

Akoalit PB 4267 grey

Polybutene-1 Pipe Resins Help to Achieve Green Living



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Pipes and pipe systems made of LyondellBasell's PB-1 resins have demonstrated outstanding performance and value through a wide range of applications in the building and construction industry. Today, they are often used in the most advanced sustainable building projects. When one of the leading Korean construction companies, Samsung Heavy Industries, required a pipe material that is flexible, durable, recyclable, energy efficient and easy to install, pipe converter Saerom Tech recommended *Akoalit* PB-1 resins as the only choices.

The Engineering & Construction division of Samsung Heavy Industries has a long track record in the construction of premium residential buildings.

Their "Cherevil" concept under construction in the city of Cheongpyeong (located 60 km East of Seoul) features premium apartment

buildings customized for the needs and lifestyles of young and modern individuals.

Each apartment will be equipped with state-of-the-art information and communications infrastructure, including high-quality pipes produced using PB-1 from LyondellBasell.

When completed in June 2012, the six building blocks will be home to more than 400 households.

"This project is an excellent example of the effective application of LyondellBasell's PB-1 resins," says Mr. Jin-Keun Yoo, Saerom general manager.

"The technical properties such as durability and creep resistance speak for themselves. But they also are providing us with significant environmental benefits. We were able to produce the pipes using less material and energy. This contributes to the attractive cost/performance ratio and provides long-term, sustainable solutions."

As Samsung Heavy Industries provides an exceptional 100-year warranty on the durability of its construction, it is clear that only the best and most suitable materials are used for hot and cold water supplies, underfloor heating and sewage systems.

"For the construction of high-quality housing in Asia, only the best materials will be used," explains Mr. Jun Tak, a project director of Samsung Heavy Industries for the Cheongpyeong area. "LyondellBasell's *Akoalit* PB-1 has established itself as the product of choice for modern interior pipe systems. Its hot and cold temperature performance is remarkable, and produces pipe that is flexible and smaller than competitive materials such as steel. This makes it easier to install the pipe and allows for relatively sharp bends – an important factor in Asia where we typically have to deal with space constraints."

Drainage unit with new manifold



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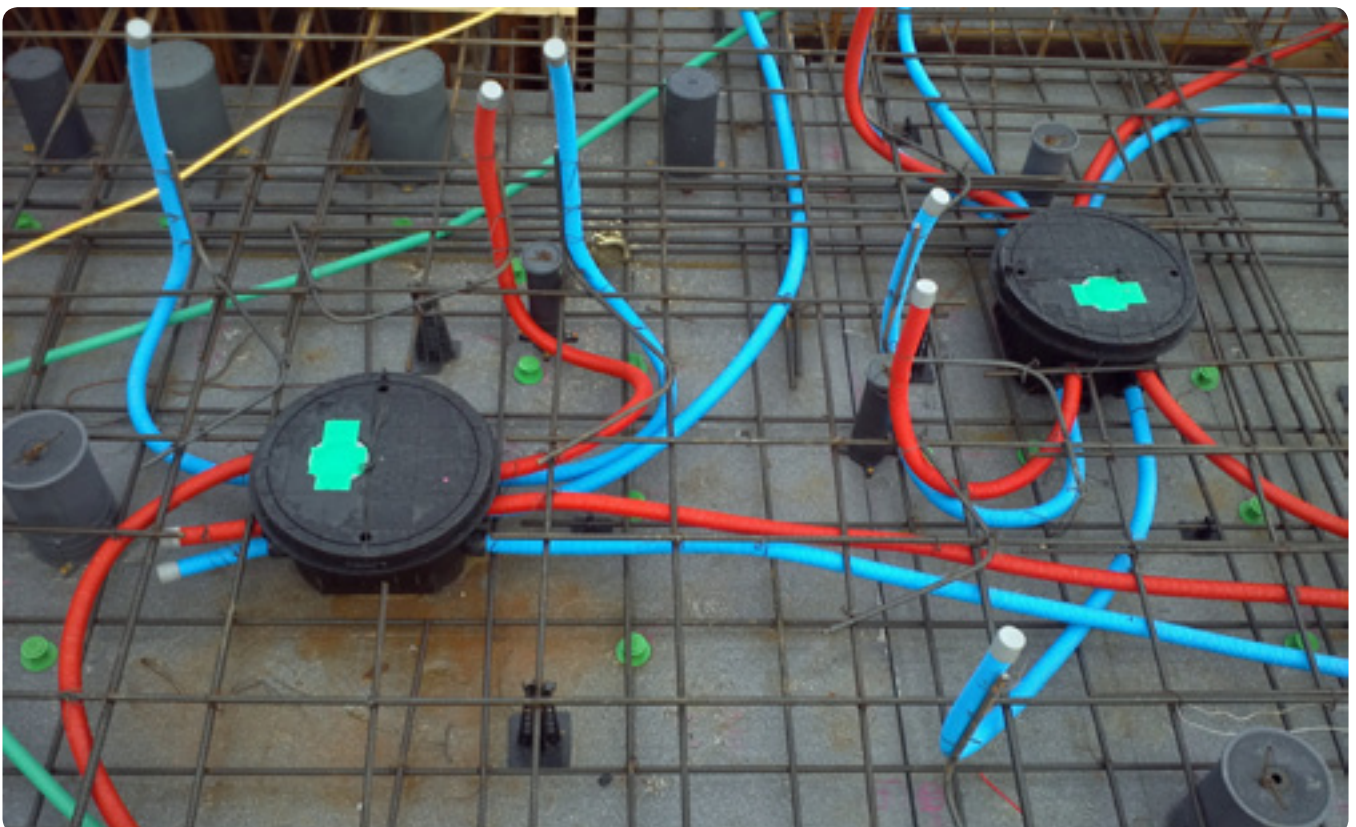
LyondellBasell's *Akoalit* PB-1 resins are extensively used in premium housing across Asia. Compared to standard materials, PB-1 offers superior strength, and enables significant reduction in wall thickness. Customers report that pipe sections made of *Akoalit* resins weigh up to 40% less than equivalent products. The increased internal diameter of the pipes results in higher throughput and in lower energy requirements for pumping operations.

As PB-1 pipes conform to the Korean Standard KS M 3363 for plastic piping systems used in hot and cold water installations, Samsung Heavy Industries was also looking for a solution to address potential leakages of the sanitary pipe systems. The drainage system that Korean converter Saerom Tech supplied (image 2) is a relatively small and robust system, with an overall weight of 5 kg that allows easy transport and installation.

The innovation of this drainage system is in the detail. For the first time, the manifold produced using *Akoalit* PB 4267 grey is fitted directly into the drainage unit (image 2), which will be mounted directly onto the sewage

system. Through this method, all waste water from each apartment will be centrally collected and removed via the main sewage systems. The advantages of this set up include easy identification of possible leakages/blockages, and quick and easy access to the source of the potential problem. In addition, the large quality of collection systems used on each floor prevents the entire building complex from flooding with waste water if leakages/blockages do occur. Added security is achieved by placing each hot or cold water pipe into another red or blue pipe to allow easy removal of damaged or blocked water pipes.

Drainage units installed





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