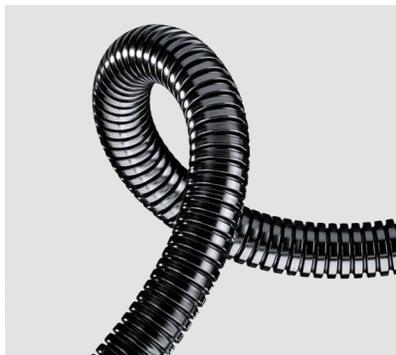
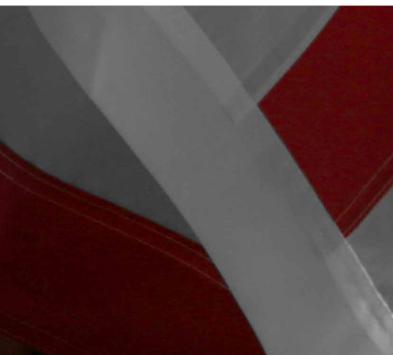


Product range

FIPLOCK® ONE



FIPLOCK® ONE

Current product line



ASP A

Polyamide:
NPT, M, PG

Metal:
MMK, MML, PGM



AWPA/AEPA

Polyamide:
NPT, M, PG

Metal:
MMK, MML, PGM



AAP A

Polyamide:
NPT, M, PG

Metal:
MMK, MML, PGM



AZPA

Polyamide:
NPT, M, PG, C

Metal:
NPTM, MMK, MML,
PGM



AFPA

Polyamide:
M, PG, U-A,
U-B, U-M

Metal:
MM, PGM



ATPA



ATPA-CA



AYPA



ARPA



ACPA



ACPA-SH



APPA



AIPA

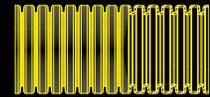
Please find the complete product range of our cable protection program FIPSYSTEMS® in our current main catalogue.
You can download all existing documents on: www.fipsystems.com

ONE FITS ALL

Pre-mounted FIPLOCK[®] ONE fitting made of specially formulated polyamide 6 ensure reliable connections between FIPLOCK[®] corrugated conduits out of polyamide with fine and coarse profile of NW07 – NW48.

The pre-installed seal in the connector body ensures reliable connection with the highest possible IP-protection categories, since FIPLOCK[®] ONE can be used for protection classes 66, 67, 68 and 69. Therefore ONE fitting solution covers all application requirements.

FIPLOCK[®] ONE provides a high level of weather resistance, high dynamic load capacity, impact resistance and pull-out strength, and meets the highest quality standards into the bargain. ONE FITS ALL.



Fine profile



Coarse profile

ONE CONNECTOR FOR ALL APPLICATIONS

- + pre-assembled and ready-to-fit
- + easy selection
- + lower handling effort
- + little handling necessary
- + faster installation
- + cost savings



Industry



Solar industry



Wind energy



Railway/transport



Track side



Robotics



Ship building



Chemical industry



Telecommunications



Miscellaneous

Advantages of cable protection made of polyamide

Metal

- + Corrosion ability
- + Impact with lasting deformation
- + High installation effort/cost
- + High weight
- + Limited IP



Polyamide

- + Non-corrosion
- + Impact bouncing effect
- + Easy and quick installation
- + Weight savings
- + ONE fit's all IP ratings



PVC

is more and more abandoned due to:

- + Acid generating smoke toxicity
- + Enhanced danger to life and health in case of fire
- + Severe damage to infrastructure in case of fire due to toxic/acid gas



Certificates and approvals

All Us standards are approved and certified by US labs.



American Society for Testing and Materials



National Fire Protection Association



Standards for rolling stock
EN 45545-2



UL Recognition



Communautés Européennes



Full IP Protection



License for transport of hazardous goods



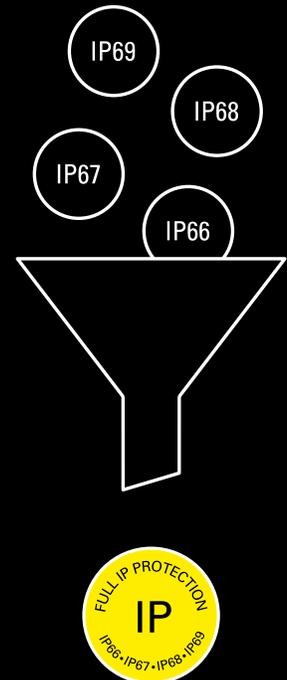
Restriction of Hazardous Substances Directive



Registration, Evaluation, Authorization and restriction of Chemicals.

