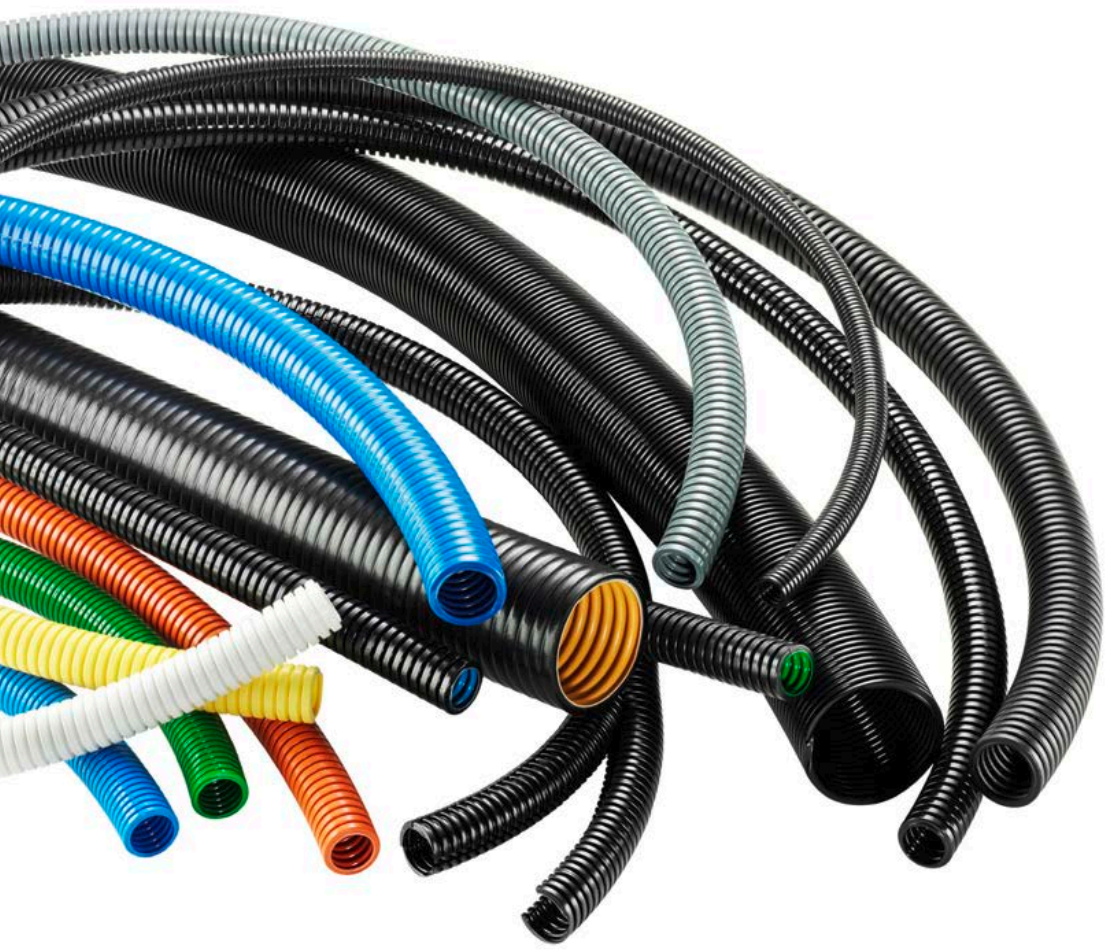
PMA® conduits
Overview

Conduits to protect cables. We offer many different conduit types for diverse applications with various technical requirements.

The product groups:
- PMAFLEX Pro
- PMAFLEX
- PMAFLEX PLus
- PMAFLEX Multilayer
- PMA Divisible System
- PMA Smart Line
- PMA overbraided
- PMA overextruded

Conduit sizes range from 6mm to 125mm Ø, from lightweight to heavyweight, and from pliable to highly flexible. PMA also offers slit and divisible conduits. Standard colours are black and grey.

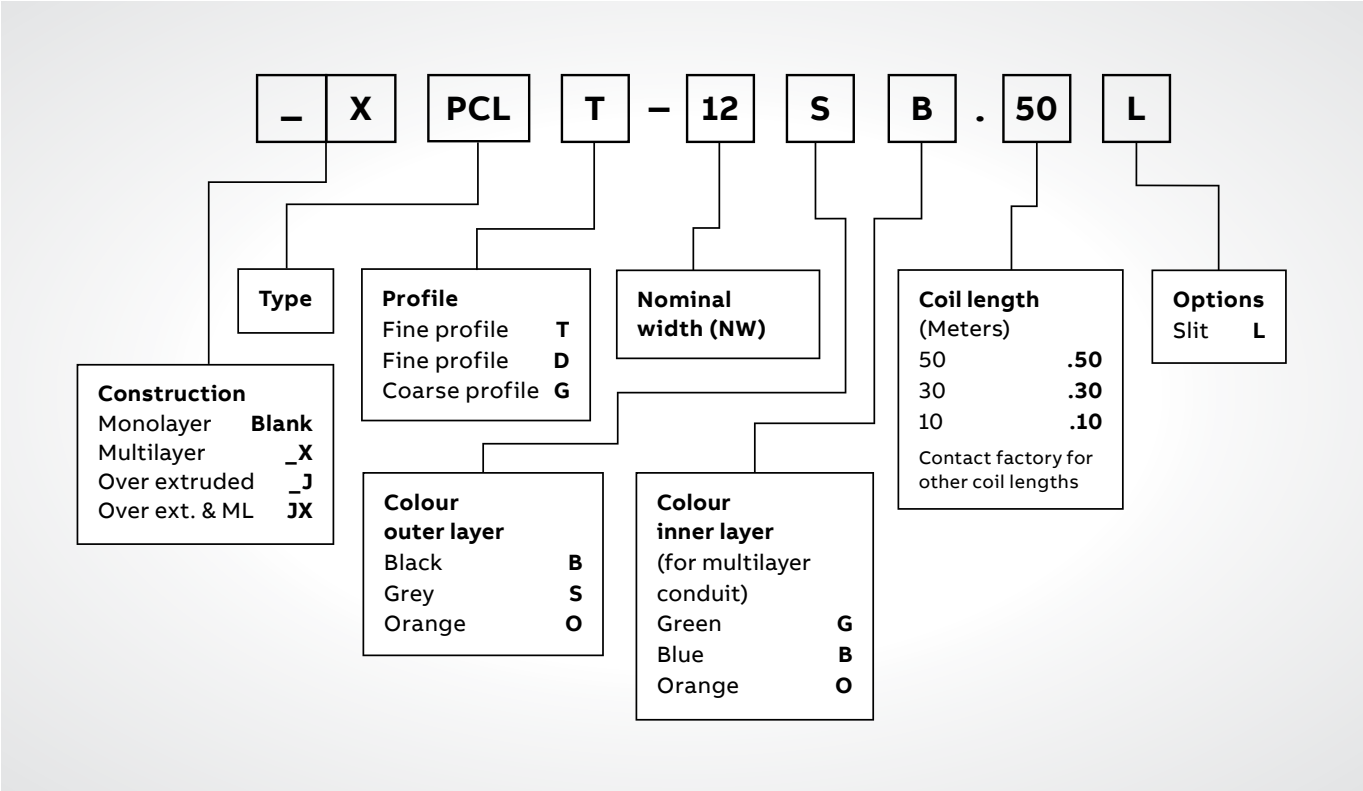
Many conduits are specially approved, e.g. CSA, UL Recognition, DNV, Lloyds, Bureau Veritas etc. All conduits are REACH and RoHS compliant.



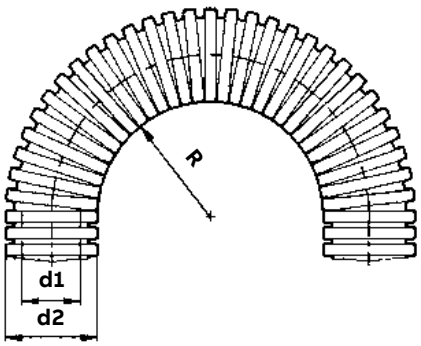
PMA conduits

Part number codes

For part number explanation only, not to be used as a configuration tool.



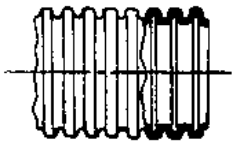
Radius



Stat. radius = Lowest recommended bending radius for static (fixed) installation.

Dyn. radius = Lowest recommended bending radius for dynamic (flexible) installation.

