

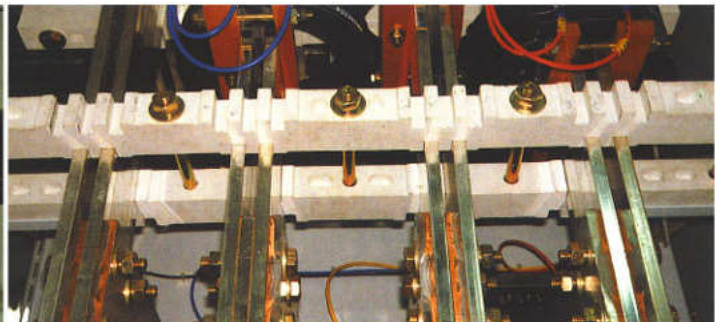
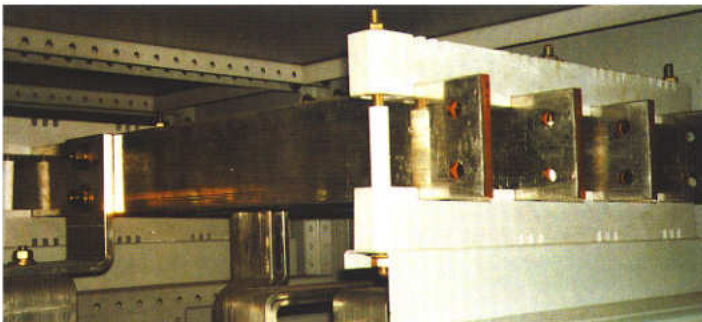
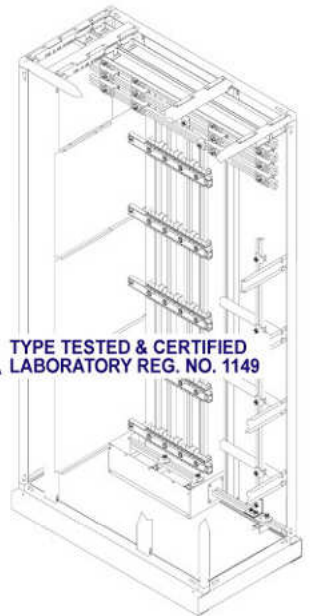


EUROKLAS

BUSBAR SUPPORTS & INSULATORS



TYPE TESTED & CERTIFIED
LABORATORY REG. NO. 1149



ISO 9001:2000

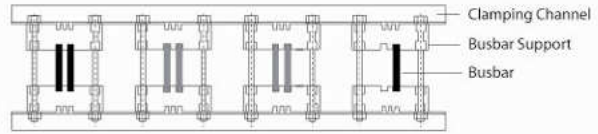
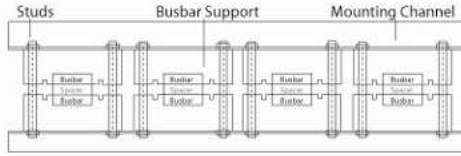


