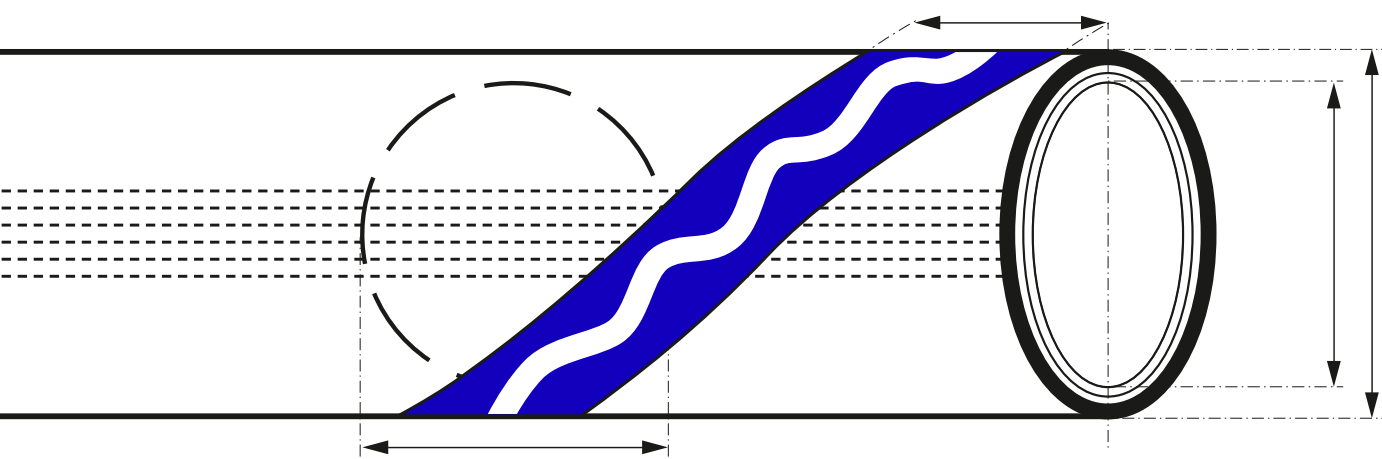


ELAFLEX



SCHLAUCH + ARMATURENTECHNIK
Sales Division PAL Chemical Hoses



PAL High Quality Hoses

CHEMICAL INDUSTRY

Edition 7.2011

made in Germany by

CONTITECH®

PAL High Quality Hoses: Exceeding Standards Requirements.

The PAL range of hoses, manufactured by CONTITECH, stand for reliability, security and long service life. More than sixty years of experience in the construction, development and production of high quality hoses underlines the expertise.

Modern manufacturing equipment, special fabrication procedures, the use of high-grade raw materials and continuous production controls guarantee first class products.

This, together with our long international experience in product application and distribution are the basis for customer satisfaction.

Construction Features

The hose covers are resistant to abrasion, ozone and UV and electrically conductive (elastomer basis: CR or EPDM).

The reinforcements consist of quality textile braids. SD (suction and delivery) hoses are additionally provided with an incorporated steel wire helix.

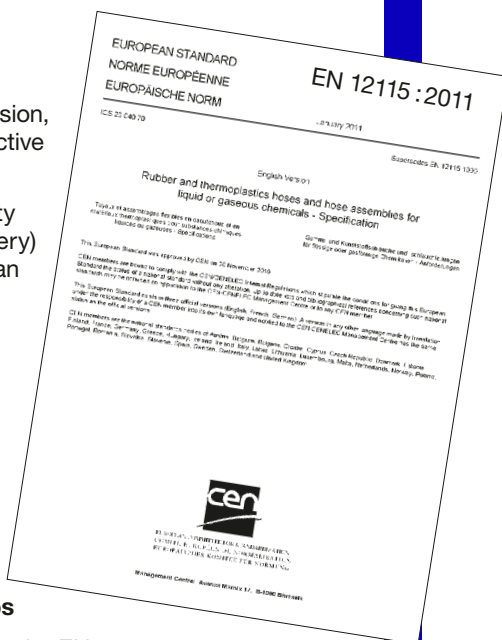
Working pressure 16 bar, minimum burst pressure 64 bar (higher values for Butapal and Pyropal).

