



Sustainable pipe installation built for long-term stability

POLO-ECO plus Premium

Construction sand shortages? Recycled materials offer a sustainable alternative.

Traditional pipeline systems are typically installed using sand and gravel as bedding material. However, this approach is costly, resource-intensive and can have a significant environmental impact. In addition, global shortages of suitable construction sand are becoming increasingly critical, as natural sand deposits are overused and increasingly difficult to access. In pipeline zones where the pipes are bedded in sand, there is a risk of washout. Pipelines installed in natural ground are exposed to seepage and groundwater infiltration. The risk of washout increases significantly in larger-scale installations. Subsequent settlement of the pipe invert can lead to significant operational restrictions.

The solution: POLO-ECO plus Premium installed with crushed gravel or recycled materials*

Crushed gravel or recycled materials with sharp edges interlock during compaction, providing superior long-term stability compared with rounded aggregates. This also prevents washout. Even if the finer particles are washed out from between the larger gravel stones, the interlocking structural matrix surrounding the pipe remains intact. POLO-ECO plus Premium was specially developed for installation with crushed gravel or recycled materials, eliminating the need for traditional sand bedding.



Key benefits

- No washing out of coarse-grained material
- High stability thanks to a mineral-reinforced middle layer
- Prevention of stress whitening under point loads
- A cost-effective solution for conserving resources

Professional tip: The use of reclaimed excavated material, processed with screening buckets and stabilised with lime, offers another effective way to improve sustainability. This method, which drains cohesive soils and makes them suitable for installation again, is becoming increasingly popular on construction sites and has been successfully used for over 20 years in Germany's Rhine-Hesse region and elsewhere.

* Materials for the bedding should not contain any particles larger than 22 mm; max. 22 mm for DN ≤ 200 mm, max. 40 mm for DN > 200 mm to DN ≤ 630 mm

Proven performance in sustainable infrastructure projects

POLO ECO plus Premium has demonstrated its performance in numerous civil engineering projects where sustainability, cost-efficiency and long-term technical stability are key priorities – with or without traditional sand/gravel installation.



Sewer Installation in liquid soil. Rhineland-Palatinate . Germany

Pipe system

Project scope

POLO-ECO plus Premium 16
240 m of DN630 pipes with a
special length of 4.30 m

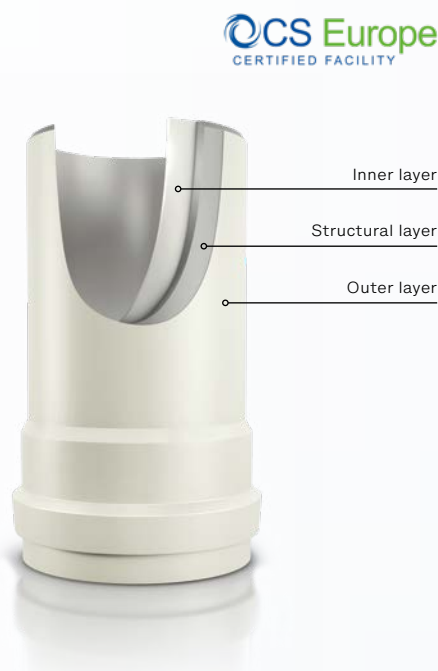


Special features

- The location below the groundwater level requires a watertightness of up to a 10-metre water column
- A special pipe length of 4.30 metres is required as the pipes are installed in special trench boxes
- High requirements for longitudinal and ring stability due to the significant pressure exerted during liquid-soil backfilling

POLO-ECO plus Premium. Three layers. Built for performance.

- 1. The mineral-reinforced outer layer made of a PP BLEND**
reduces thermal absorption, maximises durability and delivers outstanding longitudinal and point-load stability.
- 2. The mineral-reinforced structural layer** made from highly crystalline PP delivers exceptional strength and rigidity while maintaining high system flexibility.
- 3. The inner layer** made of PP withstands aggressive chemicals, offers high abrasion and impact resistance and ensures optimum hydraulic performance. The tried-and-tested light grey inner layer facilitates fast and reliable visual inspection.



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