Technical Information Busbar Supports

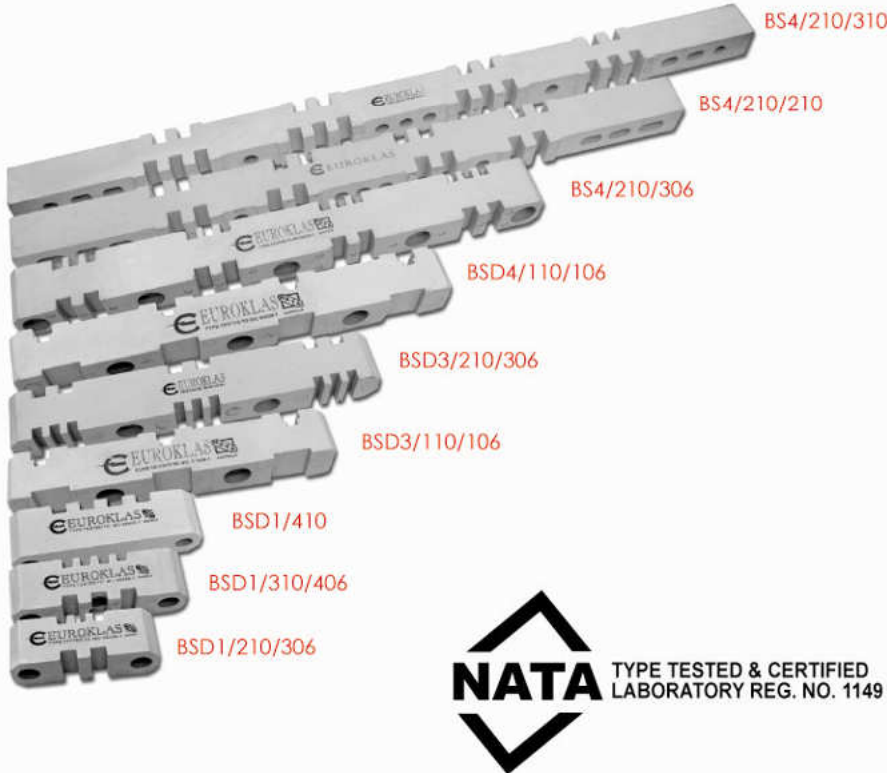


Introduction

A busbar may either be supported on insulators, or else insulation may completely surround it. In general, the busbar system is built up of horizontal main busbars, vertical distribution busbars and a connection system for branching of built-in sets. Busbars, busbar supports and busbar insulation are designed to withstand the mechanical and thermal stresses which appear during operation as well as by earthing and short circuits.



The horizontal main busbar connects the vertical distribution busbars, and the connection system connects the electrical built-in set. If required, the busbar system can be constructed with vertical main busbars and horizontal distribution busbars.



Parkside Laboratories (Aust)
TEST AND CERTIFICATION SERVICES

Laboratory Test Report Report No.: 11191
Date Issued: 28 September 2008

SUBJECT: DPI busbar systems with busbar support Euroklas type BSD1/210/306 415V, 50/60Hz, 35kA 1sec.

REQUESTED BY: DPI Industries Ltd
38 Northway Street
Hamilton
New Zealand.

INSTRUCTIONS: Verification of short-circuit withstand strength of the main busbars according to Clause 8.2.3.2.3 (b) of IEC 60439-1:1999
"Low-voltage switchgear and controlgear assemblies
Part 1: Type-tested and partially type-tested assemblies"

CONTENTS	Page
General	2
Test Specification	3
Date of Test	3
Description	3
Results	4

SUMMARY: All test results in this report in relation to DPI Euroklas busbar systems with support type BSD1/210/306 confirmed that the specimens COMPLIED with all provision of Clause 8.2.3.2.3 (b) of IEC 60439-1:1999.

NATA APPROVED SIGNATORY: Antony K. Milevic PREPARED BY: John Stengark
Test Engineer

27 SHEPPAN ROAD, HEERLBERG WEST DC, VIC 3081 AUSTRALIA
PO BOX 5140 TEL: 61-3-9408-3988 FAX: 61-3-9408-3172 Page 1 of 18

Parkside Laboratories (Aust)
TEST AND CERTIFICATION SERVICES

Laboratory Test Report Report No.: 11192
Date Issued: 1 October 2008

SUBJECT: DPI busbar system with busbar support Euroklas type BSD4/210/306 440V, 50/60Hz, 35kA 1sec.

REQUESTED BY: DPI Industries Ltd
38 Northway Street
Hamilton
New Zealand.

INSTRUCTIONS: Verification of short-circuit withstand strength of the main busbars according to Clause 8.2.3.2.3 (b) of IEC 60439-1:1999
"Low-voltage switchgear and controlgear assemblies
Part 1: Type-tested and partially type-tested assemblies"

CONTENTS	Page
General	2
Test Specification	3
Date of Test	3
Description	3
Results	4

SUMMARY: All test results in this report in relation to DPI Euroklas busbar systems with support type BSD4/210/306 confirmed that the specimens COMPLIED with all provision of Clause 8.2.3.2.3 (b) of IEC 60439-1:1999.

NATA APPROVED SIGNATORY: Antony K. Milevic PREPARED BY: John Stengark
Test Engineer

27 SHEPPAN ROAD, HEERLBERG WEST DC, VIC 3081 AUSTRALIA
PO BOX 5140 TEL: 61-3-9408-3988 FAX: 61-3-9408-3172 Page 1 of 12

Parkside Laboratories (Aust)
TEST AND CERTIFICATION SERVICES

Laboratory Test Report Report No.: 11193
Date Issued: 1 October 2008

SUBJECT: DPI busbar systems with busbar support Euroklas type BSD4/110/106 440V, 50/60Hz, 35kA 1sec.

REQUESTED BY: DPI Industries Ltd
38 Northway Street
Hamilton
New Zealand.

INSTRUCTIONS: Verification of short-circuit withstand strength of the main busbars according to Clause 8.2.3.2.3 (b) of IEC 60439-1:1999
"Low-voltage switchgear and controlgear assemblies
Part 1: Type-tested and partially type-tested assemblies"

CONTENTS	Page
General	2
Test Specification	3
Date of Test	3
Description	3
Results	4

SUMMARY: All test results in this report in relation to DPI Euroklas busbar systems with support type BSD4/110/106 confirmed that the specimens COMPLIED with all provision of Clause 8.2.3.2.3 (b) of IEC 60439-1:1999.