Allowable vacuum see table next page.

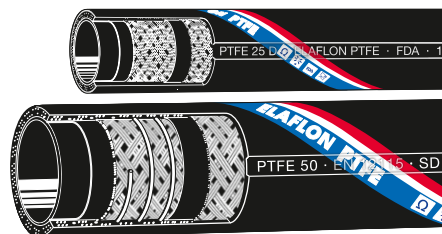
Economical and safe - reusable couplings with SPANNLOC and SPANNFIX clamps

All coupling systems as mentioned in the EN 14420 standard are suitable for PAL chemical hoses.

Self-assembly is possible.



ELAFLON® PTFE



Universal Hose

Lining

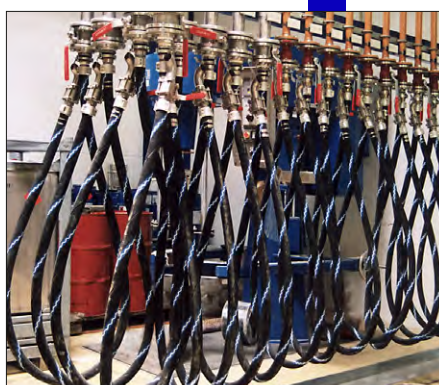
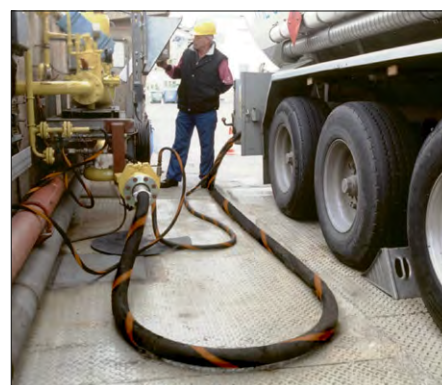
- homogeneous, smooth bore, seamless
- PTFE (polytetrafluoroethylene), black
- conform to FDA und USP Class VI
- suitable for all standard chemicals
- temperature range -30 up to +150° C (depending on media)
- steaming out for cleaning up to +150° C, max. 30 min., open ends

Electr. conductive Ω/T (EN 12115:2011)

Detailed catalogue page available.

Ausf.	DN	13	19	25	32	38	50	63	75	100
D										
SD										

- = Standard stock size
- = Special production D
- = Special production SD



ELAFLON® PLUS FEP



Universal Hose

Lining

- homogeneous, smooth bore, seamless
- FEP (Teflon® FEP fluorethylene propylene), transparent
- conform to FDA und USP Class VI
- suitable for all standard chemicals up to +100° C, briefly up to +130° C
- steaming out for cleaning up to +150° C, max. 30 min., open ends

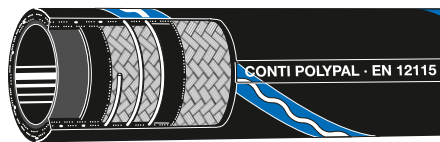
Cover: EPDM light grey, with OHM-conductive stripe (up to DN 50) or black (DN 63-100)

Electr. conductive Ω (EN 12115:2011)

Detailed catalogue page available.

Version	DN	13	19	25	32	38	50	63	75	100
D										
SD										

POLYPAL® PLUS



Universal Chemical Hose

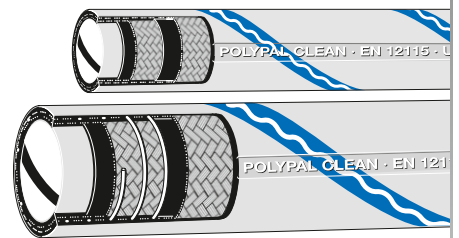
Lining

- homogeneous, smooth bore
- UPE (ultra high molecular polyethylene), black
- suitable for almost all chemicals and petroleum based products as well as solvents at temperatures from -30 bis +100° C
- not suitable for oleum, bromine and chlorosulphoric acid
- steaming out for cleaning up to +130° C, max. 30 min., open ends

