

# Railway Hoses

from ContiTech

## ContiTech Railway Hoses

### High-performance hoses for modern railways

As one of the world's leading suppliers of technical elastomer products and a specialist for plastics technology, ContiTech Fluid Technology develops and manufactures a wide range of high-quality railway hoses that covers all applications in international railway business.

ContiTech Fluid Technology is the leading developer and manufacturer of high-quality hoses and hose lines for a wide range of different industrial and commercial applications.

With a comprehensive range of high-quality railway hoses we are helping to make passenger and cargo transport by rail safer and more convenient. This is based on our long-standing expertise with both materials and processes, which in turn is based on more than 100 years of experience in the production of technical elastomer products.

The railway hoses are made of high-quality rubber compounds in line with the latest engineering standards and in compliance with national and international standards. They are subject to constant quality checks, meet the most stringent fire protection requirements, and have an impressive reliability, safety and durability record as well as being extremely flexible and easy to handle.

As a supplier to the international rail industry we achieve customer-specific solutions with corresponding marking which are tailor-made precisely to customer requirements.



# AQUAPAL® DB

## The highly flexible hose for potable water for rail requirements

The **AQUAPAL® DB** hose for potable water is pure, highly flexible and robust and has been especially developed for railway needs. The special lining is absolutely neutral to odour and taste. It has been tested according to the KTW (Contact with Drinking Water) "Pipes" guideline and DVGW W270 from the gas and water industry certification body, and approved by the German Railway, (Deutsche Bahn AG) as a hose for potable water. It also has a fire protection and smoke gas toxicity certificate according to DIN 5510-2.

### Technical data

nominal width	inner-Ø	wall thickness	spiral hose	working pressure		min. burst pressure		min. bending radius	weight
zoll / inch	mm	mm		bar	psi	bar	psi	approx. mm	approx. g/m
1/2	13	3,6		20	290	60	870	75	250
3/4	19	4,2		20	290	60	870	110	420
1	25	4,5		20	290	60	870	145	570
1	25	6,0	*	20	290	60	870	115	965
1 1/4	32	5,5		20	290	60	870	280	870
1 3/8	35	6,0		20	290	60	870	305	1053
1 9/16	40	6,5		20	290	60	870	360	1308
1 5/8	42	6,0		20	290	60	870	380	1237
1 3/4	45	7,5		20	290	60	870	390	1678

Pressure based on room temperature / High pressure and/or temperature lead to reduced component durability



- Special transparent lining free of plasticizers, according to FDA (21 CFR 177.2600)
- Reinforcement through synthetic fibres
- Red, fabric-patterned CR-EPDM cover, resistant to ozone, weather, UV rays, sewage and grease, abrasion
- Working pressure up to 20 bar / 290 psi
- Temperature resistance from -20°C to +90°C / -4°F to +194°F
- Can be steamed up to +130°C / +266°F (max. 30 minutes)
- Absolutely neutral to odour and taste
- Highly flexible and can be driven over (except versions with integrated steel wire helix)
- Meets the KTW guideline "Pipes", DVGW W270
- Fire and smoke gas toxicity behaviour according to DIN 5510-2
- Hose for potable water, approved by Deutsche Bahn AG
- Further nominal widths and individual requirements / markings on request



# CONTI® Pneumatic Hose according to UIC 830-1/V

## Flexible pneumatic hose for use in rail vehicles

The **CONTI® pneumatic hose** is ideal for installation between carriages. The safe pneumatic hose meets the requirements of the International Union of Railways (UIC 830-1/V) and has been approved by the Deutsche Bahn AG. Its specific rubber compound and design make the hose particularly robust, durable, flexible and kink-proof. It meets the requirements on preventative fire protection according to DIN 5510-2. The hose is also available with chamfered ends on request.