Ingress protection (IP) according to EN60529

First digit (objects/dust)		Second digit (water)	
0	not protected	0	not protected
1	with diameter $\geq 2''$	1	vertical water drips
2	with diameter $\geq 1''$	2	drips (up to 15° angle)
3	with diameter $\geq 1/10''$	3	spray water (up to 60° angle)
4	with diameter $\geq 1/25''$	4	splashed water
5	protected against dust	5	strong water jet
6	protected against penetration of dust	6	strong water jet with pressure
		7	temporary immersion
		8	continuous immersion
		9	high pressure steam cleaner



Application recommendation

TIGHTENING TORQUE FOR THREADED FITTINGS FIPLOCK® ONE

Product	Tightening torque	
NPT PA6	NPT 1/2	44,3 in-lb
	NPT 3/4	62,0 in-lb
	NPT 1"	79,7 in-lb
	NPT 1 1/4	97,4 in-lb
	NPT 1 1/2	106,2 in-lb
	NPT 2"	106,2 in-lb

Product	Tightening torque	
NPT nickel plated brass	NPT 1/2	70,8 in-lb
	NPT 3/4	79,7 in-lb
	NPT 1"	88,5 in-lb
	NPT 1 1/4	88,5 in-lb
	NPT 1 1/2	132,8 in-lb
	NPT 2"	132,8 in-lb

Product	Tightening torque	
metric PA6	M12	13,3 in-lb
	M16	26,6 in-lb
	M20	44,3 in-lb
	M25	62,0 in-lb
	M32	79,7 in-lb
	M40	97,4 in-lb
	M50	106,2 in-lb
	M63	115,1 in-lb

Product	Tightening torque	
metric nickel plated brass	M12	62,0 in-lb
	M16	70,8 in-lb
	M20	88,5 in-lb
	M25	97,4 in-lb
	M32	115,1 in-lb
	M40	132,8 in-lb
	M50	132,8 in-lb
	M63	132,8 in-lb

Product	Tightening torque	
PG PA6	PG07	13,3 in-lb
	PG09	17,7 in-lb
	PG11	22,1 in-lb
	PG13,5	26,6 in-lb
	PG16	44,3 in-lb
	PG21	62,0 in-lb
	PG29	79,7 in-lb
	PG36	97,4 in-lb
	PG48	106,2 in-lb

Product	Tightening torque	
PG nickel plated brass	PG07	44,3 in-lb
	PG09	53,1 in-lb
	PG11	53,1 in-lb
	PG13,5	53,1 in-lb
	PG16	62,0 in-lb
	PG21	88,5 in-lb
	PG29	88,5 in-lb
	PG36	132,8 in-lb
	PG48	132,8 in-lb

Data on the tightening torques, mentioned above, are based on values in connection with our corresponding polyamide or metal lock nuts.

TIGHTENING TORQUE TO COMPRESSION NUT FOR STRAIN RELIEF FITTINGS, FIPLOCK® ONE AZPA

Product	Tightening torque	
NPT PA6	NPT 1/4	-
	NPT 3/8	22,1 in-lb
	NPT 1/2	29,2 in-lb
	NPT 3/4	44,3 in-lb
	NPT 1"	44,3 in-lb
	NPT 1 1/4	-
	NPT 1 1/2	-
	NPT 2"	-

