

Water tanks in Doha, Qatar

Civil engineering

## Welding concrete protection liner with Leister

Massive tanks are currently being built in Doha, Qatar. They each have a capacity of 150,000 m<sup>3</sup> and will later supply the pre-planned town of Lusail with valuable potable water. To protect the poured concrete foundation which is at risk of corrosion from saline groundwater, special focus is placed on the sealant system. To this end, a special protective layer made of PE is inserted. On the side filled with concrete, nubs ensure that the protective layer is optimally anchored.

**A customized automated machine has been developed**  
The difficulty when connecting the individual sheets in the protective liner is welding them rationally. Leister Technologies AG has developed a special automatic welder for this. The tried and tested hot wedge welder ASTRO was retrofitted so it runs smoothly between the nubs and can weld the overlapping sheets. The ASTRO CPL (Concrete Protection Liner) runs at 1.5 to 2 meters per minute over the 3 mm thick PE sheets. It connects the stiff PE material with its maximum contact pressure of 1500 N securely and without problems.



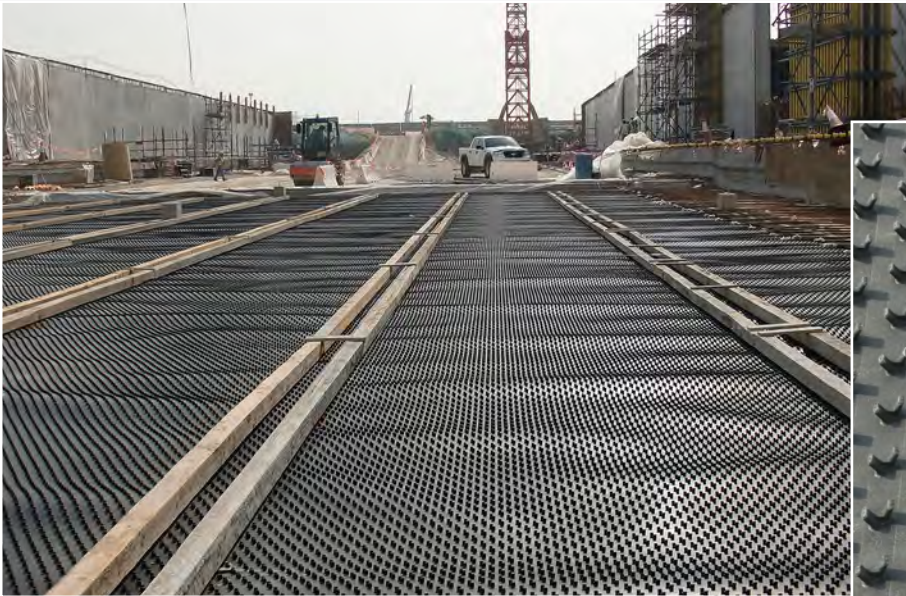
The ASTRO CPL; overlap welding.

### Cross seams are extruded

The automatic welder is not suitable for short cross seams. First, the nubs are ground at the edges of the membrane as they are for the lengthwise welds. Then, extrusion welders from Leister are used. The FUSION 3 has considerable power with an output of up to 3.6 kg/h (PE). The extrudate melted over the seam connects the sheets so they are completely sealed.

### Always available worldwide

Leister once again proves that the right solution can be found for every need. The company, QEMS is a reliable on-site partner in Doha. With 120 other sales and services locations throughout the world, Leister is always close to the customer and can thus guarantee the required support.



View on one of the massive fresh water tanks.



A seam that has been cleanly welded with the FUSION 3 extrusion welder.

<b>Material supplier:</b>	AGRU Kunststofftechnik, Austria, <a href="http://www.agru.at">www.agru.at</a>
<b>Material:</b>	Concrete protective sheet 33,000 m <sup>2</sup> , 3 mm, PE100
<b>Leister Sales and Service Partner:</b>	QEMS (Qatar Engineering Material Solutions), Qatar, <a href="http://www.qems-group.com">www.qems-group.com</a>
<b>Equipment manufacturer:</b>	Leister Technologies AG, Switzerland, <a href="http://www.leister.com">www.leister.com</a>
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<b>Photos:</b>	Reda Ashkar, QEMS / Roland von Ah, Leister

**Leister devices in use**

**Hot wedge welder**

**ASTRO\***



- High welding capacity
- Digital display of temperature, velocity and mains voltage
- Stepless adjustment of welding pressure
- Closed-loop control of temperature and drive
- USB memory system version available

**Extrusion welder**

**FUSION 3**



- High welding performance
- Compact and handy
- Motor start-up protection prevents cold start
- Dual-sided twist-free wire intake
- 360° rotatable welding shoe

\* ASTRO CPL (Concrete Protection Liner) also available