Electr. conductive Ω/T (EN 12115:2011)

Version	DN	13	19	25	32	38	50	63	75	100
D										
SD										

POLYPAL® CLEAN



Universal Chemical Hose "CLEAN"

Lining

- homogeneous, smooth bore
- UPE white, with conductive OHM spiral stripe, no discolouration
- conform to FDA und USP Class VI. Fulfills requirements of Regulation EC 1935/2004 and of the Commission Directive 2002/72/EC
- suitable for almost all liquid or viscous media at temperatures from -30 bis +100° C
- not suitable for oleum, bromine and chlorosulphoric acid
- steaming out for cleaning up to +130° C, max. 30 min., open ends

Electr. conductive Ω/T (EN 12115:2011)

Detailed catalogue page available.

Version	DN	13	19	25	32	38	50	63	75	100
D										
SD										

Explanations with regard to the range of dimensions

1) To avoid hose damage please observe the stated minimum bending radius. Especially hoses with helix and hoses with thermo-plastic linings must not be overbent to avoid kinking. Anti-kinking spirals to protect the area near the couplings are available on request.

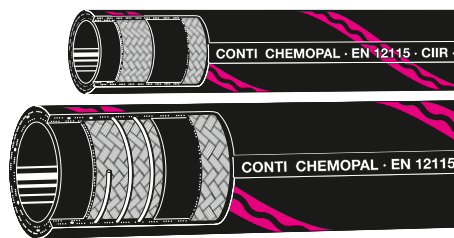
2) These values are not valid in case of conveying strongly oxidizing chemicals; in these cases please consult us.

3) Only valid in case of at least 1 bar pressure, otherwise the hose kinks. For transportation and stocking, hoses DN 75 and 100 mm may be rolled flat.

Dimensions according to EN 12115	Nominal Bore DN [mm]	Wall Thickness [mm]	1) Min. Bending Radius [mm]		Weight per Metre [~ kg]	2) Max. Vacuum [bar]
			Elafion Plus FEP/ PTFE, Polypal Plus, Polypal Clean	Solvapal, Chemopal, Tecnopap, Tankapal Butapal, Pyropal		
Delivery hoses without helix (Version D)	13	5	80	80	0,35	–
	16	5	100	90	0,42	–
	19	6	125	100	0,6	–
	22	6	130	130	0,6	–
	25	6	150	150	0,8	–
	32	6	175	175	1,0	–
	38	6,5	225	200	1,3	–
	50	8	275	250	2,0	–
	63	8	300	300	2,4	–
	75	8	–	350 ³⁾	2,8	–
Suction and deliver hoses with helix (Version SD)	100	8	–	450 ³⁾	3,8	–
	13	5	80	70	0,4	0,9
	19	6	125	80	0,7	0,9
	25	6	150	90	0,9	0,9
	32	6	175	100	1,2	0,9
	38	6,5	225	110	1,5	0,9
	50	8	275	140	2,1	0,9
	63	8	300	180	2,8	0,9
75	8	350	200	3,3	0,9	
100	8	500	400	4,7	0,9	

Production lengths: 40 metres · Tolerances correspond to EN 12115 · N.B. values vary depending on type, please enquire

CHEMOPAL®



Chemical Hose

Lining

- homogeneous, smooth bore
- CIIR (chlorobutyl rubber), black
- suitable for a large number of alkalis, acids, acetates, aldehydes, amines, esters, ethers and ketones
- not suitable for aliphatic, aromatic and halogenated hydrocarbons and their derivatives
- temperature range -40 up to +90° C
- steaming out for cleaning up to +150° C, max. 30 min., open ends

Electr. conductive Ω/T (EN 12115:2011)

Version	DN	13	16	19	25	32	38	50	63	75	100
D											
SD											

Marking

- characteristic coloured spiral stripe
- abrasion-resistant continuous embossing complying with standard, see examples below

