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CARROLL HEAT SHRINK TUBING

The wide range of **CARROLL** heat shrinkable products ensure that whether you are insulating, colour coding, strain relieving, protecting or sealing, the right product is available to do the job.

GRADE: HS – GENERAL PURPOSE TUBING

This flexible **CARROLL** heat shrink tubing is manufactured from flame retardant, irradiated crosslinked, modified polyolefin. Recognised by Underwriters Laboratories (UL) and Canadian Standards (CSA), the tubing exhibits a VW-1 flame retardant rating, (except clear), is rated at 600V and has an operating temperature range of -25°C to 125°C. Shrink temperature is 70-125°C and the shrink ratio is 2:1. Designed to insulate, colour code, strain relieve and provide abrasion and mechanical protection. Tubing is supplied in either 1.2m (4 ft) lengths or full spools. A complete range of diameters is available from 1mm to 102mm.



HS – GENERAL PURPOSE TUBING

GRADE: DWL – DUAL WALL TUBING

CARROLL Dual Wall Tubing is manufactured from a co-extrusion of flame-retardant, flexible, 3:1 shrink ratio heat shrinkable tubing and a special adhesive lining. When the tubing is heated, the adhesive lining melts and flows to form a positive environmental seal. The lining adheres to the outer tubing and the surface below, creating an excellent barrier to moisture penetration.

Typical applications include the sealing and insulation of electrical splices, terminations, connector backshells, battery terminals and repairs to damaged cable. Due to the tubing's flexibility, high shrink ratio and the wide variety of surfaces to which the adhesive will bond, the product is excellent in areas requiring corrosion and mechanical protection.

3:1 shrink ratio allows for insulation and sealing of irregular shapes. Dual wall provides increased mechanical protection while maintaining flexibility when installed. Adhesive bonds to a wide variety of plastics, rubber, and metals, including polyethylene, neoprene and steel.



DWL – DUAL WALL TUBING

GRADE: HWL – HEAVY WALL TUBING

CARROLL Heavy Wall Tubing is manufactured from chemically cross linked polyolefin heat shrinkable tubing with a shrink ratio greater than 2.5:1, and a special adhesive lining. When the tubing is heated, the adhesive lining melts and flows to form a positive environmental seal. The lining adheres to the outer tubing and the surface below, creating an excellent barrier to moisture penetration.

The tubing exhibits excellent insulation capability and is resistant to cracking.

Typical applications include the sealing and insulation of outdoor and indoor electrical power joints, terminations, and repairs to damaged cable up to 1Kv.



HWL – HEAVY WALL TUBING

HS GRADE GENERAL PURPOSE, THIN WALL TUBING

CARROLL General Purpose Thin Wall tubing is designed to insulate, colour code, strain relieve and provide abrasion and mechanical protection.

Manufactured from a 2:1 shrink ratio, flexible, flame retardant, irradiated crosslinked, heat-shrinkable, modified polyolefin tubing.

LENGTHS

CODE	PART NO.	SUPPLIED ID mm	APPROX SUPPLIED LAYFLAT	LENGTH
P	HSL1	1.5+ - 0.3	-	1.22m
	HSL1.5	2.0+ - 0.3	-	1.22m
	HSL2	2.5+ - 0.3	-	1.22m
	HSL3	3.5+ - 0.4	-	1.22m
	HSL5	5.5+ - 0.4	8	1.22m
	HSL6	6.5+ - 0.4	11	1.22m
	HSL6GY	6.5+ - 0.4	11	1.22m
	HSL10	10.8+ - 0.5	16	1.22m
	HSL10GY	10.8+ - 0.5	16	1.22m
	HSL13	13.5+ - 0.5	20	1.22m
	HSL13GY	13.5+ - 0.5	20	1.22m
	HSL16 (BK, RD)	16.5+ - 0.5	-	1.22m
	HSL19	21.5+ - 0.7	31	1.22m
	HSL19GY	21.5+ - 0.7	31	1.22m
	HSL25	25.6+ - 0.7	39	1.22m
	HSL25GY	25.6+ - 0.7	39	1.22m
	HSL38	41.5+ - 0.7	60	1.22m
	HSL38GY	41.5+ - 0.7	60	1.22m
	HSL51	51.5+ - 0.7	80	1.22m
	HSL76	≥80	120	1.22m
	HSL102	≥100	160	1.22m



(HS) GENERAL PURPOSE HEATSHRINK

COLOUR	SUFFIX
BLACK	BK
BLUE	BL
RED	RD
WHITE	W
GREEN	G
YELLOW	Y
CLEAR	C
GREEN/YELLOW	GY

COLOUR CODE TABLE
FOR HEATSHRINK

SPOOLS

CODE	PART NO.	SUPPLIED ID MM	APPROX SUPPLIED LAYFLAT	SPOOL LENGTH
P	HS1.5 (BK,C)	2.0+ - 0.3	-	200m
	HS1.5 (RD,W,Y)	2.0+ - 0.3	-	304m
	HS2	2.5+ - 0.3	-	200m
	HS2G	2.5+ - 0.3	-	100m
	HS3	3.5+ - 0.4	-	200m
	HS5	5.0+ - 0.4	8	100m
	HS6	6.5+ - 0.4	11	50m
	HS6GY	6.5+ - 0.4	11	61m
	HS6 (Y)	6.5+ - 0.4	11	100m
	HS10	10.8+ - 0.5	16	50m
	HS10GY	9.5+ - 0.5	16	61m
	HS13	12.5+ - 0.5	20	50m
	HS13GY	12.5+ - 0.5	20	61m
	HS16	16.5+ - 0.6	25	50m
	HS19	19.0+ - 0.7	31	50m
	HS19GY	19.0+ - 0.7	31	61m
	HS25	25.6+ - 0.7	39	50m
	HS25GY	25.6+ - 0.7	39	61m
	HS38 (BK,BL,RD,W)	41.5+ - 0.7	60	50m
	HS38GY	41.5+ - 0.7	60	30m
	HS38 (G,Y)	41.5+ - 0.7	60	38m
	HS38 (C)	41.5+ - 0.7	60	30m
	HS51(BK,BL,RD)	51.5+ - 0.7	80	25m
	HS76	≥80	120	25m
	HS102	≥100	160	25m



HS SPOOLS

DWL GRADE DUAL WALL TUBING

CARROLL Dual Wall tubing is manufactured from a co-extrusion of flame-retardant, flexible, **3:1 shrink ratio** heat shrinkable tubing with a special adhesive lining. When the tubing is heated, the adhesive lining melts and flows to form a positive environmental seal. The lining adheres to the outer tubing and the surface below, creating an excellent barrier to moisture penetration. Typical applications include the sealing and insulation of electrical splices, terminations, connector backshells, battery terminals and repairs to damaged cable. Due to the tubing's flexibility, high shrink ratio and the wide variety of surfaces to which the adhesive will bond, the product is excellent in areas requiring corrosion and mechanical protection.