NATA APPROVED SIGNATORY: Antony K. Milevic PREPARED BY: John Stengark
Test Engineer

27 SHEPPAN ROAD, HEERLBERG WEST DC, VIC 3081 AUSTRALIA
PO BOX 5140 TEL: 61-3-9408-3988 FAX: 61-3-9408-3172 Page 1 of 12

Parkside Laboratories (Aust)
TEST AND CERTIFICATION SERVICES

Laboratory Test Report Report No.: 11194
Date Issued: 1 October 2008

SUBJECT: DPI busbar systems with busbar support Euroklas type BS1/406/50 440V, 50/60Hz, 35kA 1sec.

REQUESTED BY: DPI Industries Ltd
38 Northway Street
Hamilton
New Zealand.

INSTRUCTIONS: Verification of short-circuit withstand strength of the main busbars according to Clause 8.2.3.2.3 (b) of IEC 60439-1:1999
"Low-voltage switchgear and controlgear assemblies
Part 1: Type-tested and partially type-tested assemblies"

CONTENTS	Page
General	2
Test Specification	3
Date of Test	3
Description	3
Results	4

SUMMARY: All test results in this report in relation to DPI Euroklas busbar systems with support type BS1/406/50 confirmed that the specimens COMPLIED with all provision of Clause 8.2.3.2.3 (b) of IEC 60439-1:1999.

NATA APPROVED SIGNATORY: Antony K. Milevic PREPARED BY: John Stengark
Test Engineer

27 SHEPPAN ROAD, HEERLBERG WEST DC, VIC 3081 AUSTRALIA
PO BOX 5140 TEL: 61-3-9408-3988 FAX: 61-3-9408-3172 Page 1 of 12



BUSBAR SUPPORTS

- Type tested to IEC 60439-1 in Australia.
- Made of halogen free fiberglass composite materials.
- Self-extinguishing and heat resistant (ISO 75/A>200°C).
- High thermal, mechanical & electrical strength.

SPECIFICATIONS

CATALOGUE NO.	MATERIAL	PHASES	BUSBAR SIDE 1 (mm)	BUSBAR SIDE 2 (mm)	RATED VOLTAGE (V)	MAX. BOLT SIZE	RECOM. TORQUE (Nm)
BSD1/210/306BG	DMC	1	10mm x 2	6mm x 3	660	M8	16
BSD1/310/406BG	DMC	1	10mm x 3	6mm x 4	660	M8	16
BSD1/410BG	DMC	1	10mm x 4	-	660	M8	16
BSD3/110/106BG	DMC	3	10mm x 1	6mm x 1	660	M6	8
BSD3/106BG	DMC	3	-	6mm x 1	660	M6	8
BSD3/210/306BG	DMC	3	10mm x 2	6mm x 3	660	M12	21
BSD4/110/106BG	DMC	4	10mm x 1	6mm x 1	660	M6	8
BSD4/210/306BG	DMC	4	10mm x 2	6mm x 3	660	M8	16
BSS1/210/306GY	SMC	1	10mm x 2	6mm x 3	660	M8	16
BSS1/310/406GY	SMC	1	10mm x 3	6mm x 4	660	M8	16
BSS3/110/106GY	SMC	3	10mm x 1	6mm x 1	660	M6	8
BSS4/110/106GY	SMC	4	10mm x 1	6mm x 1	660	M6	8
BSS4/210/306GY	SMC	4	10mm x 2	6mm x 3	660	M8	16
BSS4/210/210GY	SMC	4	10mm x 2	10mm x 2	660	M10	28
BSS4/210/310GY	SMC	4	10mm x 2	10mm x 3	660	M10	28

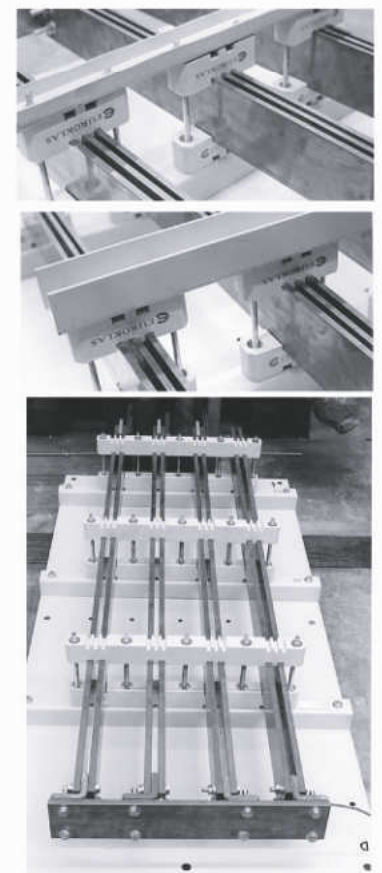
Note : Support grooves also suitable for corresponding imperial busbar sizes of 6.3mm

