

## EMMETI PE-RT PIPES

### EMMETI Quality Pipes of DOWLEX\*

EMMETI PE-RT pipes are made of pure DOWLEX\* without addition of any recycled material. As the raw material is the basis for the quality of a pipe, we use the in our opinion best raw material.

While conventional PE's do need cross-linking in order to perform at higher temperatures long term, this is not needed for pipes made with Dowlex 2388 or 2344 as those polymers are Octene-Copolymers with a narrow molecular weight distribution.

The co-polymerized Octene provides Hexyl-branches which allow the polymer chains to entangle with each other and to form tiemolecules to bind crystallites together at a significant higher level than possible with conventional PE. A lot of energy is needed or can be dissipated before such structures break. One can imagine this effect as a kind of „geometrical cross-linking“.

Our pipes made of DOWLEX\* have two characteristics that should be emphasized in particular:

- high flexibility
- excellent smoothness of the pipe's inner surface

The high flexibility of our pipes permits cold laying, even at temperatures much lower than 0°C.



The smoothness of the pipe's inner surface, achieved by a special manufacturing process, guarantees the lowest possible flow resistance. The "roughness" of our pipe's inner surface is as low as 400 Å! If a pipe shows a rough inner surface, a deposit can build up, thus increasing flow resistance considerably.

Pipes for use in floor heating and radiator connection are coated with an oxygen barrier made of EVOH.

This oxygen barrier is applied to the basic pipe using an adhesive resin. Basic pipe, adhesive resin and oxygen barrier thus form an inseparable unit. This system represents the state of the art. These pipes carry the name "oxystop".

Polyethylene, the raw material we employ, is a pure hydro-carbon compound that is ecologically neutral. Our production waste can be recycled.

**EMMETI pipes for heating and sanitation  
safe – flexible – durable**

## **PE-RT Type I Pipes (Polyethylene of Raised Temperature Resistance) DIN 16833/34, DIN 4726**

For the production of our PE-RT type I pipes we use DOWLEX\* 2344, only. It is the first material that has been developed especially for the production of pipes for floor heating, radiator connection and hot and cold drinking water supply. Due to its unique molecular structure with octene homogeneously distributed over the polymer back-bone and the narrow molecular weight distribution, DOWLEX\* 2344 does not need crosslinking in order to perform long-term under elevated temperature and pressure conditions.

The requirements our PE-RT pipe needs to meet are laid down in the standards that have especially been worked out for this pipe: DIN 16833, DIN 16834. Longterm testing proved that the requirements of DIN 4726 are exceeded by far. Thus, the extrapolated life time of a PE-RT pipe for instance is much longer than the specified 50 years at 70° C.

## **PE-RT Typ II Pipes (Polyethylene of Raised Temperature Resistance) DIN 16833/34**

While Dowlex® 2344 is mainly used for heating applications because of its inherent exceptional high flexibility we are now able to provide pipes made with Dowlex® 2388 which are specifically designed to meet the stringent requirements for drinking water networks and those are in particular durability and best possible hygienic performance. National and international standardization bodies have meanwhile already established the standards for PE-RT type I and type II or are in the process to do so.

A key benefit of such Octene copolymers is that they do not need chemicals for cross-linking and will in so far not split off decomposition products which appear during the cross-linking procedure.

As we have no cross-linking we are confident that our pipes do not release undesired or prohibited chemicals into the water. In so far we have also no concerns that our pipes could generate taste or odour problems - a problem that frequently occurs with certain PE-RT materials.

**EMMETI pipes for heating and sanitation**  
**safe – flexible – durable**  
**10 YEARS GUARANTEE**

## EMMETI – The Safety Pipe Production & Quality Assurance

Manufacturing high quality pipes requires constant quality control – from the receipt of the raw material to the finished product.

The control of the pipe production is of special importance to EMMETI – it is carried out continuously:

- inspection of the delivered raw material
- supervision of the manufacturing process
- checks during and after manufacturing
- final control before dispatch

Our quality assurance is based on the control and check regulations of the Süddeutsches Kunststoffzentrum, Würzburg and other European test institutes, on DIN ISO 9002 and the corresponding DIN standards.

The melt index of all delivered raw material is examined according to DIN 53735, as this plays a major part with regard to the future quality of the pipe. Only absolutely faultless material is released for production.

Our machines and devices used for manufacturing represent the state of the art. Our SPS-controlled extruders e.g. are the basis for an optimum pipe production.

During the pipe production the manufacturing process is constantly controlled according to DIN 8074/8075 and regulations HR 3.2/HR 3.16 of the SKZ.

This includes examination of

- exact wall thickness and outer diameter (DIN 8075 4.2)
- outer and inner, water carrying surface

All data are recorded and are available at any time, even years later.

The finished pipes are subject to the following tests:

- change after hot storage (DIN 8075 4.4)
- homogeneity of the material
- pressure resistance at 20° C and 95° C (DIN 53759)

For effecting these tests, our laboratory is equipped with the latest testing instruments. Only controlled and perfect pipes are released for dispatch.

## Floor Heating

EMMETI PE-RT oxystop floor heating pipe convinces by its decisive advantages:

- outstanding flexibility
- extremely easy to install
- saves installation time
- suitable for all installation methods
- usable for open space heating, wall heating, ceiling cooling, concrete core activation
- inexpensive
- made of high quality raw material (DOWLEX\* 2344)
- complies with DIN 16833/34, DIN 4726



## Pipe-in-Pipe System for Radiator Connection

EMMETI radiator connection pipes - oxygen proof pipes in protective pipes - for all modern installations. The pipe-in-pipe system offers convincing advantages:

- easy to install
- replaceable
- no soldered or welded joints
- no deposit formation
- no sound transmission
- made of high quality raw material (DOWLEX\* 2344)
- complies with DIN 16833/34, DIN 4726



**SKZ**



**kiwa**



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