



Poster

PE-X Pipes in Action

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PE-X Background

Cross-linked polyethylene (PE-X) pipes have been installed in European houses for the last 30 years. Over the last ten years, PE-X has been the fastest growing material in plumbing pipe market. Today more than 5 billion meters of PE-X pipes for drinking and heating water are installed. However applications using PE-X pipes for gas and water distribution and industrial application are being developed in recognition of the outstanding properties of this plastics material.

PE-X Technologies

Peroxide cross-linking (PE-Xa), Silane cross-linking (PE-Xb), Irradiation cross-linking (PE-Xc)

Features & Benefits for PE-X

All the different cross-linking technologies introduce molecular links reinforcing the base PE polymer. This offers elevated temperature and chemical resistance as well as outstanding mechanical properties of the final product. The traditional application for PE-X pipe is the Hot & Cold plumbing market but in recent years other performance applications have been developed in recognition of these outstanding properties for a plastics pipes material.

The extraordinary resistance to crack growth of PE-X pipes means that external point loads initiated by rocks and stones or external scores will not affect the overall lifetime. This means that PE-X pipes can be used for 'No-Dig' trenchless installations or laid without sand embedding. With these technologies pipe installations can be realised at lower costs, causing less disruption to the environment.

PE-X provides exceptional resistance to Rapid Crack Propagation even at temperatures well below zero-making it the ideal solution for Gas distribution in harsh environments. PE-X material provides the ability to use a 'Squeeze-off-Device' without damaging the pipe.

PE-X possesses a memory effect with its ability to recover its original shape, after being reheated above the crystalline melting temperature. This effect opens up applications like shrink fit tubes or sleeves and fittings for PE-X materials.

Objectives for the PE-X Association

Several suppliers of cross-linked polyethylene (PE-X) formed the PE-X Association, with the aim to foster the market expansion of PE-X pipes through

- Promotion and knowledge of PE-X materials
- Close contact with national regulators and trade associations
- Work with recognized standard institutes
- Participate in European working groups
- Provide data on properties of PE-X
- Share the costs on research projects of common interest
- Participate actively in new standards e.g. gas and industrial
- The PE-X Association is a non-profit organization, open to any European based companies, institute or Individuals with a key interest in PE-X materials.

The current members of the PEX Association are:

AEI Compounds Ltd. – United Kingdom
Evonik Degussa GmbH – Germany
Ineos Polyolefins – Belgium
Quality Plastics Ltd. – Ireland
Solvay Padanaplast – Italy
Wacker Chemie AG – Germany

Dow Corning SA – Belgium
Momentive Performance – Switzerland
Micropol Ltd. – United Kingdom
Silon International GmbH – Germany
Viega GmbH & Co. – Germany