LENGTHS

CODE	PART NO.	SUPPLIED ID mm	COLOUR	LENGTH
PA	DWL3/1	3.5+ – 0.3	BLACK	1.22m
	DWL6/2	6.8+ – 0.4	BLACK	1.22m
	DWL9/3	9.9+ – 0.4	BLACK	1.22m
	DWL12/4	13.2+ – 0.5	BLACK	1.22m
	DWL12/4R	13.2+ – 0.5	RED	1.22m
	DWL19/6	19.6+ – 0.5	BLACK	1.22m
	DWL19/6R	19.6+ – 0.5	RED	1.22m
	DWL24/8	25.4+ – 0.8	BLACK	1.22m
	DWL24/8R	25.4+ – 0.8	RED	1.22m
	DWL40/13	40.0+ – 0.8	BLACK	1.22m



DWL GRADE DUAL WALL TUBING

SPOOLS

CODE	PART NO.	SUPPLIED ID mm	COLOUR	SPOOL LENGTH
PA	DW3/1	3.5+ – 0.3	BLACK	200m
	DW6/2	6.8+ – 0.4	BLACK	100m
	DW9/3	9.9+ – 0.4	BLACK	50m
	DW12/4	13.2+ – 0.5	BLACK	25m
	DW19/6	19.6+ – 0.5	BLACK	25m
	DW24/8	25.4+ – 0.8	BLACK	25m
	DW24/8R	25.4+ – 0.8	RED	25m
	DW40/13	40.0+ – 0.8	BLACK	25m



DW SPOOL

HWL HEAVY WALL ADHESIVE LINED TUBING

Heavy Wall tubing provides a fast, clean, permanent, safe and cost effective method of sealing, insulating and protecting cable joints and terminations in underwater or underground applications. Voltage rated for 0.6/1kv applications, the tubing has a high variable shrink ratio, is UV resistant, and operates within a -55°C to +90°C temperature range. The polyamide - based adhesive provides a high bond strength and protection against moisture, aggressive fluids and corrosion.

LENGTHS

CODE	PART NO.	SUPPLIED ID mm	RECOVERED ID mm	COLOUR	LENGTH
PA	HWL12/5	12	5	BLACK	1.22m
	HWL20/8	20	8	BLACK	1.22m
	HWL30/12	30	12	BLACK	1.22m
	HWL40/17	40	17	BLACK	1.22m
	HWL52/20	52	20	BLACK	1.22m
	HWL68/26	68	26	BLACK	1.22m
	HWL80/30	80	30	BLACK	1.22m
	HWL102/44	102	44	BLACK	1.22m
	HWL122/52	122	52	BLACK	1.22m
	HWL146/58	148	58	BLACK	1.22m



HWL HEAVY WALL ADHESIVE LINED TUBING

HIGH SHRINK RATIO, THICK ADHESIVE LINED TUBING

This adhesive lined heat shrink tubing has a high shrink ratio, in excess of 4:1, specially designed for environmental sealing of terminations and splices. It is relatively rigid when shrunk and features extra adhesive. The broad operating temperature range of -40°C to 130°C makes the tubing especially suitable for use in higher temperature environments eg; engine compartments etc.

LENGTHS

CODE	PART NO.	SUPPLIED OD mm	AFTER HEATING OD mm	COLOUR	LENGTH
PA	HSRL1	5.72	1.27	BLACK	1.22m
	HSRL2	7.44	1.65	BLACK	1.22m
	HSRL3	10.85	2.41	BLACK	1.22m
	HSRL4	17.78	4.45	BLACK	1.22m



HIGH RATIO HEAT SHRINK

HEAT SHRINK TAPE

CARROLL Heat Shrink Tape is an easy to work with, flexible tape that exhibits both the advantages of heat shrink tubing and a self-amalgamating tape. A simple and economical method of repairing damage to cable insulations. Easy forming of T joints, multiple breakouts or junctions. Effective sealing of complex shapes. The tape is wound loosely ensuring tape overlaps by approximately 15mm or 2/3rds of the tape width, then heat and shrink. Further layers can then be applied until desired thickness is achieved. Operating Temperature -55 to 105°C.

CODE	PART NO.	COLOUR	LENGTH	WIDTH mm	THICKNESS mm
PB	HST25BK	BLACK	5	25	1



HEAT SHRINK TAPE

HEAT SHRINK KITS

An assortment of popular sizes, red and black general purpose heat shrink tubing supplied in a boxed grab kit.

CODE	PART NO.	SIZE RANGE	LENGTHS mm	COLOURS	TOOL QTY
P	HSKB	2-25mm	ASSORTED	BLACK & RED	1



HEAT SHRINK KIT

HEAT SHRINKABLE END CAPS – ADHESIVE LINED

CARROLL heat shrinkable end caps are hot melt adhesive lined and are used to provide protection to cable ends against oxidation, ozone, UV and more.

Continuous operating temperature: -45°C to 105°C

Shrink temperature: start 110°C, fully recovered 130°C

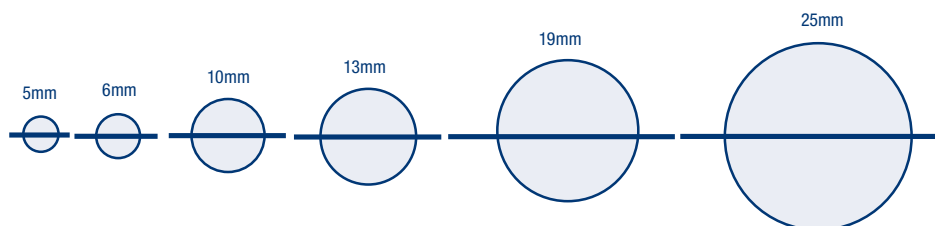
CODE	PART NO.	SUPPLIED ID mm	RECOVERED ID mm	PACK QTY
PA	EC24/11	25	11	1
	EC33/18	35	17	1
	EC50/27	55	26	1
	EC70/38	75	30	1
	EC100/48	100	40	1
	EC120/59	120	57	1



END CAPS

SIZE SELECTION CHART

To identify ordering diameter, match flattened tubing against the horizontal line.



