of the insulator cracks of shatters then twice are selected at random and checked again for compliance.

4.2.3 Mechanical failing load test

Requirement:

E1 insulators shall be selected and tested in accordance with section 19.1 of IEC 60383-1. Failure of any one insulator under the specified mechanical failing load shall constitute to select twice and checked again for compliance.

4.2.4 Porosity Test

Requirement:

At least three (3) specimens shall be selected from E1 insulators destroyed in previous mechanical testing and tested in accordance with section 25 of IEC 60383-1. Penetration of the dye into the body of the dielectric shall constitute to select twice and checked again for compliance.

4.2.5 Galvanizing Test

Requirement:

E2 insulators shall be selected at random and tested in accordance with Section 26 of IEC60383-1. Five to ten measurements shall be uniformly and randomly distributed over the entire surface. Both the average thickness value for each individual specimen and the average of the entire sample shall equai or exceed the 86.4 μ m(2.1 mil.).

If the average of one specimen, pr if the average of the entire sample, fails to comply with the above, twice pieces of the same type of hardware shall be selected at random and tested.

failure of the retest sample to comply with the minimum thickness criteria shall constitute failure of the lot to meet the requirements of this standard.



24&36KV PHASE TO PHASE SPACER



PHASE TO PHASE SPACER

T	E	C	Н	N	IC	AL	D	AT	Ά

Section Lenght H.mm			850	1350	2000
Large shed diameter	D.mm	94	94	124	
Small shed diameter		d.mm	70	70	100
Leakage distance mm			1120	1350	2500
Dry arcing distance h.mm			720	1170	1950
Lightning impuls	KV	Positive	335	360	420
withstand voltage		Negative	350	370	435
60 Hz flashover power	KV -	Dry	200	260	335
frequency withstand voltage		Wet	190	240	350
Net Weight Kg			1.500	1.800	3.050
Standard package		6	6	1	



PHASE TO PHASE SPACER



PHASE TO PHASE SPACER

TECHNICAL DATA

Catalogue No.			DPL 66/225/T.T	DPL 132/225/T.T	DPL 230/160/T.T	DPL 400/160/T.T
Rated Voltage	KV	66	132	230	400	
Diameter of innercore		mm	24	24	24	24
Section length mm			3400	4900	5700	9800
Greapage Distance mm			3750	6000	10000	20000
Arcing Distance mm		3065	4500	5500	19400	
Lightning impuls	KV	Positive	1350	1550	1650	2450
withstand voltage		Negative	1500	1600	1750	2550
60 Hz flashover power frequency voltage	KV	Dry	650	725	800	1150
Net weight Kg			8.500	13	20.300	30.500
Standard Package			1	1	1	1







Cover For Suspension Ceramic & Glass Insulators Cover



Cover For Transformer Bushing





Cover For Surge Arrester







2016

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