

# **GVK**

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***INDUSTRIAL ELECTRICAL PRODUCT  
COMPANY***

## ***Raychem***



# **Heat Shrinkable Products Catalogue**

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# Raychem

## HEAT SHRINKABLE

### GENERAL PURPOSE FLEXIBLE POLYOLEFIN

GPO-135 is rated for continuous operation from -55oC to 135oC, and up to 300oC for short durations.

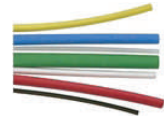
GPO-135 has excellent heat ageing and oxidative stability properties.


This polyolefin represents the best balance of properties for general purpose use. Shrink ratio is 2:1, it is advisable to select the largest size tube that will shrink on to the object. The typical applications for GPO-135 include wire markings, colour coding, insulation or lightweight harness jacketing.

Mark-ability is an important feature of this general purpose material.

### STANDARD COLOURS - Black, White, Red, Blue, Yellow, Green,

### Clear (not flame retardant).



PART NO.	RECOVER AFTER HEATING "d"	STD SPOOL	LENGTH
<b>EXPANDED DIA "D"</b>			
GPT - 1.2mm (3/64)	0.6	304m	1.2m
GPT - 1.6mm (1/16)	0.8	304m	1.2m
GPT - 2.4mm (3/32)	1.2	152m	1.2m
GPT - 3.2mm (1/8)	1.6	152m	1.2m
GPT - 4.8mm (3/16)	2.4	152m	1.2m
GPT - 6.4mm (1/4)	3.2	76m	1.2m
GPT - 9.5mm (3/8)	4.8	61m	1.2m
GPT - 12.7mm (1/2)	6.4	45m	1.2m
GPT - 19.1mm (3/4)	9.5	76m	1.2m
GPT - 25.4mm (1)	12.7	76m	1.2m
GPT - 38.1mm (1 1/2)	19.1	38m	1.2m
GPT - 50.8mm (2)	25.4	38m	1.2m
GPT - 76.2mm (3)	38.1	30m	1.2m
GPT - 101.6mm (4)	50.8	22m	1.2m
<b>For Spools prefix with M Green / Yellow</b>			
DCPT - 6.4mm (1/4)	3.2	75m	1.2m
DCPT - 9.5mm (3/8)	4.8	75m	1.2m
DCPT - 12.7mm (1/2)	6.4	75m	1.2m
DCPT - 19.1mm (3/4)	9.5	75m	1.2m
DCPT - 25.4mm (1)	12.7	30m	1.2m
DCPT - 38.1mm (1 1/2)	19.1	30m	1.2m

\*Wall thickness will be less if tubing recovery is restricted during shrinkage

# RAYCHEM RNF100

## MIL SPEC - MIL-I-23053/5

### FLAME RETARDANT THIN WALL HEAT SHRINK BLACK & COLOURS

RAYCHEM RNF100 is a flexible, radiation cross linked, flame retardant, heat shrinkable, military grade polyolefin tubing certified to the requirements of MIL-I-23053/5. RNF100 is available in five standard colours and flame retardant per Class 1 and highly flame retardant (Class 3). Clear is also available but not flame retardant per Class 2 of MIL-I-23053/5.

RNF100 is rated for continuous operation from -55°C to 135°C, and up to 300°C for short durations. RNF100 has excellent heat ageing and oxidative stability properties. This polyolefin represents the best balance of properties for general purpose use.

The typical applications for RNF100 include wire markings, colour coding, insulation of lightweight harness jacketing. Mark ability is an important feature of this general-purpose material.

#### COLOURS

Black, White, Red, Blue, Yellow, Green, (Clear not flame retardant)

#### STANDARD LENGTH

1220mm

#### STANDARD SPOOL

AS PER LIST



ORDERING SIZE (EXPANDED)	RECOVERED AFTER HEATING	WALL THICKNESS AT FULL RECOVERY	LENGTH OF STANDARD SPOOLS	STD PACK	PROD CODE
1.2mm(3/64)	.6	.40mm	305m	50	H
1.6mm(1/16)	.8	.43mm	305m	50	H
2.4mm(3/32)	1.2	.51mm	152m	50	H
3.2mm(1/8)	1.6	.51mm	152m	50	H
4.8mm(3/16)	2.4	.51mm	152m	50	H
6.4mm(1/4)	3.2	.64mm	76m	25	H
9.5mm(3/8)	4.8	.64mm	61m	25	H
12.7mm(1/2)	6.4	.64mm	45m	25	H
19.1mm(3/4)	9.5	.76mm	76m	25	H
25.4mm(1)	12.7	.89mm	76m	10	H
38.1mm(1 1/2)	19.1	1.02mm	38m	15	H
50.8mm(2)	25.4	1.14mm	38m	5	H
76.2mm(3)	38.1	1.27mm	30.5m	5	H
101.6mm(4)	50.8	1.40mm	22m	5	H

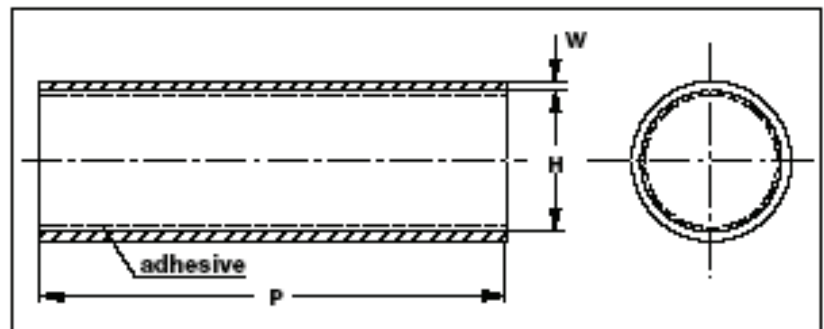
\* Wall thickness will be less if tubing recovery is restricted during shrinkage.

Note: Not all sizes and colours are stocked in Australia. Orders may be subject to Minimum Order Quantities and delivery could be anywhere between 2 days and 16 weeks depending on the item chosen.

## RAYCHEM MWTM - MEDIUM WALL ADHESIVE LINED HEAT SHRINK

MWTM is a quick shrinking, medium wall, cross-linked, semi-rigid polyolefin tubing with large expansion ratios. It is available with or without a hot melt adhesive coating on the inside diameter. The MWTM sleeves are designed to insulate and encapsulate electrical connections. Typical applications include the covering of splices and electrical terminations in ambient temperatures of -30°C to +105°C. When coated with an adhesive, the inner hot melt liner simultaneously melts and flows during the shrinking process to environmentally seal a connection or splice. The adhesive bond develops excellent peel strength, depending upon substrate material composition. These sleeves provide seals with a variety of synthetic sheath materials and most metals, including lead, aluminium and steel. MWTM sleeves provide good electrical insulation and, at the same time, resist abrasion and corrosion. This material is tough and provides good mechanical support and strain relief.

