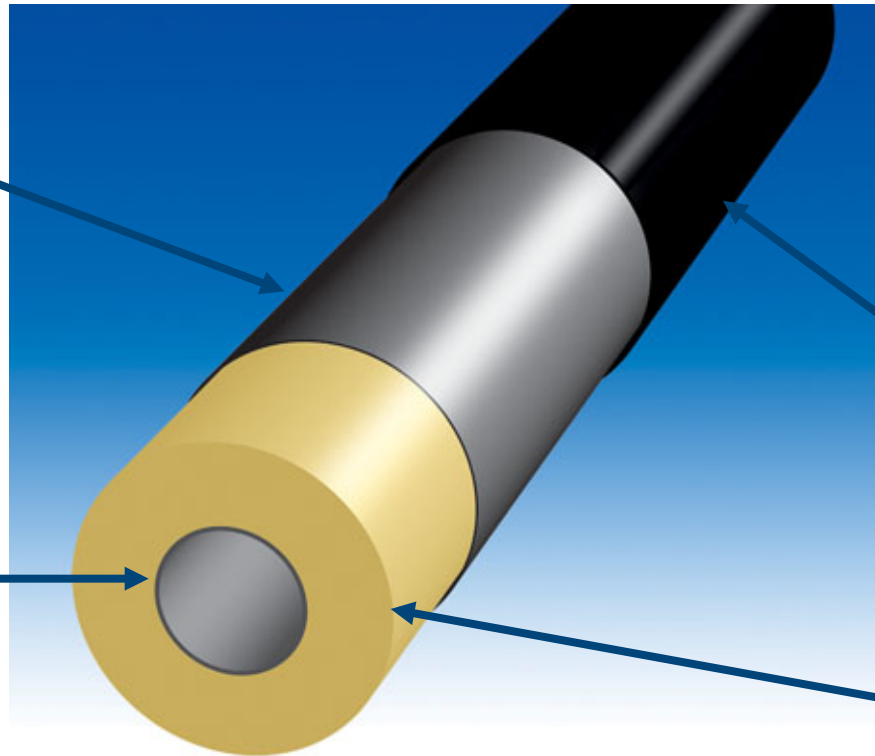


The diffusion barrier (conti)

- Aluminium foil



The outer casing

- PE-HD

The insulation material

- Polyurethane

The media pipe

- FZ steel
- Hard copper

- Carrier pipe: Hard copper, FZ steel or steel 37.0 (EN 235)
- Insulation: Polyurethane foam freon free (CP foam)
- Jacket pipe: Polyethylene (HDPE)
- Dimensions in mm: $\varnothing 22/90$, 28/90, 35/90, 42/110 and 54/110
- Pipe lengths press: 5 m (15 ft.) straight CU or 6 m straight FZ
- Pipe lengths welding: 6 or 12 meter in DN 26 to 139 mm
- Working temp.: Service temp. 140°C (max 150°C)
- Working press.: 16 bar
- Assembly method: Radial press coupling (as Mapress)
- Jointing system: Half shells + shrinking sleeves
- Preinsulated fittings: As pipe quality....

- Pipes:
 - All 5 dimension in the two jacket sizes, \varnothing 90 and 110 mm to:
 - Simplify installation
 - Simplify stock handling
 - Reduce product portfolio
 - Reduce stock costs
- Couplings:
 - Radial pres couplings
 - 30 years old technology
 - Fully certified to solar heating
 - Many suppliers throughout the world sells and service these products
 - Fast and easy installation with accu/cord pres tools



- Pre insulated fittings:
 - T'ees, 45° elbows and 90° elbows
 - Complete system with reductions from Mapress
 - Cu fittings for both FZ and copper
- Joint system:
 - Shrinking sleeves for hot air or gas burner
 - Half shells in 90 and 110, length of 480 mm. (good for 3 half shell insulations).
- Accessories
 - All kind of accessories for air valves, dirt filter, ball valves, draw valves etc. is typically delivered by the installer himself. Fits Mapress products.

SolarPipes – advantages

Distributor offers:

- Ease of installation
- Durable product
- Low heat loss

Installer offers:

- Fast installation
- Installation cost savings
- Durable system
- No maintenance
- Long lifetime +30 years

End user gets:

- Return of investment
- Return of investment



- Ease of use:
 - straight 5 m lengths (easy to carry)
 - Short and light fitting parts (easy to handle)
 - Fast installation with pres couplings from Mapress
- Simple but yet sufficient product portfolio:
 - Covers most solar systems installed in medium size buildings
- Significant small heat loss
- Product quality:
 - UV stable due to 3% carbon fibres in jacket
 - Long lifetime +30 years
 - No maintenance costs

SolarPipes vs on-site aluminium piping

- Much lower Lambda value (0,023) than mineral wool solutions
- Fewer pipe supports, no screw holes in the jacket
- The net income from the whole installation stays within the entreprise, no coordination with the re insulation company
- Freon free and 100% UV protected
- Very little labor work on site
- Taktes up less space
- Corrosion free due to 100% sealed foam/jacket
- Perfect for under grund installation with double sealing joint system
- Joint program shrinkable with hot air gun (for fire hazard reasons)
- Custon made solutions available

SolarPipes vs on-site aluminium piping

- Simple connection with Mapress press system or ordinary welding
- Smaller pressure loss than in corrugated steel pipes
- Re usable pipe installation in connection with upgrading of solar panels
- Very durable against tough handling and bad weather conditions like acid rain
- Fast and reliable connection
- 100% sealed system. No moisture can get in or out
- Superb pipe design support and after sales
- Huge accessory product program
- Well documented catalogues and handling instructions
- Produced according to newest EN and ISO standards
- NO maintenance for +30 years



- **PRODUCT PROPERTIES**

- PUR foam (cyclopentane)
- complete system (pipes + fittings + acc.)
- 100% sealed
- CU mediapipe (hard copper, 5 m)
- Steel mediapipe (FZ steel outside, 6 m)
- Mapress couplings
- Mapress accessories
- PE jacket
- Shrinkable joints
- Ridgid foam
- Durable pipe system
- Long lasting
- Under ground installation
- Above ground installation
- Many accessories

- **PRODUCT ADVANTAGES**

- Best insulator today
- No re insulation necessary
- No moisture from inside or outside
- Corrosion free
- Cheaper alternative in sealed systems
- No soldering – 100% reliable – fast
- Makes installation complete
- 100% UV – water- and steam proof
- 100% UV – fast installation and tight
- Durable – withstands expansion
- Rough handling and weather proof
- Lasts as long as the sun collectors
- Not visible still easy to install
- Withstands rough weather and handling
- Easy to connect to larger District Heating Solar installations

Heat loss with profitability

- **Comparison with mineral wool**

- **System layout**

- Flow temperature 120° C
 - Return temperature 70° C
 - Thermal conductivity, PUR 0,023 W/mK
 - Thermal conductivity, Mineral wool, good 0,045 W/mK

- **Financial conditions**

- Operating hours 8760 hour/year
 - Energy price 0,047 EUR / kWh
 - Period of depreciation 15 years
 - Investment 0 EUR
 - Actual inflation 2 %
 - Expected rise in price 2 %
 - Actual bank interest 6 %