Installation Information
UWEPEX

PRD0030E04en

Introduction

When installing the UWEPEX in vehicles it is important to consider the following:

Handling and storage

Handle pipes and fittings with care. Deep scratches in the pipes can cause reduced durability.

Tools must be handled with care; this applies in particular to the tool's expander head.

Pipes must not be exposed to sunlight during storage.

Pipes that have been stored in a cold place must reach room temperature before installation work commences.

Always store tools with the expander head attached.

Installation

Read this Installation Sheet and the instructions supplied with the tool before commencing work.

Installation must be performed at an room temperature of above -15ºC

The tools are only designed to be used for expanding UWEPEX pipes.

After installation

Avoid performing welding work in the proximity of UWEPEX pipes, and protect the pipe from the direct effects of welding sparks.

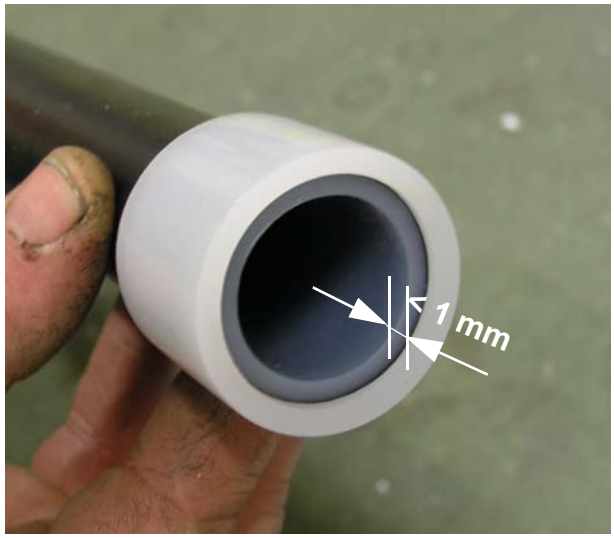
Avoid extended exposure of aggressive chemicals to UWEPEX pipes.

Fitting the Quick & Easy fitting

1. Cut off the pipe at a right angle

The cut surface must be perpendicular to enable the pipe to cover the whole surface of the fitting.

2. Slide the QE ring over the pipe. The QE ring must protrude slightly from the UWEPEX pipe, max. 1 mm



Avoid touching the pipe, as dirt and grease can cause the QE ring to slip during expansion. If the pipe is not tight around the ring, this can be resolved by a small expansion without the ring before threading on the ring.

3. Check that the expander head is fully tightened

4. Expand the UWEPEX pipe with the QE ring threaded onto it as follows:

a) Guide the expander head's segment straight into the pipe as far as possible.

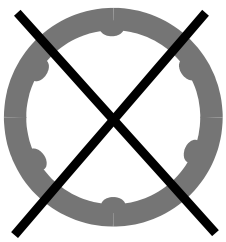
b) Squeeze the pistol's trigger until the segment has expanded completely, and release the trigger.

c) Pull the pistol back a little so that the segment comes free from the pipe wall and turn the pistol a little, see warning text below. Immediately, push the segment further into the pipe.

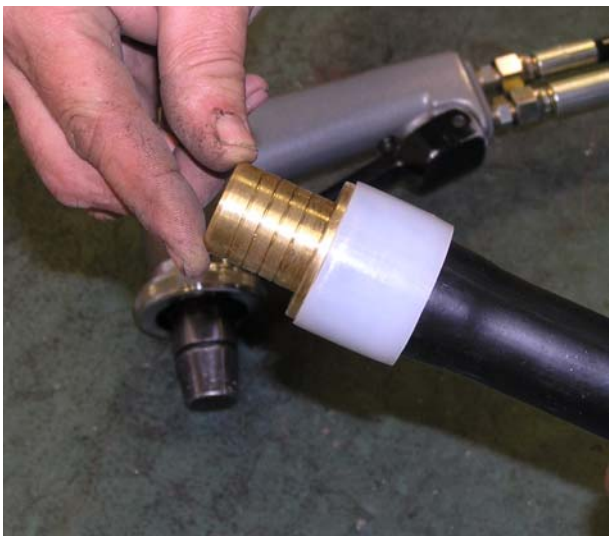
d) Repeat steps b and c until the smooth parts of the segment are completely in the pipe.

e) Expand one last time.

