



flamex®

KKS



Special tubing made from flame-retarded, halogen-free PUR, resistant to weld chips and flying sparks



PAPUREX

Every inch a quality product
www.persluchtslang.nl

Wherever there are weld chips and flying sparks, it is the flamex® element!

flamex® – the special Polyurethane (PUR) tube for all applications near welding machines, contact-tongs or flying sparks by grinding machines. It has proven a success in extensive field trials under extreme conditions.

- Extremely resistant against all kinds of weld chips and flying sparks. Maintenance rates could be extended in most cases
- Flame retarded without halogen, self-extinguishing in case of fire. Fire classification by Underwriters Laboratories Inc.®: listed UL 94 from V2 to V0
- Lower costs due to long durability
- Suitable for all common instant plug-in connectors made out of metal or suitable plastics.
- Easy, quick and cheap installation, because there is no need for time-consuming dismantling of double-walled tube. No extra costs arise for special screw connectors!
- Proof against hydrolysis (suitable for applications with/in water)
- Resistant against microbes
- High chemical resistance (most detergents, solvents and other contact media)
- Small bend radius
- Excellent UV-resistance
- Top resistance to abrasion and scrubbing (suitable for drag chains)
- Free of substances retarding lacquer coverage
- High burst pressures
- Suitable for vacuum applications
- Recyclable (basic material could be reused). Disposal permission as industrial waste similar to domestic waste.
- Release of German automotive industry

Suitable for air, water and different gases. Other media might also be possible (every single case should be agreed or be tested by field trial).

Working pressure: - 0.9 bar up to 20 bar (depending on scale of temperature)

Colour of tube: black | Colour of marking: white (Standard); possible on request: red, yellow, green, blue

flamex® is state-of-the-art technology »Made in Germany«. A proven and certified quality management according to DIN EN ISO 9001 guarantees a top quality product.

Delivery range flamex®:

As standard we offer the complete range of nominal diameters up to DN 10. Normally small quantities should be available ex stock. Larger quantities would take us an average time of delivery of 10 days.

Our standard range covers the following tube sizes: (OD x ID in mm):

4 x 2 (DN2); 8 x 4 (DN4); 10 x 6 (DN6); 12 x 8 (DN8); 14 x 10 (DN10); 16 x 11 (DN11)

Tubes of special dimensions on demand. We would be glad to receive your inquiry!

Delivery range KKS:

KKS is a special PUR tube designed for use in cable conduits or on slight or average danger of weld chips and moderate ultraviolet light influence. Fire classification: UL 94 V2.

Standard colours of tube: blue and black.

6 x 4 (DN4); 8 x 5,7 (DN6); 10 x 7,5 (DN8)

Tubes of special dimensions on demand. Looking forward to offer our know-how!

Coils: 50 m

Special services: Tube cuts, possible from 0,1 m up to 2 m | Tube coiled on plastic hasps | Packaging

Technical data sheets for each size are available on request.

Abmessung/ Size 4 x 2 mm

Material: PUR

Markenname: **flamex**[®]

„halogenfrei flammgeschützt, ausgezeichnete Hydrolyseeigenschaften und beständig gegen Mikroorganismen/
 flame retarded without halogen, hydrolysisproof and resistant against microbes“

Maße/ Measures:

