References

The installation of Uponor storm water cassettes in Shopping Center Karisma, Lahti



Uponor involvement

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In November 2011 one of the largest shopping centers of Finland was opened in Lahti. The Karisma shopping centre is one of Finland´s largest shopping centers measured by sales area and number of stores. Developer of Karisma is Kesko. Construction of Karisma has been one of the biggest investments ever in retail trade of Kesko. The main contractor of Karisma was SRV Rakennus ltd.

Project Facts:

Location
Lahti, Finland

Completion
2011

Building Type
Office

Product systems
Storm water

Project Type
New building

Partners

developer
Kesko Oyj
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Finland

contractor
SRV Rakennus oy
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installer
Heinolan Maansiirto Ky
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Karisma has about 33500 m2 of sales area and nearly 80 stores in two floors. Approximately 3 million customer visits per year is expected. Large number of visitors also requires a large parking place which can be found in Karisma. The parking place is able to hold about 1,600 cars.

Storm water under control with Uponor storm water cassettes

Shopping centre and its parking place forms together the area of 7.5 acres which rain and melt water management requires a robust system. Directing large water masses directly to the city´s storm drain would cause serious capacity problems. Also directing water into the terrain was out of the question. Uponor storm water cassettes were found to be the solution. Water from the roof of the building and from the asphalted parking lot is directed to the cassette field. Uponor storm water cassettes are usually used directly to infiltrate storm water into the soil. In this project that was not possible because of the level of groundwater was too high.

There are two cassette areas in Karisma and one of them includes a sand pit. Cassette areas are 130 m3 and 370 m3 in size. Approximately 1700 Uponor storm water cassettes were needed in the site.

“The delay systems are virtually solid containers in which the cassette areas are surrounded with welded polyethylene film. “ Says Project Manager Esa-Matti Laurell From SRV. The amount of storm water is huge. A good example of that is the size of the storm water pipes which comes in to the cassette field. Their diameter is 670mm. The outgoing pipes which lead the water from the cassette field into the Kymijärvi Lake are much smaller. Their diameter is only 315mm. This ensures that the sewer capacity is adequate also during heavy rain. Water from the smaller cassette field is directed into the ditch and finally into the forest wetland.

Smaller cassette area is located into the traffic area so the load resistance was also paid attention to. The cassettes are installed about 1.5 meters deep and no problems have occurred. So according to this experience, Uponor storm water cassettes can also be installed in traffic areas.

Good feedback from builders

Heinolan Maansiirto Lp was responsible for Karisma Construction. Installation of the Uponor Storm water cassettes and the welding of the surrounding film were handled by subcontractor Kiinteistö Sokka Ltd. “This project was a substantial two-year-job for us. “ Says Jorma Saarinen from Heinolan Maansiirto Lp. “We did all the groundwork with sewers all the way to the asphalt. We have not installed cassette systems before, but with this experience it seems to be a successful solution. Compared to conventional systems the capacity of the Uponor storm water cassettes is much better”

Mika Peltola from Kiinteistö Sokka Ltd was responsible for stacking the cassettes and welding the film. He agrees with Mr. Saarinen: “The product is great and it is also quick and easy to install. I personally have been involved in several cassette installation projects, so I have previous experience of this kind of systems. “

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