

Harnessflex®

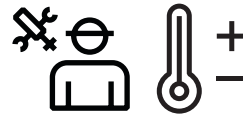
Conduit systems

Harnessflex® conduit systems are built for performance, designed to protect critical wiring in harnesses on HGVs, off-road vehicles and other heavy automotives.

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01 Light, Medium and Standard weight flexible conduit for a wide range of wiring harness applications and environments.

Harnessflex® has the largest range of flexible conduits, sealed fittings, hinged connector interfaces and Y&T pieces, anywhere in the global cable protection market. Constantly evolving through innovation driven by some of the most demanding automotive industry sectors, Harnessflex products are designed to be used together as a system for easy installation and complete wiring harness protection.

Featuring a unique vibration friendly profile (VFP) as standard, as well as UV and heat stabilisation as standard, Harnessflex® conduit systems provide 10-150% greater life expectancy in dynamic or vibrating applications, when compared with other products. This maximises the productivity of the system being protected, whilst minimising the risk of electrical failure.



From fit-and-forget CPC conduit systems offering unbeatable dynamic performance, to our X-Temp™ range that is designed and tested to withstand extreme temperatures, Harnessflex® can provide a solution for most applications and environments.

Features & benefits:

- High flexibility and fatigue life - continuous performance over a long product lifespan
- Protects critical cables with very high abrasion, impact and shock resistance
- Specialist ranges for use in extreme high and low temperatures
- Range includes products with IP40-IP69 rating, as well as self-extinguishing and low fire hazard capabilities and fittings offering reduction options
- VFP as standard, delivering minimal cable abrasion
- Designed to maximise tensile strength and reduce together with all Harnessflex® connector interface, Y&T and joining system installations
- 100% inspected and tested



Harnessflex® Standard

A comprehensive range of cable protection products for heavy automotive 12V and 24V systems.



Harnessflex® X-Temp™

Protection at temperatures between 200°C to -50°C with high vibration, dynamic conditions.



Harnessflex® EVO™

(Electric Vehicle Orange) specialist range for full EV (electric vehicle) industry compliance.



Product selection guide

Conduit systems



Product selection guide

Type	NC	CTPA	HTC	CPC	NCV	HNC	GPA
Conduit material	Polyamide 6	Polyamide 6	Modified Co-Polyester	Co-Polyester	FR Polyamide 6	Polyamide 12	Polyamide 6 / Polypropylene blend
Conduit weight	Standard	Light	Medium	Medium	Standard	Standard	Medium
Slit version available	•	•	•	–	–	–	–
Colour	● ●	● ●	●	● ●	●	●	●
Temperature range							
Long term static min.	-40°C	-40°C	-50°C	-50°C	-40°C	-60°C	-5°C
Long term static max.	+120°C	+120°C	+150°C	+135°C	+120°C	+105°C	+90°C
Short term (3000 hrs)	+150°C	+135°C	+175°C	+150°C	+150°C	+120°C	+105°C
Short term (200 hrs)	+175°C	+150°C	+190°C	+175°C	+170°C	+135°C	+105°C
Characteristics							
UV resistance	■■■■	■■■■	■■■■	■■■■	■■■■	■■■■	■■■■
Flexibility	■■■■	■■■■	■■■■	■■■■	■■■■	■■■■	■■■■
Fatigue life	■■■■	■■■■	■■■■	■■■■	■■■■	■■■■	■■■■
Ext. wear resistance	■■■■	■■■■	■■■■	■■■■	■■■■	■■■■	■■■■
Fire performance							
Self extinguishing	•	•	•	•	•	•	•
Halogen free	•	•	•	•	•	•	•
Low smoke toxicity	•	•	•	•	•	•	–
UL94 V0	–	–	–	–	•	–	–
UL94 V2	–	–	–	•	–	–	–
UL94 HB	•	•	•	–	–	•	•
R118	•	–	–	–	–	–	–
Approvals							
CE	•	•	•	•	•	•	•
RoHS Compliant	•	•	•	•	•	•	•
ADR Approved	•	–	–	–	–	–	–
(ELV) EU200/53/EC	•	•	•	•	•	•	•
Chemical resistance*							
IRM 903 (ASTM Oil No.2)	S	S	S	S	S	S	S
Diesel Oil	S	S	S	S	S	S	S
Ethylene Glycol (Anti-freeze)	S	S	S	S	S	S	S
Lubricating Oil	S	S	S	S	S	S	S
Methyl Alcohol	L	L	S	S	L	S	S
Parafin Oil	S	S	S	S	S	S	S
Petrol	S	S	S	S	S	S	S
Sodium Chloride	S	S	S	S	S	S	S
Sodium Hydroxide (10%)	S	S	S	S	S	S	S
Transformer Oil	S	S	S	S	S	S	S
Urea	S	S	S	NT	S	S	S
Vegetable Oil	S	S	S	S	S	S	S
Sea (Water)	S	S	S	S	S	S	S