Profile



Fine profile T
Tight bending radius.

Coarse profile G
High pull-out strength.

PMA conduit for Rail/Infrastructure

Type XPCS conduit

Type XPCS / PMAFLEX Multilayer - Very flexible, medium-duty

	Order no. (black/green)	Conduit size NW	Inside Ø (mm)	Outside Ø (mm)	Stat./Dyn. radius (mm)	PU (m)
XPCS 	XPCST-07BG.100	7	6.9	10.0	15/40	100
	XPCST-10BG.50	10	9.8	12.8	20/50	50
	XPCST-12BG.50	12	12.1	15.6	25/65	50
	XPCST-17BG.50	17	16.5	21.1	35/85	50
	XPCSG-17BG.50	17	15.8	21.1	35/85	50
	XPCSG-23BG.50	23	21.9	28.4	45/110	50
	XPCSG-29BG.50	29	27.7	34.5	55/135	50
	XPCSG-36BG.30	36	36.6	42.4	65/170	30
	XPCSG-48BG.30	48	47.5	54.5	85/220	30

Static and dynamic external applications on railway vehicles. On the roof: PA12 outer layer has excellent UV resistance characteristics
On inter-carriage connections: Excellent resistance to fatigue when exposed to continuous bending
On bogies and undercarriage: Excellent resistance to impact at low temperatures
Excellent mechanical characteristics, also under extreme climatic conditions (low temperature and low humidity)
Very Good flexibility. Self-extinguishing. High fire safety specification

XPCSL Index

min.	max.
Ductility	
Fatigue reversed bending	
Compression resistance	
Low temperature performance	
Weathering resistance	

Materials	Temperature range	Colour
High-grade, specially formulated PA12/PA6	-50°C to +95°C	Black/Green
	Short-term to: +150°C	
Certification	**Fire performance**	**UV Resistance**
Free from halogens, REACH compliant	Self-extinguishing	Very high (black)
and RoHS compliant		

PMA conduit for Rail/Infrastructure

Type XPCS/OG & XPCSL conduit

Type XPCS/OG / PMAFLEX Multilayer - Very flexible, heavy-duty

XPCS/OG

Order no. (orange/green)	Conduit size NW	Inside Ø (mm)	Outside Ø (mm)	Stat./Dyn. radius (mm)	PU (m)
XPCST-07OG.100	7	6.9	10.0	15/40	100
XPCST-10OG.50	10	9.8	12.8	20/50	50
XPCST-12OG.50	12	12.1	15.6	25/65	50
XPCST-17OG.50	17	16.5	21.1	35/85	50
XPCSG-17OG.50	17	15.8	21.1	35/85	50
XPCSG-23OG.50	23	21.9	28.4	45/110	50
XPCSG-29OG.50	29	27.7	34.5	55/135	50
XPCSG-36OG.30	36	36.6	42.4	65/170	30
XPCSG-48OG.30	48	47.5	54.5	85/220	30

Static and dynamic external applications
Excellent mechanical characteristics, also under extreme climatic conditions (low temperature and low humidity)
Very Good flexibility / Self-extinguishing
High fire safety specification

XPCS/OG Index

min.	max.
Ductility	
Fatigue reversed bending	
Compression resistance	
Low temperature performance	
Weathering resistance	

Materials	Temperature range	Colour
High-grade, specially formulated PA12/PA6	-50°C to +95°C	Orange/Green
	Short-term to: +150°C	
Certification	**Fire performance**	**UV Resistance**
Free from halogens, REACH compliant	Self-extinguishing	High (orange)
and RoHS compliant		

Type XPCSL / PMAFLEX Multilayer - Very flexible, medium-duty

XPCSL

Order no. (black/green)	Conduit size NW	Inside Ø (mm)	Outside Ø (mm)	Stat./Dyn. radius (mm)	PU (m)
XPCSLT-07BG.100	7	7.0	10.0	15/35	100
XPCSLT-10BG.50	10	9.9	12.8	20/45	50
XPCSLT-12BG.50	12	12.3	15.6	25/55	50
XPCSLT-17BG.50	17	16.7	21.1	30/75	50
XPCSLT-29BG.50	29	28.8	34.5	50/120	50
XPCSLG-17BG.50	17	15.8	21.1	35/75	50
XPCSLG-23BG.50	23	22.1	28.4	45/100	50
XPCSLG-29BG.50	29	27.9	34.5	55/120	50
XPCSLG-36BG.30	36	36.8	42.4	65/150	30
XPCSLG-48BG.30	48	47.7	54.5	85/190	30

Static and dynamic external applications on railway vehicles
On the roof: PA12 outer layer has excellent UV resistance characteristics
On inter-carriage connections: Excellent resistance to fatigue when exposed to continuous bending
On bogies and undercarriage: Excellent resistance to impact at low temperatures
Excellent mechanical characteristics, also under extreme climatic conditions (low temperature and low humidity)
Very Good flexibility
Self-extinguishing
High fire safety specification

XPCSL Index

min.	max.
Ductility	
Fatigue reversed bending	
Compression resistance	
Low temperature performance	
Weathering resistance	

Materials	Temperature range	Colour
High-grade, specially formulated PA12/PA6	-50°C to +95°C	Black/Green
	Short-term to: +150°C	
Certification	**Fire performance**	**UV Resistance**
Free from halogens, REACH compliant	Self-extinguishing	Very high (black)
and RoHS compliant		

PMA conduit for Rail/Infrastructure

Type XPCSF conduit

Type XPCSF / PMAFLEX Multilayer - Very flexible, heavy-duty

XPCSF

Order no. (black/orange)	Conduit size NW	Inside Ø (mm)	Outside Ø (mm)	Stat./Dyn. radius (mm)	PU (m)
XPCSFT-07BO.100	07	6.5	10.0	15/40	100
XPCSFT-10BO.50	10	9.6	12.8	20/50	50
XPCSFT-12BO.50	12	11.8	15.6	25/65	50
XPCSFG-17BO.50	17	15.5	21.1	35/85	50
XPCSFG-23BO.50	23	21.5	28.4	45/110	50
XPCSFG-29BO.50	29	27.4	34.5	55/135	50
XPCSFG-36BO.30	36	36.0	42.4	65/170	30
XPCSFG-48BO.30	48	47.1	54.5	85/220	30

For dynamic outside applications in railway vehicles
For outdoor applications with highest requirements to UV and weathering resistance
Extensive railway approvals
Excellent flexibility
Very good mechanical characteristics even under extreme conditions, such as low temperatures and low humidity
HL3 acc. to EN 45545-2

XPCSF Index

min.	max.
Ductility	
Fatigue reversed bending	
Compression resistance	
Low temperature performance	
Weathering resistance	

Materials	Temperature range	Colour
Outer layer: Specially formulated polyamide 12	-40°C to +95°C	Black/Orange
Inner layer: Specially formulated polyamide 12	Short-term to: +150°C	
Certification	**Fire performance**	**UV Resistance**
Free from halogens, REACH compliant	Self-extinguishing	Very high (black)
and RoHS compliant		

PMA conduit for Rail/Infrastructure

Type XVCSF conduit

Type XVCSF / PMAFLEX Multilayer - Flexible, heavy-duty

	Order no. (black/blue)	Conduit size NW	Inside Ø (mm)	Outside Ø (mm)	Stat. radius (mm)	PU (m)
XVCSF 	XVCSFT-07BB.50	7	6.7	10.0	15	50
	XVCSFT-10BB.50	10	9.6	12.8	20	50
	XVCSFT-12BB.50	12	11.9	15.6	25	50
	XVCSFG-17BB.50	17	15.6	21.1	40	50
	XVCSFG-23BB.50	23	21.5	28.4	50	50
	XVCSFG-29BB.50	29	27.7	34.5	60	50
	XVCSFG-36BB.30	36	35.9	42.4	75	30
	XVCSFG-48BB.30	48	46.8	54.5	90	30

Multilayer conduit for external rail applications
Rail static external applications such as under carriage, bogie, etc.
High compression and impact strengths at low temperature and low humidity
Good flexibility and very good UV resistance and weathering characteristics
Compatible with PMAFIX Pro, PMAFIX, PMA Smart Line and accessories
EN 45545-2 HL2 (R22 & R23)

XVCSF Index

min.	max.
Ductility	
Fatigue reversed bending	
Compression resistance	
Low temperature performance	
Weathering resistance	

Materials	Temperature range	Colour
Outer layer: Specially formulated polyamide 6	-50°C to +105°C	Black/Blue
Inner layer: Specially modified polyamide 6	Short-term to: +160°C	
Certification	**Fire performance**	**UV Resistance**
Free from halogens and cadmium	Self-extinguishing	Very high (black)
RoHS and REACH compliant		

PMA conduit for Rail/Infrastructure

Type VAM & VAML conduit

Type VAM / PMAFLEX - Flexible, heavy-duty

VAM

	Order no. (black)	Order no. (grey)	Conduit size NW	Inside Ø (mm)	Outside Ø (mm)	Stat. radius (mm)	PU (m)
	VAMT-10B.50	VAMT-10S.50	10	9.6	12.8	25	50
	VAMT-12B.50	VAMT-12S.50	12	12.0	15.6	30	50
	VAMG-17B.50	VAMG-17S.50	17	15.5	21.1	45	50
	VAMG-23B.50	VAMG-23S.50	23	21.6	28.4	60	50
	VAMG-29B.50	VAMG-29S.50	29	27.6	34.5	70	50
	VAMG-36B.30	VAMG-36S.30	36	35.8	42.4	85	30
	VAMG-48B.30	VAMG-48S.30	48	46.6	54.5	110	30

For high fire and passenger safety requirements in interior applications such as passenger areas or public buildings
HL3 acc. to EN 45545-2
NFPA 130 compliant
High impact and compression strength
High stiffness

VAM Index

min.	max.
Ductility	
Fatigue reversed bending	
Compression resistance	
Low temperature performance	
Weathering resistance	

Materials	Temperature range	Colour
Specially formulated polyamide 6	-40°C to +105°C	Black/Grey
Certification	Short-term to: +160°C	
Free from halogens, REACH compliant	**Fire performance**	**UV Resistance**
and RoHS compliant	Minimal development of smoke and gases	High (black)

Type VAML / PMAFLEX - Flexible, medium-duty

VAML

	Order no. (black)	Order no. (grey)	Conduit size NW	Inside Ø (mm)	Outside Ø (mm)	Stat. radius (mm)	PU (m)
	VAMLT-10B.50	VAMLT-10S.50	10	9.7	12.8	20	50
	VAMLT-12B.50	VAMLT-12S.50	12	12.1	15.6	25	50
	VAMLG-17B.50	VAMLG-17S.50	17	15.8	21.1	40	50
	VAMLG-23B.50	VAMLG-23S.50	23	21.9	28.4	50	50
	VAMLG-29B.50	VAMLG-29S.50	29	27.9	34.5	60	50
	VAMLG-36B.30	VAMLG-36S.30	36	36.2	42.4	75	30
	VAMLG-48B.30	VAMLG-48S.30	48	47.0	54.5	90	30
	VAMLG-56B.30	VAMLG-56S.30	56	56.9	67.5	120	30
	VAMLG-70B.10	VAMLG-70S.10	70	68.0	79.6	140	10
	VAMLG-95B.10	VAMLG-95S.10	95	92.5	107.0	190	10
	VAMLG-125B.06	VAMLG-125S.06	125	126.9	146.0	260	6

For high fire and passenger safety requirements in interior applications such as passenger areas or public buildings
HL3 acc. to EN 45545-2
NFPA 130 compliant
Good flexibility. Good impact strength

VAML Index

min.	max.
Ductility	
Fatigue reversed bending	
Compression resistance	
Low temperature performance	
Weathering resistance	

Materials	Temperature range	Colour
Specially formulated polyamide 6	-40°C to +105°C	Black/Grey
Certification	Short-term to: +160°C	
Free from halogens, REACH compliant	**Fire performance**	**UV Resistance**
and RoHS compliant	Minimal development of smoke and gases	High (black)

PMA conduit for Rail/Infrastructure

Type PLR conduit

Type PLR / PMAFLEX - Flexible, medium-wall

PLR

Order no. (black)	Order no. (grey)	Conduit size NW	Inside Ø (mm)	Outside Ø (mm)	Stat. radius (mm)	PU (m)
PLRT-07B.50	PLRT-07S.50	07	6.8	10.0	15	50
PLRT-10B.50	PLRT-10S.50	10	9.8	12.8	20	50
PLRT-12B.50	PLRT-12S.50	12	12.2	15.6	25	50
PLRG-17B.50	PLRG-17S.50	17	15.9	21.1	40	50
PLRG-23B.50	PLRG-23S.50	23	22.0	28.4	50	50
PLRG-29B.50	PLRG-29S.50	29	28.0	34.5	60	50
PLRG-36B.30	PLRG-36S.30	36	36.3	42.4	75	30
PLRG-48B.30	PLRG-48S.30	48	47.2	54.5	90	30

In light rail rolling stock applications e.g. Tram, Metro, Monorail
HL2 acc. to EN 45545-2
Good pressure resistance
Very good fire safety characteristics

PLR Index

min.	max.
Ductility	
Fatigue reversed bending	
Compression resistance	
Low temperature performance	
Weathering resistance	

Materials	Temperature range	Colour
Specially modified polyamide 6	-40°C to +105°C	Black/Grey
Certification	Short-term to: +160°C	
Free from halogens, REACH compliant	**Fire performance**	**UV Resistance**
and RoHS compliant	Self-extinguishing / Very good	High (black)

PMA conduit for Rail/Infrastructure

Type XVCS1H & XVCS2H conduit

Type XVCS1H / PMAFLEX Multilayer - Flexible, heavy-duty

	Order no. (black/green)	Conduit size NW	Inside Ø (mm)	Outside Ø (mm)	Stat. radius (mm)	PU (m)
XVCS1H	XVCS1H-10BG.50	10	9.5	12.8	20	50
	XVCS1H-12BG.50	12	11.8	15.6	25	50
	XVCS1H-17BG.50	17	15.5	21.1	40	50
	XVCS1H-23BG.50	23	21.7	28.4	50	50
	XVCS1H-29BG.50	29	27.5	34.5	60	50
	XVCS1H-36BG.30	36	35.8	42.4	75	30
	XVCS1H-48BG.30	48	47.1	54.5	90	30

For track side applications and other exterior static applications
Easy layouting through: High conduit ductility and formability / Low friction inner layer facilitates cable insertion
Excellent impact characteristics at low temperatures

XVCS1H Index

min.	max.
Ductility	
Fatigue reversed bending	
Compression resistance	
Low temperature performance	
Weathering resistance	

Materials	Temperature range	Colour
Outer layer: Specially formulated polyamide 6	-50°C to +90°C	Black/Green
Intermediate layer: Specially bonding compound	Short-term to: +120°C	
Inner layer: Specially modified polyolefin		
Certification	**Atmospheric corrosion resistance**	**UV Resistance**
Free from halogens, REACH compliant	Very good	Very high (black)
and RoHS compliant		

Type XVCS2H / PMAFLEX Multilayer - Flexible, heavy-duty

	Order no. (black/green)	Conduit size NW	Inside Ø (mm)	Outside Ø (mm)	Stat. radius (mm)	PU (m)
XVCS2H	XVCS2H-10BG.50	10	9.2	12.8	20	50
	XVCS2H-12BG.50	12	11.7	15.6	25	50
	XVCS2H-17BG.50	17	15.2	21.1	35	50
	XVCS2H-23BG.50	23	22.0	28.4	40	50
	XVCS2H-29BG.50	29	27.7	34.5	50	50
	XVCS2H-36BG.30	36	35.8	42.4	60	30
	XVCS2H-48BG.30	48	46.8	54.5	70	30

For track side applications and other exterior static applications with high UV exposure
Easy layouting through: High conduit ductility and formability / Low friction inner layer facilitates cable insertion
Excellent impact characteristics at low temperatures

XVCS2H Index

min.	max.
Ductility	
Fatigue reversed bending	
Compression resistance	
Low temperature performance	
Weathering resistance	

Materials	Temperature range	Colour
Outer layer: Specially formulated polyamide 12	-50°C to +90°C	Black/Green
Intermediate layer: Specially bonding compound	Short-term to: +120°C	
Inner layer: Specially modified polyolefin		
Certification	**Atmospheric corrosion resistance**	**UV Resistance**
Free from halogens, REACH compliant	Excellent	Very high (black)
and RoHS compliant		