HEAT SHRINK BUS BAR SELECTION CHART

Bus Bar Selection Chart For Applicable Heat Shrink Diameters

CODE	DEPTH	WIDTH	12mm	19mm	25mm	38mm	51mm	76mm	102mm	125mm
P	-	-	1/2	3/4	1	1.5	2	3	4	5
	3.2mm	1/8	HS13	HS19	HS25	HS38	HS51	HS76	HS102	HS102
	4.8mm	3/16	HS13	HS19	HS25	HS38	HS51	HS76	HS102	HS102
	6.4mm	1/4	-	HS19	HS25	HS38	HS51	HS76	HS102	HS102
	9.5mm	3/8	-	-	-	HS38	HS51	HS76	HS102	HS102
	13mm	1/2	-	-	-	-	HS51	HS76	HS102	HS102

Note: Bends may require larger diameter heat shrink. Pre-heat bus bar before applying tubing for a more even finish.

RECOMMENDED HEATSHRINK FOR XLPE AND PYROLEX CABLE APPLICATION

CODE	CABLE SIZE mm	PVC GLAND FOR XLPE	HEAT SHRINK FOR XLPE	METAL GLAND FOR PYROLEX CABLE	LOCK NUT FOR METAL GLAND	HEAT SHRINK FOR PYROLEX
P	16	CG16	HSL13	MG20	LNM/M20	HSL13
	25	CG20	HSL13	MG25	LNM/M25	HSL13
	35	CG20	HSL13	MG25	LNM/M25	HSL19
	50	CG20	HSL13	MG25	LNM/M25	HSL19
	70	CG25	HSL19	MG32	LNM/M32	HSL19
	95	CG25	HSL19	MG32	LNM/M32	HSL19
	120	CG32	HSL19	MG40	LNM/M40	HSL25
	150	CG32	HSL25	MG40	LNM/M40	HSL25
	185	CG40	HSL25	MG40	LNM/M40	HSL25
	240	CG40	HSL38	MG40	LNM/M40	HSL38
	300	CG40	HSL38	MG50	LNM/M50	HSL38
	400	CG50	HSL38	MG50	LNM/M50	HSL38
	500	CG50	HSL38	MG63	LNM/M63	HSL38
	630	CG63	HSL51	MG63	LNM/M63	HSL51

NYLON SNAP BUSHING

CARROLL snap bushings are moulded black UL approved Nylon6/6, and feature a flammability rating of 94V-2. The snap bushings provide a quick, simple and low cost means of protecting cables, hoses, ropes etc, from damage from raw edged holes in metal chassis.

CODE	PART NO.	COLOUR	MOUNTING HOLE mm	ID mm	PACK QTY
BA	SB08	BLACK	7.9	5.2	100
	SB10	BLACK	9.5	6.3	100
	SB13	BLACK	13.0	8.2	100
	SB16	BLACK	15.9	12.2	100
	SB19	BLACK	18.9	14.3	100
	SB22	BLACK	22.0	17.3	100
	SB26	BLACK	25.1	19.1	100
	SB30	BLACK	29.7	24.1	100
	SB38	BLACK	38.1	29.0	100
	SB45	BLACK	43.6	35.4	100
	SB50	BLACK	50.8	41.6	100



RUBBER GROMMET AND HOLE PLUG

CODE	PART NO.	TYPE	MOUNTING HOLE mm	INTERNAL HOLE mm	PANEL THICKNESS mm	PACK QTY
BA	GR15	GROMMET	19.0	11	1.6	20
	GRP194	HOLE PLUG	25.4	SOLID	1.6	20



NYLON IP68 RATED CABLE GLANDS

Accepted as the Industry standard while also conforming to AS1939–1990 (IEC 529–1989), **CARROLL** Nylon “BULLET” glands have been tested and certified to IP68. Our “BULLET” design speeds installation and reduces inventory through extended cable diameter range and eliminating the need to disassemble before installation.

CODE	PART NO.	THREAD	CABLE RANGE	PACK QTY
PE	CG12	M12	3–6.5mm	50
	CG16	M16	5–10mm	50
	CG20	M20	10–14mm	36
	CG25	M25	13–18mm	16
	CG32	M32	18–25mm	12
	CG40	M40	22–32mm	6
	CG50	M50	30–38mm	3
	CG63	M63	34–44mm	2
	CG63L	M63	42–50mm	2



NYLON CABLE GLAND

METAL IP68 RATED CABLE GLANDS

CARROLL nickel plated brass ‘BULLET’ cable glands are tested (and certified) to IP68, in accordance with AS1939-1990. This rigid rating is your guarantee of superior grip, strain relief, sealing and protection of your electrical installations against the ingress of dust, moisture and submersion. Our ‘BULLET’ design speeds up installation and reduces inventory through extended cable diameter range, and eliminating the need to disassemble the gland before installation.



Note: Metal glands are not supplied standard with locknuts. These are sold separately.

CODE	PART NO.	THREAD	CABLE RANGE	PACK QTY
PE	MG12	M12	3–6mm	25
	MG16	M16	5–10mm	25
	MG20	M20	8–13mm	20
	MG25	M25	11–17mm	15
	MG32	M32	15–21mm	5
	MG40	M40	19–28mm	3
	MG50	M50	26–35mm	2
	MG63	M63	32–42mm	2



METAL GLAND

METRIC LOCK NUTS FOR METAL GLANDS (SOLD SEPARATELY)

CODE	PART NO.	THREAD	PACK QTY
PE	LNM/M12	M12	25
	LNM/M16	M16	25
	LNM/M20	M20	20
	LNM/M25	M25	15
	LNM/M32	M32	5
	LNM/M40	M40	3
	LNM/M50	M50	2
	LNM/M63	M63	2



LOCKNUT
(SOLD SEPARATELY)

TAPES

PVC ELECTRICAL TAPE

CARROLL PVC tape is designed for general electrical contracting and colour coding applications. Manufactured from 0.15 mm thick PVC, this tape also exhibits excellent adhesive and ageing properties with a high dielectric strength.

PVC electrical tape colours: Black (BK), Red (RD), Blue (BL), White (W), Green/ Yellow (GY) and Rainbow Pack (PVCTMIX).

CODE	PART NO.	ROLL LENGTH m	PACK QTY
PB	PVCTBK	20	10
	PVCTRD	20	10
	PVCTBL	20	10
	PVCTW	20	10
	PVCTGY	20	10
	PVCTMIX	20	10



PVC ELECTRICAL TAPE

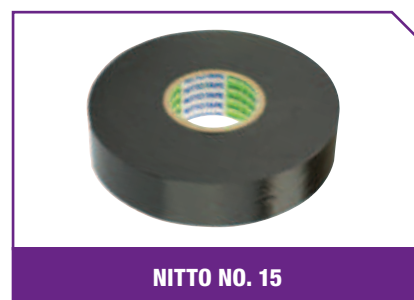
SELF-FUSING ELECTRICAL INSULATING TAPE

No.15, self-fusing electrical insulating tape with butyl rubber backing. Designed for cable splicing and terminating, corona resistance of high voltage cables, water and corrosion protection of wires, cables and piping in marine and mining applications.

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Note: If applied to wire or cable at a stretch of 100-150%, the tape self fuses in just 1-2 hours.

CODE	PART NO.	COLOUR	ROLL LENGTH m	PACK QTY
PB	NO.15	BLACK	10	1



NITTO NO. 15



GAFFA TAPE

TAPES – GAFFA, DUCT AND DOUBLE SIDED

CODE	PART NO.	TYPE	ROLL LM x WM m	COLOUR	PACK QTY
PB	GAFFAB	GAFFA	25 x 48	BLACK	1
	GAFFA	GAFFA	25 x 48	SILVER	1
	DUCT	DUCT	30 x 48	SILVER	1
	DST1	DOUBLE SIDED	10 x 18	BLACK	1



DOUBLE SIDED TAPE

CARROLL SPECIALISED CONDUIT SYSTEMS



Harnessflex combines innovative design with precision manufacturing to offer customers a broad range of cable protection products and solutions.

- Performs in a wide variety of environments from high temperature to freezing subzero conditions
- Extensive range of engineered solutions are designed to withstand the rigours of the most technically demanding applications
- Harnessflex Specialist Conduit Systems can be used to protect critical power and data cabling. ADR approved.
- Tested and approved to ANZ and International Standards
- Harnessflex hinged systems are rated at IP40.
- Harnessflex sealed systems are rated at IP66, 67, 68 (2 BAR for 30 mins) and 69k, when using Harnessflex conduit.

MARKETS AND INDUSTRIES

Harnessflex Specialist Conduit Systems can be used to protect critical power and data cabling are available throughout a wide range of markets including:

- | | |
|----------------------------|------------------|
| • Dangerous goods vehicles | • Mechanical |
| • Commercial contracting | • Security/CCTV |
| • Machinery | • Data Cabling |
| • Rail/Infrastructure | • Critical Power |
| • Marine | |

Many components are designed specifically for a market solution. These products uniquely meet an industry's needs - solving a specific application requirement, providing product innovation, saving installation and component costs, improving the quality and the integrity of the end product. Wherever you need mechanical and electrical protection for your cables you can be confident in specifying Harnessflex products.

APPROVALS

Harnessflex is tested and approved to International Standards, i.e. TUV & LCIE, for the widest variety of automotive applications including hazardous or aggressive fuel or chemical transportation environments. In Australia and New Zealand, Harnessflex is approved and meets the requirements specified in AS2809 for Dangerous Goods Vehicles, e.g. fuel tankers. It is also the system specified by the leading Australian heavy duty truck manufacturers. ADR Approved.

Copies of ADR approvals are available upon request.

www.carroll.com.au/harnessflex



HARNESSFLEX SPECIFICATIONS

Harnessflex premium nylon conduit is designed to withstand temperatures from -40°C to +120°C for long term static use and holds many features including:

- Resistance to many oils, solvents and petrochemicals
- Flexible tough construction with high impact strength and a long fatigue life
- High UV resistance, halogen free and self extinguishing
- Stocked in a wide range of sizes

When used in conjunction with the extensive range of fittings and adaptors the Harnessflex System can achieve IP66, IP67, IP68 and IP69K and offers extreme versatility for both harness manufacturing and general purpose applications.

Harnessflex
SPECIALIST CONDUIT SYSTEMS

HARNESSFLEX CHEMICAL COMPATIBILITY

CHEMICAL MINERAL	HARNESSFLEX CONDUIT	CHEMICAL/ MINERAL	HARNESSFLEX CONDUIT	CHEMICAL/ MINERAL	HARNESSFLEX CONDUIT
Astm oil no. 1	S	Astm oil no. 2	S	Astm oil no. 3	S
Acetic acid (10%)	L	Acetone	S	Aluminum chloride (10%)	L
Benzene	S	Chlorine water	U	Diesel oil	S
Ethyl alcohol	S	Ethylene glycol (antifreeze)	S	Freon 32	S
Hydrochloric acid (10%)	U	Hydrochloric acid (36%)	U	Hydrogen peroxide (35%)	L
Lactic acid (90%)	L	Lubricating oil	S	Methyl alcohol	L
Methyl ethyl ketone	S	Nitric acid (10%)	U	Nitric acid (70%)	U
Oxalic acid	L	Ozone gas	U	Paraffin oil	S
Petrol	S	Silver nitrate	S	Sodium chloride	S
Sodium hydroxide (10%)	S	Sodium hydroxide (60%)	S	Sulphuric acid (10%)	U
Sulphuric acid (70%)	U	Toluene	S	Transformer oil	S
Trichlorethylene	L	Turpentine	S	Vegetable oils (general)	S
Vinyl acetate	L	Water (sea)	S	White spirit	S
Zinc chloride	U				

Note: These results shown are based on exposure to individual chemicals at ambient temperature. All inorganic salts are saturated aqueous solutions unless otherwise stated.

Key: S = Suitable L = Limited U = Unsuitable

HARNESSFLEX PHYSICAL PROPERTIES

CHEMICAL/MINERAL	HARNESSFLEX CONDUIT	CHEMICAL/MINERAL	HARNESSFLEX CONDUIT
Specific gravity	1.14	Melting point	220°C
Max. Operating temperature static	120°C	Max. Operating temperature dynamic	100°C
Min. Operating temperature static	-40°C	Min operating temperature dynamic	-30°C
Tensile strength *	40MPa	Elongation at break *	60%
Flexural modulus *	1.0GPa	Impact strength – notched izod *	0.25KJ/m
Dielectric strength *	25MV/m	Volume resistivity *	8 log ohm cm
Halogen free	Yes		

* The results are from test pieces of sheet material, conditioned at 23°C and 50% Relative Humidity, and not from finished products.

NYLON FLEXIBLE CONDUIT

The International Protection (IP Rating) and published performance specifications of Harnessflex fittings is only guaranteed by Carroll Australasia when used in conjunction with Carroll supplied conduit.

CODE	PART NO.	NOMINAL SIZE	BORE	OD mm	PACK QTY
PD	NC08	8	6.6	10	100m
	NC10	10	8.4	11.5	100m
	NC12	12	9.9	13	100m
	NC16	16	12.7	16.1	50m
	NC20	20	16.6	21.2	50m
	NC25	25	21.3	25.6	50m
	NC28	28	22.6	28.5	50m
	NC32	32	28.8	34.5	50m
	NC40	40	35.2	42.5	25m
	NC50	50	46.5	54.5	25m


HARNESSFLEX CONDUIT

COMPLETE STRAIGHT SEALED ADAPTORS (IP 66, 67, 68, 69K)

Harnessflex straight adaptor bodies feature an anti vibration locking ring on the cap nut which ensures the fitting remains tightened during assembly and in service. An integral neoprene 'O' ring embedded in the mounting face seals the fitting against the junction box or enclosure.

CODE	PART NO.	CONDUIT SIZE	MALE THREAD	PACK QTY
PD	CAB10M16	10	16mm	5
	CAB12M16	12	16mm	5
	CAB12M20	12	20mm	5
	CAB12PG11	12	PG11	5
	CAB16M16	16	16mm	5
	CAB16M20	16	20mm	5
	CAB16PG13	16	PG13	5
	CAB20M20	20	20mm	5
	CAB20PG16	20	PG16	5
	CAB25M25	25	25mm	5
	CAB32M32	32	32mm	5
	CAB40M40	40	40mm	1
	CAB50BS20-A	50	50mm	1


STRAIGHT ADAPTOR BODIES

ATS FITTINGS – QUICK INSTALLATION, ONE PIECE, IP69K RATED

CODE	PART NO.	THREAD SIZE MM	FIT CONDUIT SIZE mm	BODY COLOUR	ELASTOMER COLOUR	PACK QTY
PD	CAB12M16ATS	16	12	BLACK	YELLOW	5
	CAB12M1690ATS	16	12	BLACK	YELLOW	5
	CAB16M16ATS	16	16	BLACK	YELLOW	5
	CAB16M1690ATS	16	16	BLACK	YELLOW	5
	CAB16M20ATS	20	16	BLACK	YELLOW	5
	CAB16M2090ATS	20	16	BLACK	YELLOW	5
	CAB20M20ATS	20	20	BLACK	YELLOW	5
	CAB20M2090ATS	20	20	BLACK	YELLOW	5
	CAB25M25ATS	25	28	BLACK	YELLOW	5
	CAB25M2590ATS	25	28	BLACK	YELLOW	5
	CAB32M32ATS	32	32	BLACK	YELLOW	5
	CAB32M3290ATS	32	32	BLACK	YELLOW	5
	CAB40M40ATS	40	40	BLACK	YELLOW	1
	CAB40M4090ATS	40	40	BLACK	YELLOW	1


ATS FITTING

The International Protection (IP Rating) and published performance specifications of Harnessflex fittings is only guaranteed by Carroll Australasia when used in conjunction with Carroll supplied conduit.

COMPLETE FLANGED 90° ADAPTOR BODIES (IP 66, 67, 68, 69K)

Used in place of an electrical connector where cables need to be passed through a bulkhead.

CODE	PART NO.	CONDUIT SIZE	PACK QTY
PD	CAB40F90	40	1



COMPLETE 90° ADAPTOR BODIES (IP 66, 67, 68, 69K)

Harnessflex 90° adaptor bodies are similar to the straight adaptors, in that they feature anti vibration locking ring on the cap nut. The seal between the adaptor body and enclosure is achieved by the neoprene sealing face washer supplied in the kit.

CODE	PART NO.	CONDUIT SIZE	MALE THREAD	PACK QTY
PD	CAB10M1690	10	16mm	5
	CAB12M1690	12	16mm	5
	CAB16M1690	16	16mm	5
	CAB16M2090	16	20mm	5
	CAB20M2090	20	20mm	5
	CAB25M2590	25	25mm	5
	CAB32M3290	32	32mm	5
	CAB40M4090	40	40mm	1



COMPLETE "T" PIECES (IP 66, 67, 68, 69K)

Harnessflex "T" pieces save time and space in the construction of wiring looms. Also featuring the unique anti vibration rings, the "T" pieces make branches from main harnesses simple and also in many instances can replace expensive junction boxes. Through the use of the simple reducing kits, any outlet can be reduced down to any smaller conduit size. The inspection hatch can be removed in order to ease routing cables through the "T" piece but this must be refitted after assembly to maintain the IP67 rating.

CODE	PART NO.	CONDUIT SIZE	PACK QTY
PD	CTP10	10 x 3	1
	CTP12	12 x 3	1
	CTP16	16 x 3	1
	CTPB20	20 x 3	1
	CTPB28	25 x 3	1
	CTPB32	32 x 3	1



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REDUCING KITS (IP 66, 67, 68, 69K)

Special cap nut and sealing bush kit, designed to reduce outlets from “T” pieces, manifolds and connectors.

CODE	PART NO.	FROM CONDUIT	TO CONDUIT	PACK QTY
PD	RK12-08	12	8	5
	RK16-08	16	8	5
	RK16-12	16	12	5
	RK20-08	20	8	5
	RK20-12	20	12	5
	RK20-16	20	16	5
	RK28-12	25	12	5
	RK28-16	25	16	5
	RK28-20	25	20	5
	RK32-20	32	20	5
	RK32-28	32	28	5

**'T' PIECE CONNECTOR****“T” PIECE CONNECTOR (IP 66, 67, 68, 69K)**

CODE	PART NO.	JOINS T PIECES	PACK QTY
PD	TPC12	CTP10 & CTP12	5
	TPC16	CTP16	5
	TPC20	CTPB20	5
	TPC28	CTPB28	5

**COMPLETE 'X' PIECE****COMPLETE “X” PIECE (IP 66, 67, 68, 69K)**

The Harnessflex “X” Piece exhibits all the sealing and anti-vibration features of the T Piece, and accepts the reducing kits allowing utilisation of 20, 16, 12 and 8mm conduit sizes from any of the 4 outlets. A perfect, space saving, economical replacement for junction boxes.

CODE	PART NO.	CONDUIT SIZE	PACK QTY
PD	CXP20	20 x 4	1

COMPLETE MANIFOLD (IP 66, 67, 68, 69K)

Similar to a “T” piece. This product can be used where two outlets are required close together from a main conduit run. Used principally on vehicle chassis harnesses where connections are required to gearbox, differentials and air drier switches etc.