Product	Tightening torque	
NPT nickel plated brass	NPT 1/4	70,8 in-lb
	NPT 3/8	88,5 in-lb
	NPT 1/2	106,2 in-lb
	NPT 3/4	106,2 in-lb
	NPT 1"	159,3 in-lb
	NPT 1 1/4	159,3 in-lb
	NPT 1 1/2	177,0 in-lb
	NPT 2"	177,0 in-lb

metric PA6	M12 x 1,5	13,3 in-lb
	M16 x 1,5	26,6 in-lb
	M20 x 1,5	53,1 in-lb
	M25 x 1,5	70,8 in-lb
	M32 x 1,5	88,5 in-lb
	M40 x 1,5	115,1 in-lb
	M50 x 1,5	132,8 in-lb
	M63 x 1,5	141,6 in-lb

metric nickel plated brass	M12 x 1,5	70,8 in-lb
	M16 x 1,5	88,5 in-lb
	M20 x 1,5	106,2 in-lb
	M25 x 1,5	106,2 in-lb
	M32 x 1,5	159,3 in-lb
	M40 x 1,5	159,3 in-lb
	M50 x 1,5	177,0 in-lb
	M63 x 1,5	177,0 in-lb

PG PA6	PG07	15,0 in-lb
	PG09	22,1 in-lb
	PG11	22,1 in-lb
	PG13,5	22,1 in-lb
	PG16	29,2 in-lb
	PG21	44,3 in-lb
	PG29	44,3 in-lb
	PG36	44,3 in-lb
	PG48	44,3 in-lb

PG nickel plated brass	PG07	55,3 in-lb
	PG09	55,3 in-lb
	PG11	55,3 in-lb
	PG13,5	55,3 in-lb
	PG16	66,4 in-lb
	PG21	88,5 in-lb
	PG29	88,5 in-lb
	PG36	88,5 in-lb
	PG48	88,5 in-lb

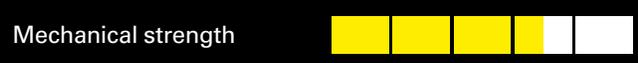
FILLING RATE OF CONDUITS

We recommend a filling rate of up to 70% for the best possible operation performance.

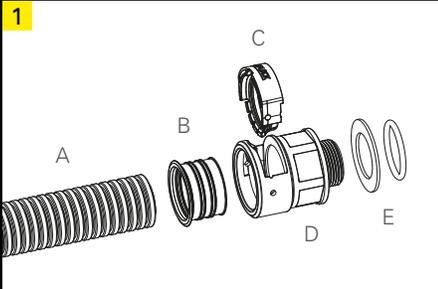
Product overview

Product	Thread material	Thread type
ASPA-M	polyamide	metric
ASPA-PG	polyamide	PG
ASPA-NPT	polyamide	NTP
ASPA-MMK	nickel plated brass	metric short thread
ASPA-MML	nickel plated brass	metric long thread
ASPA-PGM	nickel plated brass	PG
AWPA-M/AEPA-M	polyamide	metric
AWPA-PG/AEPA-PG	polyamide	PG
AWPA-NPT/AEPA-NPT	polyamide	NTP
AWPA-MMK/AEPA-MMK	nickel plated brass	metric short thread
AWPA-MML/AEPA-MML	nickel plated brass	metric long thread
AWPA-PGM/AEPA-PGM	nickel plated brass	PG
ATPA	–	–
ATPA-CA	–	–
AYPA	–	–

Product Performances

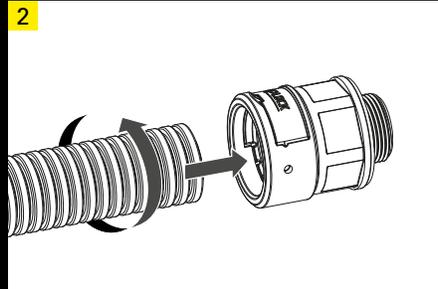


Assembly instruction



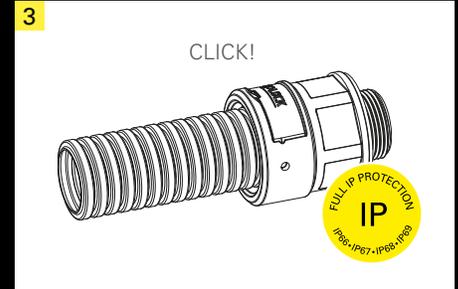
Components

- A: Corrugated conduit (cut in fold)
 - B: Conduit seal
 - C: O-lock clip
 - D: Conduit fitting
 - E: Thread sealing washer (optional
O-ring for metal thread fittings)
- B, C, D are delivered pre-assembled.

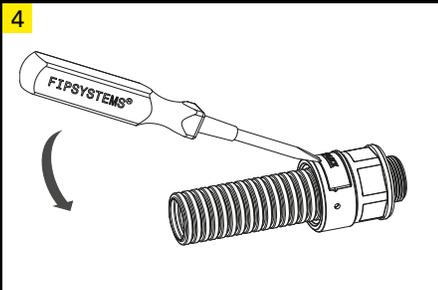


Assembling

Push the conduit (A) with a slight twist into the pre-assembled fitting body (B, C, D). Optional water or lubricant at the conduit end or inside the conduit seal can simplify the assembling.

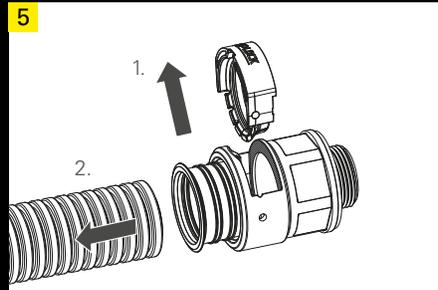


Fully inserted to the stop, a safe and reliable connection is ensured with high endurance and highest IP rating performance.

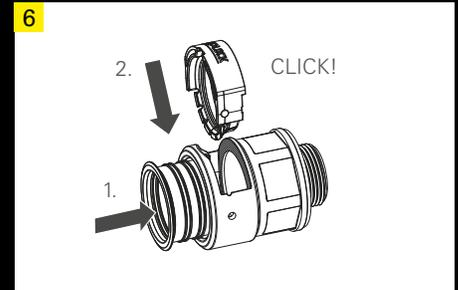


Re-opening and reuse of the fitting

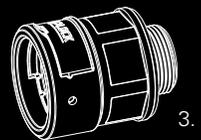
Lift and release the O-Lock clip (C) by applying a screw driver in the slot of the O-Lock clip (C) and bending the same towards the conduit axis.



1. Fully pull-out the O-Lock clip (C) by hand.
2. Pull out the conduit (A) from the fitting (B).



1. Simply push the conduit seal (D) with a finger or a pin fully back into the fitting.
2. Re-apply the O-Lock clip (C) with a click into the foreseen position.
3. The fitting is ready for re-use. Back to step 2.



FRÄNKISCHE Industrial Pipes: A world full of solutions

FRÄNKISCHE Industrial Pipes is a wholly-owned subsidiary of FRÄNKISCHE ROHRWERKE, the **inventor of corrugated tubes**. We develop products with our **customers' needs** in mind. Our international team of experts with their versatile skills strives to achieve their common goal: **Making our customers' lives easier**.

The **versatile competences** of our **international experts** are globally networked in order to stay close to the customer. With our **diversified teams of professionals** we are in a position to see through the eyes of our customers and to perceive their needs. This is how we combine our personal experience with that of our customers in order to develop brand-new products and innovative solutions.

Our headquarters



Our production sites



Fraenkische USA, LP Anderson / SC, USA

Beginning production in June 2003, Fraenkische USA (FIP USA) is located in Anderson, SC and is North American headquarters for FRAENKISCHE Industrial Pipes. FIP USA is a fully staffed production facility that is 48600 ft² that has steadily increased production capacity and product complexity over the years.

Today FIP USA has **over 200 employees** operating and supporting **9 corrugation lines** including multi-layer capability, a 3 layer smooth tube line, 3 thermoforming ovens, a large assembly operation and offsite warehousing.

FIP USA is **fully accredited TS16949, ISO9001 & 14001** supplying a multitude of Global OEM, Tier1 and Tier 2 customers.