PMA conduit for Robotics/Automation

Type XR90 & XTPC conduit

Type XR90 / PMAFLEX Multilayer - Very flexible, medium-duty

	Order no. (black/red)	Conduit size NW	Inside Ø (mm)	Outside Ø (mm)	Stat./Dyn. radius (mm)	PU (m)
XR90	XR90T-17BR.50	17	16.2	21.1	30/85	50
	XR90T-23BR.50	23	22.7	28.4	40/110	50
	XR90T-29BR.50	29	28.6	34.5	50/135	50
	XR90G-17BR.50	17	15.4	21.1	35/85	50
	XR90G-23BR.50	23	21.4	28.4	45/110	50
	XR90G-29BR.50	29	27.2	34.5	55/135	50
	XR90G-36BR.30	36	35.9	42.4	65/170	30
	XR90G-48BR.30	48	47.0	54.5	85/220	30
	XR90G-56BR.30	56	56.7	67.5	110/270	30
	XR90G-70BR.30	70	67.8	79.6	130/320	30
	XR90G-95BR.30	90	92.0	107.0	170/430	30

For dynamic conduit systems in robotics and automation industry
With wear indication function
High resistance to continuous bending, torsion, and elongation
No abrupt conduit failure due to high tear propagation resistance
High abrasion resistance
Suitable for applications with a pullback system
Long service life

XR90 Index

min. **max.**

Ductility
Fatigue reversed bending
Compression resistance
Low temperature performance
Weathering resistance

Materials	Temperature range	Colour
Outer layer: Specially formulated polyamide 12	-40°C to +95°C	Black/Red
Intermediate layer: Specially formulated polyamide	Short-term to: +150°C	
Inner layer: Specially formulated polyamide 12		
Certification	**Fire performance**	**UV Resistance**
Free from halogens, REACH compliant	Self-extinguishing	High (black)
and RoHS compliant		

Type XTPC / PMAFLEX Multilayer- Highly flexible, medium-duty

	Order no. (black/orange)	Conduit size NW	Inside Ø (mm)	Outside Ø (mm)	Stat./Dyn. radius (mm)	PU (m)
XTPC	XTPCG-17BB.50	17	15.2	21.1	30/75	50
	XTPCG-23BB.50	23	21.2	28.4	40/100	50
	XTPCG-29BB.50	29	26.8	34.5	50/120	50
	XTPCG-36BB.50	36	35.5	42.4	60/150	30
	XTPCG-48BB.30	48	46.5	54.5	80/190	30
	XTPCG-56BB.30	56	56.2	67.5	105/235	30
	XTPCG-70BB.30	70	67.3	79.6	120/280	30

For dynamic conduit systems in robotics and automation industry
For outdoor applications with good requirements to UV and weathering resistance
With wear indication function. High resistance to continuous bending
No abrupt conduit failure due to high tear propagation resistance
Very high abrasion resistance. High resistance to torsion
Suitable for tight bending-radii
Long service life

XTPC Index

min. **max.**

Ductility
Fatigue reversed bending
Compression resistance
Low temperature performance
Weathering resistance

Materials	Temperature range	Colour
Outer layer: Thermoplastic copolyester	-40°C to +105°C	Black/Blue
Inner layer: Thermoplastic copolyester	Short-term to: +150°C	
Certification	**Fire performance**	**UV Resistance**
Free from halogens, REACH compliant	Self-extinguishing	High (black)
and RoHS compliant		

PMA conduit for Robotics/Automation

Type PIS/PIH conduit

Type PIS/PIH / PMAFLEX - Highly flexible, medium- and heavy-duty

PIS/PIH

	Order no. (black)	Order no. (grey)	Conduit size NW	Inside Ø (mm)	Outside Ø (mm)	Stat./dyn. radius (mm)	PU (m)
	PIST-07B.50	PIST-07S.50	07	6.7	10.0	15/40	50
	PIST-10B.50	PIST-10S.50	10	9.7	12.8	20/50	50
	PIST-12B.50	PIST-12S.50	12	12.0	15.6	25/65	50
	PIST-17B.50	PIST-17S.50	17	16.7	21.1	30/85	50
	PIST-23B.50	PIST-23S.50	23	23.2	28.4	40/110	50
	PIST-29B.50	PIST-29S.50	29	28.9	34.5	50/135	50
	PIST-36B.30	PIST-36S.30	36	36.8	42.4	60/170	30
	PIST-48B.30	PIST-48S.30	48	48.0	54.5	75/220	30
	PISG-17B.50	PISG-17S.50	17	15.8	21.1	35/85	50
	PISG-23B.50	PISG-23S.50	23	22.0	28.4	45/110	50
	PISG-29B.50	PISG-29S.50	29	27.8	34.5	55/135	50
	PISG-36B.30	PISG-36S.30	36	36.2	42.4	65/170	30
	PISG-48B .30	PISG-48S.30	48	47.1	54.5	85/220	30
	PIHG-56B.30	PIHG-56S.30	56	57.0	67.5	110/270	30
	PIHG-70B.30	PIHG-70S.30	70	68.0	79.6	130/320	30
	PIHG-95B.30	PIHG-95S.30	95	92.5	107.0	170/430	30
	PIHG-125B.20	PIHG-125S.20	125	126.9	146.0	230/580	20

For robotics and automation applications. UL 94 V0. Excellent UV resistance and weathering characteristics
PIS: Medium-wall (Nominal width 07 to 48) / PIH: Heavy-wall (Nominal width 56 to 125)
Very good reversed bending characteristics. Good mechanical characteristics even under extreme conditions, such as low temperatures and low humidity

Approvals

PIS/PIH Index

min.	max.
Ductility	
Fatigue reversed bending	
Compression resistance	
Low temperature performance	
Weathering resistance	

Materials	Temperature range	Colour
Specially modified polyamide 12	-50°C to +95°C	Black/Grey
Certification	Short-term to: +150°C	
Free from halogens, REACH compliant	**Weathering characteristics**	**UV Resistance**
and RoHS compliant	Excellent	Very high (black)

PMA conduit for Robotics/Automation

Type POS & PUE conduit

Type POS / PMAFLEX - Highly flexible, medium-duty

POS

	Order no. (black)	Conduit size NW	Inside Ø (mm)	Outside Ø (mm)	Stat./Dyn. radius (mm)	PU (m)
	POST-10B.50	10	9.9	12.8	20/50	50
	POST-12B.50	12	12.1	15.6	35/75	50
	POST-17B.50	17	16.7	21.1	30/85	50
	POST-23B.50	23	23.2	28.4	40/110	50
	POST-29B.50	29	28.8	34.5	50/135	50
	POST-36B.30	36	36.6	42.4	60/170	30
	POST-48B.30	48	48.2	54.5	75/220	30
	POSG-29B.30	29	27.8	34.4	55/135	50
	POSG-36B.30	36	36.2	42.4	65/170	30
	POSG-48B.30	48	47.2	54.5	85/220	30
	POSG-70B.30	70	67.4	79.6	130/320	30
	POSG-95B.30	95	92.3	106.0	170/430	30

POS Index

min.	max.
Ductility	
Fatigue reversed bending	
Compression resistance	
Low temperature performance	
Weathering resistance	

For automation as well as for machine building and industrial installations, especially where continuous movements occur
Excellent reversed bending performance and flexibility
Good impact resistance. Good resistance against strong acids

Materials	Temperature range	Colour
Specially modified polypropylene	-25°C to +95°C	Black
Certification	Short-term to: +130°C	
Free from halogens, REACH compliant	**Fatigue resistance**	**UV Resistance**
and RoHS compliant	–	Medium (black)

Type PUE / PMAFLEX - Highly flexible, medium-duty

PUE

	Order no. (black)	Conduit size NW	Inside Ø (mm)	Outside Ø (mm)	Stat./Dyn. radius (mm)	PU (m)
	PUET-23B.50	23	23.1	28.4	40/75	50
	PUET-29B.30	29	29.0	34.5	45/90	30
	PUET-36B.30	36	36.8	42.4	55/110	30
	PUET-48B.21	48	48.4	54.5	70/140	21
	PUEG-56B.30	56	57.2	67.5	90/170	30
	PUEG-70B.30	70	68.4	79.6	105/220	30

PUE Index

min.	max.
Ductility	
Fatigue reversed bending	
Compression resistance	
Low temperature performance	
Weathering resistance	

For robotic applications with multi-axial movements
Specially suitable for tight bending-radii
Highest reversed bending resistance
Excellent chafing characteristics

Materials	Temperature range	Colour
Specially formulated polyurethane	-60°C to +50°C	Black
Certification		
Free from halogens, REACH compliant	**Fatigue resistance**	**UV Resistance**
and RoHS compliant	–	High (black)