PTFE 50 · EN 12115 · SD · Ω/T · ELAFLOX PTFE · FDA · 150° · TRbF 131 · Ω · PN 16 BAR

FEP 50 · ELAFLOX PLUS · EN 12115 · FEP · SD · TRbF 131 · Ω · PN16 · 7.11

CONTI POLYPAL PLUS 50 · EN 12115 · UPE · SD · Ω/T · PN 16 · 7.11

CONTI PCS 50 · POLYPAL CLEAN · EN 12115 · UPE · SD · Ω/T · PN 16 · 7.11

CONTI CHEMOPAL 50 · EN 12115 · CIIR · D · Ω/T · PN 16 · 7.11

CONTI TECNOPAL 75 · EN 12115 · EPDM · SD · Ω/T · PN 16 · 7.11

CONTI SOLVAPAL 32 · EN 12115 · NBR2 · D · Ω/T · PN 16 · 7.11

CONTI BUTAPAL 50 · D · EN 1762 · DVGW · PN 25 BAR · Ω · 7.11

CONTI PYROPAL 164 L · DN 19 · EN ISO 6134 · EPDM · DAMPF · Ω · PN 6 · 7.11

SD 50 · PYROPAL 230 · EN ISO 6134 · 2 A · EPDM · DAMPF · 210° · Ω · PN 18

TECNOPAL®



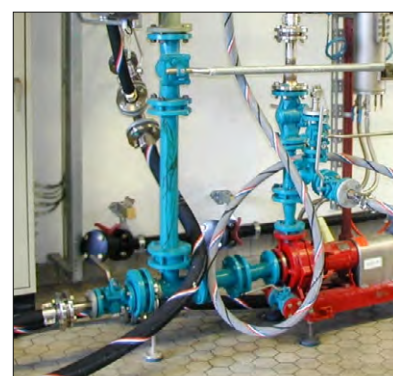
Chemical Hose

Lining

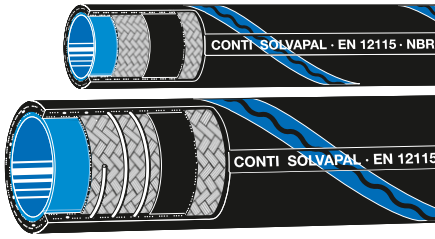
- homogeneous, smooth bore
- EPDM (ethylene propylene rubber), black
- suitable for acids, alkalis, salt solutions, alcohols, polar solvents, acetates, aldehydes, ester, ketones, hot cooling water, hot air (not oily)
- not suitable for aliphatic, aromatic and halogenated hydrocarbons and their derivatives
- temperature range -40 up to +100° C
- steaming out for cleaning up to +150° C, max. 30 min., open ends

Electr. conductive Ω/T (EN 12115:2011)

Version	DN	13	19	22	25	32	38	50	63	75	100
D											
SD											



SOLVAPAL®



Solvent Hose

Lining

- homogeneous, smooth bore
- NBR special compound, blue
- suitable for most solvents, paints, also water based, petroleum based products, alcohols, aldehydes, esters and ketones, briefly also for aromatic and chlorinated hydrocarbons
- temperature range -20 up to +80° C (briefly up to +100° C)
- steaming out for cleaning up to +130° C, max. 30 min., open ends

Electr. conductive Ω/T (EN 12115:2011)

Version	DN	19	25	32	38	50	63	75	100
D									
SD									

BUTAPAL®



Liquid Petroleum Gas Hose according to EN 1762

Lining

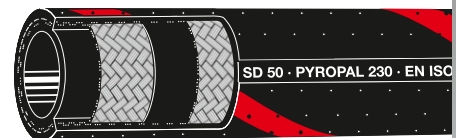
- homogeneous, smooth bore
- NBR, black
- suitable for L.P. Gas and natural gas (gaseous)
- not suitable for ammonia
- temperature range -40 up to +80° C
- working pressure 25 bar, burst pressure > 100 bar
- DVGW approved

Electrically dissipative Ω (EN 1762)

Detailed catalogue page available.

