

System description

FLEXSTAR UNO



FLEXSTAR DUO



Operating parameters

Operating temperature: Max. 95 °C (fluctuating)

Continuous operating temperature: Max. 80 °C

Operating pressure: 6 bar

1. Composite system

Requirements

Factory-insulated, flexible pipe systems according to EN 15632-1/-2

Fire performance

Building material class B2 (normal flammability) according to DIN 4102

2. Carrier pipe

Materials

Base material: High-density polyethylene (HDPE), peroxide-crosslinked (PEXa), colour: black

Bonding agent

Modified PE, heat-stabilised, colour: black

Oxygen barrier layer

Ethylene vinyl alcohol (EVOH), heat-stabilised, colour: black

Requirements

According to DIN 16892 / DIN 16893

Oxygen tightness

According to DIN 4726, at 40 °C, oxygen permeability related to the internal pipe volume of $\leq 0.10 \text{ g} / (\text{m}^3 \times \text{d})$ according to DIN 4726

DIN 16893 pipe rows

Series 5 (SDR 11)

Long-term behaviour

See catalogue sheet FXS 0.110

Properties

Unaffected by aggressive water, low pressure losses, very good chemical and mechanical resistance

PEXa carrier pipe	Reference temp. °C	Value	Test standard
Density	-	938 kg/m ³	DIN 53479
Thermal conductivity	20 °C	0,38 W/mK	DIN 52612
Oxygen permeability	-	< 0.1 g/(m ³ *d)	DIN 4726, ISO 17455
Expansion	-	> 400%	DIN 53455
Linear thermal expansion coefficient	20	$1.4 \cdot 10^{-4} \text{ 1/K}$	DIN 52328
Linear thermal expansion coefficient	100	$2.0 \cdot 10^{-4} \text{ 1/K}$	-

3. Insulation

Materials

CFC-free, cyclopentane-blown polyurethane foam (PUR)

PUR insulation	Reference temp. °C	Value	Test standard
Density	-	> 50 kg/m ³	EN 253
Axial shear strength	-	$\geq 90 \text{ kPa}$	EN 15632-2
Thermal conductivity, flexible systems	50	$\leq 0.024 \text{ W/mK}$	EN 253 and ISO 8497
Closed-cell structure	-	$\geq 88 \%$	EN 253
Water absorption	100	$\leq 10 \%$	EN 15632-1

4. Protective casing

Materials

Linear low-density polyethylene (LLDPE), seamlessly extruded, UV-protected

To protect against mechanical influences and moisture

LLDPE protective casing	Reference temp. °C	Value	Test standard
Density	-	918 - 922 kg/m ³	ASTM D792
Thermal conductivity	-	0.33 W/mK	DIN 52612