PMA conduit for Robotics/Automation

Type ESD conduit

Type ESD / PMAFLEX - Very flexible, medium-duty conduit

ESD

Order no. (black)	Conduit size NW	Inside Ø (mm)	Outside Ø (mm)	Stat./Dyn. radius (mm)	PU (m)
ESDT-07B.50	07	6.7	10.0	15/40	50
ESDT-10B.50	10	9.7	12.8	20/50	50
ESDT-12B.50	12	12.0	15.6	25/65	50
ESDT-17B.50	17	16.6	21.1	35/85	50
ESDT-23B.50	23	23.0	28.4	40/110	50
ESDT-29B.50	29	28.7	34.5	50/135	50
ESDT-36B.30	36	36.8	42.4	60/170	30
ESDT-48B.30	48	48.0	54.5	75/220	30
ESDG-56B.30	56	55.8	67.5	110/270	30
ESDG-70B.10	70	67.4	79.6	130/320	10
ESDG-95B.10	95	91.5	107.0	170/430	10

For dynamic applications in robotics and automation where electrostatic charge and uncontrolled discharge need to be avoided
Prevents electrostatic charging. For indoor and outdoor use (very good cold temperature performance)

ESD Index

min.	max.
Ductility	
Fatigue reversed bending	
Compression resistance	
Low temperature performance	
Weathering resistance	

Materials	Temperature range	Colour
Specially modified polyamide 12	-40°C to +90°C	Black
Certification	Short-term to: +150°C	
Free from halogens, REACH compliant	**Fatigue resistance**	**UV Resistance**
and RoHS compliant	Excellent fatigue resistance	Very high (black)

PMA conduit for Machine Building

Type XPCL & XSOL conduit

Type XPCL / PMAFLEX Multilayer - Highly flexible, medium-duty

XPCL

	Order no. (black/blue)	Order no. (grey/blue)	Conduit size NW	Inside Ø (mm)	Outside Ø (mm)	Stat. radius (mm)	PU (m)
	XPCLT-10BB.50	XPCLT-10SB.50	10	9.6	12.8	20	50
	XPCLT-12BB.50	XPCLT-12SB.50	12	11.9	15.6	25	50
	XPCLT-17BB.50	XPCLT-17SB.50	17	16.5	21.1	35	50
	XPCLG-17BB.50	XPCLG-17SB.50	17	15.7	21.1	40	50
	XPCLG-23BB.50	XPCLG-23SB.50	23	21.9	28.4	50	50
	XPCLG-29BB.50	XPCLG-29SB.50	29	27.6	34.5	60	50
	XPCLG-36BB.30	XPCLG-36SB.30	36	36.0	42.4	75	30
	XPCLG-48BB.30	XPCLG-48SB.30	48	47.1	54.5	90	30

For machine building and equipment with high requirements
Allows easy cable insertion due to low friction inner layer
Very good ductility and good reversed bending characteristics
Good mechanical characteristics even under extreme conditions, such as low temperatures and low humidity

XPCL Index

min.	max.
Ductility	
Fatigue reversed bending	
Compression resistance	
Low temperature performance	
Weathering resistance	

Materials	Temperature range	Colour
Outer layer: Specially formulated polyamide 6	-50°C to +105°C	Black/Blue
Intermediate layer: Specially bonding	Short-term to: +160°C	Grey/Blue
Inner layer: Specially modified polyethylene		
Certification	**Fire performance**	**UV Resistance**
Free from halogens, REACH compliant	Self-extinguishing	High (black)
and RoHS compliant		

Type XSOL / PMAFLEX Multilayer - Highly flexible, medium-duty

XSOL

	Order no. (black/green)	Conduit size NW	Inside Ø (mm)	Outside Ø (mm)	Stat. radius (mm)	PU (m)
	XSOLT-10BG.50	10	9.5	12.8	20	50
	XSOLT-12BG.50	12	11.9	15.6	25	50
	XSOLG-17BG.50	17	15.6	21.1	40	50
	XSOLG-23BG.50	23	21.9	28.4	50	50
	XSOLG-29BG.50	29	27.7	34.5	60	50
	XSOLG-36BG.30	36	36.4	42.4	75	30
	XSOLG-48BG.30	48	47.2	54.5	90	30

All-purpose, especially in long-term external applications, e.g. energy technology
Very good resistance to UV and weathering
Very high ductility and reversed bending resistance
Very good mechanical strength
High impact resistance even under extreme conditions, such as low temperatures and low humidity

Approvals

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XSOL Index

min.	max.
Ductility	
Fatigue reversed bending	
Compression resistance	
Low temperature performance	
Weathering resistance	

Materials	Temperature range	Colour
Outer layer: Specially formulated polyamide 12	-50°C to +95°C	Black/Green
Intermediate layer: Specially bonding compound	Short-term to: +150°C	
Inner layer: Specially modified polyamide 6		
Certification	**Fire performance**	**UV Resistance**
Free from halogens, REACH compliant	Good fire safety characteristics	High (black)
and RoHS compliant	Self-extinguishing	

PMA conduit for Machine Building

Type VCS & VOH conduit

Type VCS / PMAFLEX - Flexible, heavy-duty

VCS

	Order no. (black)	Order no. (grey)	Conduit size NW	Inside Ø (mm)	Outside Ø (mm)	Stat. radius (mm)	PU (m)
	VCST-07B.100	VCST-07S.100	07	6.6	10.0	20	100
	VCST-10B.50	VCST-10S.50	10	9.6	12.8	25	50
	VCST-12B.50	VCST-12S.50	12	12.0	15.6	30	50
	VCST-17B.50	VCST-17S.50	17	16.5	21.1	40	50
	VCSG-17B.50	VCSG-17S.50	17	15.7	21.1	45	50
	VCSG-23B.50	VCSG-23S.50	23	21.8	28.4	60	50
	VCSG-29B.50	VCSG-29S.50	29	27.6	34.5	70	50
	VCSG-36B.30	VCSG-36S.30	36	35.7	42.4	85	30
	VCSG-48B.30	VCSG-48S.30	48	46.7	54.5	110	30
	VCSG-56B.30	VCSG-56S.30	56	56.2	67.5	135	30
	VCSG-70B.10	VCSG-70S.10	70	67.1	79.6	160	10
	VCSG-95B.10	VCSG-95S.10	95	91.0	107.0	220	10

VCS Index

min.	max.
Ductility	
Fatigue reversed bending	
Compression resistance	
Low temperature performance	
Weathering resistance	

For static external installations
High compression and impact strengths at low temperatures and low humidity
Good ductility. Very good resistance to ultra violet rays and weathering

Materials	Temperature range	Colour
Specially formulated polyamide 6	-50°C to +105°C	Black/Grey
Certification	Short-term to: +160°C	
Free from halogens, REACH compliant	**Fatigue resistance**	**UV Resistance**
and RoHS compliant	–	High (black)

Type VOH / PMAFLEX - Pliable, very heavy-duty

VOH

	Order no. (black)	Order no. (grey)	Conduit size NW	Inside Ø (mm)	Outside Ø (mm)	Stat. radius (mm)	PU (m)
	VOHD-07B.50	VOHD-07S.50	07	6.3	10.0	20	50
	VOHD-10B.50	VOHD-10S.50	10	9.5	12.8	25	50
	VOHD-12B.50	VOHD-12S.50	12	11.9	15.6	30	50
	VOHG-17B.50	VOHG-17S.50	17	15.1	21.1	45	50
	VOHG-23B.50	VOHG-23S.50	23	21.6	28.4	60	50
	VOHG-29B.50	VOHG-29S.50	29	27.3	34.5	70	50
	VOHG-36B.30	VOHG-36S.30	36	35.6	42.4	85	30
	VOHG-48B.30	VOHG-48S.30	48	46.5	54.5	110	30
	VOHG-56B.10	VOHG-56S.10	56	55.7	67.5	135	10
	VOHG-70B.10	VOHG-70S.10	70	67.0	79.6	160	10
	VOHG-95B.10	VOHG-95S.10	95	91.3	107.0	220	10
	VOHG-125B.06	VOHG-125S.06	125	125.4	146.0	300	6

VOH Index

min.	max.
Ductility	
Fatigue reversed bending	
Compression resistance	
Low temperature performance	
Weathering resistance	

For applications in heavy machine and plant construction
High compression resistance
Highest degree of mechanical protection
Very good UV and weathering resistance
Good fire safety characteristics

Materials	Temperature range	Colour
Specially modified polyamide 6	-40°C to +105°C	Black/Grey
Certification	Short-term to: +160°C	
Free from halogens, REACH compliant	**Fire performance**	**UV Resistance**
and RoHS compliant	Good	High (black)

PMA conduit for Machine Building

Type PCL conduit

Type PCL / PMAFLEX - Very flexible, medium-duty

PCL

Order no. (black)	Order no. (grey)	Conduit size NW	Inside Ø (mm)	Outside Ø (mm)	Stat. radius (mm)	PU (m)
PCLT-07B.50	PCLT-07S.50	07	6.6	10.0	15	50
PCLT-10B.50	PCLT-10S.50	10	9.8	12.8	20	50
PCLT-12B.50	PCLT-12S.50	12	12.1	15.6	25	50
PCLT-17B.50	PCLT-17S.50	17	16.8	21.1	35	50
PCLT-23B.50	PCLT-23S.50	23	23.2	28.4	45	50
PCLT-29B.50	PCLT-29S.50	29	28.8	34.5	55	50
PCLT-36B.30	PCLT-36S.30	36	36.7	42.4	65	30
PCLT-48B.30	PCLT-48S.30	48	48.2	54.5	80	30
PCLG-17B.50	PCLG-17S.50	17	15.8	21.1	40	50
PCLG-23B.50	PCLG-23S.50	23	21.9	28.4	50	50
PCLG-29B.50	PCLG-29S.50	29	27.8	34.5	60	50
PCLG-36B.30	PCLG-36S.30	36	36.1	42.4	75	30
PCLG-48B.30	PCLG-48S.30	48	46.9	54.5	90	30
PCLG-56B.30	PCLG-56S.30	56	56.7	67.5	120	30
PCLG-70B.10	PCLG-70S.10	70	67.5	79.6	140	10
PCLG-95B.10	PCLG-95S.10	95	91.6	107.0	190	10
PCLG-125B.06	PCLG-125S.06	125	125.5	146.0	260	6

Approvals

PCL Index

min.	max.
Ductility	
Fatigue reversed bending	
Compression resistance	
Low temperature performance	
Weathering resistance	

For machine building, installation and vehicle building industries / static and slightly dynamic applications
Very good ductility and good reversed bending characteristics. Very good long-term properties
Very good mechanical characteristics even under extreme conditions, such as low temperatures and low humidity

Materials	Temperature range	Colour
Specially formulated polyamide 6	-50°C to +105°C	Black/Grey
Certification	Short-term to: +160°C	
Free from halogens, REACH compliant	**Self extinguishing**	**UV Resistance**
and RoHS compliant	acc. to UL 94 V2	High (black)

PMA conduit for Machine Building

Type CYL & PEL conduit

Type CYL / PMAFLEX - Very flexible, medium-duty conduit

CYL

	Order no. (black)	Order no. (grey)	Conduit size NW	Inside Ø (mm)	Outside Ø (mm)	Stat. radius (mm)	PU (m)
	CYLT-07B.50	CYLT-07S.50	07	6.6	10.0	15	50
	CYLT-10B.50	CYLT-10S.50	10	9.8	12.8	20	50
	CYLT-12B.50	CYLT-12S.50	12	12.1	15.6	25	50
	CYLT-17B.50	CYLT-17S.50	17	16.8	21.1	35	50
	CYLT-23B.50	CYLT-23S.50	23	23.2	28.4	45	50
	CYLT-29B.50	CYLT-29S.50	29	28.8	34.5	55	50
	CYLT-36B.30	CYLT-36S.30	36	36.7	42.4	65	30
	CYLT-48B.30	CYLT-48S.30	48	48.2	54.5	80	30
	CYLG-23B.50	CYLG-23S.50	23	21.9	28.4	50	50
	CYLG-29B.50	CYLG-29S.50	29	27.8	34.5	60	50
	CYLG-36B.30	CYLG-36S.30	36	36.1	42.4	75	30
	CYLG-48B.30	CYLG-48S.30	48	46.9	54.5	90	30
	CYLG-56B.30	CYLG-56S.30	56	56.7	67.5	120	30
	CYLG-70B.10	CYLG-70S.10	70	67.5	79.6	140	10
	CYLG-95B.10	CYLG-95S.10	95	91.6	107.0	190	10
	CYLG-125B.06	CYLG-125S.06	125	125.5	146.0	260	06

Approvals

For machine building and installation industries / static and slightly dynamic applications
Very good ductility and good reversed bending characteristics
Good mechanical characteristics even under extreme conditions, such as low temperatures and low humidity

CYL Index

min.	max.
Ductility	
Fatigue reversed bending	
Compression resistance	
Low temperature performance	
Weathering resistance	

Materials	Temperature range	Colour
Specially formulated polyamide 6	-40°C to +105°C	Black/Grey
Certification	Short-term to: +160°C	
Free from halogens, REACH compliant	**Self extinguishing**	**UV Resistance**
and RoHS compliant	acc. to UL 94 V2	High (black)

Type PEL / PMAFLEX - Highly flexible, light-duty, soft

PEL

	Order no. (grey)	Order no. (grey, slit)	Conduit size NW	Inside Ø (mm)	Outside Ø (mm)	Stat. radius (mm)	PU (m)
	PELT-10S.50	PELT-10SL.50	10	9.8	12.8	20	50
	PELT-12S.50	PELT-12SL.50	12	12.2	15.6	25	50
	PELT-17S.50	PELT-17SL.50	17	16.8	21.1	30	50
	PELT-23S.50	PELT-23SL.50	23	23.2	28.4	40	50
	PELT-29S.30	PELT-29SL.30	29	28.9	34.5	45	30
	PELT-36S.30	PELT-36SL.30	36	37.0	42.4	55	30
	PELT-48S.30	PELT-48SL.30	48	48.2	54.5	70	30

For electrical cabinets and appliance construction
Very good ductility
Suitable for small bending radii
Good resistance against strong acids and bases

PEL Index

min.	max.
Ductility	
Fatigue reversed bending	
Compression resistance	
Low temperature performance	
Weathering resistance	

Materials	Temperature range	Colour
Specially modified polyethylene	-50°C to +60°C	Grey
Certification		
Free from halogens, REACH compliant		**UV Resistance**
and RoHS compliant		Medium (black)

PMA conduit for Machine Building

Type JLLPA conduit

Type JLLPA / PMA Overextruded - Flexible, heavy-duty

JLLPA

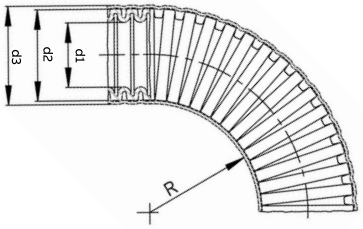
Order no. (black)	Conduit size NW	d1 (mm)	d2 (mm)	d3 (mm)	Stat. radius (mm)	PU (m)
JLLPA-12A.50	12	12.1	15.6	15.8	40	50
JLLPAG-17A.50	17	15.8	21.1	21.2	55	50
JLLPAG-23A.50	23	21.9	28.4	28.5	75	50
JLLPAG-29A.50	29	27.8	34.5	34.7	90	50
JLLPAG-36A.30	36	36.1	42.4	42.6	110	30
JLLPAG-48A.30	48	46.9	54.5	54.6	140	30

Flexible, smooth over-extruded conduit for applications with cleaning requirements
For static applications in machine building, installation and construction industries
For general applications with cleaning requirements
Smooth outer layer for easy cleaning, good resistance to chemicals and cleaning agents. Corrosion free
Flexibility in combination with high strength. Compatible with PMAFIX Pro
UL Recognition according to UL 1696 (file E80294)

JLLPA Index

min.	max.
Ductility	
Fatigue reversed bending	
Compression resistance	
Low temperature performance	
Weathering resistance	

Materials	Temperature range	Colour
Conduit: High-grade, specially formulated polyamide 6	-18°C to +105°C	Black
Overextrusion: modified polyamide 6	Short-term to: +160°C	
Certification	**Fire performance**	**UV Resistance**
Free from halogens and cadmium	Self-extinguishing	High (black)
RoHS and REACH compliant		