SHORT CIRCUIT RATINGS (to IEC 60439-1)

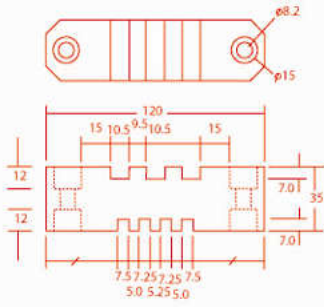
CATALOGUE NO.	KR RMS	KA PEAK	DURATION (secs)	BUSBAR SIDE (mm)	SUPPORT DIST. (mm)	TEST VOLTAGE (V)	FREQUENCY (Hz)	TEST REPORT
BSD1/210/306	50	105	1	2 x 75 x 10	400	415	50/60	1119/1
BSD1/210/306	50	105	1	3 x 75 x 6	400	415	50/60	1119/1
BSD4/110/106	35	73.5	1	1 x 75 x 6	400	415	50/60	1119/3
BSD4/210/306	63	138.6	1	2 x 75 x 10	400	415	50/60	1119/2

MATERIAL SPECIFICATIONS

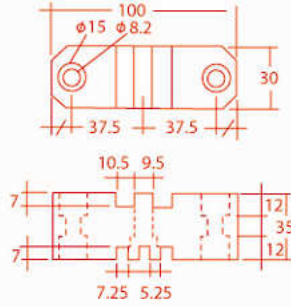
	DMC	SMC
MATERIAL	FIBERGLASS REINFORCED UNSATURATED POLYESTER	
DISCHARGE ENVIRONMENT PROTECTION COLOUR	BEIGE	GREY
THERMAL PROPERTIES		
WORKING TEMPERATURE	160 deg C	
TEMPERATURE OF DEFLECTION	>200 deg C	
DEFLECTION UNDER LOAD @ 100°C	1.2mm	
FLAME RETARDANT PROPERTIES		
FLAMMABILITY	UL94 CLASS VO & 5VA	
MOISTURE ABSORPTION	TROPICALISED (<12mg-BS2782)	
MECHANICAL PROPERTIES (BS2782/ISO179)		
CHARPY IMPACT STRENGTH @ 90°C	26kJ / sq.m	65kJ / sq.m
FLEXURAL STRENGTH	90MPa	195 MPa
FLEXURAL MODULUS	11.5GPa	12GPa
TENSILE STRENGTH	30MPa	80MPa
ELECTRICAL PROPERTIES		
ELECTRICAL STRENGTH @ 90°C	11.0 MV / m (IEC243)	
ARC RESISTANCE (ASTM D495-73)	195s	
INSULATION RESISTANCE	12.3 log Ohms (IEC167)	
TRACKING RESISTANCE (DIN 53480)	Grade KA3C (METHOD A) >B600 (METHOD B) >600V (BS5901 / IEC112)	
LOSS TANGENT @ 1MHz	tan 0.013	



