

Polyurethane (PU) universal hoses



CPU

Low-pressure unreinforced polyurethane hose

material: soft transparent polyurethane (polyether) phthalate-free
Operating temperature: -30°C to +70°C (temporarily up to +100°C, operating pressure dependent on temperature)
Brittleness temperature: -70°C

Multi-purpose flexible high quality polyurethane hose manufactured in the UK. Suitable for water, air, oils, fuels, lubricants, chemicals, granules. As a non-reinforced hose it is suitable for very low pressures up to a few bars and as a cover hose. The crystal-clear wall allows excellent observation of the medium. The smooth inner surface facilitates flow and cleaning. Stronger hose than similar PVC hoses, more shape retaining, well resistant to kinking, flexible at low temperatures. Made of polyurethane - polyether, resistant to hydrolysis and abrasion. Free of cadmium, silicone, plasticisers and halogen compounds.

In accordance with EU regulations, application to food products is possible after the required migration tests have been carried out using suitable model liquids simulating the food in question (the material used for the hose complies with the requirements of FDA 21 CFR 175.105, 177.1680, 177.2600 and WRAS for 23°C water).

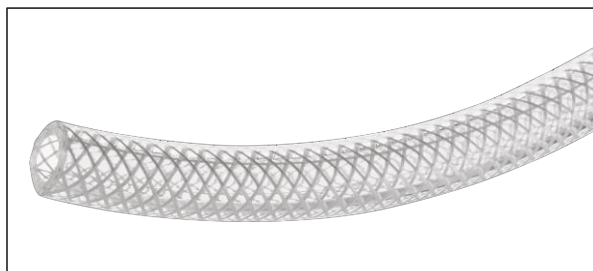
| index | Internal diameter (d) [mm]. | Outside diameter (D) [mm]. | wall thickness (t) [mm]. | bend radius [mm] | mass [kg/m] | Roll length [m] |
|--------------|-----------------------------|----------------------------|--------------------------|------------------|-------------|-----------------|
| CX-CPU-05 | 5 | 8 | 1,5 | 17 | 0,034 | 30 |
| CX-CPU-06 | 6 | 9 | 1,5 | 22 | 0,040 | 30 |
| CX-CPU-06X12 | 6 | 12 | 3 | 19 | 0,096 | 30 |
| CX-CPU-08 | 8 | 11 | 1,5 | 32 | 0,050 | 30 |
| CX-CPU-08X14 | 8 | 14 | 3 | 26 | 0,117 | 30 |
| CX-CPU-10 | 10 | 16 | 3 | 34 | 0,138 | 30 |
| CX-CPU-13 | 13 | 19 | 3 | 48 | 0,170 | 30 |

| typical PU hose, 20°C | | |
|-----------------------|---------|--------------------------|
| d [mm] | D [mm]. | Working pressure * [bar] |
| 5 | 8 | 3,5 |
| 6 | 9 | 3,1 |
| 6 | 12 | 4,8 |
| 8 | 11 | 2,5 |
| 8 | 14 | 4,1 |
| 10 | 16 | 3,5 |
| 13 | 19 | 2,9 |

Note: indexes highlighted in colour - most commonly used

* - Indicative value of the recommended operating pressure at a safety factor of 5:1.

For unreinforced hoses, manufacturers usually do not specify the working pressure or burst pressure due to the less clear-cut nature of hose bursting, preceded by permanent deformation. The values given were calculated using Lamé's formula: $\text{working pressure} = (S/n) \times (D^2 - d^2) / (D^2 + d^2)$, assuming $S = 4 \text{ MPa}$ (PU material stress at permanent deformation) and $n=5$ (safety factor). These are indicative values for a typical soft polyurethane hose. The use of a hose for a specific operating pressure should be preceded by a test under operating conditions.



RPU

Braided reinforced polyurethane hose

Inner layer: transparent polyurethane-polyether
Reinforcement: Polyester braid
Outer layer: Transparent polyurethane-polyether
Operating temperature: -30°C to +70°C (temporarily up to +100°C, operating pressure dependent on temperature)

Multi-purpose flexible high quality braided polyurethane hose manufactured in the UK. Suitable for water, air, oils, fuels, lubricants, chemicals, granules. Stronger hose than similar PVC hoses, more shape retaining, good kink resistance, flexible at low temperatures. Made of polyurethane - polyether, resistant to hydrolysis and abrasion. Free of cadmium, silicone, plasticisers and halogen compounds.

In accordance with EU regulations, application to food products is possible after the required migration tests have been carried out using suitable model liquids simulating the food in question (the material used for the hose complies with the requirements of FDA 21 CFR 175.105, 177.1680, 177.2600 and WRAS for 23°C water).

| index | inside diameter [mm]. | outside diameter [mm]. | wall thickness [mm]. | working pressure 20°C [bar]. | entertainment pressure. 20°C [bar]. | bend radius [mm]. | mass [kg/m] | Roll length [m] |
|-----------|-----------------------|------------------------|----------------------|------------------------------|-------------------------------------|-------------------|-------------|-----------------|
| CX-RPU-06 | 6,3 | 11,5 | 2,6 | 20 | 60 | 22 | 0,08 | 30 |
| CX-RPU-10 | 10 | 16 | 3 | 16 | 50 | 37 | 0,14 | 30 |
| CX-RPU-13 | 12,5 | 18,5 | 3 | 15 | 45 | 49 | 0,17 | 30 |
| CX-RPU-16 | 16 | 23 | 3,5 | 13 | 40 | 65 | 0,25 | 30 |
| CX-RPU-19 | 19 | 26 | 3,5 | 11 | 35 | 84 | 0,28 | 30 |
| CX-RPU-25 | 25 | 33 | 4 | 10 | 30 | 118 | 0,42 | 30 |

Note: indexes highlighted in colour - most commonly used

| Temperature dependence of burst pressure and working pressure for typical polyurethane (PU) hoses | | | | | | |
|---|------|------|------|------|------|------|
| temperature | 20°C | 30°C | 40°C | 50°C | 60°C | 70°C |
| pressure | 100% | 84% | 70% | 60% | 52% | 46% |