PMA conduits for special applications

Type PHT & POH conduit

Type PHT / PMAFLEX Pro - Highly flexible, medium/heavy-duty

	Order no. (black)	Conduit size NW	Inside Ø (mm)	Outside Ø (mm)	Stat./Dyn. radius (mm)	PU (m)
PHT	PHTT-07B.50	07	6.7	10.0	15/40	50
	PHTT-10B.50	10	9.7	12.8	20/50	50
	PHTT-12B.50	12	12.1	15.6	25/65	50
	PHTT-17B.50	17	16.8	21.1	35/85	50
	PHTT-23B.50	23	23.3	28.4	45/110	50
	PHTG-17B.50	17	15.6	21.1	40/85	50
	PHTG-23B.50	23	22.0	28.4	50/110	50
	PHTG-29B.50	29	27.9	34.5	60/135	50
	PHTG-36B.30	36	36.2	42.4	75/170	30
	PHTG-48B.30	48	47.3	54.5	90/220	30

PHT Index

min.	max.
Ductility	
Fatigue reversed bending	
Compression resistance (PHTT-17B)	
Compression resistance (PHTG-17B)	
Low temperature performance	
Weathering resistance	

For applications at high and very low temperatures / dynamic applications
Specially formulated polyamide elastomer. Both excellent flexibility and high compression strength
Enhanced temperature range compared to standard polyamides
High resistance to ultra violet rays and weathering

Materials	Temperature range	Colour
Specially formulated polyamide elastomer	-50°C to +135°C	Black
Certification	Short-term to: +180°C	
Free from halogens, REACH compliant	**Impact resistance**	**UV Resistance**
and RoHS compliant	Extremely good at low temperatures	High (black)

Type POH / PMAFLEX Pro - Very flexible, medium-duty

	Order no. (black)	Conduit size NW	Inside Ø (mm)	Outside Ø (mm)	Stat. radius (mm)	PU (m)
POH	POHT-10B.50	10	10.0	12.8	20	50
	POHT-12B.50	12	12.3	15.6	25	50
	POHG-17B.50	17	16.0	21.1	40	50
	POHG-23B.50	23	22.1	28.4	50	50
	POHG-29B.50	29	28.0	34.5	60	50
	POHG-36B.30	36	36.4	42.4	75	30
	POHG-48B.30	48	47.0	54.5	90	30

POH Index

min.	max.
Ductility	
Fatigue reversed bending	
Compression resistance	
Low temperature performance	
Weathering resistance	

For highest fire and passenger safety requirements
Excellent fire safety characteristics acc. to BS 6853 1a (interior)
Good ductility and reversed bending characteristics

Materials	Temperature range	Colour
Specially modified polypropylene	-25°C to +95°C	Black
Certification	Short-term to: +120°C	
Free from halogens, REACH compliant	**Fire performance**	**UV Resistance**
and RoHS compliant	acc. to BS 6853 1a (interior)	High (black)

PMA conduit for hazardous area

Type XESX conduit

Type XESX / PMA Ex-System - Flexible, heavy-grade

XESX

	Order no. (black/yellow)	Conduit size NW	Inside Ø (mm)	Outside Ø (mm)	Stat./Dyn. radius (mm)	PU (m)
	XESX0250.50	10	9.2	12.8	25/65	50
	XESX0350.50	12	11.8	15.6	30/70	50
	XESX0450.50	17	15.2	21.1	35/85	50
	XESX0550.50	23	22.0	28.4	40/110	50
	XESX0650.50	29	27.5	34.5	50/130	50
	XESX0730.30	36	35.8	42.4	60/180	30
	XESX0830.30	48	46.8	54.5	70/220	30

Flexible, anti-static conduit ideal for hazardous areas such as explosion endangered zones
For indoor and outdoor applications in hazardous areas
Electrostatically discharging
Excellent mechanical characteristics, also under extreme climatic conditions as low temperature
High abrasion resistance
EC TYPE Examination Certificate for use with EXPQ metallic fittings:
Baseefa 08 ATEX 0003X, IECEx BAS 8.0001X
Ex e IIC Gb
Ex tb IIIC Db
EC TYPE Examination Certificate for use with non metallic fittings and accesories:
SEV 15 ATEX 0121X, IECEx SEV 15.0009X
Ex eb IIC Gb
Ex tb IIIC Db

Approvals

XESX Index

min.	max.
Ductility	
Fatigue reversed bending	
Compression resistance	
Low temperature performance	
Weathering resistance	

Materials	Temperature range	Colour
Outer layer: Dissipative PA12	-50°C to +90°C	Black/Yellow
Inner layer: Impact resistant HDPE	Short-term to: +150°C	
Certification	**Fire performance**	**UV Resistance**
Free from halogens, REACH compliant	Self-extinguishing	Very high (black)
and RoHS compliant		

PMA conduit for Food & Beverage

Type JFBD conduit

Type JFBD / PMA Overextruded - Flexible, medium-duty

JFBD

Order no.	Conduit size NW	Inside Ø (mm)	Outside Ø (mm)	Stat./Dyn. radius (mm)	PU (mm)
JFBDT-12C01.50	12	12.0	16.0	40/100	50
JFBDG-17C01.50	17	15.7	21.5	55/125	50
JFBDG-23C01.50	23	21.8	28.7	75/170	50
JFBDG-29C01.50	29	27.6	34.9	90/210	50
JFBDG-36C01.30	32	36.3	43.0	110/260	30
JFBDG-48C01.30	48	47.3	54.8	140/330	30

Smooth easy to clean out layer
High reversed bending stresses
Excellent flexibility in combination with high strength
High resistance to chemicals and cleaning agents
For indoor food zone – non contact
Outer layer made from FDA compliant material
Corrosion free

Approvals

JFBD Index

min.	max.
Ductility	
Fatigue reversed bending	
Compression resistance	
Low temperature performance	
Weathering resistance	

Materials	Colour
Conduit: made from high-grade, specially formulated polyamide 12	Corrugated conduit: blue
Overextrusion: made from modified polyamide elastomer	Overextrusion: blue, translucent
Certification	**UV Resistance**
FDA 21 CFR / EU 10/2011 compliant outer layer material; ECOLAB certificate	Medium

PMA conduit for UL-Listing requirements

Type CUS conduit

Type CUS / PMA conduit for UL-Listing requirements - Very flexible, medium-duty

CUS

	Order no. (black)	Conduit size Inch	Conduit size NW	Inside Ø (mm)	Outside Ø (mm)	Stat. radius (mm)	PU (m/ft)
	CUSG-17B.31	½	17	15.5	21.1	40	31/100
	CUSG-23B.31	¾	23	21.7	28.4	50	31/100
	CUSG-29B.31	1	29	27.4	34.5	60	31/100
	CUSG-36B.31	1 ¼	36	35.5	42.4	75	31/100
	CUSG-48B.31	1 ½	48	46.5	54.5	90	31/100

For machine building and installation industries
For electrical installations, especially in the US market
Inexpensive solution for requirements acc. to UL 1660 (UL Listing)
Good ductility and reversed bending characteristics
Very good mechanical properties even under extreme conditions, such as low temperatures and low humidity

Approvals

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CUS Index

min.	max.
Ductility	
Fatigue reversed bending	
Compression resistance	
Low temperature performance	
Weathering resistance	

Materials	Temperature range	Colour
Specially modified polyamide 6	-40°C to +105°C	Black
Certification	Short-term to: +160°C	
Free from halogens, REACH compliant	**Fire protection**	**UV Resistance**
and RoHS compliant	Self-extinguishing, acc. to UL 94 V2	High (black)

PMA conduit for UL-Listing requirements

Type PUS conduit

Type PUS / PMAFLEX Plus - Very flexible, heavy-duty

PUS

Order no. (black)	Conduit size Inch	Conduit size NW	Inside Ø (mm)	Outside Ø (mm)	Stat./Dyn. radius (mm)	PU (m/ft)
PUSG-17B.31	½	17	15.5	21.1	35/85	31/100
PUSG-23B.31	¾	23	21.6	28.4	45/110	31/100
PUSG-29B.31	1	29	27.5	34.5	55/135	31/100
PUSG-36B.31	1 ¼	36	35.9	42.4	65/170	31/100
PUSG-48B.31	1 ½	48	47.0	54.5	85/220	31/100

For long-term external applications with approval acc. to UL 1660 (UL Listing)
For dynamic applications
Very good reversed bending resistance
Very good mechanical strength at low temperatures
Excellent resistance to ultra violet rays and weathering
cULus listed

Approvals

PUS Index

min.	max.
Ductility	
Fatigue reversed bending	
Compression resistance	
Low temperature performance	
Weathering resistance	

Materials	Temperature range	Colour
Specially modified polyamide 12	-50°C to +95°C	Black
Certification	Short-term to: +150°C	
Free from halogens, REACH compliant	**Fire protection**	**UV Resistance**
and RoHS compliant	Self-extinguishing, acc. to UL 94 V2	Very high (black)