CODE	PART NO.	CONDUIT SIZE	PACK QTY
PF	CMF25X12	2 x 12, 2 x 25	1

**MANIFOLD**

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“Y” PIECE HINGED FITTINGS (IP40)

“Y” pieces provide branch outlets along a conduit run. Standard applications include insertion in vehicle engine or chassis harness where complete sealing is not required. Splash proof to IP40. Sizes are available for use with conduit diameters from 8mm up to 25mm. The “Y” piece is supplied as one part and hinged along its length. They are simply applied as the final assembly item by locating onto the conduit corrugations and snapped together. The fitting offers no restriction of the conduit bore.

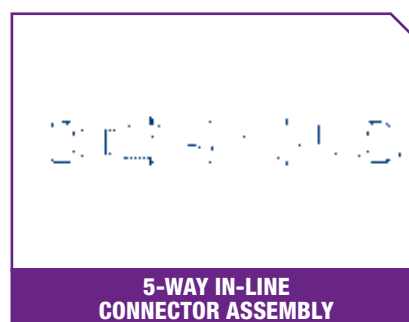
CODE	PART NO.	CONDUIT OUTLETS	PACK QTY
PD	YPS080808	08-08-08	10
	YPS120808	12-08-08	10
	YPS121212	12-12-12	10
	YPS161208	16-12-08	10
	YPS161212	16-12-12	10
	YPS161608	16-16-08	10
	YPS161612	16-12-12	10
	YPS201208	20-12-08	10
	YPS201212	20-12-12	10
	YPS201612	20-16-12	10
	YPS201616	20-16-16	10
	YPS202008	20-20-08	10
	YPS202012	20-20-12	10
	YPS202016	20-20-16	10
	YPS252016	25-20-16	10
	YPS252512	25-25-12	10
	YPS252516	25-25-16	10
	YPS252520	25-25-20	10
	YPS252525	25-25-20	10



HINGED “Y” PIECE



8-WAY BAYONET CONNECTOR

5-WAY IN-LINE
CONNECTOR ASSEMBLY

COMPLETE MULTI PIN BULKHEAD CONNECTOR - BAYONET

CODE	PART NO.	NO. OF CIRCUITS	NO. OF LARGE PINS	NO. OF SMALL PINS	PACK QTY
PF	CMPJB081	8	0	8	1
	CMPJB082	8	1	7	1

COMPLETE MULTI PIN IN-LINE AND BULKHEAD CONNECTORS

The five circuit connector is suitable for in-line applications only. The 16, 21 and 37 circuit connectors can be utilised for both in-line and bulkhead mount applications.

CODE	PART NO.	NO. OF CIRCUITS	NO. OF LARGE PINS	NO. OF SMALL PINS	PACK QTY
PF	CILCMF05	5	-	5	1
	CMPMF16	16	4	12	1
	CMPMF21	21	7	14	1
	CMPMF37	37	-	37	1



16, 21 & 37 WAY CONNECTORS

COMPLETE SOLENOID/SWITCH CONNECTORS

To provide a straight or 90° electrical connection between conduit and solenoid or switch connector with either M24 or M27 thread connection.

CODE	PART NO.	TYPE	SUIT CONDUIT	NO. OF PINS	PACK QTY
PF	CSCM24902	90 DEG	12	2	5
	CSCM272	STRAIGHT	8	2	5
	CSCM27902	90 DEG	12	2	5

*Includes solenoid-switch connector/connector housing/socket terminals/sealing ring and cap nut.

*Connectors with NC12 outlets as standard can be reduced to NC08 with reducing kit.



SOLENOID SWITCH CONNECTORS

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END CAPS AND END SLEEVES

Where conduit is not terminated with an adaptor or fitting, end caps are used to seal the end of a conduit run when using up to five separate wires. Suitable for NC10 and NC12 conduit, the end caps are supplied with either a 3 or 5 cable outlets, which are simply slit open when required. End sleeves are used to seal the end of the conduit when either single or multiple wires are used, with the addition of two nylon cable ties.

CODE	PART NO.	TYPE	SUIT CONDUIT	PACK QTY
PD	EK03-10	END CAP	10 & 12	10
	EK05-10	END CAP	12	10
	ESN12-10	END SLEEVE	12	10
	ESN16-10	END SLEEVE	16	10
	ESN20-10	END SLEEVE	20	10
	ESN25-10	END SLEEVE	25	10
	ESN32-10	END SLEEVE	32	10

NEW

CONDUIT CLIP – HINGED

CARROLL's new hinged conduit mounting clip is designed to save time and improve Harnessflex conduit serviceability. The low profile design is space saving and results in a more aesthetically pleasing finish.

PART NO.	CONDUIT SIZE		DIMENSIONS mm				FIXING HOLE	A/F COUNTER SIZE	PACK QTY
	NC	NW	A	B	C	D	E	F	
HCB08/HX	8	7.5	23	23	13	12	4	8	10
HCB12/HX	12	10	23	23	13	12	4	8	10
HCB16/HX	16	13	27	27	15	14	5	9	10
HCB20/HX	20	17	34	35	20	18	6	10	10
HCB28/HX	28	23	44	44	23	21	6	10	10
HCB32/HX	32	29	53	52	27	23	6	10	10
HCB40/HX	40	36	65	63	32	27	6	10	5
HCB50/HX	50	48	81	77	39	32	6	10	5

CONDUIT P CLIP

A one screw fixing P shaped clip for secure conduit mounting. Available in either heavy duty Nylon 6/6 or steel with PVC insert (steel/stainless steel PVC in the Bundling section of the catalogue).

CODE	PART NO.	SUIT CONDUIT	PACK QTY
PD	RP12	10	10
	RP13	12	10
	RP16	16	10
	RP22	20	10
	RP25	25	10



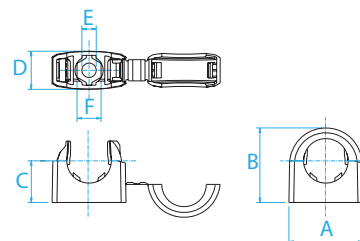
END CAPS



END SLEEVES



HARNESSFLEX CONDUIT CLIP



CONDUIT CLIP – HINGED



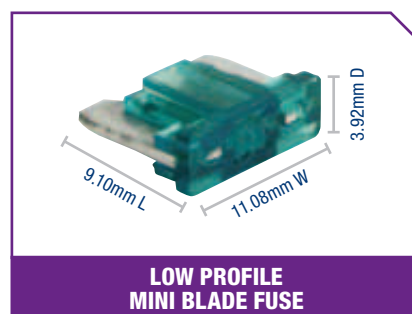
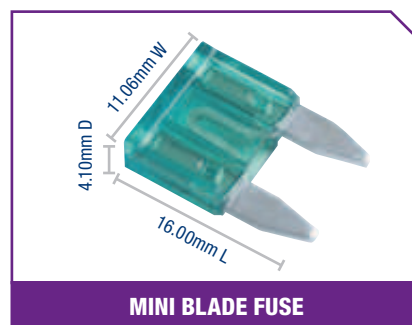
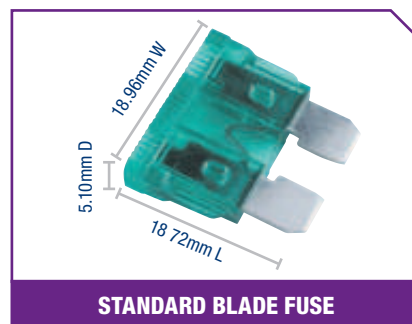
CONDUIT P CLIP

The International Protection (IP Rating) and published performance specifications of Harnessflex fittings is only guaranteed by Carroll Australasia when used in conjunction with Carroll supplied conduit.

FUSES AND FUSE HOLDERS

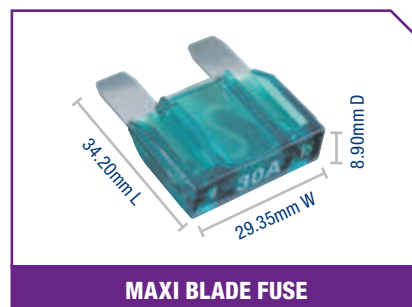
WEDGE OR BLADE FUSES – STANDARD, MINI, LOW PROFILE MINI AND MAXI

CODE	PART NO.	TYPE	COLOUR	AMP RATING	PACK QTY
PD	AF3	STANDARD	VIOLET	3	50
	AF5	STANDARD	TAN	5	50
	AF7.5	STANDARD	BROWN	7.5	50
	AF10	STANDARD	RED	10	50
	AF15	STANDARD	BLUE	15	50
	AF20	STANDARD	YELLOW	20	50
	AF25	STANDARD	CLEAR	25	50
	AF30	STANDARD	GREEN	30	50
	MAF3	MINI	VIOLET	3	50
	MAF5	MINI	TAN	5	50
	MAF7.5	MINI	BROWN	7.5	50
	MAF10	MINI	RED	10	50
	MAF15	MINI	BLUE	15	50
	MAF20	MINI	YELLOW	20	50
	MAF25	MINI	CLEAR	25	50
	MAF30	MINI	GREEN	30	50
	QLMAF5	LOW PROFILE MINI	TAN	5	50
	QLMAF7.5	LOW PROFILE MINI	BROWN	7.5	50
	QLMAF10	LOW PROFILE MINI	RED	10	50
	QLMAF15	LOW PROFILE MINI	BLUE	15	50
	QLMAF20	LOW PROFILE MINI	YELLOW	20	50
	QLMAF25	LOW PROFILE MINI	CLEAR	25	50
	QLMAF30	LOW PROFILE MINI	GREEN	30	50
	BFX20	MAXI	YELLOW	20	5
	BFX30	MAXI	LIGHT GREEN	30	5
	BFX40	MAXI	ORANGE	40	5
	BFX50	MAXI	RED	50	5
	BFX60	MAXI	LIGHT BLUE	60	5
	BFX80	MAXI	CLEAR	80	5
	BFX100	MAXI	VIOLET	100	5



EXTERNALLY SOLDERED FUSES – GLASS/CERAMIC

CODE	PART NO.	TYPE	COLOUR	AMP RATING	DIMENSIONS mm	PACK QTY
PC	2AG5	GLASS	-	5	20 x 5	50
	2AG10	GLASS	-	10	-	50
	2AG15	GLASS	-	15	-	50
	3AG1	GLASS	-	1	32 x 6.3	50
	3AG2	GLASS	-	2	-	50
	3AG3	GLASS	-	3	-	50
	3AG5	GLASS	-	5	-	50
	3AG7.5	GLASS	-	7.5	-	50
	3AG10	GLASS	-	10	32 x 6.3	50
	3AG15	GLASS	-	15	-	50
	3AG20	GLASS	-	20	-	50
	3AG25	GLASS	-	25	-	50
	3AG30	GLASS	-	30	-	50
	3AG35	GLASS	-	35	-	50
	6AC5	CERAMIC	YELLOW	5	25 x 6	50
	6AC8	CERAMIC	WHITE	8	-	50
	6AC16	CERAMIC	RED	16	-	50
	6AC25	CERAMIC	BLACK	25	-	50
	SFE14	GLASS	-	14	27 x 6.2	50



FUSELINKS

CODE	PART NO.	TYPE	COLOUR	AMP RATING	PACK QTY
PC	FLF20	FEMALE	WHITE	20	10
	FLF30	FEMALE	PINK	30	10
	FLF40	FEMALE	GREEN	40	10
	FLF50	FEMALE	RED	50	10
	FLF60	FEMALE	YELLOW	60	10
	FLF80	FEMALE	BLACK	80	10
	FLF100	FEMALE	BLUE	100	10
	FLM20	MALE	WHITE	20	10
	FLM30	MALE	PINK	30	10
	FLM40	MALE	GREEN	40	10
	FLM50	MALE	RED	50	10
	FLM60	MALE	YELLOW	60	10
	FLM80	MALE	BLACK	80	10
	FLM100	MALE	BLUE	100	10



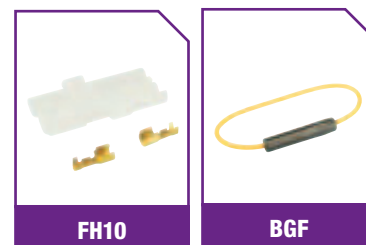
FUSELINK FEMALE



FUSELINK MALE

FUSE HOLDERS – GLASS

CODE	PART NO.	NO. OF CIRCUITS	FUSE TYPE	NOTES	PACK QTY
PC	FH10	1	3AG	IN LINE, WITH CRIMP CONTACTS	10
	BGF	1	3AG	IN LINE, BAKELITE WITH WIRE	10
	GFHLD	1	3AG	IN LINE, WITH WIRE	10
	WGFH	1	3AG	IN LINE, WATERPROOF	10
	PFH3AG	1	3AG	PANEL MOUNT, SOLDER TAGS	5