Your contact to our local facility:

FRÄNKISCHE USA, LP | 416 A.M. Ellison Road | Anderson, SC 29621

Blair Nolen, Director of Sales, N.A.: blair.nolen@fraenkische-usa.com

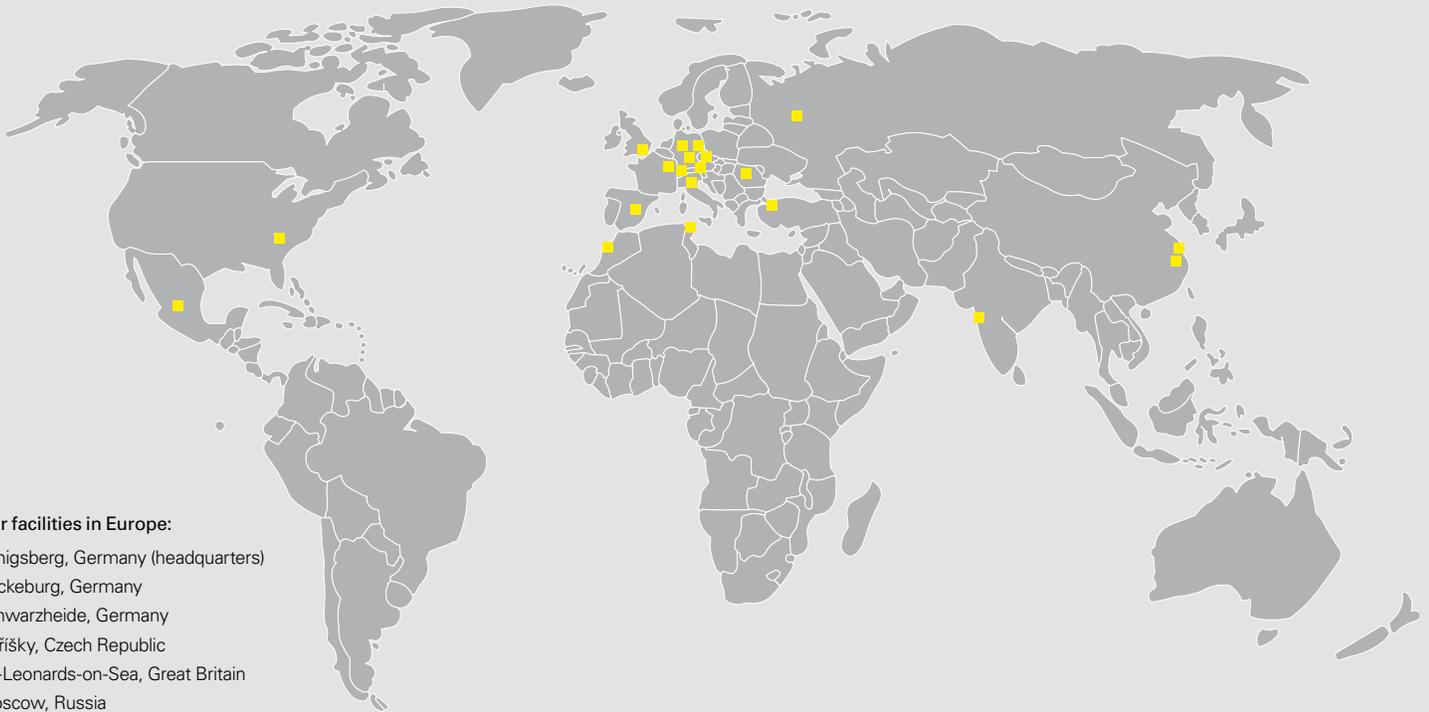
Tim Timmons, Industrial Sales Engineer: tim.timmons@fraenkische-usa.com



FRÄNKISCHE

FRAENKISCHE USA

Rooted in Königsberg – globally successful!



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Schwarzheide, Germany
Okříšky, Czech Republic
St.-Leonards-on-Sea, Great Britain
Moscow, Russia
Yeles/Toledo, Spain
Torcy-le-Grand, France
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Mönchaltorf, Switzerland
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Our facilities in Africa:

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Our facilities in Asia:

Anting/Shanghai, China
Hangzhou, China
Pune, India

FRÄNKISCHE is an industry leader in the design, manufacturing and marketing of technically superior pipe systems, shafts and system components made of plastic and metal, and offers solutions for building construction, civil engineering, automotive and industrial applications.

Founded in 1906, the company is a third-generation family-owned business with around 4,200 employees working at production and sales facilities around the globe.

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