PMA conduit for general applications

Type LLPA conduit

Type LLPA / PMA Smart Line - Very flexible, medium-duty Smartline

LLPA

	Order no. (black)	Order no. (grey)	Conduit size NW	Inside Ø (mm)	Outside Ø (mm)	Stat. radius (mm)	PU (m)
	LLPA-07A.50	LLPA-07S.50	07	6.6	10.0	15	50
	LLPA-10A.50	LLPA-10S.50	10	9.8	12.8	20	50
	LLPA-12A.50	LLPA-12S.50	12	12.1	15.6	25	50
	LLPA-17A.50	LLPA-17S.50	17	16.8	21.1	35	50
	LLPA-23A.50	LLPA-23S.50	23	23.2	28.4	45	50
	LLPA-29A.50	LLPA-29S.50	29	28.8	34.5	55	50
	LLPA-36A.30	LLPA-36S.30	36	36.7	42.4	65	30
	LLPA-48A.30	LLPA-48S.30	48	48.2	54.5	80	30
	LLPAG-17A.50	LLPAG-17S.50	17	15.8	21.1	40	50
	LLPAG-23A.50	LLPAG-23S.50	23	21.9	28.4	50	50
	LLPAG-29A.50	LLPAG-29S.50	29	27.8	34.5	60	50
	LLPAG-36A.30	LLPAG-36S.30	36	36.1	42.4	75	30
	LLPAG-48A.30	LLPAG-48S.30	48	46.9	54.5	90	30
	LLPAG-56A.30	LLPAG-56S.30	56	56.7	67.5	120	30
	LLPAG-70A.10	LLPAG-70S.10	70	67.5	79.6	140	10
	LLPAG-95A.10	LLPAG-95S.10	95	91.6	107.0	190	10
	LLPAG-125A.06	LLPAG-125S.06	125	125.5	146.0	260	06

Approvals

LLPA Index

min.	max.
Ductility	
Fatigue reversed bending	
Compression resistance	
Low temperature performance	
Weathering resistance	

For machine building, installation and construction industries
Good ductility
Good mechanical characteristics

Materials	Temperature range	Colour
Specially modified polyamide 6	-40°C to +105°C	Black/Grey
Certification	Short-term to: +160°C	
Free from halogens, REACH compliant	**Self extinguishing**	**UV Resistance**
and RoHS compliant	acc. to UL 94 V2	High (black)

PMA conduit for general applications

Type LLPF conduit

Type LLPF / PMA Smart Line - Very flexible, medium-duty

LLPF

	Order no. (black)	Order no. (grey)	Conduit size NW	Inside Ø (mm)	Outside Ø (mm)	Stat. radius (mm)	PU (m)
	LLPF-07A.50	LLPF-07S.50	7	6.8	10.0	15	50
	LLPF-10A.50	LLPF-10S.50	10	9.8	12.8	20	50
	LLPF-12A.50	LLPF-12S.50	12	12.2	15.6	25	50
	LLPF-17A.50	LLPF-17S.50	17	16.8	21.1	35	50
	LLPF-23A.50	LLPF-23S.50	23	23.4	28.4	45	50
	LLPF-29A.50	LLPF-29S.50	29	29.1	34.5	55	50
	LLPFG-17A.50	LLPFG-17S.50	17	15.8	21.1	40	50
	LLPFG-23A.50	LLPFG-23S.50	23	21.9	28.4	50	50
	LLPFG-29A.50	LLPFG-29S.50	29	27.8	34.5	60	50
	LLPFG-36A.30	LLPFG-36S.30	36	36.1	42.4	75	30
	LLPFG-48A.30	LLPFG-48S.30	48	46.9	54.5	90	30

For machine building, installation and construction industries
For applications with high fire safety requirements
UL 94 V0
Good pressure resistance
Very good fire safety characteristics

LLPF Index

min.	max.
Ductility	
Fatigue reversed bending	
Compression resistance	
Low temperature performance	
Weathering resistance	

Materials	Temperature range	Colour
Specially modified polyamide 6	-40°C to +105°C	Black/Grey
Certification	Short-term to: +160°C	
Free from halogens, REACH compliant	**Fire protection**	**UV Resistance**
and RoHS compliant	Self-extinguishing	High (black)

PMA conduits for retrofit applications

Type PACOF & PPCOF conduit

Type PACOF / PMA Divisible System - Flexible, divisible

	Order no. (black)	Conduit size NW	Inside Ø (mm)	Outside Ø (mm)	Stat. radius (mm)	PU (m)
PACOF	PACOF-07B.50	07	5.6	10.0	30	50
	PACOF-10B.50	10	8.5	12.8	33	50
	PACOF-12B.50	12	11.0	15.6	35	50
	PACOF-17B.50	17	15.5	21.1	45	50
	PACOF-23B.50	23	22.1	28.4	70	50
	PACOF-29B.50	29	27.2	34.5	120	50
	PACOF-36B.30	36	32.0	42.4	145	30
	PACOF-48B.30	48	43.9	54.1	150	30
	PACOF-70B.10	70	62.0	79.0	190	10

HL3 according to EN45545-2
NFPA 130 compliant
For machine building and plant construction
For trouble-free retrofitting and applicable for repairs
Can be opened and closed again in longitudinal direction any time
Good ductility
Good compression resistance

PACOF Index

min.	max.
Ductility	
Fatigue reversed bending	
Compression resistance	
Low temperature performance	
Weathering resistance	

Materials	Temperature range	Colour
Specially modified polyamide 6	-40°C to +105°C	Black
Certification	Short-term to: +160°C	
Free from halogens, REACH compliant	**Fire performance**	**UV Resistance**
and RoHS compliant	–	High (black)

Type PPCOF / PMA Divisible System - Flexible, divisible

	Order no. (black)	Conduit size NW	Inside Ø (mm)	Outside Ø (mm)	Stat. radius (mm)	PU (m)
PPCOF	PPCOF-07B.50	07	5.6	10.0	25	50
	PPCOF-10B.50	10	8.5	12.8	28	50
	PPCOF-12B.50	12	11.0	15.6	35	50
	PPCOF-17B.50	17	15.1	21.1	45	50
	PPCOF-23B.50	23	22.1	28.4	60	50
	PPCOF-29B.50	29	26.6	34.5	100	50
	PPCOF-36B.30	36	31.8	42.4	120	30
	PPCOF-48B.30	48	43.9	54.1	140	30
	PPCOF-70B.10	70	60.5	78.0	200	10

For machine building and plant construction
For trouble-free retrofitting and applicable for repairs
Can be opened and closed again in longitudinal direction any time
Good reversed bending resistance

PPCOF Index

min.	max.
Ductility	
Fatigue reversed bending	
Compression resistance	
Low temperature performance	
Weathering resistance	

Materials	Temperature range	Colour
Specially modified polypropylene PP	–20°C to +105°C	Black
	Short-term to +150°C	
Certification	**Fire performance**	**UV Resistance**
–	–	Medium (black)

Stainless steel overbraided conduit

Type XPCS.../S stainless steel overbraiding for conduits

Type XPCS.../S / PMAFLEX Overbraided - Stainless steel overbraided conduit

XPCS.../S

Order no. (black)	Conduit size NW	fits to metal fitting	braid spec (mm)	d1 Ø (mm)	d2 Ø (mm)	PU (m)
XPCST-12BG/S.50	12	MONK-M162	24 x 8 x 0.30	*	17.5	50
XPCST-17BG/S.50	17	MONK-M207	32 x 7 x 0.30	*	23.0	50
XPCSG-23BG/S.50	23	MONK-M253	36 x 8 x 0.30	*	31.0	50
XPCSG-29BG/S.50	29	MONK-M329	36 x 10 x 0.30	*	36.0	50
XPCSG-36BG/S.50	36	MONK-M406	36 x 12 x 0.30	*	44.5	30
XPCSG-48BG/S.50	48	MONK-M508	36 x 14 x 0.30	*	58.5	30

Our customer service or your local distribution partner will be pleased to help you concerning product availability and lead time
Application: in machine and railway construction; for high mechanical loads; in areas with hot swarf and flying sparks
Characteristics: increased mechanical conduit protection; extremely high abrasion resistance
Coverage: > 90%
Suitable for PMAFLEX, PMA Smart Line; Special metal fittings (MONK)

Materials	Temperature range	Colour
Braid made with stainless stell AISI	-70°C to +1000°C	Metal
Certification	**Fire performance**	**UV Resistance**
RoHS compliant	–	Very high