

3.1 The material

The STABIL pipe is a metal-plastic pipe. The in-liner, the inner pipe in the universal STABIL pipe, that is in contact with the medium, consists of a cross-linked polyethylene. This is however cross-linked under influence of an electron beam after the actual pipe production. This irradiation cross-linking is called PE-Xc.

This pipe is used for the installation of sanitary and heating installations. The entire composure from the inside to the outside: in-liner of cross-linked polyethylene, adherent, oxygen diffusion tight aluminium layer, adherent and PE or cross-linked polyethylene outer layer.

The minimum processing temperature is 10° C.

The different molecules of the polyethylene link up to a three-dimensional network. The already excellent material properties still considerably improve during this process (principally the temperature and pressure resistance, the impact resistance at low temperatures and the stress crack resistance).

Drinking water

The Jentro universal STABIL pipe is used for drinking water transport in accordance with DIN2000 for cold and warm water, up to an operating overpressure of 10 bars and can be used continuously at a temperature of 70° C. Short-time (failure) up to 100° C.

Heating

For application in heating systems, the STABIL pipe can be used with a maximum flow temperature of 95° C. Short-time (failure), temperatures up to 100° C are possible.

3.2 Properties of STABIL pipe system

The Jentro Universal STABIL pipe system has the following properties:

- Excellent durability, even at higher temperatures.
- Insensitive to the formation of stress cracks.
- An ample choice of joints and accessories.
- Reliable connection technique: Permanent tight compression sleeve joint
No use of O-rings
Visual checking.
Can be immediately put under pressure.
- Bending resistant and form stable.
- Outstanding resistance to ageing due to heath.
- Same compression sleeve for PEX and STABIL.
- Reduced temperature depending longitudinal reversion and increased clamp distance.
- Very good impact and notch impact resistance at temperatures under 50° C. High wear resistance and excellent notch resistance.
- Outstanding chemical resistance.
- Oxygen tight thanks to an aluminium barrier layer, in conformity with DIN 4726.

- High caloric stability.
- Resistant to ageing.
- Little flow noises inside the pipe.
- Little pressure loss.
- Free of heavy metal ions.
- Corrosion resistant.
- Free of incrustations, even after years of use.
- Use of the same accessories for STABIL and PEX, pipe series 2, SDR 7.4.
- Pipe dimensions STABIL: 16 - 40 mm.

3.3 Technical data

- | | |
|---|---------------------|
| • Material | PE-Xc/Al/PEX or PE |
| • Colour: | light grey Ral 7035 |
| • Notch impact resistance at 20° C | no rupture |
| at - 20° C | no rupture |
| • Average expansion Coefficient | 0.026 mm/m°K |
| • Caloric conductivity | 0.43 W/m°K |
| • Oxygen diffusion as per DIN 4726 | oxygen tight |
| • Pipe roughness k | 0.007 mm |
| • Material constant C | 30 |
| • Max operating temperature | 95° C |
| • Short-time max temp. (failure) | 100° C |
| • Minimum bend radius without tools | 5 x d |
| • Minimum bending radius with bending tools | 3 x d |

Jentro® 

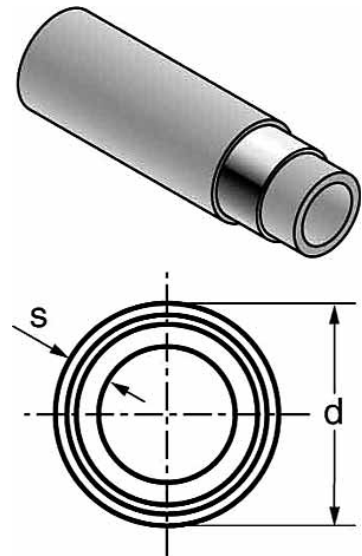
3.4 Pipe dimensions STABIL

- Material: Polyethylene cross-linked at high pressure according to DIN 16892
- Colour: Light grey. Oxygen tight according to DIN 4726 due to aluminium barrier layer.
- Suitable for drinking water.

