



Polyether PUR



**PUR tubing proof to hydrolysis and resistant to microbes,
suitable for food-contact applications in compliance with FDA**



PAPUREX

Every inch a quality product

www.persluchtslang.nl

PUR tubing with special product properties

Polyether-PUR tubing offers the following properties, in addition to the excellent mechanical values typical of PUR, e.g. high flexibility, optimum resilience, high elongation at break or good abrasion resistance:

- **resistance to hydrolysis, i.e. enables applications in/with water**
- **resistance to microbes, i.e. ideal for outdoor applications**
- **meets the hygiene requirements for the splash zone of food-processing machines according to DIN EN 1672-2**
- **suitable for food contact acc. to 90/128/EEC**
- **complies with FDA Title 21 CFR 177.2600**
- **good resistance to many chemical substances**

These special product properties open up completely new applications for polyether-PUR tubing, e.g. approvals for use in medical technology or outdoor applications.

We manufacture our polyether-PUR tubing from Elastollan 1198 A, obtained from the German manufacturer Elastogran GmbH in Shore 98A. Harder or softer material grades can be provided for special applications.

The production process we have developed enables us to calibrate both the outside diameter **and** the wall thickness. That makes our tubing simple to use with the plug-ins or screw unions of all leading manufacturers. Moreover, we ensure that the ovalness of our tubing remains within narrow limits compatible with plug-ins. This dimensional accuracy gives our tubing constant compressive strength at comparatively large inside diameters and makes it suitable for a wider range of practical uses.

By reducing the throughput speed during production, we also ensure that maximum benefit is derived from the specific material properties of PUR, giving our tubing the best possible properties in permanent service. All these measures are in line with our principle »**Every inch a quality product**«.

The standard range comprises the following sizes:

Outside diameter in mm	Wall thickness in mm	Inside diameter in mm	Weight g/m *	Tolerances in mm Outside diameter	Tolerances in mm Wall thickness
4.00	0.750	2.50	8.88	+ 0.05/ - 0.1	+/- 0.05
6.00	1.050	3.90	18.84	+ 0.1/ - 0.1	+/- 0.05
8.00	1.250	5.50	30.75	+ 0.1/ - 0.1	+/- 0.05
10.00	1.500	7.00	46.46	+ 0.15/ - 0.1	+/- 0.05

* values determined by calculation

Special sizes between an inside diameter of 1.5 mm and an outside diameter of 19 mm are also possible.

Our polyether tubing is available in the following colours:

transparent, translucent blue, translucent black, translucent red, translucent yellow, translucent green.

The coloured compound we employ is free from heavy metals. Individual colours are also manufactured from certain minimum order quantities.

We supply rings of material from 25 m, greater lengths (up to 1,000 m) on reusable plastic or wooden reels, or cut-to-size sections from 10 cm in length. Our tubing can be provided in the form of single or multiple tubing, or as spiral tubing, and can also be individually printed.

Contact us – we will be pleased to advise you.

Manufacturer's Declaration

Suitability of our tubing made of polyurethane 1198A for food-contact applications

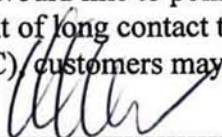
October 2002

Product: PUR tubing
Material: Polyether-PUR Elastollan 1198A
Characteristic data: Dimensions: Individual tubes:
4 x 2.5 mm; 6 x 3.9 mm; 8 x 5,5 mm, 10 x 7 mm; 12 x 8 mm
Duo tubing:
4 x 2.5 mm; 6 x 3.9 mm; 8 x 5.5 mm
Colours: natural (clear); blue translucent; black translucent; red translucent; yellow translucent; green translucent
Service temp.: up to 60°C
Field of application: - contact with dry foodstuffs
- short-term contact with wet foodstuffs above 40°C: max. 10 minutes
- not suitable for foods with an alcohol content of more than 15 %

We confirm that our above-named pneumatic tubing made from Polyether PUR Elastollan 1198 A complies with the following safety-relevant requirements and designated standards:

- hygiene requirements for food processing machines according to DIN EN 1672-2 for splash zones
- suitability for food-contact applications according to 90/128/EEC and FDA Title 21 CFR 177.2600

We would like to point out that no general food-contact approval exists for tubing. Particularly in the event of long contact times (more than 10 minutes) with foodstuffs at high temperatures (above 60°C) customers may need to perform the legally prescribed migration tests themselves.



(PAPUREX W. Büchner GmbH)

Detailed declarations provided by our raw materials suppliers are available on the above standards. We will be pleased to send you these declarations if required. The correctness of the separate declarations is confirmed by.

Declaration dated 14. Oct. 2002:



(ELASTOGRAN GmbH – BASF Group)

Declaration dated 23. Aug. 2002:



(TREFFERT GmbH & Co. KG)

Farben für PUR-Schlauch auf Polyetherbasis Colours for PUR tubing based on polyether



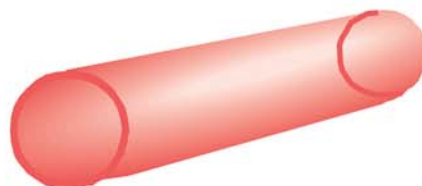
transparent (klar) *translucent (clear)*



blau-translucent *translucent blue*



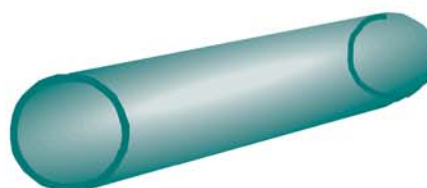
schwarz-translucent *translucent black*



rot-translucent *translucent red*



gelb-translucent *translucent yellow*



grün-translucent *translucent green*

Abmessung/ Size 4 x 2,5 mm

Material: PUR Elastollan® 1198 A

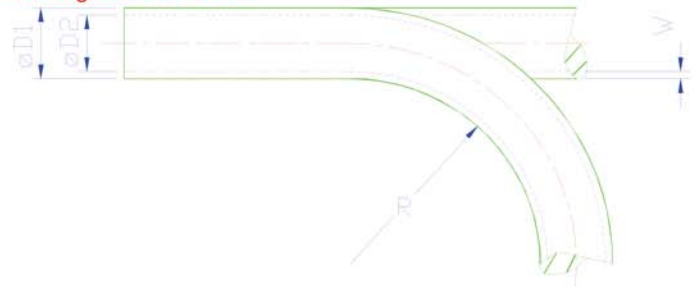
„ausgezeichnete Hydrolyseeigenschaften und beständig gegen Mikroorganismen/
 hydrolysisproof and resistant against microbes“

Maße/ Measures:

$D_1 = 4 \text{ mm} \quad +0,05/- 0,1$

$D_2 = 2,5 \text{ mm}$

$W = 0,75 \text{ mm} \quad +/- 0,05$



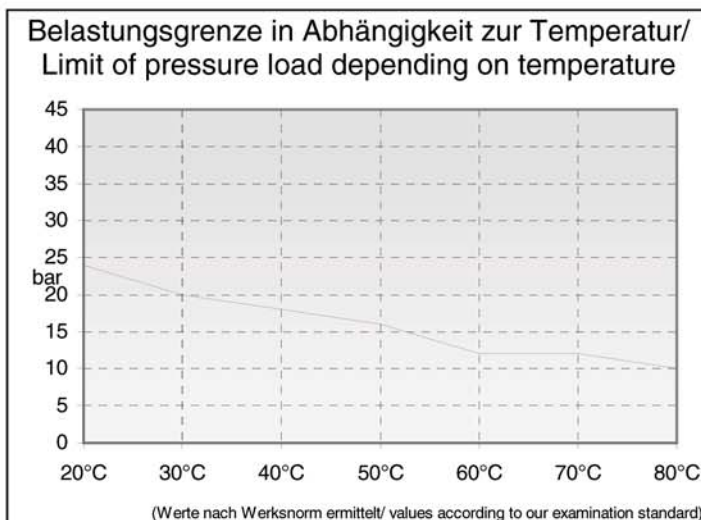
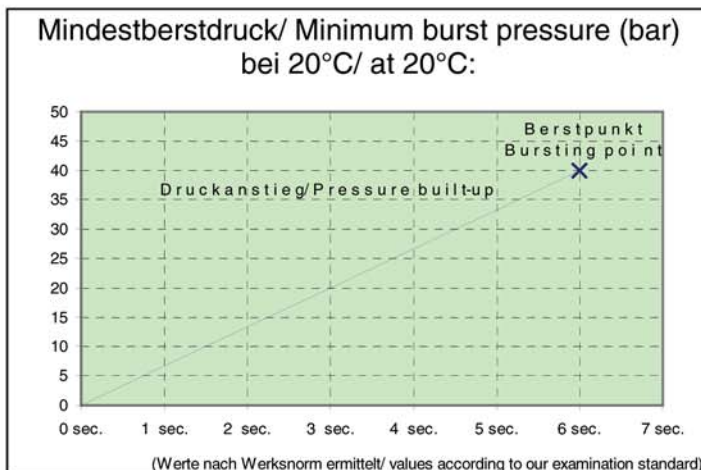
Zulässiger kleinster Biegeradius/
 Minimum bend radius:

$R = 12 \text{ mm}$

Gewicht/ weight: **8,88 g/ m** (errechnet/ value calculated)

Schlauchfarben/ Tube colours:

- natur/ transparent ⊙
- transluzent blau/ translucent blue ⊙
- transluzent schwarz/ translucent black ⊙
- transluzent rot/ translucent red ⊙
- transluzent gelb/ translucent yellow ⊙
- transluzent grün/ translucent green ⊙



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	52
Zugfestigkeit/ tensile strength	MPa	DIN 53504	50
Abrieb/ abrasion	mm ³	DIN 53516	25
Dichte/ density	g/cm ³	DIN 53479	1,16
Kerbschlag- zähigkeit/ impact value (Charpy) +23°C	kJ/m ²	DIN 53453	kein Bruch/ no break kein Bruch/ no break
-30°C			

Abmessung/ Size 6 x 3,9 mm

Material: PUR Elastollan® 1198 A

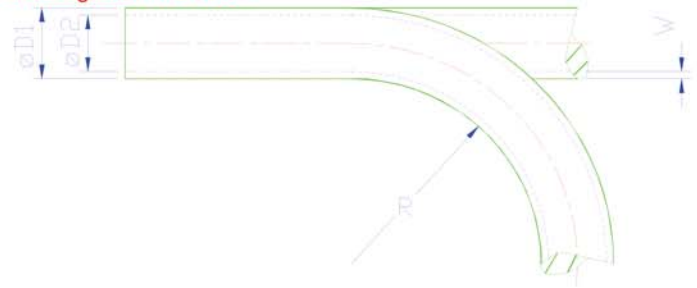
„ausgezeichnete Hydrolyseeigenschaften und beständig gegen Mikroorganismen/
 hydrolysisproof and resistant against microbes“

Maße/ Measures:

$D_1 = 6 \text{ mm} \pm 0,1$

$D_2 = 3,9 \text{ mm}$

$W = 1,05 \text{ mm} \pm 0,05$



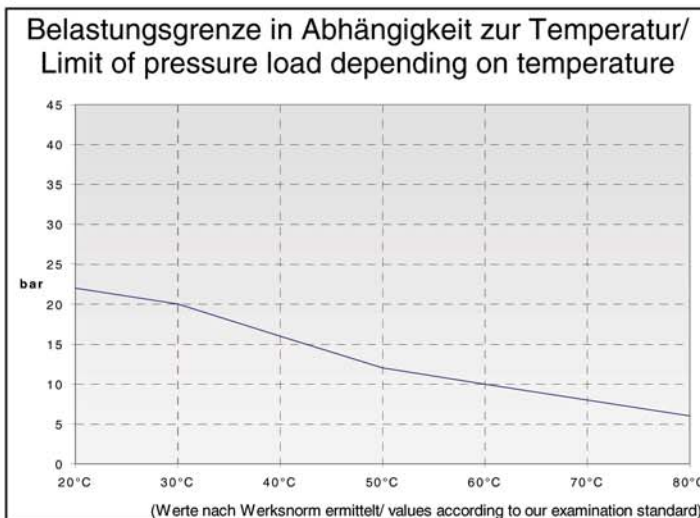
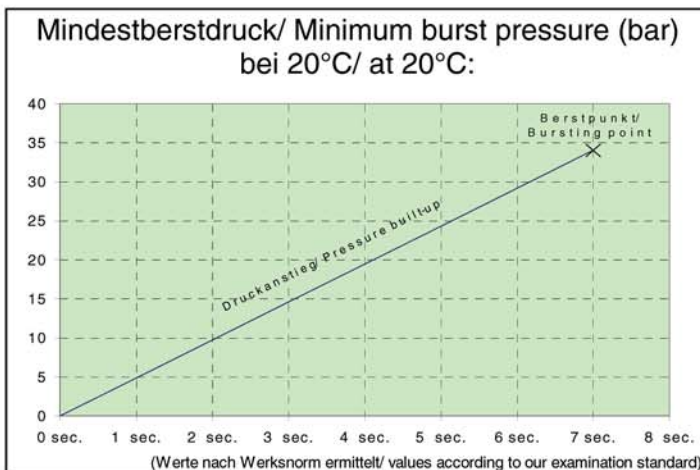
Zulässiger kleinster Biegeradius/
 Minimum bend radius:

$R = 15 \text{ mm}$

Gewicht/ weight: **18,84 g/ m** (errechnet/ value calculated)

Schlauchfarben/ Tube colours:

- natur/ transparent ⊙
- transluzent blau/ translucent blue ●
- transluzent schwarz/ translucent black ●
- transluzent rot/ translucent red ●
- transluzent gelb/ translucent yellow ●
- transluzent grün/ translucent green ●



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	52
Zugfestigkeit/ tensile strength	MPa	DIN 53504	50
Abrieb/ abrasion	mm ³	DIN 53516	25
Dichte/ density	g/cm ³	DIN 53479	1,16
Kerbschlag- zähigkeit/ impact value (Charpy) +23°C	kJ/m ²	DIN 53453	kein Bruch/ no break
-30°C			kein Bruch/ no break

Abmessung/ Size 8 x 5,5 mm

Material: PUR Elastollan® 1198 A

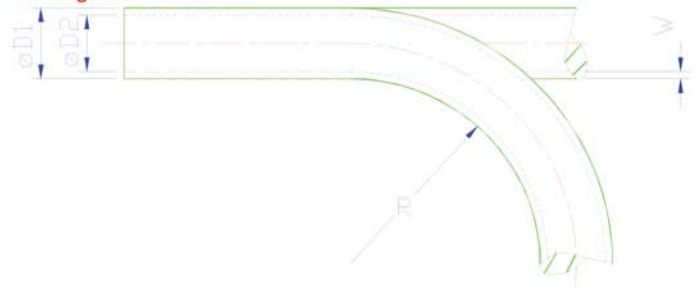
„ausgezeichnete Hydrolyseigenschaften und beständig gegen Mikroorganismen/
 hydrolysisproof and resistant against microbes“

Maße/ Measures:

$D_1 = 8 \text{ mm} \pm 0,1$

$D_2 = 5,5 \text{ mm}$

$W = 1,25 \text{ mm} \pm 0,05$



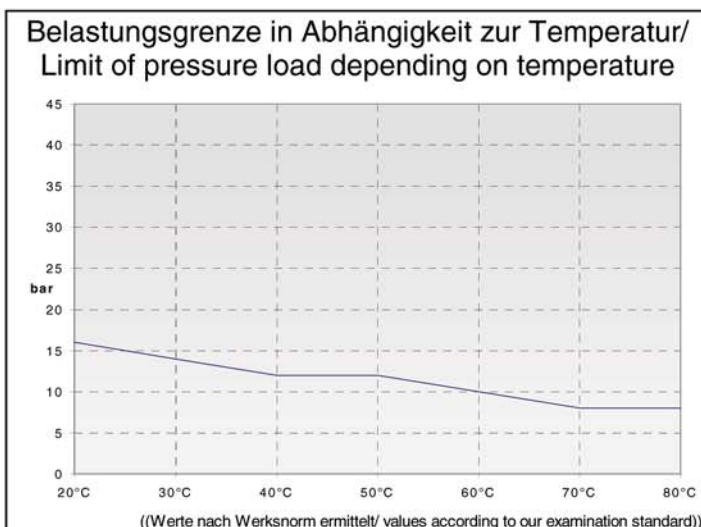
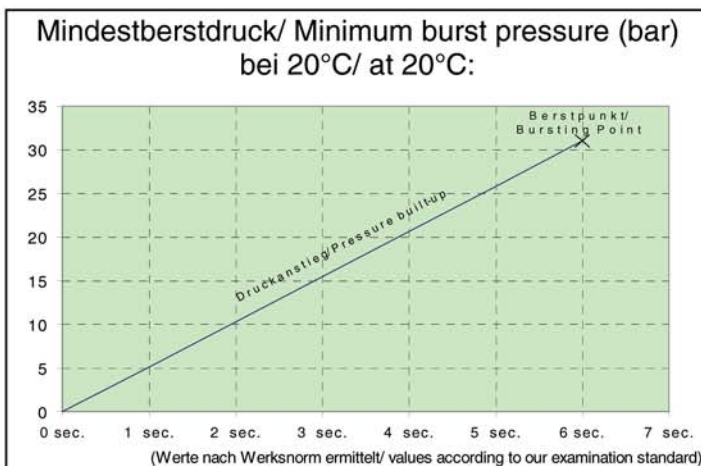
Zulässiger kleinster Biegeradius/
 Minimum bend radius:

$R = 25 \text{ mm}$

Gewicht/ weight: **30,75 g/ m** (errechnet/ value calculated)

Schlauchfarben/ Tube colours:

- natur/ transparent
- transluzent blau/ translucent blue
- transluzent schwarz/ translucent black
- transluzent rot/ translucent red
- transluzent gelb/ translucent yellow
- transluzent grün/ translucent green



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	52
Zugfestigkeit/ tensile strength	MPa	DIN 53504	50
Abrieb/ abrasion	mm ³	DIN 53516	25
Dichte/ density	g/cm ³	DIN 53479	1,16
Kerbschlag- zähigkeit/ impact value (Charpy) +23°C	kJ/m ²	DIN 53453	kein Bruch/ no break
-30°C			kein Bruch/ no break

Abmessung/ Size 10 x 7 mm

Material: PUR Elastollan® 1198 A

„ausgezeichnete Hydrolyseeigenschaften und beständig gegen Mikroorganismen/
 hydrolysisproof and resistant against microbes“

Maße/ Measures:

$D_1 = 10 \text{ mm} \quad +0,15/- 0,1$

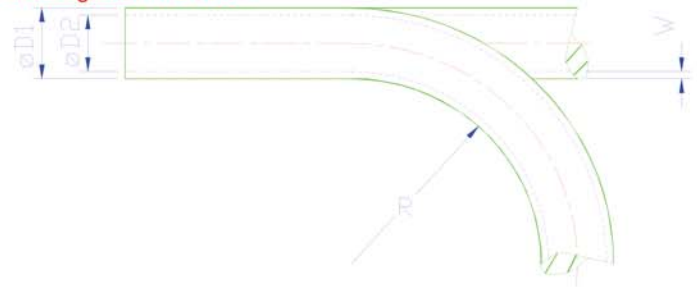
$D_2 = 7 \text{ mm}$

$W = 1,5 \text{ mm} \quad +/- 0,05$

Zulässiger kleinster Biegeradius/

Minimum bend radius:

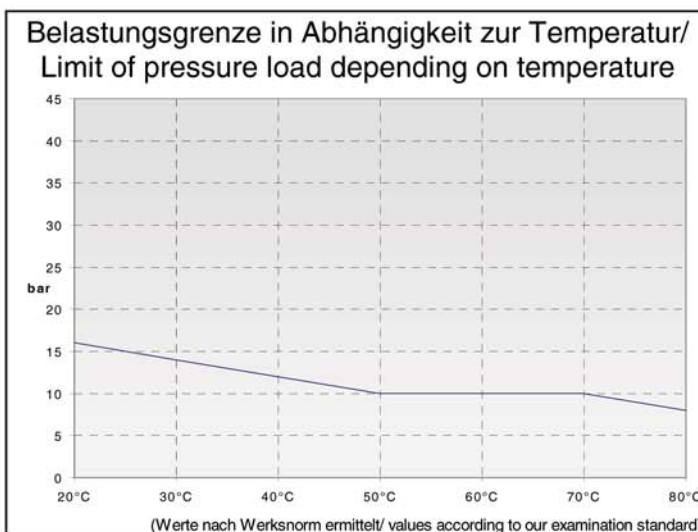
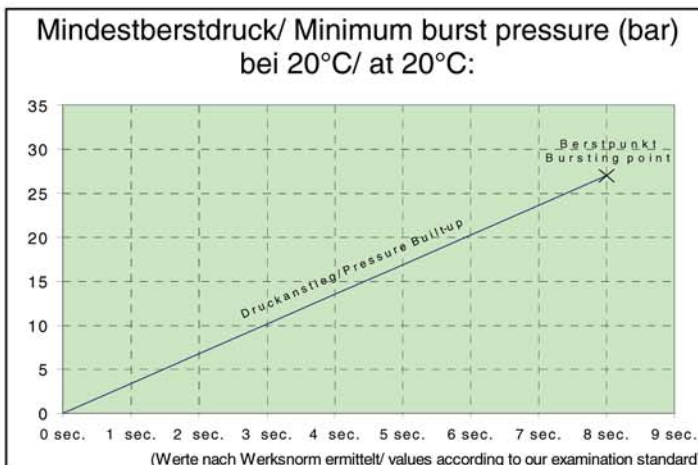
$R = 40 \text{ mm}$



Gewicht/ weight: **46,46 g/ m** (errechnet/ value calculated)

Schlauchfarben/ Tube colours:

- natur/ transparent ⊙
- transluzent blau/ translucent blue ⊙
- transluzent schwarz/ translucent black ⊙
- transluzent rot/ translucent red ⊙
- transluzent gelb/ translucent yellow ⊙
- transluzent grün/ translucent green ⊙



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	52
Zugfestigkeit/ tensile strength	MPa	DIN 53504	50
Abrieb/ abrasion	mm ³	DIN 53516	25
Dichte/ density	g/cm ³	DIN 53479	1,16
Kerbschlag- zähigkeit/ impact value (Charpy) +23°C	kJ/m ²	DIN 53453	kein Bruch/ no break kein Bruch/ no break
-30°C			

Abmessung/ Size 12 x 8 mm

Material: PUR Elastollan® 1198 A

„ausgezeichnete Hydrolyseeigenschaften und beständig gegen Mikroorganismen/
hydrolysisproof and resistant against microbes“

**Ein Datenblatt
ist momentan nicht verfügbar**

***A data sheet
is not available at the moment***