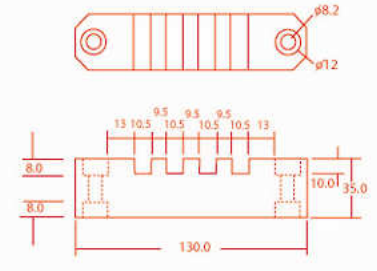
DIMENSIONS



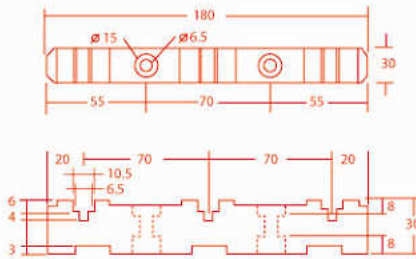
BSD1/310/406BG | BSS1/310/406GY



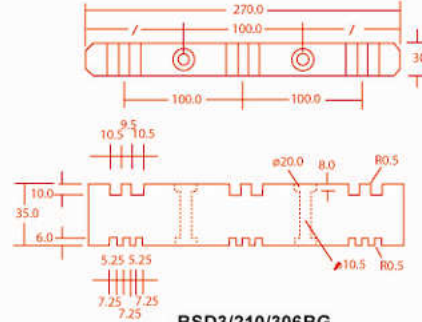
BSD1/210/306BG | BSS1/210/306GY



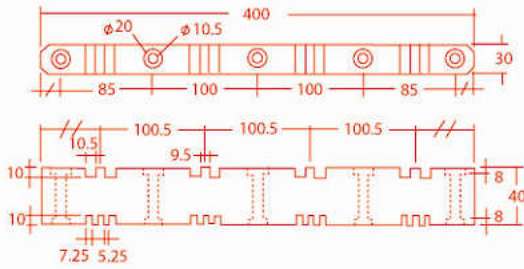
BSD1/410BG



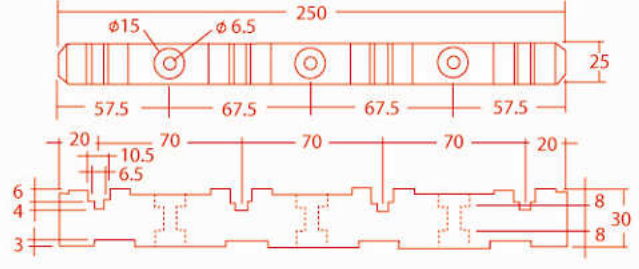
BSD3/110/106 | BSS3/110/106



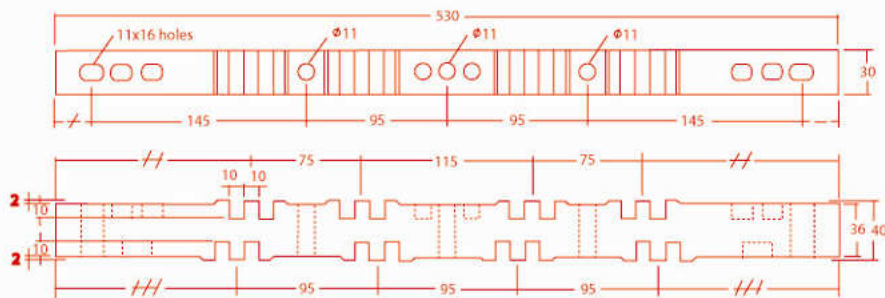
BSD3/210/306BG



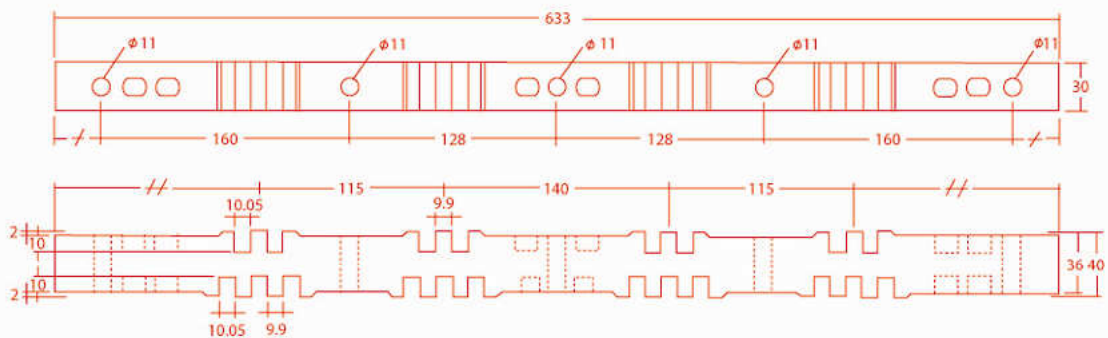
BSD4/210/306BG | BSS4/210/306GY



BSD4/110/106GY | BSS4/110/106GY



BSS4/210/210GY



BSS4/210/310GY



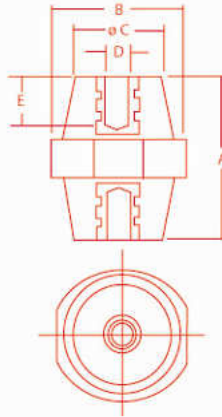
STANDOFF INSULATORS

- Type tested to IEC 60439-1 in Australia.
- Made of halogen free fiberglass composite materials.
- Self-extinguishing and heat resistant (ISO 75/A>200°C).
- High thermal, mechanical & electrical strength.

DIMENSIONS

CATALOGUE NO.	A	B	øC	D	E
SD1/M06/025	25	30	23	M6	8
SD1/M08/035	35	42	28	M8	12
SD1/M08/035/H	35	42	28	M8	12
SD1/M08/051	51	36	29	M8	13
SD1/M08/051/H	51	36	29	M8	13
SD1/M10/051	51	36	29	M10	18
SD1/M10/076	76	50	36	M10	24

All dimensions in mm



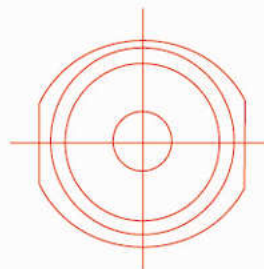
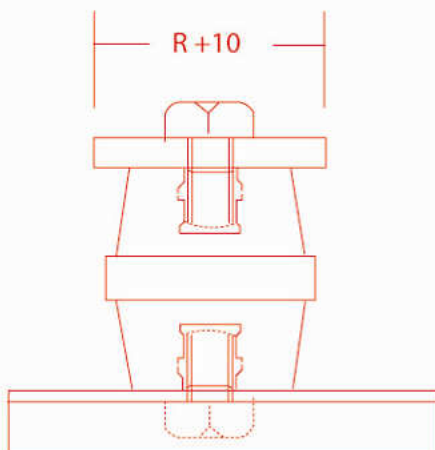
SPECIFICATIONS

CATALOGUE NO.	MATERIAL	INSERT	RATED VOLTAGE (kV)	IMPULSE VOLTAGE (kV)	FLEXURAL STRENGTH (kN)	FLEXURAL MODULUS (kN)	TORSION RESISTANCE (Nm)	RECOM. TORQUE (Nm)	TYPE OF BOLT
SD1/M06/025	DMC	M6	0.66	7.5	4	6	15	8	R
SD1/M08/035	DMC	M8	1	23	6.9	10	50	16	R
SD1/M08/035/H	DMC	M8	1	23	6.9	10	50	16	H
SD1/M08/051	DMC	M8	1	37	5	13	50	16	R
SD1/M08/051/H	DMC	M8	1	37	5	13	50	16	H
SD1/M10/051	DMC	M10	1	37	6	13	90	25	R
SD1/M10/076	DMC	M10	1.5	50	12	22	90	28	R

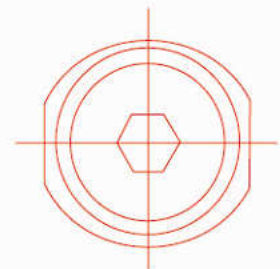
SHORT CIRCUIT RATINGS (to IEC 60439-1)

CATALOGUE NO.	KR RMS	kA PEAK	DURATION (secs)	BUSBAR SIDE (mm)	SUPPORT DIST. (mm)	TEST VOLTAGE (V)	FREQUENCY (Hz)	TEST REPORT
SD1/M08/051	35	73.5	1	50 x 10	350	440	50/60	1119/4

TWO TYPE OF STANDOFF INSULATOR HOLES



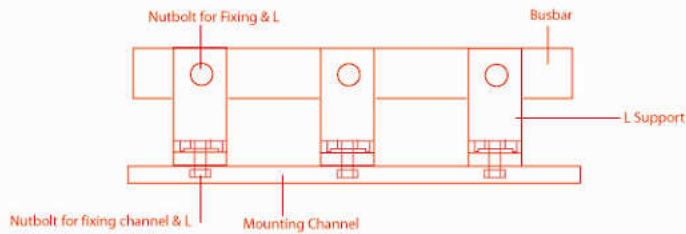
ROUND NUT



HEXA NUT

L SHAPE BUSBAR SUPPORTS

- Made of halogen free fiberglass composite materials.
- Self-extinguishing and heat resistant (ISO 75/A>200°C).
- High thermal, mechanical & electrical strength.

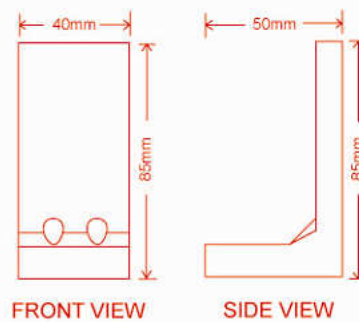


BSDL

DIMENSIONS

CATALOGUE NO.	HEIGHT
BSDL	85

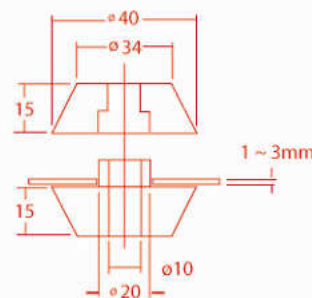
All dimensions in mm



THROUGH-HOLE INSULATOR

- For high current through-hole applications
- Accomodate M8, M10 and M12 brass stud
- Made of fiberglass reinforced composite materials

DIMENSIONS



SPECIFICATIONS

CATALOGUE NO.	INSULATOR MATERIAL	THROUGH HOLE DIAMETER	CONDUCTOR DIAMETER	CONDUCTOR LENGTH (mm)	RATED CURRENT (A)	RATED VOLTAGE kV	IMPULSE VOLTAGE kV	RECOMMENDED TORQUE Nm
SD1/T10	DMC	20mm	10mm	-	-	0.66	7.5	-
SD1/T10/BM08	DMC	20mm	M8	68	125	0.66	7.5	8
SD1/T10/BM10	DMC	20mm	M10	70	160	0.66	7.5	15
SD1/T10/BM12	DMC	20mm	M12	75	200	0.66	7.5	16

Introduction

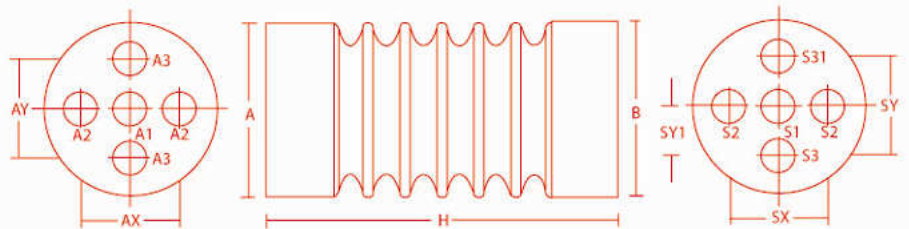
High-voltage insulators used for high-voltage power transmission are made from glass, porcelain, or composite polymer materials. The design of insulators often includes deep grooves, or sheds, that provides increased arc-lengths.



HIGH VOLTAGE INSULATOR

- Up to 36kV insulation rating
- Tested and certified by the Taiwan Electric Research Center
- Compliance to JIS C3801 and C3851 standards
- Made from top quality fiberglass reinforced composite material (red) and epoxy based compounds (brown)
- Brass nut inserts (different insert arrangements on request)

DIMENSIONS

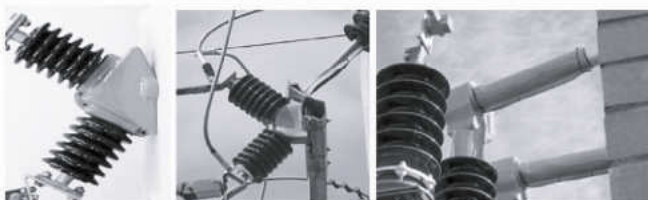


SPECIFICATIONS & DIMENSIONS

CATALOGUE NO.	EL-30N	EL-20N	EL-10N	EL-10H	EL-25	EL-24	EL-15	EL-12	EL-6M	EL-3M	EL-6S	EL-3S
End diameters (A/B), mm	100	85/90	75/80	75/80	70	70	70	58	70	70	55	50
Height (H), mm	310	210	145	115	230	210	142	130	90	60	90	50
Surface leakage distance, mm	630	330	240	190	375	356	210	172	125	88	130	65
Rated voltage, kV	36	22	16.5	12	25	24	15	12	7.2	3.6	7.2	3.6
Low frequency dielectric strength, kV	75	50	36	28	60	60	50	36	22	16	22	16
Impulse voltage resistance, kV	200	125	95	75	150	125	110	95	75	60	60	45
Persistent bending strength, 1min, kg	500	600	600	600	300	300	400	300	400	400	250	150
Tensile strength, kg	>3000	>2000	>2000	>2000	>2000	>1500	>1500	>2000	>1200	>1200	>1800	>1000
Torque strength, kg-m	>25	>25	>25	>25	>25	>25	>25	>25	>25	>25	>25	>20

INSERTS ARRANGEMENT

CATALOGUE NO.	EL-30N	EL-20N	EL-10N	EL-10H	EL-25	EL-24	EL-15	EL-12	EL-6M	EL-3M	EL-6S	EL-3S	
TOP	A1	M16	M10	M10	-	-	M10	M10	M10	M10	M10	-	
	A2	M8	M8	M8	M8	M10	M10	M10	M10	M10	M6	M8	
	A3	-	M10	M10	M10	M10	M8	M8	-	-	-	M8	
	AX	40	34	34	34	40	-	-	36	40	32	40	
	AY	0	40	40	40	40	40	40	-	-	-	-	32
BOTTOM	S1	M16	-	-	-	-	M10	M10	M10	M10	M8	M10	M10
	S2	-	M10	M10	M10	-	-	-	-	-	-	-	-
	S3	M4	M10	M10	-	M10	-	-	-	-	-	-	-
	S31	-	M10	M10	-	M10	-	-	-	-	-	-	-
	SX	-	40	40	40	-	-	-	-	-	-	-	-
	SY	-	40	40	-	40	-	-	-	-	-	-	-
	SY1	30	-	-	-	-	-	-	-	-	-	-	-