$D_1 = 4 \text{ mm} + 0,1/ - 0,1$

$D_2 = 2 \text{ mm}$

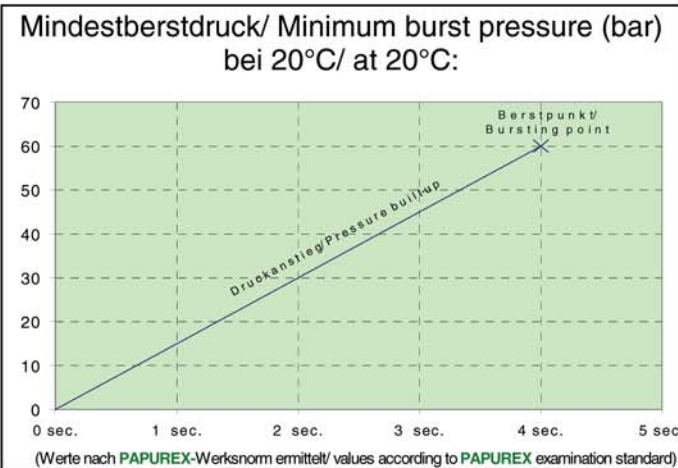
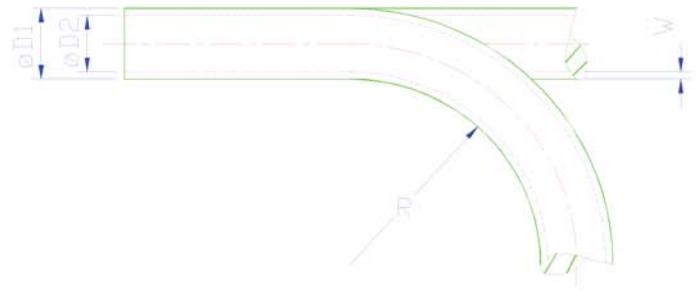
$W = 1 \text{ mm} - 0,15$

Zulässiger kleinster Biegeradius (ermittelt bei 20°C) /

Minimum bend radius (at 20°C):

$R = 7 \text{ mm}$

Gewicht/ weight: **11,97 g/ m** (errechnet/ value calculated)



Schlauchfarbe/ Tube colour:

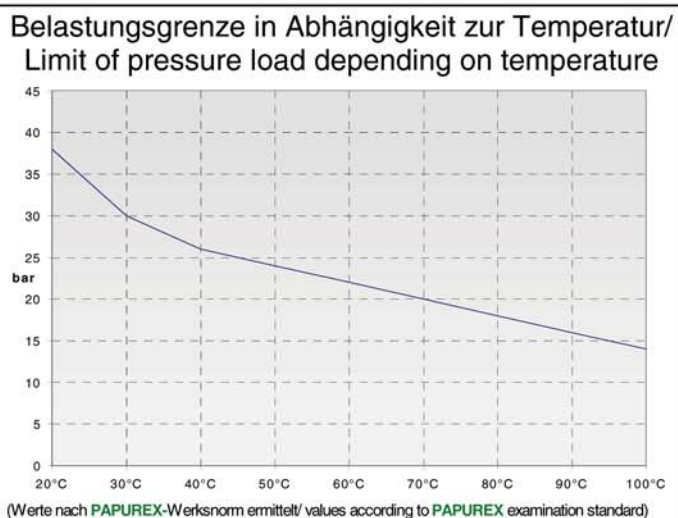
schwarz

Kennzeichnungsfarben/ Marking colours:

Standard = weiß/ white

weitere Kennzeichnungsfarben/
 further marking colours:

rot/ red
 grün/ green
 gelb/ yellow
 blau/ blue



Physikalische Materialeigenschaften/
 Physical qualities of the material:

(gemäß Angaben des Materialherstellers/ according to technical data of the producer)

	Maßeinheit/ Unit of measure	Norm/ standard	Wert/ value
Härte/ hardness	Shore D	DIN 53505	58
Zugfestigkeit/ tensile strength	MPa	DIN 53504	30
Abrieb/ abrasion	mm ³	DIN 53516	30
Dichte/ density	g/cm ³	DIN 53479	1,27

Abmessung/ Size 8 x 4 mm

Material: PUR

Markenname: **flamex**[®]

„halogenfrei flammgeschützt, ausgezeichnete Hydrolyseeigenschaften und beständig gegen Mikroorganismen/
 flame retarded without halogen, hydrolysisproof and resistant against microbes“

Maße/ Measures:

$D_1 = 8 \text{ mm} + 0,15 / - 0,15$

$D_2 = 4 \text{ mm}$

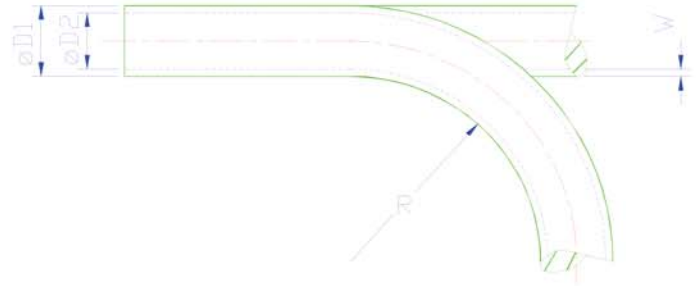
$W = 2 \text{ mm} - 0,2$

Zulässiger kleinster Biegeradius (ermittelt bei 20°C) /

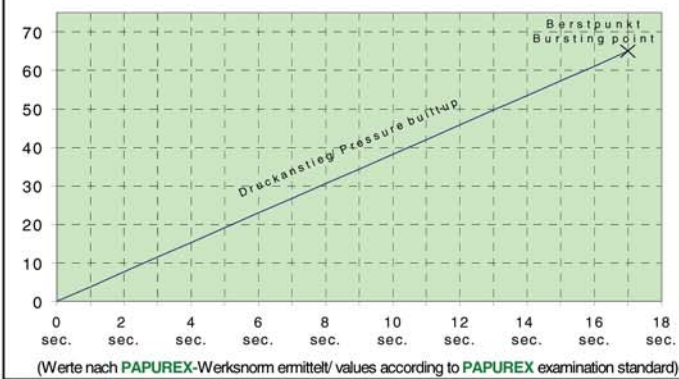
Minimum bend radius (at 20°C):

$R = 15 \text{ mm}$

Gewicht/ weight: **47,88 g/ m** (errechnet/ value calculated)



Mindestberstdruck/ Minimum burst pressure (bar)
 bei 20°C/ at 20°C:



Schlauchfarbe/ Tube colour:

schwarz ●

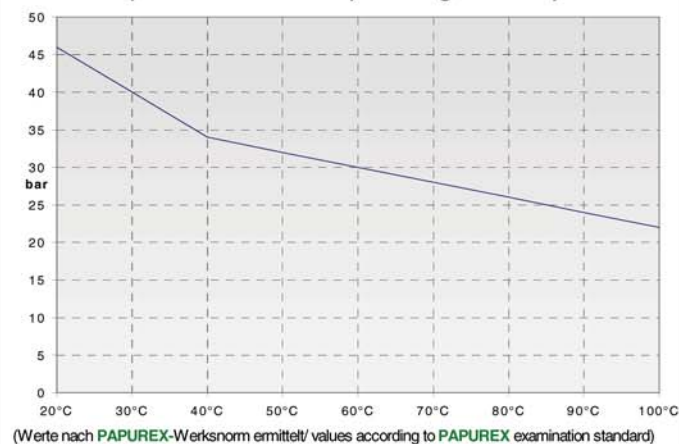
Kennzeichnungsfarben/ Marking colours:

Standard = weiß/ white

weitere Kennzeichnungsfarben/
 further marking colours:

rot/ red
 grün/ green
 gelb/ yellow
 blau/ blue

Belastungsgrenze in Abhängigkeit zur Temperatur/
 Limit of pressure load depending on temperature



Physikalische Materialeigenschaften/
 Physical qualities of the material:

(gemäß Angaben des Materialherstellers/ according to technical data of the producer)

	Maßeinheit/ Unit of measure	Norm/ standard	Wert/ value
Härte/ hardness	Shore D	DIN 53505	58
Zugfestigkeit/ tensile strength	MPa	DIN 53504	30
Abrieb/ abrasion	mm ³	DIN 53516	30
Dichte/ density	g/cm ³	DIN 53479	1,27

Abmessung/ Size 10 x 6 mm

Material: PUR

Markenname: **flamex®**

„halogenfrei flammgeschützt, ausgezeichnete Hydrolyseeigenschaften und beständig gegen Mikroorganismen/
 flame retarded without halogen, hydrolysisproof and resistant against microbes“

Maße/ Measures:

$D_1 = 10 \text{ mm} + 0,15 / - 0,15$

$D_2 = 6 \text{ mm}$

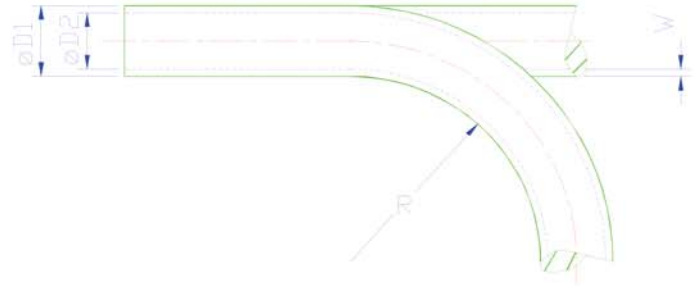
$W = 2 \text{ mm} - 0,2$

Zulässiger kleinster Biegeradius (ermittelt bei 20°C) /

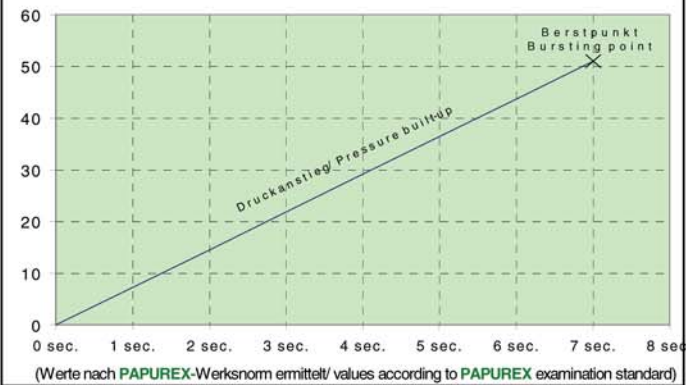
Minimum bend radius (at 20°C):

$R = 20 \text{ mm}$

Gewicht/ weight: **63,84 g/ m** (errechnet/ value calculated)



Mindestberstdruck/ Minimum burst pressure (bar)
 bei 20°C/ at 20°C:



Schlauchfarbe/ Tube colour:

schwarz

Kennzeichnungsfarben/ Marking colours:

Standard = weiß/ white

weitere Kennzeichnungsfarben/
 further marking colours:

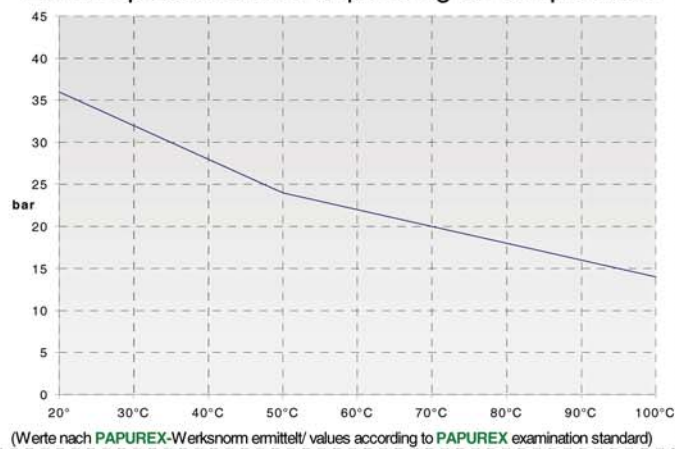
rot/ red

grün/ green

gelb/ yellow

blau/ blue

Belastungsgrenze in Abhängigkeit zur Temperatur/
 Limit of pressure load depending on temperature



Physikalische Materialeigenschaften/
 Physical qualities of the material:

(gemäß Angaben des Materialherstellers/ according to technical data of the producer)

	Maßeinheit/ Unit of measure	Norm/ standard	Wert/ value
Härte/ hardness	Shore D	DIN 53505	58
Zugfestigkeit/ tensile strength	MPa	DIN 53504	30
Abrieb/ abrasion	mm ³	DIN 53516	30
Dichte/ density	g/cm ³	DIN 53479	1,27

Abmessung/ Size 12 x 8 mm

Material: **PUR**

Markenname: **flamex®**

„halogenfrei flammgeschützt, ausgezeichnete Hydrolyseeigenschaften und beständig gegen Mikroorganismen/
 flame retarded without halogen, hydrolysisproof and resistant against microbes“

Maße/ Measures:

$D_1 = 12 \text{ mm} + 0,15 / - 0,15$

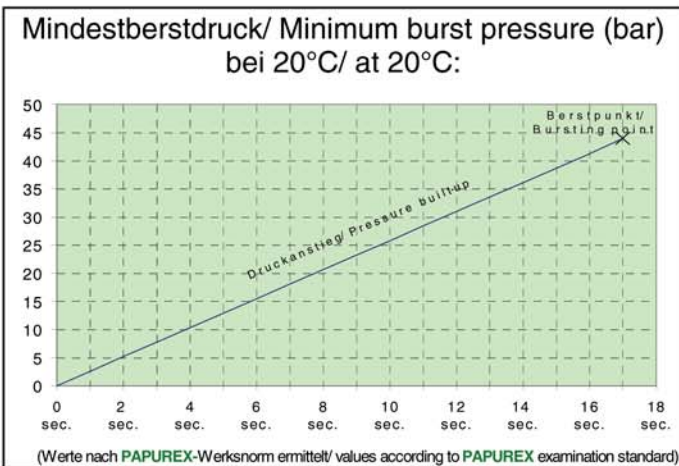
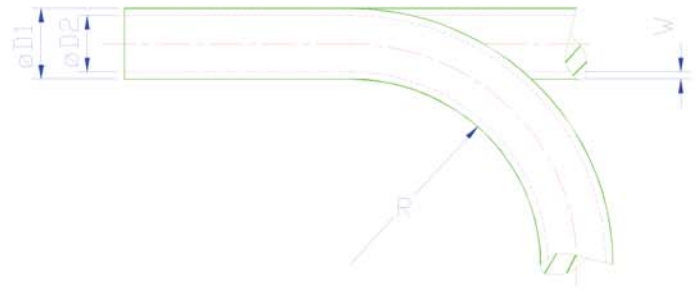
$D_2 = 8 \text{ mm}$

$W = 2 \text{ mm} - 0,05 / + 0,15$

Zulässiger kleinster Biegeradius (ermittelt bei 20°C) /
 Minimum bend radius (at 20°C):

R = 28 mm

Gewicht/ weight: **79,79 g/ m** (errechnet/ value calculated)



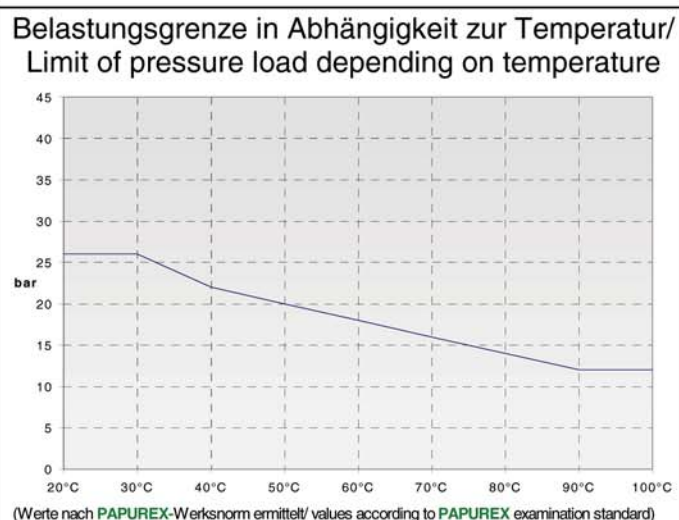
Schlauchfarbe/ Tube colour:
schwarz ●

Kennzeichnungsfarben/ Marking colours:

Standard = **weiß/ white**

weitere Kennzeichnungsfarben/
 further marking colours:

rot/ red
grün/ green
gelb/ yellow
blau/ blue



Physikalische Materialeigenschaften/
 Physical qualities of the material:

(gemäß Angaben des Materialherstellers/ according to technical data of the producer)

	Maßeinheit/ Unit of measure	Norm/ standard	Wert/ value
Härte/ hardness	Shore D	DIN 53505	58
Zugfestigkeit/ tensile strength	MPa	DIN 53504	30
Abrieb/ abrasion	mm ³	DIN 53516	30
Dichte/ density	g/cm ³	DIN 53479	1,27

Abmessung/ Size 14 x 10 mm

Material: **PUR**

Markenname: **flamex®**

„halogenfrei flammgeschützt, ausgezeichnete Hydrolyseeigenschaften und beständig gegen Mikroorganismen/
 flame retarded without halogen, hydrolysisproof and resistant against microbes“

Maße/ Measures:

$D_1 = 14 \text{ mm} - 0,15 / + 015$

$D_2 = 10 \text{ mm}$

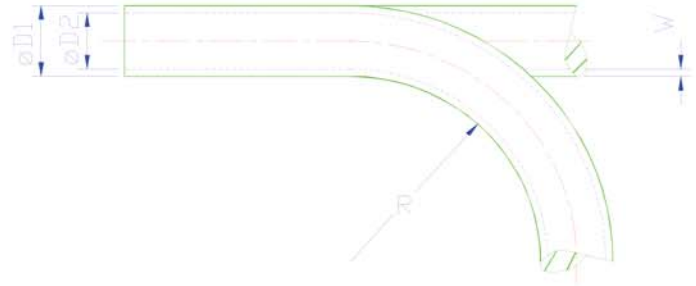
$W = 2 \text{ mm} - 0,05 / + 0,15$

Zulässiger kleinster Biegeradius (ermittelt bei 20°C) /

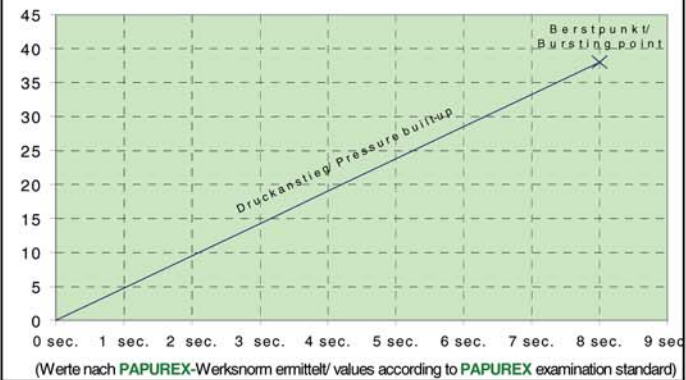
Minimum bend radius (at 20°C):

R = 45 mm

Gewicht/ weight: **95,76 g/ m** (errechnet/ value calculated)



Mindestberstdruck/ Minimum burst pressure (bar)
 bei 20°C/ at 20°C:



Schlauchfarbe/ Tube colour:

schwarz ●

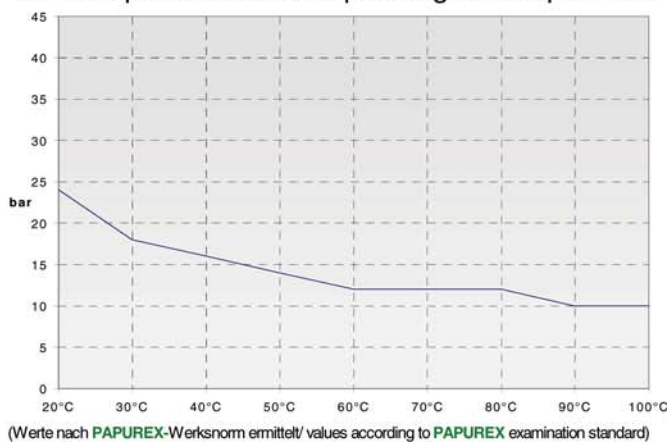
Kennzeichnungsfarben/ Marking colours:

Standard = **weiß/ white**

weitere Kennzeichnungsfarben/
 further marking colours:

rot/ red
grün/ green
gelb/ yellow
blau/ blue

Belastungsgrenze in Abhängigkeit zur Temperatur/
 Limit of pressure load depending on temperature



Physikalische Materialeigenschaften/
 Physical qualities of the material:

(gemäß Angaben des Materialherstellers/ according to technical data of the producer)

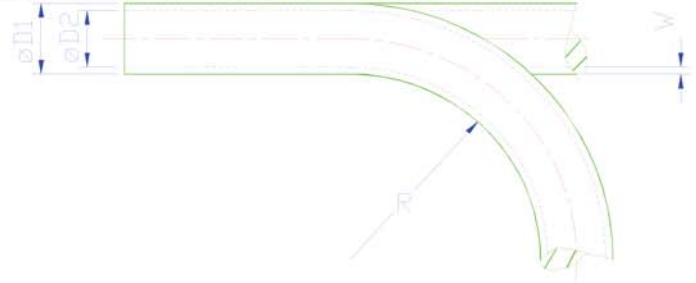
	Maßeinheit/ Unit of measure	Norm/ standard	Wert/ value
Härte/ hardness	Shore D	DIN 53505	58
Zugfestigkeit/ tensile strength	MPa	DIN 53504	30
Abrieb/ abrasion	mm ³	DIN 53516	30
Dichte/ density	g/cm ³	DIN 53479	1,27

Abmessung/ Size 16 x 11 mm

Material: **PUR**

Markenname: **flamex®**

„halogenfrei flammgeschützt, ausgezeichnete Hydrolyseeigenschaften und beständig gegen Mikroorganismen/
 flame retarded without halogen, hydrolysisproof and resistant against microbes“



Maße/ Measures:

D₁ = 16 mm - 0,15 / + 0,15

D₂ = 11 mm

W = 2,5 mm - 0,05 / + 0,15

Zulässiger kleinster Biegeradius (ermittelt bei 20°C) /
 Minimum bend radius (at 20°C):

R = 55 mm

Gewicht/ weight: **134,66 g/ m** (errechnet/ value calculated)

Schlauchfarbe/ Tube colour:

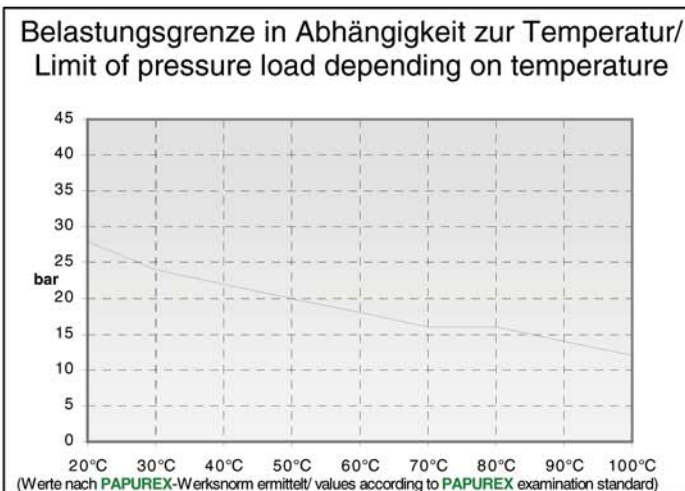
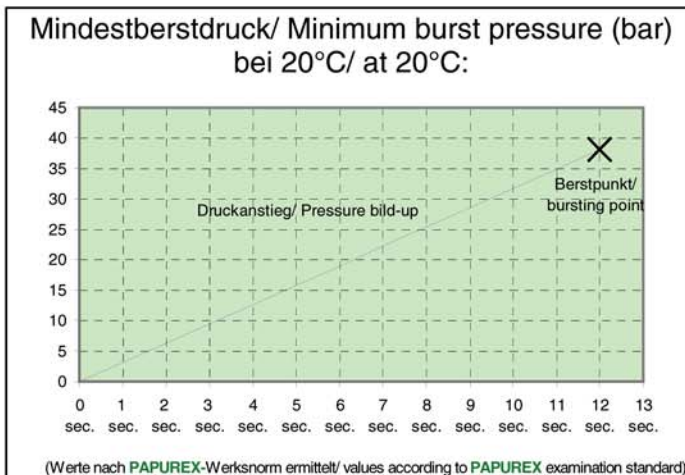
schwarz

Kennzeichnungsfarben/ Marking colours:

Standard = **weiß/ white**

weitere Kennzeichnungsfarben/
 further marking colours:

rot/ red
grün/ green
gelb/ yellow
blau/ blue



Physikalische Materialeigenschaften/
 Physical qualities of the material:

(gemäß Angaben des Materialherstellers/ according to technical data of the producer)

	Maßeinheit/ Unit of measure	Norm/ standard	Wert/ value
Härte/ hardness	Shore D	DIN 53505	58
Zugfestigkeit/ tensile strength	MPa	DIN 53504	30
Abrieb/ abrasion	mm ³	DIN 53516	30
Dichte/ density	g/cm ³	DIN 53479	1,27

Abmessung/ Size 6 x 4 mm

Material: PUR Typ: KKS flammwidrig

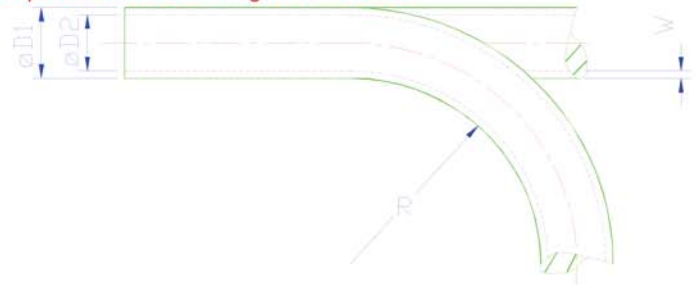
„halogenfrei flammgeschützt, ausgezeichnete Hydrolyseeigenschaften und beständig gegen Mikroorganismen/
 flame retarded without halogen, hydrolisisproof and resistant against microbes“

Maße/ Measures:

$D_1 = 6 \text{ mm} + 0,1 / - 0,1$

$D_2 = 4 \text{ mm}$

$W = 1,0 \text{ mm} +/- 0,05$

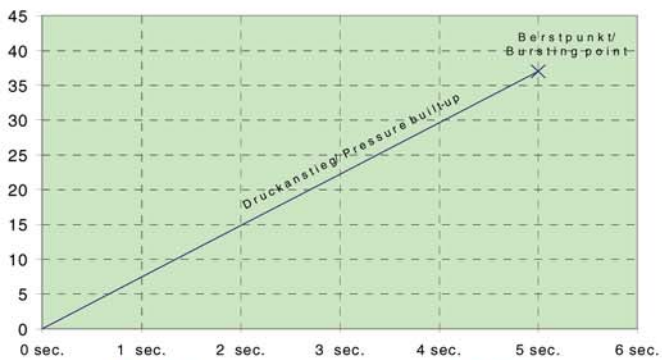


Zulässiger kleinster Biegeradius/
 Minimum bend radius:

$R = 14 \text{ mm}$

Gewicht/ weight: **19,95 g/ m** (errechnet/ value calculated)

Mindestberstdruck/ Minimum burst pressure (bar)
 bei 20°C/ at 20°C:



(Werte nach PAPUREX-Werksnorm ermittelt/ values according to PAPUREX examination standard)

Schlauchfarbe/ Tube colour:

creme/ cream

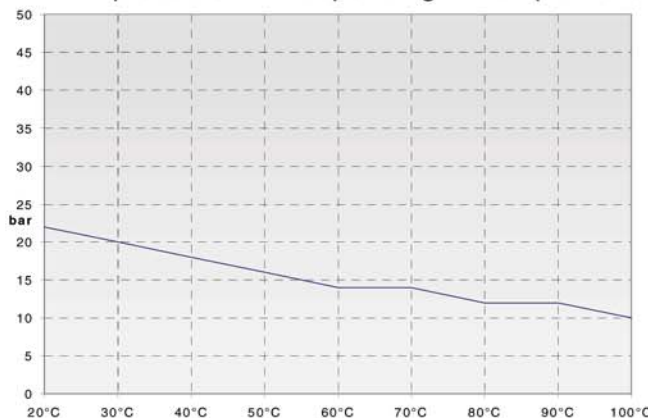
blau/ blue (RAL-Nr. 5012)

schwarz/ black

Kennzeichnungsfarben/ Marking colours:

gelb/ yellow
 schwarz/ black

Belastungsgrenze in Abhängigkeit zur Temperatur/
 Limit of pressure load depending on temperature



(Werte nach PAPUREX-Werksnorm ermittelt/ values according to PAPUREX examination standard)

Physikalische Materialeigenschaften/
 Physical qualities of the material:

(gemäß Angaben des Materialherstellers/ according to technical data of the producer)

	Maßeinheit/ Unit of measure	Norm/ standard	Wert/ value
Härte/ hardness	Shore D	DIN 53505	58
Zugfestigkeit/ tensile strength	MPa	DIN 53504	30
Abrieb/ abrasion	mm ³	DIN 53516	30
Dichte/ density	g/cm ³	DIN 53479	1,27