



LOW VOLTAGE BUS BAR INSULATION SYSTEMS THIN WALL CROSS-LINKED POLYOLEFIN

Problem: A leading supplier of Wind Energy Generation equipment was looking for a low cost solution to insulate bus bars. The challenge was to displace expensive low voltage electrical power cables using large copper conductors with an alternative cost effective insulated bus bar system. The insulated bus bar connects power generated from the wind turbines to the low voltage underground electrical transmission and distribution cable network that supplies electricity to the grid. The application required insulation of three inch round aluminum bus bars which provided the equivalent current throughput as copper conductors in low voltage cables, but at a much lower cost. The solution also required flame retardant insulation material capable of sustaining extreme heat and emergency overload conditions without propagating a flame. The aluminum bus bars would be connected in 20 ft sections for a total of approximately 220 ft length per phase in every wind tower. Typically each tower would have 6 x 200 ft lengths of continuous bus bars installed.

Solution: DSG-Canusa's CPX 100 four inch was recommended to insulate the low voltage bus bar made from 3 inch diameter aluminum pipe. CPX 100 is also rated to 600 V, flame retardant and offers a cost effective solution that provides excellent electrical, thermal and physical properties.

In terms of application, the CPX 100 tube can be easily cut to length and applied on the various sections of aluminum bus bars and recovered consistently through a conveyer style heat shrink appliance to maximize production output. The product supplied was four inch in expanded diameter, unlined and red in colour to identify as a live electrical phase line.



PRODUCT NAME

CPX 100

PRODUCT DESCRIPTION

Flexible, thin wall, flame retardant multi-purpose heat shrink tubing

APPLICATION

- Suitable for colour coding and low voltage electrical insulation applications
- Suitable for protecting against common fluids and solvents
- Ideal for wiring devices where abrasion resistance and electrical protection are required
- Suitable for use in environments where flame retardancy is required for health and safety reasons, e.g. use of fire retardant materials that can aid in rescue activities and prevent injury to those involved in fire and evacuation efforts

ADVANTAGES

- Improves time of application and eliminates need for high temperature application that can damage wires
- Multi purpose uses helps to reduce SKUs by consolidating on one product or stocking reels
- Resistant to a wide range of fluids and solvents
- 2:1 shrink ratio allows for coverage of irregularly shaped connectors and components
- In addition to weather proofing the connection, it also provides strain relief and vibration resistance

MARKET SEGMENTS

Automotive, Electronics, Electrical, Industrial OEM

OTHER POTENTIAL USERS

Auto manufacturers, OEM battery cable manufacturers, Electrical OEMs and low voltage switch gear manufacturers, Power distribution and panel builders for low voltage applications

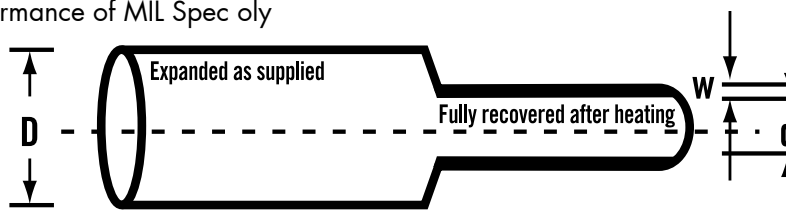
CPX 100

THIN WALL CROSS-LINKED POLYOLEFIN

DIMENSIONS

ORDER REFERENCE NUMBER	EXPANDED		RECOVERED				LENGTH	
	INTERNAL DIAMETER (MIN)		INTERNAL DIAMETER (MAX)		WALL THICKNESS (NOM)		M	FT
	MM	IN	MM	IN	MM	IN		
0047	1.2	3/64	0.6	3/128	0.45	0.018	300	1000
0063	1.6	1/16	0.8	1/32	0.45	0.018	300	1000
0094	2.4	3/32	1.2	3/64	0.51	0.020	300	1000
0125	3.2	1/8	1.6	1/16	0.51	0.020	300	1000
0187	4.8	3/16	2.4	3/32	0.51	0.020	300	1000
0250	6.4	1/4	3.2	1/8	0.64	0.025	150	500
0375	9.5	3/8	4.7	3/16	0.64	0.025	150	500
0500	12.7	1/2	6.4	1/4	0.64	0.025	60	200
0625*	16.0	5/8	8.0	5/16	0.76	0.030	60	200
0750	19.0	3/4	9.5	3/8	0.76	0.030	30	100
1000	25.4	1	12.7	1/2	0.89	0.035	30	100
1250*	32.0	1 ¼	16.0	5/8	0.89	0.035	30	100
1500	38.1	1 ½	19.0	3/4	1.02	0.040	30	100
2000	50.8	2	25.4	1	1.14	0.045	30	100
3000	76.2	3	38.0	1 ½	1.27	0.050	15	50
4000	101.6	4	50.8	2	1.40	0.055	15	50

*Meets the material performance of MIL Spec oly



STANDARDS

- UL 224, 125°C; CSA C22.2 No. 198.1, 125°C; MIL-DTL-23053/5, Class 1 and 2, AMS 3636 and 3637; DEF STAN 59-97, Issue 3, Type 2a

ORDERING

- Select a dimension which will shrink snugly over the component to be covered. If recovery is restricted the resultant wall thickness will be less than specified.
- Please specify the product name plus the options you require.
- Example Order: CPX 100, 0375
- Standard Product: Black, unprinted

OPTIONS

- Colour: Red, White, Clear, Blue, Yellow, Green
- Printing: Printed

Please contact your Customer Service Representative for information on custom colours, sizes and lengths

USA: 800 422 6872

Canada: 800 845 6808

www.dsgcanusa.com

Unique
Solutions