Key: S = Suitable / L = Limited Suitability / U = Unsustainable / NT = Not Tested / Maximum Performance = ■■■■

*All chemicals tested for resistance at 23°C.

NC Standard weight, polyamide 6

General purpose conduit



Solid



Slit

Description


Flexible standard weight nylon (PA6) conduit is a general-purpose conduit suitable for automotive harness applications. Able to withstand extremes of temperatures and resistant to automotive oils and solvents. It is extremely tough and has a very high impact strength and high fatigue life.

Applications

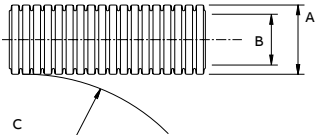
NC standard weight conduit is extensively used in harnesses on HGV and off road vehicle applications where a superior protection against impact and mechanical shock is preferred. The conduit is used for both chassis and engine applications and can be used in a wide range of temperatures. Polyamide 6 is highly resistant to all hydrocarbon based oils and fluids and many types of solvents.

NC Standard weight

Materials: Polyamide 6

Approvals	IP Rating	Appropriate fitting	Temperature range	UV resistance
ADR Approved (Sealed fittings)	IP40	Hinged fittings	Long term: -40°C to +120°C	Very high (Black)
CE Mark to the Low Voltage Directive	NC Slit (IP40 only)		Short term: +150°C	
RoHS Compliant to 2011/65/EU	IP67	Sealed fittings	Fire performance	
Conforms with End of Life Vehicle directive (ELV) EU200/53/EC	IP68 (2 bar 30 mins)	Sealed fittings	Self extinguishing	
	Degree of mechanical protection		Low smoke toxicity	
	High flexibility & fatigue life		Halogen free	
	Very high abrasion, impact and shock resistance		UL94 HB rated	
	Suited to high risk impact applications		UNECE R118 Annex 7 and 8	

Dimensions

	Solid Part No.	Slit Part No.	Conduit size			Nominal O/D A (mm)	Min. bore B (mm)	Min. static bend radius C (mm)	Reel length (m)
			NC	NW	US				
	NC06	NC06-S	06	4.5	3/16	7.1	4.5	5.0	100
	NC08	NC08-S	08	7.5	1/4	10.0	6.5	15.0	100
	NC10	NC10-S	10	8.5	5/16	11.5	8.4	15.0	100
	NC12	NC12-S	12	10	5/16	13.0	9.9	20.0	100
	NC16	NC16-S	16	13	3/8	16.0	11.8	30.0	100
	NC20	NC20-S	20	17	1/2	21.2	16.6	35.0	50
	NC25	NC25-S	25	22	3/4	25.6	21.3	40.0	50
	NC28	NC28-S	28	23	3/4	28.5	22.6	45.0	50
	NC30	NC30-S	30	26	1	31.6	26.0	50.0	50
	NC32	NC32-S	32	29	1	34.5	28.8	55.0	50
	NC40	NC40-S	40	36	1 1/4	42.5	34.8	65.0	25
	NC50	NC50-S	50	48	1 1/2	54.5	46.9	70.0	25

Colours available: Black ● RAL 9005 / Orange ● RAL 2003 / *Other colour options available, subject strictly to MOQ.