After each expansion the tool must be turned, at least four times to expand out the "ripples" formed by the gap between the segments of the tool. If you do not do this there is a risk of leaks!



5. Fit the fitting to the pipe immediately after the final expansion.



If the assembly environment is particularly difficult you can expand one more time. However, never longer than normal! An extra expansion means that the pipe will contract a little more slowly, providing more time to fit the fitting.

6. After a few seconds the pipe has contracted sufficiently on the fitting. If the expansion has been performed in a professional way and the temperature is no less than +5ºC the system can be hydrostatically tested after half an hour. The time for hydrostatic testing can vary significantly, from approx. 30 minutes to up to 12 hours depends on:

- number of expansions
- room temperature
- quality of expansion

Bending

UWEPEX pipe can be bent either cold or hot. The main difference is that with hot bending you can use a smaller bending radius. With cold bending, however, the pipe must be fixed in the final position. If so requested by the customer, UWE can supply customized bent pipes.

Cold bending

UWEPEX pipes can be cold bent over a bending template with the following minimum radiuses for the various pipe dimensions.

Cold bending with a tight radius can cause the material to stretch, which will damage the pipe.

Pipe dimensions	Radius mm, cold bending*
UWEPEX 16 Pipe	80
UWEPEX 20 Pipe	100
UWEPEX 25 Pipe	125
UWEPEX 32 Pipe	160
UWEPEX 40 Pipe	200

Hot bending

In hot bending the pipe is heated to approx. 135ºC. When hot bending you can use a smaller bend radius, as shown in the table below.

Pipe dimensions	Radius mm, hot bending*
UWEPEX 16 Pipe	48
UWEPEX 20 Pipe	60
UWEPEX 25 Pipe	75
UWEPEX 32 Pipe	96
UWEPEX 40 Pipe	120

* relates to pipe’s centre line

Dismantling the Quick & Easy fitting

1. Suitable tools: Heat gun and knife with adjustable blade

Tools

Take care not to damage the pipe or yourself. In tight spaces insulate working area with, for example, aluminium foil.

2. Heat an area lengthwise on the QE ring with a heat gun. when the heated area changes color (clear), becomes soft, go to step 3.

Heating

3. With a adjustable blade knife make a shallow cut, the length of the QE ring, followed by several passes. Reheat the cut and the cut should split by itself. The idea is to not damage the pipe with the knife.

Cutting

4. Bend the pipe away from the fitting

5. Apply new fitting

Maintenance of the tool (after approx. 200 expanded fittings)

Check the dimensions of the expander head

1. Check that the expander head is fully tightened
2. Expand the tool fully
3. Use a sliding calliper to measure the flat part of the expander head and check that the diameter corresponds to the following values:

Pipe dimension (mm)	Diameter exp segment (mm)
16x2.0	18.2 +/-0.1
20x2.0	20.7 +/-0.1
	23,0 +/-0,1*
25x2.3	28.0 +/-0.1
	28.8 +/-0.1*
32x2.9/3.0	34.0 +/-0.1
	35.0 +/-0.1*
40x3.7	44.0 +/-0.1*

*) Relates to expander head for hydraulic tool

4. If the dimensions do not correspond the expander head or the tool must be replaced.

Lubricate and clean the cone

1. Remove the expander head
2. Clean the cone
3. Lubricate the cone with the grease supplied with the tool. Available from UWE, article number 14276.
4. Clean the expander head
5. Apply the expander head to the tool

All segments must lie against one another in resting position, and the opening must be the same shape during expansion.

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