## **11.4 Pressure test/reports**

#### Pressure test using water or compressed air

alpex-duo XS and alpex L press fittings as well as alpex-plus push-fit fittings made of PPSU/brass must be pressure-tested after installation and before plastering or screed work. Testing can be carried out using water or compressed air and is generally a two-step process for all alpex connectors. Firstly, the installation is tested for leak-tightness (leak function) and secondly for strength.

## 1. Leak test and visual inspection



Water ZVSHK advisory leaflet

## 2. Strength test for drinking water and heating installations



Water DIN EN 806-4



> 4 – 6 bar

vvater DIN 18380

## 1. Leak test and visual inspection



Air ZVSHK advisory leaflet

2. Strength test for drinking water and heating installations



Air ZVSHK advisory leaflet

Attention

Pressure testing with water:

- 1. After having filled the system with water, the alpex-duo XS/alpex L connectors are visibly leaky when implementing the leak test in the range from **1 to 6.5 bar** in the unpressed state in accordance with the ZVSHK advisory leaflet. Visual inspection required! With the alpex-plus push-fit fitting, the green indicator shows the correct installation depth. Visual inspection required!
- 2. A successful leak test is followed by a strength test using water for drinking water installations according to DIN 806-4 at min. 11 bar for 30 min. and for heating systems according to DIN 18380 at 4 to max. 6 bar for 60 min.

VDI directive 6023 specifies that drinking water systems should be put into operation immediately after water pressure testing and subsequent flushing, i.e., without downtime, for reasons of hygiene! We recommend a pressure test using compressed air if installations are started later.

#### Pressure test using compressed air

- Leak testing is carried out at 150 mbar according to the ZVSHK advisory leaflet. The test time for 100 litres of pipeline volume is at least 120 minutes. Increase the test time by 20 minutes for every additional 100 litres.
- A successful leak test without pressure drop is followed by a strength test according to the ZVSHK advisory leaflet for drinking water installations and heating systems at max. 3 bar smaller than or equal to 63× 4.5 mm and at max. 1 bar larger than 63×4.5 mm at a test time of 10 min.

#### NB

ZVSHK advisory leaflet "Leak Testing for Drinking Water Installations with Compressed Air, Inert Gas or Water".

Only use leak detection systems certified by the DVGW and released by the respective manufacturers for use with the material PPSU.

### FRÄNKISCHE PRESSURE TEST REPORT using water as test medium for heating and drinking water for the alpex-duo XS and alpex L systems with press fittings (alpex-duo XS dim. 16, 20, 26, 32; alpex L dim. 40, 50, 63, 75) or push-fit fittings alpex-plus (dim. 16, 20, 26) Construction project Building phase Customer represented by Supplier represented by System pressure: \_\_\_\_ bar Water temperature: \_\_\_\_ °C Difference: °C The system has been tested as an entire system in sections Metal plugs, caps, blanking plates or blind flanges must be used to seal all pipes. Apparatuses, pressure tanks or water heaters for drinking water must be disconnected from the pipes. The system or pipeline section to be tested must be filled with filtered water, rinsed and completely bleeded. Visually check that all pipe connections are properly connected. The ZVSHK advisory leaflet "Leak Testing of Drinking Water Installations with Compressed Air or Inert Gas" and VDI 6023 Sheet 1 "Hygiene for Drinking Water Supply Systems" must be observed. **1. Leak test according to the ZVSHK advisory leaflet** A large temperature difference (at least 10 K) between the ambient temperature and the water temperature requires a 30-minute waiting period to allow the temperature to equalize. The pressure corresponds to the available supply pressure of bar, but at least **1 bar and max. 6.5 bar!** The visual inspection of the system has been completed. A manometer was used for the test.\* No leaks were found during the test period. No pressure drop\* was observed during the test period. 2. Strength test Drinking water according to DIN EN 806-4 Heating system according to DIN 18380 ☐ The drinking water system has been pressure The heating system has been pressure tested tested at a minimum pressure of 11 bar; the using cold water at a minimum pressure of test was performed over a 30-minute period. 4 bar to a maximum pressure of 6 bar; the test was performed over a 60-minute period. No leaks were found during the test period. □ No leaks were found during the test period. No pressure drop was observed during the test □ No pressure drop was observed during the test period.\* period.\* The pipe system has been proven to be leak-tight. Place, date

Customer signature/customer representative signature Supplier signature/supplier representative signature \* Manometers must be capable of accurately measuring the pressure to the nearest 0.1 bar.

## FRÄNKISCHE

# **PRESSURE TEST REPORT** using compressed air as test medium or inert gases as test medium for heating and drinking water

for the alpex-duo XS and alpex L systems with press fittings (alpex-duo XS dim. 16, 20, 26, 32; alpex L dim. 40, 50, 63, 75) or push-fit fittings alpex-plus (dim. 16, 20, 26)

Construction project Building phase Customer represented by Supplier represented by Supplier represented by System pressure:bar Water temperature:^C Difference:^ The system has been tested asan entire systemin section Metal plugs, caps, blanking plates or blind flanges must be used to seal all pipes. Apparatuses, prossure tanks or water heaters for dinking water must be disconnected from the pipes. Visually check that all pipe connections are properly connected. Only use leak detection systems corrified by the DVGW and released by the respective manufacturers for use with the material PPSU. The ZVSHK davisory leaffet 'Leak Testing of Drinking Water Installations with Compressed Air or Inert Gas'' and VDI 6023 Sheet 1 "Hygiene for Drinking Water Supply Systems" must be observed.  1. Leak test according to the ZVSHK advisory leaffet Test pressure 150 mbar: The test time for up to 100 litres of pipeline volume is at least 120 minutes. Increase the test time by 20 minutes for overy additional 100 litres. Pipeline volume:Litres Test time:Minutes The test period will begin only after thermal equilibrium and steady state condition has been achieved.  A manometer/U pipe was used for the test ? A pressure max. 3 ber ** 5 63 × 4.5 mm Test period: 10 minutes Test pressure max. 3 ber ** 5 63 × 4.5 mm Test period: 10 minutes The tap system has been proven to be leak-tight.  Place, date Customer signature/customer representative signature * Manometers must be copable of accustely measuring the pressure to the neaserst 1 mbar.							
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