Version	DN	13	19	25	32	38	50	75	100
D									

PYROPAL® 230



Hose for Saturated Steam 18 bar according to EN ISO 6134

Lining

- homogeneous, smooth bore
- EPDM, black
- suitable for saturated steam +210° C (18 bar) and hot water up to +120° C

Reinforcements

- 2 layers of zinc plated steel braids, asymmetrically woven
- burst pressure > 180 bar

Electrically dissipative Ω (EN ISO 6134)

Detailed catalogue page available.

Version	DN	13	19	25	32	38	50
D							

For low pressure steam application use **PYROPAL® 164 L**, available DN 19 + 25 ex stock. Further sizes on request.

Further catalogue material available:

Resistance Chart
PAL HIGH QUALITY HOSES FOR THE CHEMICAL INDUSTRY

Chemical	19	25	32	38	50	63	75	100
Water	✓	✓	✓	✓	✓	✓	✓	✓
Alcohol	✓	✓	✓	✓	✓	✓	✓	✓
Acetic acid	✓	✓	✓	✓	✓	✓	✓	✓
Hydrochloric acid	✓	✓	✓	✓	✓	✓	✓	✓
Sulfuric acid	✓	✓	✓	✓	✓	✓	✓	✓
Nitric acid	✓	✓	✓	✓	✓	✓	✓	✓
Phosphoric acid	✓	✓	✓	✓	✓	✓	✓	✓
Ammonia	✓	✓	✓	✓	✓	✓	✓	✓
Hydrogen peroxide	✓	✓	✓	✓	✓	✓	✓	✓
Hydrogen sulfide	✓	✓	✓	✓	✓	✓	✓	✓
Hydrogen cyanide	✓	✓	✓	✓	✓	✓	✓	✓
Hydrogen fluoride	✓	✓	✓	✓	✓	✓	✓	✓
Hydrogen bromide	✓	✓	✓	✓	✓	✓	✓	✓
Hydrogen iodide	✓	✓	✓	✓	✓	✓	✓	✓
Hydrogen chloride	✓	✓	✓	✓	✓	✓	✓	✓
Hydrogen fluoride	✓	✓	✓	✓	✓	✓	✓	✓
Hydrogen bromide	✓	✓	✓	✓	✓	✓	✓	✓
Hydrogen iodide	✓	✓	✓	✓	✓	✓	✓	✓
Hydrogen chloride	✓	✓	✓	✓	✓	✓	✓	✓

PYROPAL® 230
High Pressure Steam Hose acc. to DIN 2825

Normal	Wall	Min. Bending	Weight
Chlorine CR (mm)	Thickness (mm)	Radius (mm)	per Meter (kg)
19	3.0	100	0.8
25	3.5	125	1.0
32	4.0	150	1.3
38	4.5	175	1.6
50	5.5	225	2.2
63	6.5	280	3.0
75	7.5	330	3.8
100	9.0	400	5.0

BUTAPAL®
L.P. Gas Hose according to EN 1762-1997

Normal	Wall	Min. Bending	Weight
Chlorine CR (mm)	Thickness (mm)	Radius (mm)	per Meter (kg)
13	2.0	50	0.3
19	2.5	75	0.5
25	3.0	100	0.8
32	3.5	125	1.1
38	4.0	150	1.4
50	5.0	190	2.0
75	6.0	240	2.8
100	7.0	300	3.8

ELAFLEX® PLUS FEP

ELAFLEX® PTFE

POLYPAL® CLEAN



The Complete Hose System from your PAL Service Partner

PAL chemical hoses are distributed by authorized Service Partners.

The right hose for every medium -
the right coupling for every hose :
PAL Service Partners will give you
expert advice and supply the complete
hose assembly with either threaded
end fittings, quick couplings or flanged
ends. Professionally mounted with safety
clamps, checked and certified.

ELAFLEX - Gummi Ehlers GmbH

Schnackenburgallee 121
22525 Hamburg / Germany

Tel +49 40 540 00 5 - 0
Fax +49 40 540 00 5 - 67

E-Mail info@elaflex.de
Internet www.elaflex.de

YOUR PAL SERVICE PARTNER: