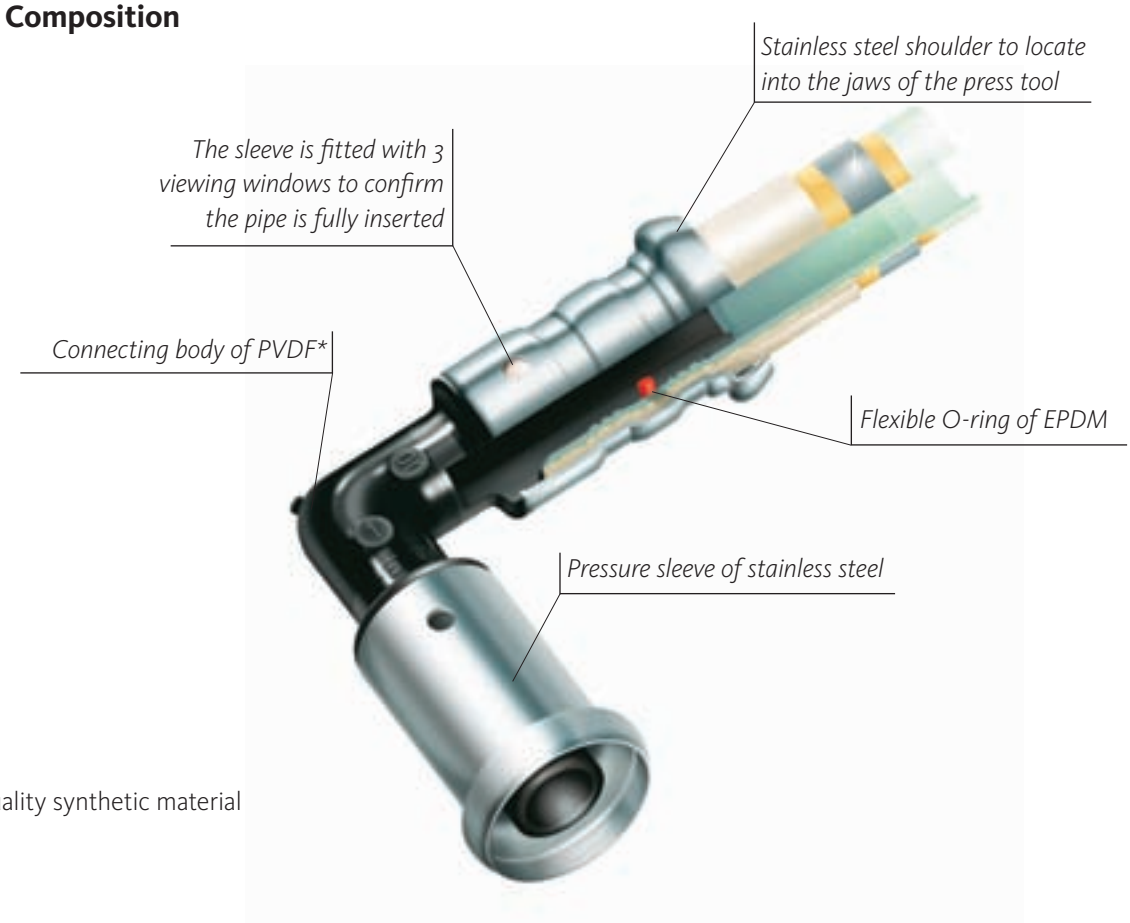
2.1 Press fittings in synthetic material (PVDF)

2.1.1 Composition



*High quality synthetic material

The synthetic press fittings are made by injection moulding PVDF (Polyvinylidene fluoride)*. PVDF offers the user a unique combination of properties:

- excellent mechanical strength and hardness
- high wear-resistance
- enormous flexibility: up to 10° bending possible
- exceptional resistance to thermal aging
- extremely resistant to extreme temperatures: from -40°C to +150°C
- high purity
- no water absorption
- excellent chemical resistance to most aggressive substances and solvents
- physiologically harmless, approved for contact with food products, drinking water and the medical sector

PVDF is a synthetic material used for numerous applications in our society, and has already proved its qualities for more than 30 years in different fields. The three fields in which we most find PVDF are:

- the chemical industry (because of its good chemical resistance and thermomechanical properties)
- the cable industry (because of its fire-resistance and low smoke emission)
- the food industry (because of its purity and surface quality).

PVDF also lacks certain properties characteristic of copper, metal or brass systems. PVDF is corrosion-resistant. The extremely smooth wall makes the fitting enormously resistant to deposits. In addition, PVDF makes less noise and no potential contamination of the water is possible. Finally, PVDF is not only lighter, it is also less expensive than traditional metal fittings.

2.1.2 Power and flexibility of the Henco synthetic fittings (PVDF

This test was carried out in the Henco laboratory. The brackets were deliberately fixed to the sleeves of the bottom fittings to make them a fixed point.

The first photograph shows us how the pipes and the fittings behave when water with a temperature of 20°C is flowing through. Nothing changes with the original test setup
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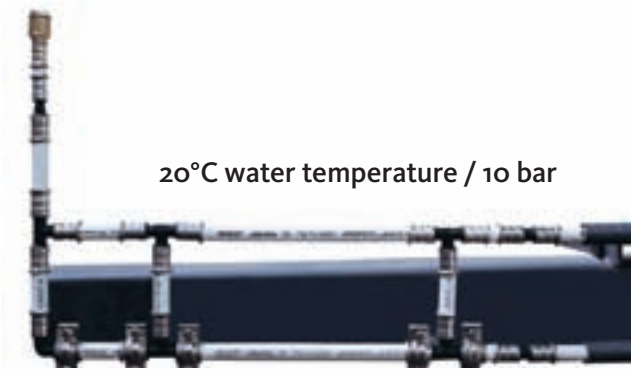
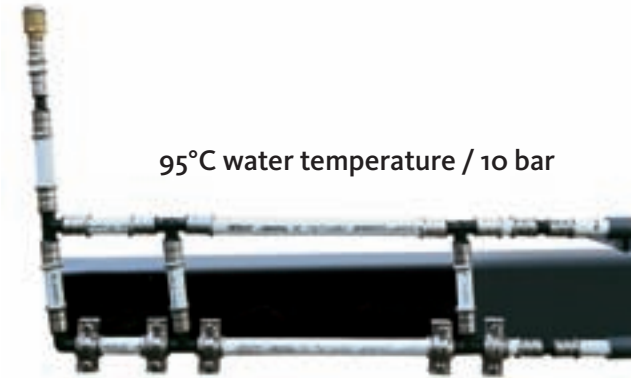


20°C water temperature / 10 bar

The second photograph shows how the test setup responds when water at 95°C is pumped through the piping system. The setup leans in the direction of the flow. The T-pieces and the bend fitting accommodate the expansion forces. The test shows the force and flexibility of the Henco PVDF synthetic fitting.



95°C water temperature / 10 bar

2.1.3 Technical data

The most important PVDF data are:

Density	g/cm3	1,78
Elongation limit	MPa	54
Tensile strength	MPa	46
Elongation at rupture	%	80
Modulus of elasticity	MPa	2400
Flexural strength	MPa	74
Flexural modulus	MPa	2300
Melting point	°C	174
Thermal conductance at 23°C	W/m.K	0,19
Thermal stability	°C	380