**STANDARD COLOURS**    Black



Ordering Size	P Length mm	Cable Application Range Diameter mm	H		W
			A Expanded Diameter	B Recovered Diameter mm	Wall Thickness After Shrinking mm
MWTM 10/3	1200	3.5-9.0	10	3	1.0
MWTM 16/5	1200	5.5-14.5	16	5	1.5
MWTM 25/8	1200	9.0-22.5	25	8	2.0
MWTM 35/12	1200	13.0-31.5	35	12	2.0
MWTM 50/16	1200	17.5-45.0	50	16	2.0
MWTM 63/19	1200	21.0-57.0	63	19	2.5
MWTM 85/25	1200	27.5-77.0	85	25	3.0
MWTM 115/34	1200	37.0-104.0	115	34	3.3
MWTM 140/42	1500	46.0-126.0	140	42	3.5
MWTM 160/50	1200	55.0-134.0	160	50	3.5
MWTM 16/5*	Metre	5.5-14.5	16	5	1.5
MWTM 25/8*	Metre	9.0-22.5	25	8	2.0
MWTM 35/12*	Metre	13.0-31.5	35	12	2.0
MWTM 50/16*	Metre	17.5-45.0	50	16	2.0

**Notes:** 1. Dimensions in millimetres  
a = as supplied  
b = after free recovery.      2. Max. longitudinal change after free recovery: -15%

**RAYCHEM WCSM - HEAVY WALL**  
**ADHESIVE LINED HEAT SHRINK**

WCSM is a heat-shrinkable heavy-wall tubing for insulating and sealing power cables and accessories. In WCSM tubing, the electrical and physical properties of a cable over sheath material are combined with ruggedness and easy installation.

On heating, WCSM tubing recovers to a smaller diameter, fitting tightly over a wide range of cable sizes and accessories because of its high shrink ratio. At the same time the tubing's inner adhesive wall gives a dependable moisture seal over the most irregular shapes.

WCSM tubing's mechanical strength enables immediate back-filling of cable trenches after jointing. Widely used to insulate, protect and seal power cable joints, accessories and electrical connections.



Product/Size	Application Range a	H a	b	W a	b	P
WCSM 13/4	4.5 - 11.0	13	4	0.6	2.4	1200
WCSM 20/6	6.5 - 17.5	20	6	0.7	2.5	1200
WCSM 33/8	9.0 - 30.0	33	8	0.9	3.2	1200
WCSM 43/12	13.0 - 39.0	43	12	1.0	4.3	1200
WCSM 51/16	17.5 - 44.0	51	16	1.0	4.5	1200
WCSM 70/21	23.0 - 62.0	70	21	1.0	4.4	1200
WCSM 85/25	27.0 - 76.5	85	25	1.0	4.3	1200
WCSM 105/30	33.0 - 90.0	90	30	1.0	4.3	1200
WCSM130/36	40.0 - 107.0	130	36	1.0	4.3	1200
WCSM180/50	55.0 - 155.0	180	50	1.0	4.3	1200
1. Dimensions in millimetres a = as supplied b = after free recovery * = at minimum supplied diameter  2. Max. longitudinal change after free recovery:- 15%						

**RAYCHEM CRSM - CABLE WRAPAROUND**  
**REPAIR SLEEVE - HEAT SHRINK**

CRSM wraparounds are a fast and permanent cable repair and sealing system. The repair sleeve is quickly fitted in place by means of its rail and channel closure. A moisture-proof, insulating and tight-fitting repair is then obtained in one step by heating, which makes the sleeve diameter shrink and the adhesive coating melt and flow into interstices.

Because of its heat-shrink ability, each CRSM size will fit several different cable diameters. The adhesive exhibits excellent bonding and sealing characteristics to all materials commonly used in the various cable insulation and sheath constructions, such as plastic, rubber, lead and aluminium.

Labour-saving installation. Fitting and sealing all in one step. Abrasion and corrosion resistant. Each size covers a range of cable sizes.

Raychem's distinctive closure system, which incorporates a stainless steel channel slide over rails on the sleeve, keeps the wraparound in place during installation but can if desired be easily removed when the adhesive has set.



Product/Size	H		R		W		P
	a min.	b. max.	a min.	b. max.	a* min.	b min.	
CRSM 34/10	34	10	110	35	0.3	2.4	1.5
CRSM 53/13	53	13	170	45	0.4	2.3	1.5
CRSM 84/20	84	20	270	65	0.4	2.3	1.5
CRSM 107/29	107	29	340	82	0.4	2.3	1.5
CRSM 143/36	143	36	455	98	0.4	2.3	1.5
CRSM 198/55	198	55	640	154	0.45	2.5	1.5
CRSM 250/98	250	98	785	310	0.4	1.7	1.5

**Notes:** 1. Dimensions in millimetres  
a = as supplied  
b = after free recovery  
\* = at minimum supplied width  
2. Max. longitudinal change after free recovery: -10%  
3. Standard length 1.5 metres



## RAYCHEM VERSAFIT-3X

- 3:1 shrink ratio
- Low recovery temperature
- Very flexible
- Highly flame-retardant
- Environmentally friendly



Raychem's Versafit-3X heat-shrinkable tubing has a 3:1 shrink ratio for use where a large expansion is required to accommodate dimensional differences. Versafit-3X tubing is a specially formulated, cross-linked polyolefin with a low recovery temperature, excellent flexibility, and high flame-retardant (VW-1). It can be easily surface-printed and hot-stamped.

Versafit-3X tubing performs a variety of functions in commercial applications:

- Strain relieves a small diameter cable on the back of a large diameter connector.
- Insulates or protects a substrate of varying dimensions.
- Electrically insulates and protects in-line components of varying sizes.
- Bundles wires for very flexible light-duty harnesses.

Unlike other typical flame-retardant tubing's, Versafit-3X is free of Polybrominated biphenyls (PBBs) and Polybrominated biphenyl oxides (PBBOs). In Europe, these chemicals are classified as environmentally hazardous substances.

Compared to non-cross linked materials, Versafit-3X tubing has a higher temperature rating and exhibits better thermal stability and resistance to physical abuse.

Versafit-3X tubing is UL-recognised and CSA-certified at 125°C, 600V, with UL VW-1 and CSA OFT flame-retardant ratings.

### Temperature rating

Full Recovery temperature	90°C	
Continuous operating temperature	-45°C to 125°C	

### Specifications

Type	Raychem	UL	CSA
Versafit	RT-1136	E35586 VW-1	LR31929 OFT

Note: When ordering always specify latest issue.

**Ordering Code Detail VERSA-Expanded mm E.G. VERSA-12.7 will order 1/2" This product is priced per meter.**

### Dimensions (inches/millimetres)

Size	Inside Diameter		Wall Thickness		Spool Length Metres
	D(Min) Expanded as supplied (mm)	D(max) Recovered after heating (mm)	W Recovered after heating (mm)	Prod Code	
3/32	2.4	0.8	.58=.08	H	152
1/8	3.2	1.1	.58=.08	H	152
1/4	6.4	2.2	.58=.08	H	76
3/8	9.5	3.2	.61=.08	H	61
1/2	12.7	4.3	.61=.08	H	45
3/4	19.1	6.4	.61=.08	H	76
1	25.4	8.5	.64=.08	H	76

## RAYCHEM ATUM



- **High expansion ratio**
- **Adhesive-lined**

Thermo fit ATUM tubing is radiation cross linked, heat-shrinkable, and adhesive-lined to provide environmental sealing in a wide variety of electrical applications. The product is typically used to seal connector back-shells and cable breakouts and to repair damaged cable.

ATUM has an internal adhesive coating that, when heated, melts and flows to form a positive environmental seal. The coating adheres to the outer tubing and the surface below, creating an excellent barrier to moisture penetration. ATUM's adhesive bonds to a wide variety of plastics, rubbers, and metals, including PVC, polyethylene, rubber, and aluminium.

Because the tubing and adhesive are flexible, the moisture seal withstands bending of the substrate. This flexibility makes ATUM tubing ideal for cable repair.

ATUM tubing is available with expansion ratios of both 3:1 and 4:1. These high expansion ratios makes it possible to repair cables without removing connectors. Just a few sizes of ATUM tubing cover a wide range of substrates.