- Black, non-porous and smooth lining
- Reinforcement through synthetic fibres
- Black cover, resistant to ozone, weather and oil
- Temperature resistance from -30°C to +70°C / -22°F to +158°F
- Temperature resistance variants available from -40°C to +70°C / -40°F to +158°F
- Optionally available with chamfered ends
- Meets the requirements of fire and smoke gas toxicity according to DIN 5510-2
- In accordance with UIC 830-1/V
- Approved by Deutsche Bahn AG
- Further nominal widths and individual requirements / markings on request



### Technical data

nominal width	inner-Ø	wall thickness	spiral hose	working pressure	min. burst pressure	min. bending radius	weight
zoll / inch	mm	mm		bar	psi	approx. mm	approx. g/m
1/2	13	6,0		10	145	104	430
5/8	16	6,0		10	145	128	490
7/8	22	7,0		10	145	176	770
1 1/8	28	7,5		10	145	224	1010
1 1/8	28	9,0		10	145	224	1270
1 3/8	35	9,0		10	145	280	1520

Pressure based on room temperature / High pressure and/or temperature lead to reduced component durability

## CONTI® Wastewater Hose

### Flexible hose for the conveyance of sewage and waste water

The highly flexible **CONTI® waste water hose** meets all the requirements of day-to-day railway business. It has impressive durability and load-bearing properties. The black, non-porous and smooth lining has been designed for the safe conveyance of sewage, condensation and waste water. The sturdy, abrasion-proof cover is resistant to ozone, weather, UV rays and sewage. The hose meets the requirements of preventative fire protection according to DIN 45545-2.

- ◊ Black, non-porous and smooth lining
- ◊ Reinforcement through synthetic fibres
- ◊ Black cover, abrasion-proof, resistant to ozone, weather, UV rays, sewage and vacuum
- ◊ Temperature resistance from -40°C to +95°C / -40°F to +203°F, short periods up to +125°C / +257°F
- ◊ Different pressure stages possible
- ◊ Meets the requirements for to DIN EN 45545-2 (R22 + R23)
- ◊ Meets the requirements of fire and smoke gas toxicity according to DIN 5510-2
- ◊ Further nominal widths and individual requirements / markings on request

#### Technical data

nominal width	inner-Ø	wall thickness	spiral hose	working pressure		min. burst pressure		min. bending radius	weight
zoll / inch	mm	mm		bar	psi	bar	psi	approx. mm	approx. g/m
3/4	19	6,0	*	5	72	24	348	95	780
7/8	22	5,5	*	5	72	24	348	110	790
1	25	8,0	*	5	72	24	348	125	1360
1 1/2	38	10,0	*	5	72	24	348	190	2490
2	50	10,0	*	5	72	24	348	250	3110

Pressure based on room temperature / High pressure and/or temperature lead to reduced component durability

## CONTI® cooling water hose

### Cooling water hose for air-conditioning and heating systems

The **Conti® cooling water hose** has been designed for use in air-conditioning and heating systems in trains. The hose is resistant to temperatures up to +95°C, short periods up to +125°C. The EPDM hose remains extremely flexible over its whole service life, is resistant to coolant and commonly used antifreeze and corrosion protection additives. Its characteristic properties also include resistance to ozone and UV rays, and durability. The cooling water hose meets the requirements of fire and smoke gas toxicity according to DIN 45545-2.

- ◊ Black, non-porous and smooth EPDM lining
- ◊ Reinforcement through synthetic fibres
- ◊ Black, smooth EPDM cover, abrasion-proof, resistant to ozone, weather and UV rays, fabric-patterned from normal diameter 25
- ◊ Different pressure stages possible
- ◊ Temperature resistance from -40°C to +95°C / -40°F to +203°F, short periods up to +125°C / +257°F
- ◊ Meets the requirements for DIN EN 45545-2 (R22 + R23)
- ◊ Meets the requirements of fire and smoke gas toxicity according to DIN EN 5510-2
- ◊ Further nominal widths and individual requirements / markings on request

#### Technical data

nominal width	inner-Ø	wall thickness	spiral hose	working pressure		min. burst pressure		min. bending radius	weight
zoll / inch	mm	mm		bar	psi	bar	psi	approx. mm	approx. g/m
3/8	10	4,5		12	174	36	522	100	290
3/4	20	4,5		12	174	36	522	200	490
1	25	7,5		20	290	120	1740	250	1080

Pressure based on room temperature / High pressure and/or temperature lead to reduced component durability

# CONTI® Cable Protection Hose

## Flexible hose for the protection of electrical cables installed in carriages and locomotives

ContiTech is a recognised supplier of protection hoses. The highly flexible **CONTI® cable protection hose** is ideal for use in railway carriages and locomotives and has impressive durability properties and load-bearing capacity. Its black cover is resistant to ozone, weather and UV rays. It is also abrasion-proof and electrically insulating. In addition, the sturdy protection hose meets the requirements of fire and smoke gas toxicity according to DIN 45545-2.

- ◊ Black, non-porous and smooth lining
- ◊ Reinforcement through synthetic fibres
- ◊ Black cover, abrasion-proof, resistant to ozone, weather, UV rays
- ◊ Temperature resistance from -40°C to +95°C / -40°F to +203°F, short periods up to +125°C / +257°F
- ◊ Different pressure stages possible
- ◊ Electrical insulation
- ◊ Meets the requirements for DIN EN 45545-2 (R22 + R23)
- ◊ Meets the requirements of fire and smoke gas toxicity according to DIN EN 5510-2
- ◊ Further nominal widths and individual requirements / markings on request



### Technical data

nominal width	inner-Ø	wall thickness	spiral hose	working pressure		min. burst pressure		min. bending radius	weight
zoll / inch	mm	mm		bar	psi	bar	psi	approx. mm	approx. g/m
1/4	7	3,5		3	43	12	174	65	140
1/2	13	3,5		3	43	12	174	130	230
3/4	19	6,0		5	72	24	348	190	680
7/8	22	5,3		5	72	24	348	220	690
1	25	8,0		5	72	24	348	250	1170
1 1/2	38	10,0		5	72	24	348	380	2170
2	50	10,0		5	72	24	348	500	2710

Pressure based on room temperature / High pressure and/or temperature lead to reduced component durability

## Hydraulic Hose 2TE

### For the safe transport of hydraulic oil

Material and design make the high-performance hose particularly sturdy, durable and flexible, and thus perfectly equipped for the requirements of railway operation. The black, non-porous, smooth lining is perfect for the safe conveyance of hydraulic oil. The black cover is highly abrasion-proof and resistant to grease, oil, ozone and other weather-related influence.

- Black, non-porous and smooth lining
- Reinforcement through synthetic fibres
- Black, abrasion-proof cover resistant to grease, oil, ozone, weather and UV rays
- Temperature resistance from -40°C to +100°C / -40°F to +212°F (short periods up to +125°C / +257°F)
- Ready-assembled hoses
- Tested according to DIN 5510-2
- Further nominal widths and individual requirements / markings on request



#### Technical data

nominal width	inner-Ø	wall thickness	spiral hose	working pressure		min. burst pressure		min. bending radius	weight
Zoll / inch	mm	mm		bar	psi	bar	psi	approx. mm	approx. g/m
1/4	6,4	3,5		75	1088	300	4351	40	150
5/16	7,9	3,5		68	986	272	3945	50	175
3/8	9,5	3,5		63	914	252	3655	60	207
1/2	12,7	3,5		58	841	232	3365	70	255
5/8	15,9	4,0		50	725	200	2901	90	340
3/4	19,0	4,0		45	653	180	2611	110	415
1	25,4	4,5		40	580	160	2321	150	586
1 1/4	31,8	4,5		35	508	140	2031	190	636

Pressure based on room temperature / High pressure and/or temperature lead to reduced component durability



## Fuel Hoses

### For safe transport of diesel, biodiesel and other fuels

The **fuel hoses** are ideal for the safe and reliable conveyance of diesel (EN 590), biodiesel (EN 14214) and all fuels, including diesel fuels containing vegetable oil methyl ester (RME). A sophisticated combination of materials and design make the fuel hoses extremely resistant to heat and very flexible, which means they can be routed in the tightest of bending radii. The hoses stand out thanks to their minimum fuel permeability and electrical conductivity.

- ◊ Extremely flexible
- ◊ Tested according to DIN 5510-2
- ◊ Further nominal widths and individual requirements / markings on request



Properties of fuel hoses for diesel and biodiesel

- ◊ Black, non-porous, smooth FKM lining
- ◊ Reinforcement through synthetic fibres
- ◊ Black, abrasion-proof AEM cover resistant to grease, oil, weather and UV rays
- ◊ Suitable for diesel (EN 590) + biodiesel (EN 14214)
- ◊ High temperature resistance from -40°C / -40°F to +160°C / +320°F, short periods up to +180°C / +356°F
- ◊ Can be routed in the tightest of bending radii

#### Technical data for FKM/AEM fuel hose

nominal width	inner-Ø	wall thickness	spiral hose	working pressure		min. burst pressure		min. bending radius	weight
zoll / inch	mm	mm		bar	psi	bar	psi	approx. mm	approx. g/m
3/8	10	3,5	x	15	217	120	1740	35	190
1/2	12	3,5	x	15	217	120	1740	45	210

Pressure based on room temperature / High pressure and/or temperature lead to reduced component durability



Properties of fuel hoses for fuels

- ◊ Black, non-porous, smooth FKM lining
- ◊ Reinforcement through synthetic fibres
- ◊ Black, abrasion-proof CSM cover resistant to grease, oil, weather and UV rays
- ◊ Suitable for all fuels, including diesel fuels containing vegetable oil methyl ester (RME)
- ◊ Temperature resistance from -40°C / -40°F to +125°C / +257°F, short periods up to +150°C / +302°F
- ◊ Minimum fuel permeability
- ◊ Electrically conductive

#### Technical data for FKM/HNBR/CSM fuel hose

nominal width	inner-Ø	wall thickness	spiral hose	working pressure		min. burst pressure		min. bending radius	weight
zoll / inch	mm	mm		bar	psi	bar	psi	approx. mm	approx. g/m
5/16	8	3,5		25	362	50	725	80	180
3/8	10	3,5		25	362	50	725	80	210
1/2	12	3,5		25	362	50	725	100	230
5/8	15	4,0		35	508	70	1015	110	330

Pressure based on room temperature / High pressure and/or temperature lead to reduced component durability



## PTFE Hose

### High-temperature hose for various applications



With a liner made of high-quality PTFE and steel braiding, the **high-temperature hose** is the best choice for a wide range of different applications in rail vehicles. Structure and design create high thermal resistance and optimum pressure load.

- ▶ Black, non-porous and smooth PTFE lining
- ▶ Reinforcement through steel braiding
- ▶ Temperature resistance from  $-60^{\circ}\text{C}$  /  $-76^{\circ}\text{F}$  to  $+230^{\circ}\text{C}$  /  $+446^{\circ}\text{F}$
- ▶ Tested according to DIN 5510-2
- ▶ Further nominal widths and individual requirements / markings on request

#### Technical data

nominal width	inner-Ø	wall thickness	spiral hose	working pressure		min. burst pressure		min. bending radius	weight
Zoll / inch	mm	mm		bar	psi	bar	psi	approx. mm	approx. g/m
1/6	4,5	1,5		190	2755	760	11022	40	80
1/4	6,4	1,3		170	2465	680	9863	40	100
5/16	7,9	1,4		150	2176	600	8702	50	120
3/8	9,1	1,3		140	2030	550	7977	60	150
1/2	12,5	1,5		105	1523	420	6091	80	210
5/8	15,3	1,6		95	1377	380	5511	120	270

Pressure based on room temperature / High pressure and/or temperature lead to reduced component durability



# High-Temperature Oil Hose

## For the safe transport of lubricating oils

Structure and rubber compound make the **high-temperature oil hose** into an extremely safe and reliable component in oil coolers as well as lubricating, hydraulic and pneumatic systems. The outstanding properties of the hose include good resistance to ozone and weather-related influences, as well as resistance to all common lubricating oils including ATF gear oils and alloyed oils. The polyamide pressure bearings contribute to the strong temperature resistance of the oil hose.

- Black, non-porous and smooth AEM lining
- Reinforcement through synthetic fibres
- Black cover, abrasion-proof, resistant to grease, oil, ozone, weather and UV rays
- Suitable for common lubricating oils (including ATF and alloyed oils)
- Temperature resistance from -40°C / -40°F to +135°C / +275°F, short periods up to +150°C / +302°F
- Tested according to DIN 5510-2
- Further nominal widths and individual requirements / markings on request



### Technical data

nominal width zoll / inch	inner-Ø mm	wall thickness mm	spiral hose	working pressure		min. burst pressure		min. bending radius approx. mm	weight approx. g/m
				bar	psi	bar	psi		
1/4	6	3,0		30	435	350	5076	50	100
3/8	9	3,0		25	362	250	3625	60	140
5/8	16	4,0		20	290	200	2900	100	350
5/8	17	4,0		25	362	200	2900	120	350
3/4	20	5,0		20	290	150	2175	130	490
1	25	5,3		25	362	150	2175	130	580

Pressure based on room temperature / High pressure and/or temperature lead to reduced component durability



# Industrial Competence

## Worldwide

ContiTech offers its wide-ranging business divisions in Air Spring Systems, Compounding, Conveyor Belt Group, Elastomer Coatings, Fluid Technology, Power Transmission Group and Vibration Control.

We offer you for your current and future needs innovative solutions for a wide range of industrial applications. The table shows you all the services we can offer you. Look for your sector in the column on the left and tap into products of interest to you.



### Overview according to industry/product solutions

	Air springs / air actuators	Collapsible containers / tanks	Concertina walls	Drive belts and service material	Coupling elements	Diaphragms / diaphragm materials	Drive belts	Elastomer compounds / sheeting	Compressors	Floor coverings	Gas holder diaphragms	Hoses / hose line systems	Technical substances	Insulation materials	Printing blankets and plates	Sealing elements / molded parts	Conveyor belts and service materials	Vibration Control Technology
<b>Aerospace industry</b>	X	X	X			X				X		X	X					
<b>Agriculture</b>	X	X		X		X	X	X				X				X	X	X
<b>Automotive industry</b>	X			X		X	X	X				X		X		X	X	X
<b>Commercial and industrial vehicles/ buses</b>	X	X	X			X	X	X				X		X		X	X	X
<b>Compensators</b>							X					X						X
<b>Energy industry</b>		X		X	X	X	X	X	X		X	X		X			X	X
<b>Food industry</b>	X						X	X				X		X			X	X
<b>Mechanical and plant engineering</b>	X	X		X	X	X	X	X	X		X	X		X		X	X	X
<b>Mining industry</b>				X			X	X				X					X	
<b>Occupational safety</b>														X		X		
<b>Printing industry</b>	X						X	X				X			X			X
<b>Rail transport technology</b>	X	X	X	X		X	X	X		X		X	X					X
<b>Shipbuilding/port industries</b>	X			X	X		X	X	X			X	X	X				X



## Fluid Technology

Market segment  
Industrial Hoses

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Learn more about  
the contents of this  
brochure.

## ContiTech. Engineering Next Level

As a division of the Continental Group, ContiTech is a recognised innovation and technology leader in natural rubber and plastics. As an industry partner with a firm future ahead of us, we engineer solutions both with and for our customers around the world. Our bespoke solutions are specially tailored to meet the needs of the market. With extensive expertise in materials and processes, we are able to develop cutting-edge technologies while ensuring we make responsible use of resources. We are quick to respond to important technological trends, such as function integration, lightweight engineering and the reduction of complexity, and offer a range of relevant products and services. That way, when you need us, you'll find we're already there.

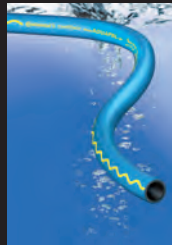
### ContiTech industrial hose program



Hoses for optimal  
welding and cutting



Multipurpose hoses  
for professional  
industrial applications



Potable water hoses



Water hoses for  
industrial and  
commercial use



High-performance  
compressed air hoses

**Together with the technical trade,  
we are developing further hose solutions for your specific application.**