To order quote part number & reel length, e.g. NC06/100m. For slit conduit options add -S to part number, e.g. NC06-S/100m.

For colours other than standard Black also add colour, i.e. /OR for Orange conduit, e.g. NC06/OR/100m.

Bulk coil lengths over 200m are also available.

CTPA Lightweight, polyamide 6

Extra flexible conduit



Solid



Slit

Description

Extra flexible lightweight nylon (PA6) conduit is a general-purpose conduit suitable for electrical loom applications. Able to withstand extremes of temperatures and resistant to automotive oils and solvents. It is extremely tough and has a medium impact strength and high fatigue life.

Applications

CTPA lightweight conduit is extensively used in general purpose, lightweight electrical loom applications. Polyamide 6 is highly resistant to all hydrocarbon based oils and fluids and many types of solvents.

CTPA Lightweight

Approvals
CE Mark to the Low Voltage Directive
RoHS Compliant to 2011/65/EU
Conforms with End of Life Vehicle directive (ELV) EU200/53/EC

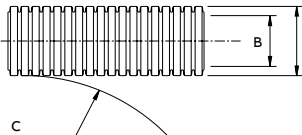


IP Rating	Appropriate fitting
IP40	Hinged fitting
IP67	Sealed fittings
Degree of mechanical protection	
High flexibility & fatigue life	
Medium impact resistance - suited to lower impact risk applications	

Materials: Polyamide 6

Temperature range	UV resistance
Long term: -40°C to +120°C	Very high (Black)
Short term: +150°C	
Fire performance	
Self extinguishing	
Low smoke toxicity	
Halogen free	
UL94 HB rated	

Dimensions

	Solid Part No.	Slit Part No.	Conduit size			Nominal O/D A (mm)	Min. bore B (mm)	Min. static bend radius C (mm)	Reel length (m)
			NC	NW	US				
	CTPA08	CTPA08-S	08	7.5	1/4	10.0	6.5	10.0	100
	CTPA10	CTPA10-S	10	8.5	5/16	11.5	8.7	15.0	100
	CTPA12	CTPA12-S	12	10	5/16	13.0	10.1	20.0	100
	CTPA16	CTPA16-S	16	13	3/8	16.0	11.8	35.0	100
	CTPA20	CTPA20-S	20	17	1/2	21.2	16.9	45.0	50
	CTPA25	CTPA25-S	25	22	3/4	25.6	21.3	45.0	50
	CTPA28	CTPA28-S	28	23	3/4	28.5	23.1	45.0	50
	CTPA32	CTPA32-S	32	29	1	34.5	28.8	55.0	50
	CTPA40	CTPA40-S	40	36	1 1/4	42.5	35.0	65.0	25
	CTPA50	CTPA50-S	50	48	1 1/2	54.5	46.0	90.0	25

Colours available: Black ● RAL 9005 / Orange ● RAL 2003 / *Other colour options available, subject strictly to MOQ.

To order quote part number & reel length, e.g. CTPA08/100m. For slit conduit options add -S to part number, e.g. CTPA08-S/100m.

For colours other than standard Black also add colour, i.e. /OR for Orange conduit, e.g. CTPA08/OR/100m.

Bulk coil lengths over 200m are also available.

HTC High temperature, modified co-polyester

High temperature conduit



Solid



Slit

Description

Flexible high temperature, modified co-polyester conduit is a high temperature conduit suitable for automotive harness applications. Able to withstand extremes of temperatures and resistant to automotive oils and solvents. It is extremely tough and has a very high impact strength and fatigue life.



Applications

HTC high temperature, modified co-polyester conduit has been developed for use where elevated temperatures occur. Suitable for long term exposure, up to 190°C. HTC is resistant to hydrocarbons, greases, fuels and oils.

HTC Medium weight

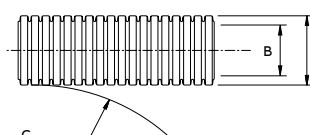
Materials: Modified Co-Polyester

Approvals	IP Rating	Appropriate fitting	Temperature range	UV resistance	
CE Mark to the Low Voltage Directive	IP40	TempGuard & standard hinged fittings	Long term: -50°C to +175°C	Very high	
RoHS Compliant to 2011/65/EU	IP67	Sealed fittings	Short term: +190°C		
Conforms with End of Life Vehicle directive (ELV) EU200/53/EC	Degree of mechanical protection		Fire performance		
	Very high flexibility & fatigue life		Self extinguishing		
	Very high elevated temperature, abrasion, impact and shock resistance		Halogen free		





Dimensions

	Solid Part No.	Conduit size			Nominal O/D A (mm)	Min. bore B (mm)	Min. static bend radius C (mm)	Reel length (m)
		NC	NW	US				
	HTC06	06	4.5	3/16	7.1	4.5	5.0	100
	HTC08	08	7.5	1/4	9.8	6.2	20.0	50
	HTC10	10	8.5	5/16	11.5	8.7	15.0	50
	HTC12	12	10	5/16	13.0	9.4	25.0	50
	HTC16	16	13	3/8	16.0	11.0	30.0	50
	HTC20	20	17	1/2	21.2	16.1	40.0	50
	HTC25*	25	22	3/4	25.3	21.0	45.0	50
	HTC28*	28	23	3/4	28.5	22.5	45.0	50
	HTC32*	32	29	1	34.5	27.2	55.0	50
	HTC40*	40	36	1 1/4	42.5	34.8	65.0	25
	HTC50*	50	48	1 1/2	54.5	46.9	70.0	25

Colours available: Brown ● RAL 8016 / To order quote part number & reel length, e.g. HTC08/50m.
For slit conduit options add -S to part number, e.g. NC08-S/50m.

CPC Medium weight, co-polyester

Dynamic conduit



Solid

Description

Dynamic and extra flexible medium weight, co-polyester conduit suitable for automotive harness applications. Able to withstand extremes of temperatures and resistant to automotive oils and solvents. It is extremely tough and has a very high impact strength and fatigue life.

Applications

A low smoke, low toxicity conduit, CPC has excellent high and low temperature properties, making it ideal for harness applications such as engine, body section and chassis. CPC is resistant to hydrocarbons, greases, fuels and oils.

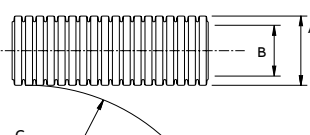
CPC Medium weight

Materials: FR Co-Polyester

Approvals	IP Rating	Appropriate fitting	Temperature range	UV resistance
CE Mark to the Low Voltage Directive	IP40	Hinged fitting	Long term: -50°C to +135°C	Very high
RoHS Compliant to 2011/65/EU	IP67	Sealed fittings	Short term: +175°C	
Conforms with End of Life Vehicle directive (ELV) EU200/53/EC	Degree of mechanical protection		Fire performance	
	Very high flexibility & fatigue life		Self extinguishing	
	Very high abrasion, impact and shock resistance at low temperatures		Low smoke toxicity	
			Halogen free	
			UL94 V2 rated	



Dimensions

	Solid Part No.	Conduit size			Nominal O/D A (mm)	Min. bore B (mm)	Min. static bend radius C (mm)	Reel length (m)
		NC	NW	US				
	CPC08	08	7.5	¼	9.8	6.2	20.0	100
	CPC12	12	10	5/16	13.0	9.4	25.0	100
	CPC16	16	13	¾	16.0	11.0	30.0	50
	CPC20	20	17	½	21.2	16.1	40.0	50
	CPC25	25	22	¾	25.3	21.0	45.0	50
	CPC28	28	23	¾	28.5	22.5	45.0	50
	CPC32	32	29	1	34.5	27.2	55.0	50
	CPC40	40	36	1 ¼	42.5	34.2	60.0	25
	CPC50	50	48	1 ½	54.5	46.9	70.0	25

Colours available: Black ● RAL 9005 / Orange ● RAL 2017 / To order quote part number & reel length, e.g. CPC08/100m.
For colours other than standard Black also add colour, i.e. /OR for Orange conduit, e.g. CPC08/OR/100m.

NCV Standard weight, FR polyamide 6

Flame retardant conduit



Solid

Description

Flexible standard weight, FR nylon (PA6) conduit is a flame retardant conduit suitable for automotive harness applications. Able to withstand average temperatures and resistant to automotive oils and solvents. It is extremely tough and has a very high impact strength and high fatigue life.

Applications

NCV is used in applications requiring repeated flexing coupled with flame retardant resistance.

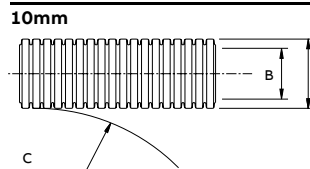
NCV Standard weight

Materials: FR Polyamide 6

Approvals	IP Rating	Appropriate fitting	Temperature range	UV resistance
CE Mark to the Low Voltage Directive	IP40	Hinged fitting	Long term: -40°C to +120°C	Very high
RoHS Compliant to 2011/65/EU	IP67	Sealed fittings	Short term: +150°C	
Conforms with End of Life Vehicle directive (ELV) EU200/53/EC	IP68 (2 bar 30 mins)	Sealed fittings		
	Degree of mechanical protection		Fire performance	
	High flexibility & fatigue life		Self extinguishing	
	Very high abrasion, impact and shock resistance		Low smoke toxicity	
			Halogen free	
			UL94 V0 Rated	



Dimensions

	Solid Part No.	Conduit size			Nominal O/D A (mm)	Min. bore B (mm)	Min. static bend radius C (mm)	Reel length (m)
		NC	NW	US				
	NCV06	06	4.5	3/16	7.2	4.5	10	100
	NCV08	08	7.5	1/4	9.8	6.2	20	100
	NCV10	10	8.5	5/16	11.5	8.0	23	100
	NCV12	12	10	5/16	13.0	9.6	26	100
	NCV16	16	13	3/8	16.0	11.7	32	100
	NCV20	20	17	1/2	21.2	16.3	42	50
	NCV25	25	22	3/4	25.3	21.3	52	50
	NCV28	28	23	3/4	28.5	22.5	57	50
	NCV32	32	29	1	34.5	28.6	79	50

Colours available: Black ● RAL 9005. To order quote part number & reel length, e.g. NCV06-S/100m.

HNC Standard weight, polyamide 12

Low temperature, extra flexible conduit



Solid

Description

Extra flexible standard weight nylon (PA12) conduit is suitable for low temperature automotive harness applications. It is extremely tough and has a very high impact strength and fatigue life.

Applications

HNC is particularly used in applications requiring repeated flexing such as dynamic couplings, i.e. hydraulic arms and trailer couplings or rapid continuous motion, demanding high fatigue life and extra flexibility even in low temperature environments. Highly resistant to low temperature impact. HNC Standard weight conduit is designed for connection to all Harnessflex hinged and sealed fittings. Contact us for slit conduit options.

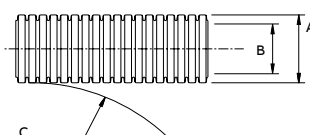
HNC Standard Weight

Materials: Polyamide 12

Approvals	IP Rating	Appropriate fitting	Temperature range	UV resistance
CE Mark to the Low Voltage Directive	IP40	Hinged fitting	Long term: -60°C to +105°C	Very high
RoHS Compliant to 2011/65/EU	IP67	Sealed fittings	Short term: +120°C	
Conforms with End of Life Vehicle directive (ELV) EU200/53/EC	IP68 (2 bar 30 mins)	Sealed fittings	Fire performance	
	Degree of mechanical protection		Self extinguishing	
	Very high flexibility & fatigue life		Low smoke toxicity	
	Very high abrasion, impact and shock resistance at low temperatures		Halogen free	
			UL94 HB rated	



Dimensions

	Solid Part No.	Conduit size			Nominal O/D A (mm)	Min. bore B (mm)	Min. static bend radius C (mm)	Reel length (m)
		NC	NW	US				
	HNC08	08	7.5	¼	10.0	6.2	15.0	100
	HNC12	12	10	5/16	13.0	9.9	25.0	100
	HNC16	16	13	¾	15.8	11.7	30.0	100
	HNC20	20	17	½	21.2	16.6	35.0	50
	HNC25	25	22	¾	25.3	21.0	40.0	50
	HNC28	28	23	¾	28.5	21.7	45.0	50
	HNC32	32	29	1	34.5	27.7	55.0	50
	HNC40	40	36	1 ¼	42.5	35.5	60.0	25
	HNC50	50	48	1 ½	54.5	46.6	70.0	25

Colours available: Black ● RAL 9005. To order quote part number & reel length, e.g. HNC08/100m.

GPA Medium weight, polyamide 6 / polypropylene blend

General purpose automotive conduit



Solid



Slit

Description

Flexible medium weight, polyamide 6 / polypropylene material blend conduit, suitable for automotive harness applications. Ideal for vehicle cable routing and protection and general purpose applications. Able to withstand average temperatures and resistant to hydrocarbons, greases, fuels and oils. It is extremely tough and has a high chemical resistance and medium fatigue life.

Applications

GPA is particularly used in lighter applications where compression strength and LFH is not so important. The main property of this conduit is chemical resistance. GPA is designed for connection to all Harnessflex Sealed and Hinged system fittings.

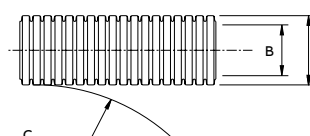
PP Medium weight

Materials: Polypropylene

Approvals	IP Rating	Appropriate fitting	Temperature range	UV resistance
CE Mark to the Low Voltage Directive	IP40	Hinged fitting	Long term: -5°C to +90°C	High
RoHS Compliant to 2011/65/EU	Degree of mechanical protection		Short term: +105°C	
Conforms with End of Life Vehicle directive (ELV) EU200/53/EC	Medium flexibility and fatigue life		Fire performance	
	Medium abrasion, impact and shock resistance		Self extinguishing	
			Halogen free	
			UL94 HB rated	



Dimensions

	Solid Part No.	Conduit size			Nominal O/D A (mm)	Min. bore B (mm)	Min. static bend radius C (mm)	Reel length (m)
		NC	NW	US				
	GPA08	08	7.5	¼	10.0	6.6	20.0	100
	GPA10	10	8.5	5/16	11.6	8.2	25.0	100
	GPA12	12	10	5/16	13.1	10.0	25.0	100
	GPA16	16	13	¾	16.0	11.7	35.0	100
	GPA20	20	17	½	21.2	16.6	45.0	50
	GPA25	25	22	¾	25.6	20.6	55.0	50
	GPA28	28	23	¾	28.4	22.8	60.0	50
	GPA30	30	28	1	31.6	25.8	65.0	50
	GPA32	32	29	1	34.5	28.6	80.0	50
	GPA40	40	36	1 ¼	42.4	35.0	100.0	25
	GPA50	50	48	1 ½	54.3	45.6	120.0	25

Colours available: Black ● RAL 9005. To order quote part number & reel length, e.g. GPA08/100m.

Bulk coil lengths over 200m are also available.

For slit conduit options add -S to part number, e.g. GPA08-S/100m.