<b>Temperature rating</b>		
Minimum shrink temperature	125° C	
Continuous operating temperature	-55° C to 110° C	
<b>Specifications*</b>		
Type	Raychem	Military
ATUM	RK-6025	MIL-1-23053/4.C1.3
*When ordering, always specify latest issue.	<b>Ordering Code Detail</b> ATUM-Size E.G ATUM-12/4	This product is priced per meter <b>- will order 3:1 12mm - 4mm</b>

### **Dimensions (millimetres)**

Size	Inside Diameter		Recovered Wall	
	D (min) Expanded as Supplied	D (max) Recovered after Heating	W Total Wall	W1 Meltable Wall
3/1	3.0	1.0	1.0	.05
6/2	6.0	2.0	1.0	.05
9/3	9.0	3.0	1.4	0.61
12/4	12.0	4.0	1.78	0.76
19/6	19.0	6.0	2.25	0.76
24/8	24.0	8.0	2.54	1.00
40/13	40.0	13.0	2.54	1.00

Size	Inside Diameter		Recovered Wall	
	D (min) Expanded as Supplied	D (max) Recovered after Heating	W Total Wall	W1 Meltable Wall
4/1	4.0	1.0	1.0	.05
8/2	8.0	2.0	1.0	.05
12/3	12.0	3.0	1.4	0.61
16/4	16.0	4.0	1.78	0.76
24/6	24.0	6.0	2.25	0.76
32/8	32.0	8.0	2.54	1.02
52/13	52.0	13.0	2.54	1.02

## **RAYCHEM ES1000 Clear & ES2000 Black**

Flame Retardant, Adhesive Lined, Semi Rigid Polyolefin, Heat Shrinkable Tubing. (Extended Temperature Range)

Adhesive Lined Thermo fit ES2000 heat shrinkable tubing is specifically designed to meet automotive industry requirements for environmental sealing & electrical insulation of automotive wire splices, termination & components.

ES2000 tubing has an outer jacket of radiation-cross linked, semi rigid polyolefin. Flame retardant & mechanically tough, the jacket provides strain relief & abrasion protection of wire splices & mechanically sensitive components. The inner layer of the tubing is a unique hot melt adhesive, specially formulated to adhere to all major types of automotive wire insulation & to perform well at an extended temperature range. Because ES2000 tubing has a high shrink ratio, only a few sizes are needed to cover a wide range of splice & component diameters. ES2000 tubing dimensions have been engineered to provide low cost sealing solutions on multiple wire splices (up to seven wires per side), using standard Raychem application equipment.

<b>Part Number</b>	<b>Expanded Diameter</b>	<b>Recovered Diameter</b>	<b>Product Code</b>
ES1000-1	5.72	1.27	HS
ES1000-2	7.44	1.65	HS
ES1000-3	10.85	2.41	HS
ES1000-4	17.78	4.45	HS



<b>Part Number</b>	<b>Expanded Diameter</b>	<b>Recovered Diameter</b>	<b>Product Code</b>
ES2000-1	5.72	1.27	HS
ES2000-2	7.44	1.65	HS
ES2000-3	10.85	2.41	HS
ES2000-4	17.78	4.45	HS

# Raychem

## RAYCHEM DR-25

### SPECIAL PURPOSE CHEMICAL & ABRASION RESISTANT HEAT SHRINK CABLE TUBING

- Specially formulated for optimum high temperature fluid resistance
- Resistant to aviation and diesel fuels
- Particularly suitable as a jacketing material for military ground vehicle cables and harnesses. It is also ideally suited for the demands of motor sport cable harnesses. When used in conjunction with System 25 heat-shrinkable moulded shapes and S1125 high performance adhesive complete cable harness system

### STANDARD COLOUR - BLACK



PART NO.	IMERIAL SIZE	SPOOL LENGTH METRES	EXPAND DIA mm	RECOVERED DIA mm	WALL SIZE AFTER SHRINK
DR-25-3.2	1/8	50	3.2	1.6	0.76
DR-25-4.8	3/16	50	4.8	2.4	0.84
DR-25-6.4	1/4	50	6.4	3.2	0.89
DR-25-9.5	3/8	50	9.5	4.8	1.02
DR-25-12.7	1/2	30	12.7	6.4	1.22
DR-25-19.0	3/4	30	19.0	9.5	1.45
DR-25-25.4	1	30	25.4	12.7	1.78
DR-25-38.0	1 1/2	15	38.0	19.0	2.41
DR-25-51.0	2	15	51.0	25.4	2.79
DR-25-76.0	3	15	76.0	38.0	3.18

# Raychem

## RAYCHEM LVIT - LOW VOLTAGE INSULATING TUBING - HEAT SHRINKABLE

LVIT is a black, medium wall, heat shrinkable, flame retardant tubing suitable for insulating busbars up to 3.6kV.

LVIT can easily be installed using a hot air oven, a hand held gas torch or a hot air device. This makes it suitable for field or factory installation.

### Highly Flexible

LVIT is easy to position on a variety of curved and bent busbars of both circular and rectangular cross-section.

### Flammability

LVIT is highly flame retardant.

### UV Resistance

LVIT is UV resistant and suitable for outdoor applications.

### Flashover Protection

LVIT provides protection against flashover caused by accidental bridging of busbars.

### Reduced Inventory

Each size may be used on a range of busbar sizes. Three sizes of LVIT cover the busbar range from 20mm to 200mm wide.

### Rugged

LVIT will withstand normal shop floor handling without damage.

### Long Shelf Life

LVIT may be stored indefinitely at up to 60°C without loss of performance.

### Thermal Rating

LVIT will withstand continuous operating temperature of 105°C.



Ordering Code Detail - As per the Part Description below E.G LVIT75/25-A/U will order a 30M Spool of this product.

Length + width		d		Part Description	H		W		Qty Spool
Min	Max	Min	Max		Min as supplied	Max after recovery	As supplied	After Recovery	
17	40	11	27	LVIT30/10-A/U	30	10	0.5	1.5	60M
40	94	27	65	LVIT75/25-A/U	75	25	0.5	1.5	30M
94	210	140	140	LVIT150/50-A/U	150	50	0.5	1.5	30M

## RAYCHEM LVBT - LOW VOLTAGE BUSBAR INSULATING TAPE - HEAT SHRINKABLE

LVBT is a heat-shrinkable insulating tape suitable for insulating busbars up to 1000V. It is designed for complex busbar geometry and restricted access areas where no open end is available.

LVBT is adhesive coated and when heated will shrink to insure a complete lap-to-lap seal. It does not adhere to busbar or hardware and can be removed easily for bolt tightening or inspection.

LVBT is designed to be compatible with low-voltage insulating tubing (LVIT).

### **Rugged**

The insulation will withstand normal shop handling without damage.

### **Excellent Electrical Performance**

LVBT is a high dielectric strength, cross linked polymeric insulation.



### **Flashover Protection**

LVBT provides protection against flashover caused by accidental bridging of busbars.

### **Flexible**

LVBT has a 50% shrink ratio and will cover round or rectangular bars as well as irregular shapes.

### **Easy Installation**

LVBT heat-shrink ability ensures simple and easy installation over a wide variety of substrates and configurations.

### **Rectangular Bus**

**Maximum Thickness: 5/8" (15mm)**

Catalogue Number	Bus Width	Approx. Bus Length Insulated per Roll
LVBT-1-R	1 inch (25mm)	3.8 feet (1.2m)
LVBT-2-R	2 inches (50mm)	4.8 feet (1.5m)
LVBT-2-R	3 inches (75mm)	3.5 feet (1.1m)
LVBT-2-R	4 inches (100mm)	2.7 feet (0.8m)
LVBT-4-R	6 inches (150mm)	1.9 feet (0.6m)
LVBT-4-R	8 inches (200mm)	2.9 feet (0.9m)

### **Round Bar**

Catalogue Number	Bus Diameter	Bus Length Insulated per Roll
LVBT-1-R	0.5 inch (12mm)	8.0 feet (2.4m)
LVBT-2-R	1.0 inch (25mm)	8.0 feet (2.4m)
LVBT-2-R	2.0 inches (50mm)	3.8 feet (1.2m)
LVBT-2-R	3.0 inches (75mm)	2.7 feet (0.8m)
LVBT-4-R	4.0 inches (100mm)	3.8 feet (1.2m)

### **LVBT Ordering Information**

Catalogue Number	Width	Length Per Roll
LVBT-1-R	1 inch (25mm)	25 feet (8m)
LVBT-2-R	2 inches (50mm)	25 feet (8m)
LVBT-4-R	4 inches (100mm)	25 feet (8m)

## **RAYCHEM BPTM (25kV)/ BBIT (36kV) - HIGH VOLTAGE PROTECTION TUBING - HEAT SHRINKABLE**

New designs of switchgear for voltages up to 36kV follow the principle of reducing size as much as possible. Insulated busbars are necessary to provide maximum protection, particularly in confined spaces, against flashover and accidentally induced discharge. Choosing the right busbar insulation can be difficult.

To solve the problem, Raychem has developed a series of heat shrinkable tubing's in the Raysulate product line, for use on both aluminium and copper busbars of circular and rectangular cross section. BPTM medium wall and BBIT thick wall tubing's are highly flexible and have been installed on a wide range of curved and bent busbars without cracking or creasing. Manufactured from a radiation cross-linked highly modified ethylene-propylene, they will not drip or flow at elevated temperatures and offer exceptional insulation and long term reliability, even at high continuous operating temperatures. The material's non-halogen base results in excellent performance in high voltage applications and greatly reduces noxious and corrosive effects in a fire situation.

BPTM and BBIT tubing can easily be installed in factories in large scale production using a hot air oven or on site using a simple electricians torch or hot air device. On application of heat in excess of 125° Celsius the tubing shrinks on to the busbar, closely conforming to the busbar profile and ensuring that the required minimum wall thickness is always obtained.



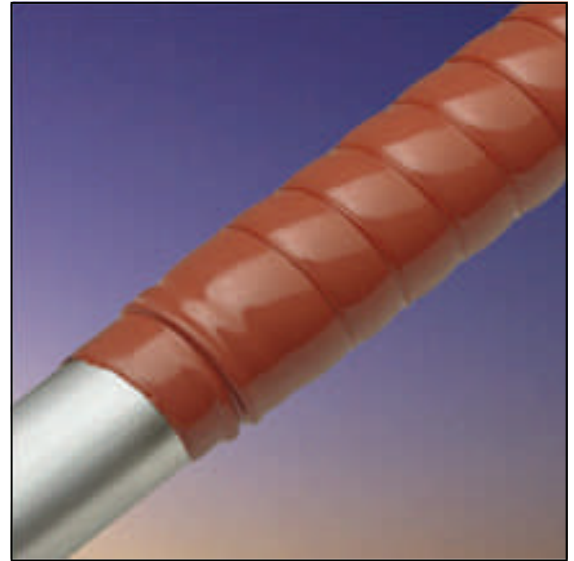
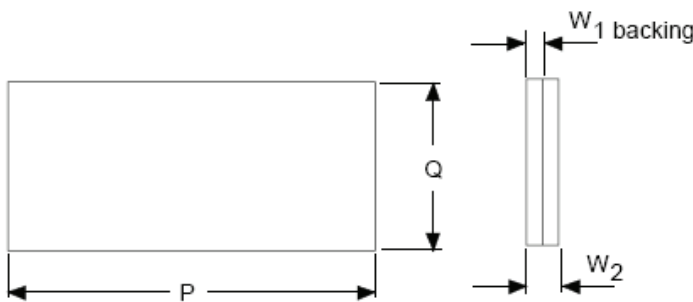
**Ordering Code Detail - As per the Part Description below E.G BBIT 65/25-A/U will order a 15M Spool of this product**

Catalogue Number	L + t Range (mm)	Circular Diameter Range(mm)	d (min) expanded as supplied(mm)	d (max) recovered after heating (mm)	W (nom) fully recovered wall thickness (mm)	Spool length (m)
BPTM 15/6-A/U	12 - 18	6.5 - 12	15	6	2.0	30
BPTM 30/12-A/U	22 - 38	13.5 - 25	30	12	2.3	30
BPTM 50/20-A/U	36 - 65	22 - 43	50	20	2.5	30
BPTM 75/30-A/U	55 - 95	33 - 63	75	30	2.5	30
BPTM 100/40-A/U	70 - 130	44 - 86	100	40	2.5	25
BPTM 120/50-A/U	90 - 165	55 - 105	120	50	3.0	25
BPTM 175/70-A/U	125 - 235	80 - 150	175	70	2.8	15
BBIT 25/10-A/U	17 - 28	11 - 20	25	10	4.0	30
BBIT 40/16-A/U	28 - 45	18 - 32	40	16	4.0	30
BBIT 65/25-A/U	44 - 67	28 - 47	65	25	4.0	15
BBIT 100/40-A/U	69 - 102	44 - 72	100	40	4.0	15
BBIT 150/60-A.U	102 - 148	65 - 105	150	60	4.0	15



**RAYCHEM HVBT - HIGH VOLTAGE BUSBAR**  
**INSULATING TAPE - HEAT SHRINKABLE**  
**Voltage class 25KV**

HVBT is designed to give the integrity of heat shrinkable tubing with the versatility of a wraparound product. When HVBT is wrapped onto a substrate and shrunk down by the application of heat, a complete lap to lap seal is produced as the specially formulated adhesive layer melts and amalgamates the overlapping layers of the tape together thus making HVBT tape in effect a wraparound tube. A single layer of HVBT tape, two-thirds overlapped, will provide AC voltage withstand (flashover protection) to at least 17.5 kV increasing to 25 kV if a second layer is applied.



<b>STANDARD PRODUCTS AND DIMENSIONS</b>						
<b>SELECTION GUIDE</b>						
<b>Part No.</b>	<b>Q min</b>	<b>W1</b>	<b>W2</b>	<b>Rectangular Bar Width</b>	<b>Round Bar Diameter</b>	<b>UOM: Roll P length (m)</b>
HVBT-12-A	25mm	.38mm	.86mm	25mm	12mm	10
HVBT-14-A	50mm	.38mm	.86mm	50mm - 100mm	25mm - 50mm	10
HVBT-15-A	75mm	.38mm	.86mm	100mm - 150mm	50mm - 75mm	10
HVBT-16-A	100mm	.38mm	.86mm	150mm - 200mm	75mm - 100mm	10

**Clearance reduction**

The table adjacent indicates the clearance reductions which are possible using HVBT tape. These are derived from BIL, AC withstand, DC withstand and discharge extinction tests.

These clearances should not be adopted without testing by the user.

Sharp electrodes and unusual geometries may require wider clearances.

<b>Rated voltage (kV)</b>	<b>Phase-Phase (mm)</b>	<b>Phase-Ground (mm)</b>	<b>IEC 71-2 air clearance (mm)</b>
<b>Round busbars</b>			
12	30	40	120
17.5	45	60	160
24	60	90	220
36	100	160	320
<b>Rectangular busbars</b>			
12	35	45	120
17.5	55	65	160
24	70	100	220
36	140	190	320

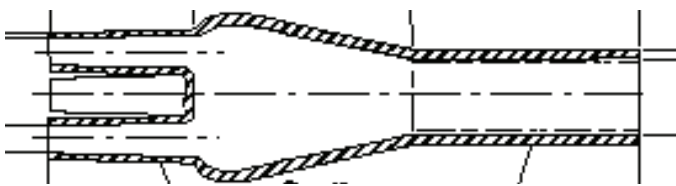


## RAYCHEM HEAT SHRINKABLE CABLE BREAK OUT BOOTS

**STANDARD COLOURS:**        Black

**U.V. STABILITY FOR OUTDOOR USE**

**EXCELLENT CUT THROUGH & ABRASION RESISTANCE**



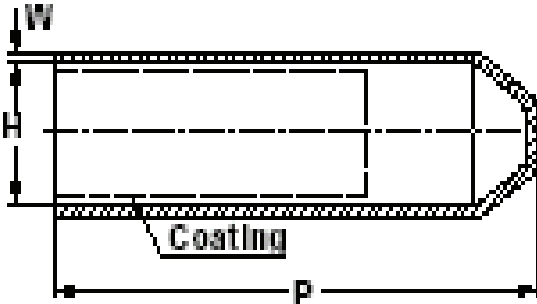
Part No.	No. of Conductor	Size of Conductor	H Base Size		J Finger Size	
			Expanded Dia	Recovered Dia	Expanded Dia	Recovered Dia
302K333	2	4 - 25	28	9.2	15	4.1
302K224	2	35 - 150	48	32	22	7
302K466	2	185 - 300	86	42	40	16
402W533	3	4 - 35	38	13	16	4.2
402W516	3	50 - 150	63	22	26	9
402W525	3	50-150	85	32	32	12
402W526	3	185 - 300	95	28	44	13
402W248	3	185 - 300	115	45	52	22
402W439	3	185 - 300	170	60	60	30
502K033	4	4 - 35	45	16.5	14	3.4
502K046	4	35 - 70	45	19	20	7
502K016	4	70 - 150	60	25	25	9
502K026	4	185 - 300	90	31	33	13.5

Raychem Low Voltage Breakouts are an easily installed, light weight insulation for sealing the crutches of plastic, paper and rubber insulated cables up to 1 Kv.

## RAYCHEM HEAT SHRINKABLE END CAPS

Wherever power cables are transported or installed, electrical engineers must contend with the risk of moisture and contamination. The methods they use to reduce these risks are often as long established as cable technology itself.

Cable End Caps shrink when heated to tightly fit a range of cable sizes and constructions. At the same time a special adhesive also melts and flows under the shrinking action, gripping the cable and ensuring a high-integrity moisture seal.



Product/Size	Application Range(diameter)	H max	P ± 10%	W ± 20%
102L011	4 - 8	10	38	2.0
102L022	8 - 17	20	55	2.3
102L033	17 - 30	35	90	3.0
102L044	30 - 45	55	143	3.3
102L048	45 - 65	75	150	3.3
102L055	65 - 95	100	162	3.8
102L066	95 - 115	120	145	3.8

**Notes:**

1. Dimensions in millimetres  
a = as supplied  
b = after free recovery
2. Drawing depicts typical part.

## RAYCHEM CABLE GLANDS – HEAT SHRINKABLE

The mechanical tightening of the 2 plastic mating parts & the compression of the “O” ring creates the water / air seal at the cabinet entry. The shrinkable portion of the CFTS is pre-coated with a thermoplastic adhesive that adheres to a variety of plastic and will provide a seal.



PART NO.	KNOCK OUT – B	CABLE RANGE	“A” LENGTH	EXPAND DIAMETER	RECOVER DIAMETER
CFTS – 1	25	4 – 11	70mm	12.5	4
CFTS – 2	25	7 – 16	70mm	19	6.5
CFTS – 3	35	13 – 26	95mm	30.5	12.5
CFTS – 4	51	20 – 37	114mm	43	19
CFTS - 5	89	37 - 61	178mm	72	35

## RAYCHEM PD CAPS DUAL WALL SEMI RIGID END CAPS

Thermo fit heat shrinkable, dual-wall PD Caps inexpensively encapsulate crimped electrical connections, including those on motor coils. They remain tightly in place for the life of the motor. PD Caps are manufactured from radiation-cross-linked polyolefin.

With brief heating, the outer jacket of the PD Cap shrinks while the inner wall flows into voids in the crimp, creating an encapsulated and electrically insulated connection. PD Caps are not intended for use where immersion in fluids is required.

An operator can insulate connections at approximately twice the speed of conventional methods, which require tape-wrapping, or slip-on tubing. PD Caps can be installed in seconds using standard hot-air or infra red heating tools. No special operator training is required.

### Temperature rating

Minimum shrink temperature                      135°C  
Continuous operating temperature -55°C to 110°C

### Specifications†

<b>Type</b>	<b>Raychem</b>	<b>UL</b>
PD Caps	PD Caps SCD	E46645

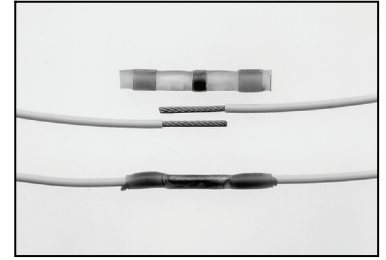
† When ordering, always specify latest issue.



Size	A nom. mm	B min. mm	C min. mm	D max. mm	W
PD Cap 1/8	22.0	12.7	3.2	.58	1.22 $\pm$ .15
PD Cap 3/16	25.4	15.2	4.7	1.52	1.57 $\pm$ .20
PD Cap 1/4	28.4	15.2	6.4	2.03	1.98 $\pm$ .20
PD Cap 3/8	31.8	18.3	9.5	2.29	2.08 $\pm$ .25
PD Cap 1/2	38.1	21.6	12.7	2.29	2.54 $\pm$ .25
*Wall thickness will be less if recovery is restricted during shrinkage.					Dimensions: millimetres

## RAYCHEM SOLDER SLEEVES ONE-STEP® WIRE AND CABLE TERMINATION

- For low-temperature applications (up to 125°C)
- Controlled soldering
- Strain relief
- Insulation
- Easy to install



Raychem's Solder Sleeve One-Step heat-shrinkable wire and cable interconnection devices are a labour-saving alternative to conventional wire and cable termination methods such as craft-sensitive, time-consuming hand soldering or crimping.

### Versatility

Solder Sleeve One-Step terminators insulate, relieve strain, and protect terminations from environmental damage in a wide spectrum of low-temperature electrical interconnection applications. They are - as their name says - One-Step solutions.

### Capability

Solder Sleeve One-Step terminators create strong, soldered connections. They consist of a heat-shrinkable sleeve and a pre-measured, fluxed solder band. When heated, the tubing shrinks and the solder melts, making reliable, insulated terminations. Even greater convenience and reliability are available with optional pre-installed ground leads.

### Compatibility

Solder Sleeve One-Step terminators are compatible with many component dielectric materials and wire insulations - including sensitive low-temperature materials. Low-temperature wires can be terminated in applications with maximum operating temperatures up to 125°C.

### Part number description

All of the information, including drawings, illustrations and graphic displays, included in this brochure reflects our present understanding and is to the best of our knowledge and belief correct and reliable. It does however under no circumstance constitute an assurance of any particular qualities. Such an assurance is only provided in the product specifications.

Part Number	Min. inside diameter (ID) mm	Sleeve Length	Box Qty
CWT-1501	1.52	.575 ± .060	500
CWT-1502	2.29	.575 ± .060	500
CWT-1503	2.80	.575 ± .060	500
CWT-1504	3.80	.575 ± .060	500
CWT-3801	1.52	1.50 ± .150	100
CWT-3802	2.00	1.50 ± .150	100
CWT-3803	2.79	1.50 ± .150	100
CWT-3805	4.45	1.50 ± .150	100
CWT-3806	5.84	1.50 ± .150	100
CWT-3807	7.00	1.50 ± .150	100
CWT-3809	8.76	1.50 ± .150	50
CWT-3811	10.92	1.50 ± .150	50
CWT-3813	13.46	1.50 ± .150	50

## RAYCHEM DURASEAL® HEAT SHRINKABLE NYLON CRIMP SPLICE

### Heat shrinkable nylon crimp splices

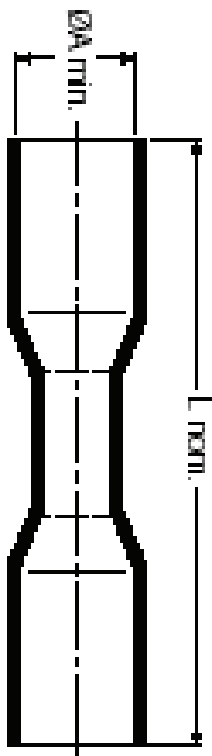
- Moisture and abrasion resistant
- Provides strain relief
- Resist wire pull-out
- Easy to install

DuraSeal products insulate and protect electrical connections from mechanical abuse, wire pull-out, and abrasion while resisting water, salt, and other contaminants.

DuraSeal devices provide a tough, environmentally sealed wire connection. Their crimp barrel or terminal, encased in rugged, heat shrinkable nylon tubing lined with a special hot-melt adhesive, resists damage from abrasions and cuts.

DuraSeal devices retain flexibility and impact resistance long after similar products have become brittle.

DuraSeal devices accommodate wire gauge sizes 22 to 10. They are colour-coded for easy identification of gauge sizes, yet transparent for inspection of the finished splice.



Part Number	Product dimensions				Wire dimensions		
	A min.	A min. mm	L nom. mm	Colour	Conductor (mm <sup>2</sup> )	Insulation O.D. max. mm	Insulation O.D. min. mm
D-406-0001	.145	3.68	32	Red	.5 - 1.25	3.81	1.40
D-406-0002	.180	4.57	32	Blue	1.5 - 2.50	4.46	2.03
D-406-0003	.250	6.35	38	Yellow	4.0 - 6.0	6.35	2.79

## **RAYCHEM RAY-S, M + MA KITS** **INLINE JOINTS FOR PLASTIC & RUBBER INSULATED CABLES**

### **Inline joints for plastic and rubber insulated cables up to 1 kV with or without armour or concentric Neutrals.**

While fully comparable in ease and speed of installation to other modern methods, Raychem joints also eliminate mixing, pouring and topping-up delays, as they require no jointing compound or resin. This feature cuts out curing time and enables the joints to be buried immediately. As the joint components are of Heat shrinkable material, they can also be held in stock in varying climatic conditions without risk of long-term deterioration.

### **Installation**

Applying equally well to both armoured and unarmoured cables, the Raychem technique achieves insulating and sealing in one step by heating. This causes tubing, slipped over the cores before jointing, to shrink to tightly fit the connectors and insulation. At the same time the heat causes adhesive, supplied already pre-coated on the inside of the tubing, to melt and flow. The high integrity bond thus formed seals out moisture and corrosion, follows the thermal expansion of the cable, and can be reliably made on a range of core sizes and connector types without special skills or procedures.

### **SINGLE CORE CABLES**

Size of conductor (mm <sup>2</sup> )	Cable core insulation Min dia (mm)	Dia max (mm)	Length max (mm)	Kit Number
1.0 - 2.5	2.9	6	25	<b>RAY-S1</b>
4 - 10	4	11	70	<b>RAY-S2</b>
16 - 35	6	16	70	<b>RAY-S3</b>
50 - 95	9	25	130	<b>RAY-S4</b>
120 - 150	12	30	130	<b>RAY-S5</b>
185 - 300	16	40	150	<b>RAY-S6</b>
400 - 630	22	50	170	<b>RAY-S7</b>

### **MULTI CORE CABLES WITHOUT ARMOURS WITH/WITHOUT ECC**

Size of conductor (mm <sup>2</sup> )	Number of cores	Nominal cable O.D. min (mm)	Dia max (mm)	Length max (mm)	Kit number
1.5 - 6	2 - 3 - 4	9	10	35	<b>M1</b>
10 - 16	2 - 3 - 4	12	11	50	<b>M2</b>
16 - 35	2 - 3 - 4	16	16	70	<b>M3</b>
50 - 70	3 - 4	22	25	110	<b>M4</b>
95 - 150	3 - 4	35	35	130	<b>M5</b>
185 - 300	3 - 4	45	45	150	<b>M6</b>

### **MULTI CORE CABLES WITH STEEL WIRE ARMOURS WITH/WITHOUT ECC**

Size of conductor (mm <sup>2</sup> )	Number of cores	Nominal cable O.D. min (mm)	Dia max (mm)	Length max (mm)	Kit number
1.5 - 6	2 - 3 - 4	9	10	35	<b>M1</b>
10 - 16	2 - 3 - 4	12	11	50	<b>M2</b>
16 - 35	2 - 3 - 4	16	16	70	<b>M3</b>
50 - 70	3 - 4	30	25	110	<b>MA7</b>
95 - 120	3 - 4	34	35	130	<b>MA8</b>
150 - 185	3 - 4	40	35	130	<b>MA9</b>
240 - 300	3 - 4	50	45	150	<b>MA10</b>

**RAYCHEM SECV KITS**  
**HEAT SHRINK KITS FOR CONSUMER MAINS**

**USE:** These kits are designed specifically to Victorian Power Authority requirements for connection in Consumer Mains Service Pits. They provide extra insulation where cables come out of conduits and stop water entering conduit ends.

PRODUCT CODE	CONDUCTOR SIZE MM <sup>2</sup>	NO. OF CORES	CONDUIT SIZE MM
SECV1	10 + 16	2	25
SECV2	10 + 16	2	32
SECV3	10 + 16	3	25 + 32
SECV4	10 + 16	4	25 + 32
SECV4A	25 + 35	4	25 + 32
SECV5	16 + 25 + 35	4	40
SECV6	25 + 35	2	32 + 40
SECV7	25	3	32
SECV8	25 + 35	3	40
SECV9	25 + 35	4	40 + 50
SECV10	50	2	40 + 50
SECV11	50	3	40 + 50
SECV12	50	4	50
SECV13	50	4	63

## RAYCHEM TMS® READYPRINT™ HEAT SHRINK COMMERCIAL CABLE MARKERS

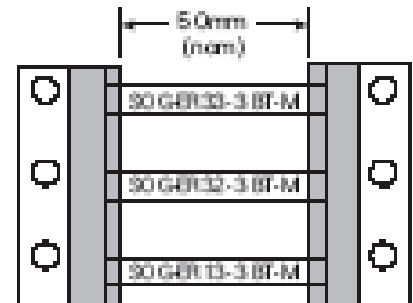
- Permanent identification sleeves
- UL recognised and CSA certified
- 30° - 105°C operating temperatures.

Readyprint markers are designed to meet the wire identification needs of commercial and industrial manufacturers. Made of durable, heat-shrinkable polyolefin, Readyprint sleeves can be used for a variety of wire or cable applications. These sleeves meet the requirements of UL Standard 224, and they are flame retardant.

Readyprint markers are supplied in a thin, flat "ladder" of sleeves held horizontally between two hole-punched polyester strips. This configuration feeds directly from the storage box into standard typewriters or dot-matrix printers, with no modifications necessary. The marker sleeves are designed with standard six lines-per-inch spacing for accurate printing from one sleeve to the next. A standard heat gun is used to shrink the sleeves in place and make the identification marks permanent.

Readyprint markers are packaged for low or high-volume users. The standard package quantity is 250 pieces per box, but can be ordered in volumes up to 5000 pieces per package. The sleeves are available in eight diameters. All sizes except the largest marker have a 3:1 shrink ratio. The 3:1 ratio, along with the packaging and sizing options, enables users to meet a variety of marking applications and to effectively manage inventory by using one size sleeve to identify wires of several different gauges.

Readyprint markers are smear-resistant immediately after printing. Once the sleeve is heat-shrunk onto the wire or cable, the printed identification becomes permanent. Marks remain legible even when exposed to abrasion, aggressive cleaning solvents, and industrial fluids.



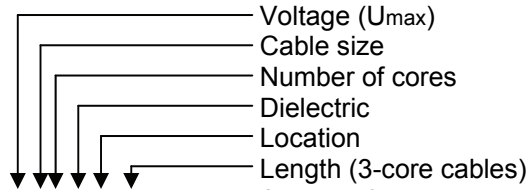
Part Number	As Supplied (Min) mm	After Recovery mm	Recomm Use Range Cable mm <sup>2</sup>	Cable Diameter Range mm	Std Pack Pieces
RPS 22-18	3.1	1.06	.5 - 1.0	1.12 – 2.67	250
RPS 18-12	4.75	1.57		1.75 – 4.06	250
RPS 16-10	6.3	2.10	1.5 - 4.0	2.31 – 5.46	250
RPS 8-4	9.5	3.17		3.48 – 8.13	250
RPS 10-2	12.7	4.22	6.0 - 25	4.65 – 10.80	250
RPS 6-250	19.0	6.35		6.98 – 16.26	250
RPS 1-400	25.4	8.46	35.0 - 120	9.30 – 21.54	250
RPS 400-1000	38.1	19.05		20.96 – 33.00	250
*Larger volume packaging is available upon request					



# RAYCHEM - EPKT Terminations

Termination systems for polymeric and MIND paper insulated cables from 7.2kV up to 36kV

This worksheet enables you to arrive at a part number for an EPKT termination. Choose one figure from the left-hand column of each table.



Typical part number: EPKT 17C 3MO H3 B05 ← Accessories

Voltage in kV	
7	For 7.2kV
17	For 12kV & 17kV
24	For 24kV
36	For 36kV

Size in mm <sup>2</sup>	7.2kV	12kV & 17.5kV	24kV	36kV
A	16 - 35	16 - 25	-	-
B	50 - 95	35 - 70	25 - 50	-
C	120 - 185	95 - 185	70 - 185	50 - 95
D	240 - 400	240 - 400	240 - 300	120 - 185
E	500 - 1000	500 - 800	400 - 630	240 - 500
F	-	1000	800 - 1000	630 - 1000

No. of Cores	
1	For single (1) core
3	For three (3) core

Dielectric	
X	XLPE
M	For MIND non-draining paper (not applicable for draining paper cables)

Location	Of the termination
I	For INDOOR
O	For OUTDOOR

Length	
H1	For 450mm long
H2	For 650mm long (min for 17.5kV outdoor and 36kV indoor)
H3	For 800mm long (min for 24kV outdoor and 36kV outdoor)
H4	For 1200mm long

**Note:** The non tracking tubing (Red) can be supplied in one continuous length by adding the mod code "F" Example: EPKT 17C 3MO H4-F (3600mm Long).