Caution!
When making a compression sleeve joint, original Jentro fittings, compression sleeves, universal Jentro pipes and tools must always be used.

| Pipe data: STABIL | | | |
|-------------------|---------|----------------|----------------|
| d mm | s mm | Weight kg/m | Content l/m |
| 16.2 | 2.6 | 0.139 | 0.095 |
| 20 | 2.9 | 0.181 | 0.158 |
| 25 | 3.7 | 0.294 | 0.243 |
| 32 | 4.7 | 0.459 | 0.401 |
| 40 | 6.0 | 0.720 | 0.616 |

▲ Table 3



3.5 Indications on the pipe

At an intermediate distance of 1 m, on the pipes at least the following information is mentioned:

- Continuous meter indication
- Indication of manufacturer
- Base material of the pipe and cross-linking method
- Dimensions
- Type of pipe
- Max. permissible operating temperature and max. operating pressure
- Max. permissible temperature STABIL
- Control mark Jentro system with registry number DVGW
- Russian approval
- Production no.
- No. of pipe manufacturer
- Manufacturing date

Example of an indication on a Jentro STABIL pipe

M 25
Logo Golan-Logo Jentro
PE-Xc-Al-Pe-Xb
20 x 2,9
Universalrohr Sauerstoffdicht STABIL
70°C/10 bar

95° C max
DW-8501BQ0347
PCT
No 1234
469
01.09.07

Continuous meter indication: 25M
Indication of pipe manufacturer – system supplier
Base material of the pipe and cross-linking method
Dimensions
Type of pipe
Permissible max. operating temperature and max. operating pressure for drinking water in compliance with DVGW
Maximal permissible temp for STABIL
DVGW control mark of Jentro system (pipe + fitting)
Russian approval
Production number
No. of pipe manufacturer
Manufacturing date

Example of an indication on a Jentro STABIL pipe

M 25 / Golan-Jentro / PE-Xa-Al-PE-Xb / 20 x 2.9 / UNIVERSALROHR Sauerstoffdicht STABIL / 70 ° C / 10 bar / (95max) / DW-8501BQ0347 / PCT / Nr 1234 / 469 / 01.09.07



▲ Fig. 4: Universal Jentro STABIL pipes 16 - 40 mm.

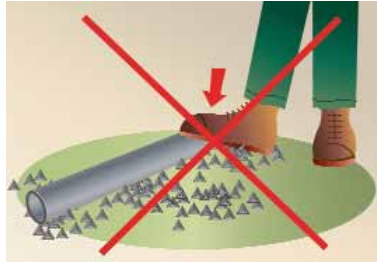


3.6 Transport and storage

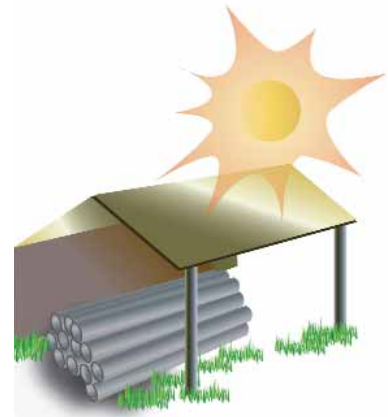
The Jentro pipes and all components of the system must be professionally loaded and unloaded, and transported and stored due to the characteristics of the material.

Unprotected pipes must not be dragged along the ground or concrete surfaces and must be stored on an even surface without sharp edges. In addition, the pipes must be protected from oils, greases and paints, and from a prolonged exposure to sunlight, for example by means of opaque foil.

Unprotected storage in the open air should never be longer than 3 months. When the Jentro pipes are protected, they can be stored without time limit.



▲ Fig. 5: Avoid contact with sharp objects.



▲ Fig. 6: Protect pipes against U.V. radiation

3.7 Norms, worksheets, control marks and registration numbers of the DVGW

- DVGW worksheet W 270 Multiplication of micro-organisms on material applied in drinking water supply systems.
- DVGW worksheet W 531 Manufacturing, quality control and testing of VPE pipes.
- DVGW worksheet W 532 Clamping joints of metal for VPE pipes.
- DVGW worksheet W 534 Joints for pipes in drinking water installations and test specifications.
- DVGW worksheet W 551 Technical measures for reducing the formation of Legionella bacteria.
- DIN 1988, part 1 - 8 Technical specifications for drinking water pipelines.
- DIN 2000 Central drinking water supply.
- DIN 2001 Central drinking water supply.
- DIN 4708, part 1 - 8 Central heating installations.
- DIN 44532, part 1 - 3 Water heating installations for drinking water.
- DIN 18380 VOB/ATV Heating installations and central heating installations.

3.8 Pressure surge behaviour

Thanks to the elastic behaviour of cross-linked polyethylene, the critical pressure surge amplitudes in drinking water installations with Jentro PEX pipes is limited to around 75% in comparison with installations with metal pipes.