FH10

BGF

FUSE HOLDERS – CERAMIC

CODE	PART NO.	NO. OF CIRCUITS	FUSE TYPE	NOTES	PACK QTY
PC	CFH	1	6AC	IN LINE, CLIP LOCK	10

FUSE HOLDERS - BLADE OR WEDGE

CODE	PART NO.	NO. OF CIRCUITS	FUSE TYPE	SIZE	NOTES	PACK QTY
PC	BFMH	1	BLADE	MINI	IN LINE, WITH CAP & WIRE	10
	SBFH	1	BLADE	STANDARD	IN LINE APPLICATION	5
	QTBFH	1	BLADE	STANDARD	QUICKTAP IN LINE	25
	BFH	1	BLADE	STANDARD	IN LINE, WITH CAP & WIRE	10
	BFHW	1	BLADE	STANDARD	IN LINE, WATERPROOF WITH WIRE	10
	WSBFH	1	BLADE	STANDARD	WATERPROOF, WITH MOUNTING CAP	5
	BFK	4	BLADE	STANDARD	STACKABLE WITH MOUNTING HOLES	1
	BFHX812	1	BLADE	MAXI	IN LINE 60AMP, WITH WIRE	1
	BFHX412	1	BLADE	MAXI	IN LINE 100AMP, WITH WIRE	1



GFHLD

WGFH

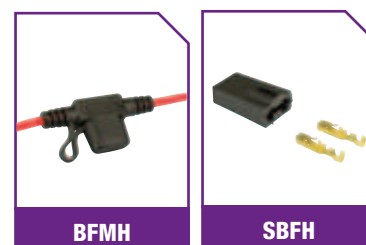


PFH3AG

CFH



Note: Components also sold separately for BFK, SBFH and WSBFH. Refer to next page.



BFMH

SBFH



QTBFH

BFH

BFHW

WSBFH

BFK

BFHX412

BFHX812

BFK COMPONENTS

CODE	PART NO.	DESCRIPTION	PACK QTY
C	12004943	HOUSING	50
	12020321L	TERMINAL	100
	12004568L	4 GANG TERMINAL	10

SBFH COMPONENTS

CODE	PART NO.	DESCRIPTION	PACK QTY
C	12010105	HOUSING	50
	12020321L	TERMINAL	100

WSBFH COMPONENTS

CODE	PART NO.	DESCRIPTION	PACK QTY
C	12033769	HOUSING	50
	12033731	COVER	50
	12033997L	TERMINAL	100

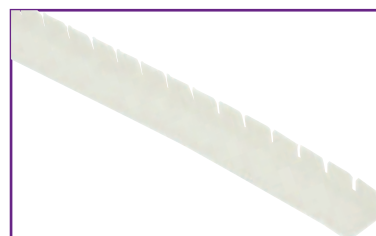
BLADE FUSE POWER TAKE OFF

CODE	PART NO.	FUSE TYPE	SIZE	NOTES	PACK QTY
T	ACTILR	BLADE	STANDARD	FIT TO FUSE INSERT FUSE IN FUSEHOLDER	100

**BLADE FUSE POWER TAKEOFF****MOVEABLE BUSHING**

Moveable bushing is manufactured from natural opaque polyethylene and is designed to bush or edge metal panels to provide protection to cables, hoses, rope etc, against sharp edges.

CODE	PART NO.	COLOUR	CHASSIS RANGE	LENGTH
BA	MB016	OPAQUE	1.0-1.6	10m
	MB024	OPAQUE	1.6-2.4	10m
	MB032	OPAQUE	2.4-3.2	10m

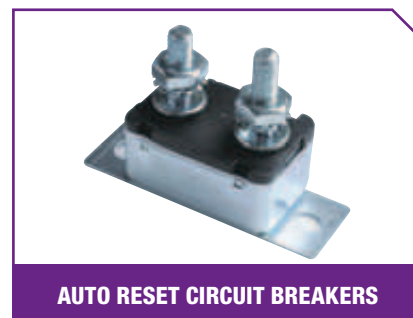
**MOVEABLE BUSHING**

AUTO AND MANUAL RESET CIRCUIT BREAKERS

AUTO RESET CIRCUIT BREAKERS

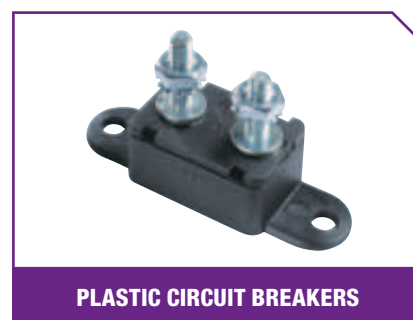
Heavy duty, universal, cycles or continuously resets until the overload situation is corrected. Metal housing supplied with integral metal mounting bracket. Designed for 6-24 volt DC.

CODE	PART NO.	AMPERES	PACK QTY
PC	CB10A	10	10
	CB15A	15	10
	CB20A	20	10
	CB25A	25	10
	CB30A	30	10
	CB40A	40	10
	CB50A	50	10



PLASTIC CIRCUIT BREAKERS

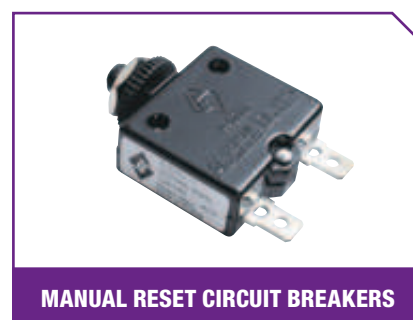
CODE	PART NO.	AMPERES	PACK QTY
PC	CBP20A	20	10
	CBP30A	30	10
	CBP40A	40	10
	CBP50A	50	10



MANUAL RESET CIRCUIT BREAKERS

Thermal Type Circuit Breaker. Dash or panel mount, supplied complete with metal, knurled top locking nut and hex back nut, black nameplate with 'Press to Reset' instructions. Mounting hole 10mm. Standard 6.3mm (1/4") quick connect tab terminals. Input power 50 volts DC/125 volts AC/250 volts AC.

CODE	PART NO.	AMPERES	PACK QTY
PC	MRCB10A	10	10
	MRCB15A	15	10
	MRCB20A	20	10
	MRCB25A	25	10
	MRCB30A	30	10
	MRCB40A	40	10



DIODES

CODE	PART NO.	PRODUCT	DESCRIPTION	PACK QTY
PC	1ADIODE	DIODE	1 AMP	100
	3ADIODE	DIODE	3 AMP	10
	6ADIODE	DIODE	6 AMP	10