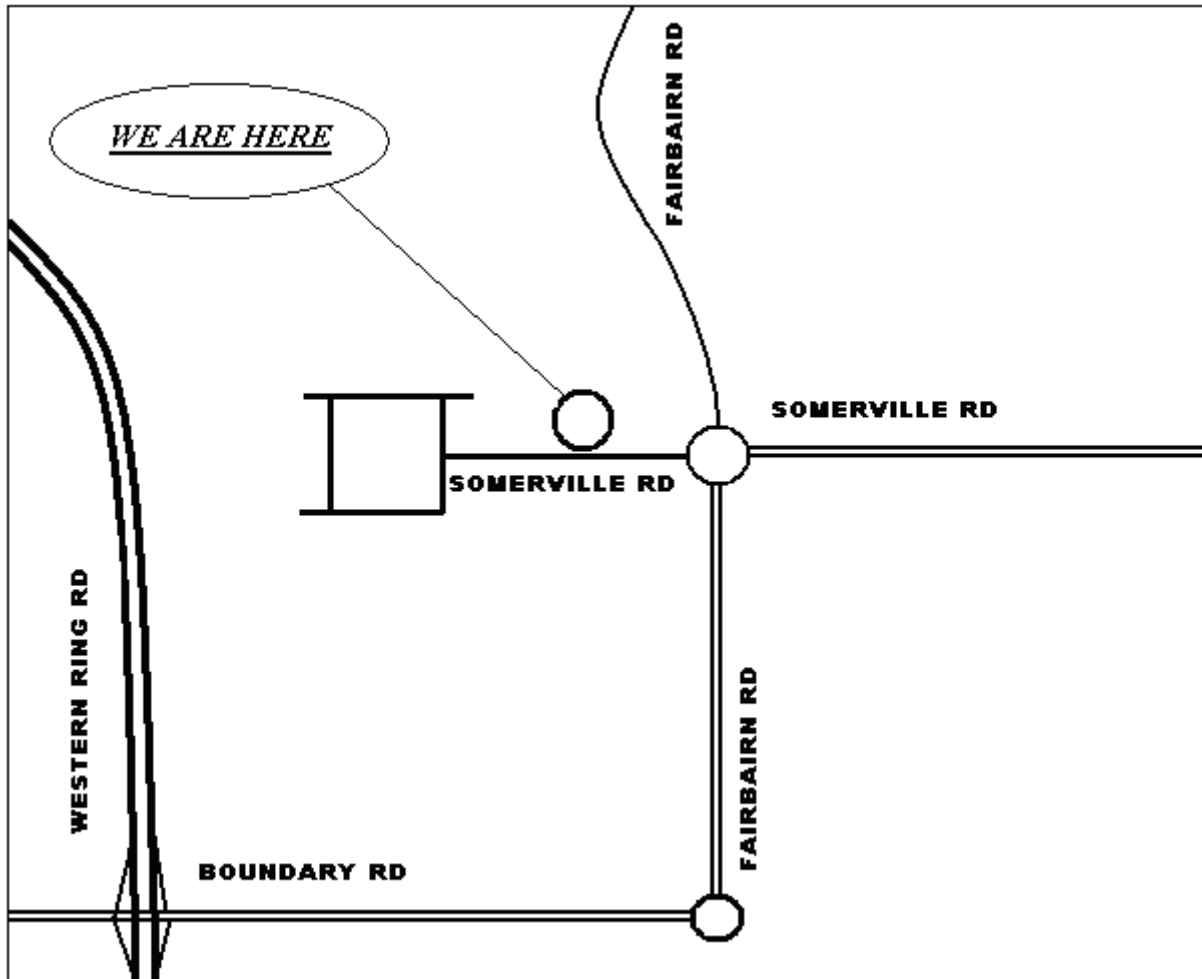
## CABLE SIZE CHART

METRIC CABLE					IMPERIAL CABLE	
NOM. C.S.A. MM <sup>2</sup>	METRIC STRAND	NOM. EQUIV C.S.A. INCH <sup>2</sup>	CONDUCTOR O.D.		IMPERIAL STRAND	CONDUCTOR O.D. INS
			MM	INCH		
0.5	1/0.80	.00077	.80	.032	1/029	.029
-	-	-	-	-	1/036	.36
1.0	1/1.13	.0016	1.13	.045	1/044	.044
	7/0.40	.00136	1.20	.047		
1.5	1/1.38	.0023	1.38	.054	1/064	.064
	7/0.50	.0021	1.50	.059	3/029	.065
2.5	7/0.67	.0039	2.01	.079	3/036	.075
-	-	-	-	-	7/029	.087
4	7/0.85	.0062	2.55	.100	7/036	.108
6	7/1.04	.0093	3.12	.123	7/044	.133
10	7/1.35	.0155	4.05	.160	7/052	.156
16	7/1.70	.0248	5.10	.201	7/064	.192
-	-	-	-	-	19/044	.220
25	7/2.14	.0390	6.42	.253	7/080	.240
	19/1.35	.0388	6.75	.266	19/052	.260
35	19/1.53	.0543	7.65	.301	19/064	.320
50	19/1.78	.0775	8.90	.350	19/072	.360
70	19/2.14	.1085	10.70	.421	19/083	.415
-	-	-	-	-	37/.64	.448
95	37/1.78	.1473	12.46	.491	37/072	.504
	19/2.52	.1469	12.60	.496		
120	37/2.03	.1860	14.21	.560	37/083	.581
150	37/2.25	.2325	15.75	.620	37/093	.651
185	37/2.52	.2868	17.64	.695	37/103	.721
240	61/2.25	.3720	20.25	.797	61/093	.837
300	61/2.52	.4650	22.68	.893	61/103	.927
400	61/2.85	.6200	25.65	1.010	91/093	1.023
500	61/3.20	.7750	28.80	1.134	91/103	1.133
-	-	-	-	-	127/093	1.209
630	127/2.52	.9765	32.76	1.290	127/103	1.339
800	127/2.85	1.24	37.05	1.459		
1000	127/3.20	1.55	41.60	1.638		

## PART NUMBER INDEX

PART NUMBER	PAGE #	PART NUMBER	PAGE #	PART NUMBER	PAGE #
102L011-37/42	15	DCPT 26/13	1	MWTM16/5-A/U-4	3
102L022-37/42	15	DCPT 3/1.5	1	MWTM160/50-1200	3
102L033-37/42	15	DCPT 38/19	1	MWTM180/60-1200	3
102L044-37/42	15	DCPT 6/3	1	MWTM25/8-1200	3
102L048-37/42	15	DCPT 8/4	1	MWTM25/8-A/U-4	3
102L055-37/42	15	DCPT-10/5-1200	1	MWTM35/12-1200	3
102L066-37/42	15	DCPT-12/6-1200	1	MWTM35/12-A/U	3
302K224	14	DCPT-19/9-1200	1	MWTM50/16-1200	3
302K333	14	DCPT-26/13-1200	1	MWTM50/16-A/U	3
302K466	14	DCPT-3/1.5-1200	1	MWTM63/19-1200	3
402W248	14	DCPT-38/19-1200	1	MWTM63/19-A/U	3
402W439	14	DCPT-6/3-1200	1	MWTM75/22-1200	3
402W516	14	DCPT-8/4-1200	1	MWTM85/25-1200	3
402W525	14	DR-25-3.2	9	MWTM95/29-1200	3
402W526	14	DR-25-4.8	9	PD-CAPS 1/2	16
402W533	14	DR-25-6.4	9	PD-CAPS 1/4	16
502K016	14	DR-25-9.5	9	PD-CAPS 3/16	16
502K026	14	DR-25-12.7	9	PD-CAPS 3/8	16
502K033	14	DR-25-19.1	9	RNF-100-1.2	2
502K046	14	DR-25-25.4	9	RNF-100-1.6	2
ATUM-12/4-0	7	DR-25-38.1	9	RNF-100-2.4	2
ATUM-19/6-0	7	DR-25-50.8	9	RNF-100-3.2	2
ATUM-24/8-0	7	DR-25-76.2	9	RNF-100-4.8	2
ATUM-3/1-0	7	ES1000-1	8	RNF-100-6.4	2
ATUM-40/13-0	7	ES1000-2	8	RNF-100-9.5	2
ATUM-6/2-0	7	ES1000-3	8	RNF-100-12.7	2
ATUM-9/3-0	7	ES1000-4	8	RNF-100-19.1	2
BBIT 100/40	12	ES2000-1	8	RNF-100-25.4	2
BBIT 150/60	12	ES2000-2	8	RNF-100-38.1	2
BBIT 175/80-A/U	12	ES2000-3	8	RNF-100-50.8	2
BBIT 25/10	12	ES2000-4	8	RNF-100-76.2	2
BBIT 40/16	12	GPT - 1.2mm (3/64)	1	RNF-100-101.6	2
BBIT 65/25	12	GPT - 1.6mm (1/16)	1	RPS-10-2/2.0-9	21
BPTM 100/40	12	GPT - 101.6mm (4)	1	RPS-1-400/2.00	21
BPTM 120/50	12	GPT - 12.7mm (1/2)	1	RPS-1-400/2-4	21
BPTM 15/6	12	GPT - 19.1mm (3/4)	1	RPS-16-10/2.0-9	21
BPTM 175/70	12	GPT - 2.4mm (3/32)	1	RPS-18-12/2.00	21
BPTM 30/12	12	GPT - 25.4mm (1)	1	RPS-22-18/2-9	21
BPTM 50/20	12	GPT - 3.2mm (1/8)	1	RPS-6-250/2-4	21
BPTM 75/30	12	GPT - 38.1mm (1 1/2)	1	RPS-8-4/2.0-9	21
CFTS-1	15	GPT - 4.8mm (3/16)	1	SECV1	20
CFTS-2	15	GPT - 50.8mm (2)	1	SECV10	20
CFTS-3	15	GPT - 6.4mm (1/4)	1	SECV11	20
CFTS-4	15	GPT - 76.2mm (3)	1	SECV12	20
CFTS-5	15	GPT - 9.5mm (3/8)	1	SECV13	20
CRSM107/29-1500	5	HVBT-12-A	13	SECV2	20
CRSM143/36-1500	5	HVBT-14-A	13	SECV3	20
CRSM198/55-1500	5	HVBT-15-A	13	SECV4	20
CRSM250/98-1500	5	HVBT-16-A	13	SECV4A	20
CRSM34/10-1500	5	LVBT 1-R	11	SECV5	20
CRSM53/13-1500	5	LVBT 2-R	11	SECV6	20
CRSM84/20-1500	5	LVBT 4-R	11	SECV7	20
CWT-1501	17	LVIT 150/50-A/U	10	SECV8	20
CWT-1502	17	LVIT30/10-A/U-4	10	SECV9	20
CWT-1503	17	LVIT75/25-A/U-4	10	VERSA-12.7-0	6
CWT-1504	17	M1	19	VERSA-19.1-0	6
CWT-3801	17	M2	19	VERSA-2.4-0	6
CWT-3802	17	M3	19	VERSA-25.4-0	6
CWT-3803	17	M4	19	VERSA-3.2-0	6
CWT-3805	17	M5	19	VERSA-6.4-0	6
CWT-3806	17	M6	19	VERSA-9.5-0	6
CWT-3807	17	MA10	19	WCSM105/30-1200	4
CWT-3809	17	MA7	19	WCSM13/4-1200	4
CWT-3811	17	MA8	19	WCSM130/36-1200	4
CWT-3813	17	MA9	19	WCSM180/50-1250	4
D-406-0001	18	MWTM10/3-1200	3	WCSM20/6-1200	4
D-406-0002	18	MWTM10/3-A/U-4	3	WCSM33/8-1200	4
D-406-0003	18	MWTM115/34-1200	3	WCSM43/12-1200	4
DCPT 10/5	1	MWTM140/42-1500	3	WCSM51/16-1200	4
DCPT 12/6	1	MWTM16/5-1200	3	WCSM70/21-1200	4
DCPT 19/9	1			WCSM85/25-1200	4

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