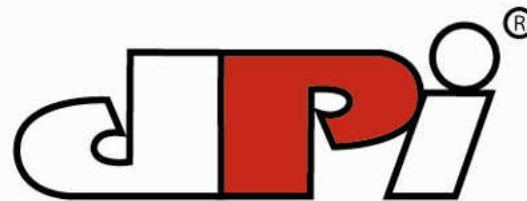
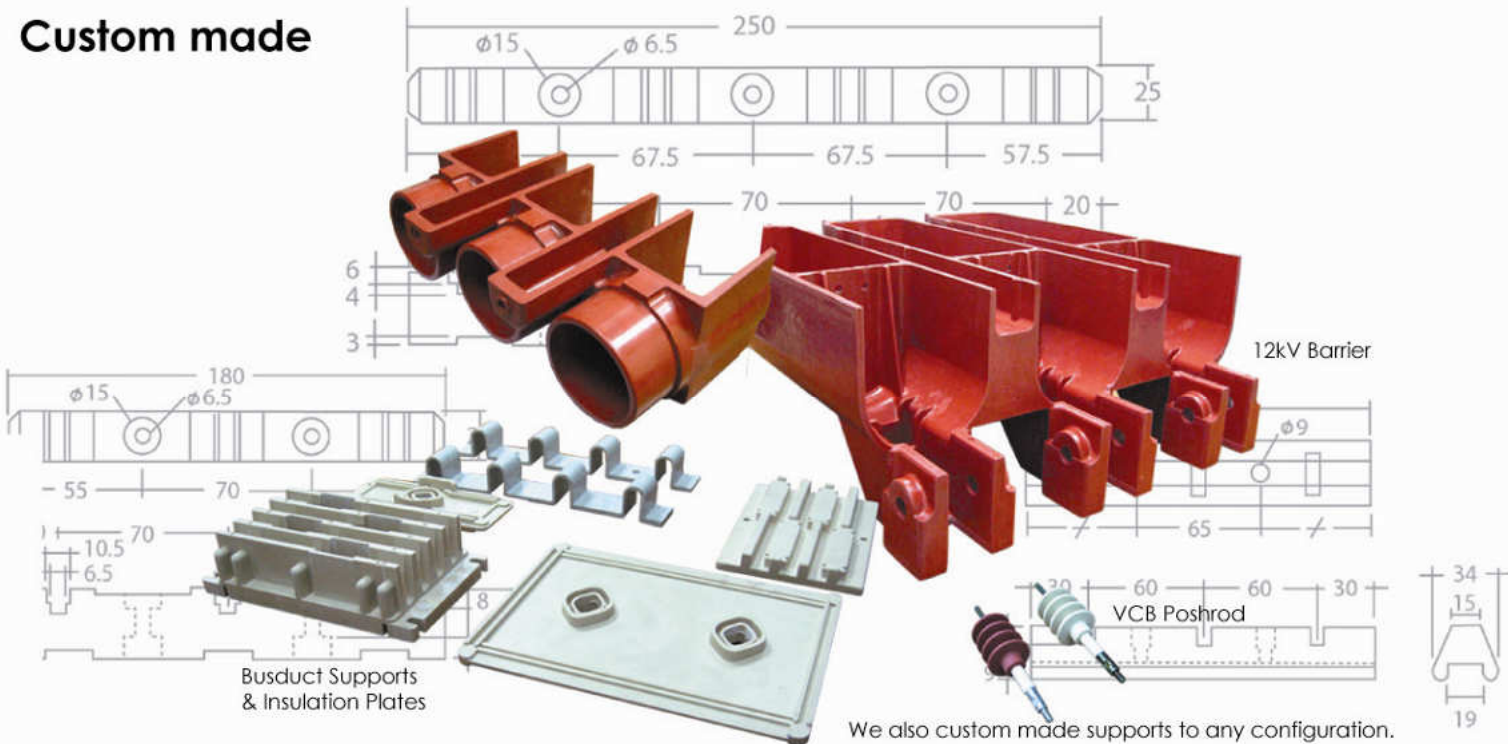


Use this busbar support coding system to order

B S D 1 / 3 1 0 / 4 0 6 G Y X

PRODUCT CODE Fixed as "BS" for this range	PHASES 1 1 phase 2 2 phases 3 3 phases 4 4 phases	BAR/PHASE SIDE 1 1 1 bar 2 2 bars 3 3 bars 4 4 bars	BAR SIZE SIDE 1 06 6mm 10 10mm 12 12mm	BAR/PHASE SIDE 2 1 1 bar 2 2 bars 3 3 bars 4 4 bars	BAR SIZE SIDE 2 06 6mm 10 10mm 12 12mm	SPECIAL CODE X Export type
MATERIAL D DMC S SMC B Bakelite R Resin	SHAPE L "L" shape	HOLE QTY SHORT SIDE 0 No hole 1 1 hole 2 2 holes	HOLE SIZE SHORT SIDE 06 M6 hole 08 M8 hole 10 M10 hole 12 M12 hole	HOLE QTY LONG SIDE 0 No hole 1 1 hole 2 2 holes	HOLE SIZE LONG SIDE 06 M6 hole 08 M8 hole 10 M10 hole 12 M12 hole	COLOUR BG Beige GY Grey BL Black RD Red MN Maroon

Custom made



DPI INDUSTRIES SDN BHD

(262006-T)

34-2, Jalan 3/146, Bandar Tasik Selatan, 57000 Kuala Lumpur, Malaysia.
Tel: +60 3 9057 8949 Fax: +60 3 9057 8946 Email: sales@dpisb.com

www.dpisb.com