



See less, sea more – top performance in the tightest space

Balnéaire complex, Monaco – our PE solutions
for a thalassothermal power grid



Balnéaire Complex Monaco – Power from the sea



The Larvotto beach with promenade

The project

Inaugurated before Prince Albert II in July 2021, the new beach complex Larvotto in Monaco not only attracted many of the high society, but also generated an appealing request sent beforehand to Aliaxis. The developer SMEG, responsible for the distribution of gas, electricity, and metropolitan area networks in Monaco, was seeking a reliable partner for the purpose of installing a new PE pipeline in the thalassothermal system supplying buildings with hot water, air conditioning, and heating.

So called thalassothermics involves the recovery of thermal energy from the sea, and is therefore ideal for densely populated coastal areas. Here, the electricity is generated exclusively from renewable energy sources, e.g. heat pumps, without any impact on the marine ecosystem. The plans are to integrate 29 Monaco buildings in the thalassothermal grid in 2023.¹ Each of these integrated buildings is equipped with a heat and/or cold supply station. An exchanger transfers energy from the grids to the buildings for their heating, hot water, and air conditioning.

¹Source: www.seawergie.mc

Aliaxis in Monaco: the entire solution from a single source

The solution

Special challenges need the best solutions. Our quality polyethylene (PE) and its unrivaled lightweight, elastic, robust and durable (up to 100 years) properties convinced the customer all along the line. The outcome was a high quality end-to-end solution elaborated in the shortest of times in close collaboration between several Aliaxis companies in France and Germany – a solution that fulfilled all requirements.

With respect to the installation of a new PE pipeline, the planners decided in favour of preassembled and ready-to-install thermoplastic PE piping and fittings delivered from Mannheim directly to the Monaco site. The speedy implementation can be credited to the perfect interaction of all involved at the Aliaxis production and logistics divisions in Mannheim and on site in Monaco. Unlike steel piping, pipes, fittings, and valves of PE are



resistant to corrosion, minimise heat losses in thalassothermal grids, and are ideal for carrying seawater.

The new PE pipelines in the pumping station

The project at a glance

Measure	Installation of a new PE pipeline with PE pipes, fittings, and valves
Building site	Monaco
Developer	SMEG Monaco
Construction company	SMEG Monaco
Building site support	Aliaxis France
Products	Custom flange, FIP FKOM, FRIATEC: SA XL, SA UNI, FRIAMAT, UB
Scope of delivery	39 custom makes (d 315–630 SDR 17), over 20 segment elbows (d 500 SDR 17), and a great many couplers and standard components

Mission accomplished – green energy can flow

The implementation

The greatest challenge to this project proved to be the constricted space at Monaco's harbour promenade. This was overcome by Aliaxis' ultralight PE piping, tipping the scales at just a fifth of comparable steel pipe sizes, for extremely simplified handling.

Special attention was paid to the custom parts at the Aliaxis production facilities. Delivered ready to install, they helped to save valuable assembly time on site. In fact, fusion work was needed for the couplers only, which could be performed with small fusion units within the constricted space. Thanks to the prefusion collar and loose or custom flange, all pumps, fittings, and steel pipes could be integrated easily and reliably. Following preliminary work and cleaning on the pipe surfaces, the FRIAMAT 7 unit generated the homogeneous fused joints between the FRIALEN couplers and saddles and all PE pipes and segment elbows. Vacuum clamps were used to install the SA XL components, mechanical clamps the SA UNI.

To sum up

After only six months, in August 2021, the project came to a successful completion as scheduled – thanks to the smooth interaction between the international Aliaxis teams in France and Germany. Aliaxis has therefore been the single source for delivering a complete piping system directly to the Principality Monaco. All of the custom parts, saddles and couplers were manufactured on the in-house production facilities of the world market leader Aliaxis.

The customer also received special, additional value in the form of engineering supervision over the entire construction stage. This professional classification, i.e. the appraisal of the onsite operating conditions and the resulting component sizing, safeguards a long pipeline service life and low maintenance costs.



The PE pipeline for the further transport of the heating/cooling energy



Branching using saddle SA XL, coupler UB and valve FK



High end solutions from the “Manufaktur”

We deliver accurate solutions in manufacturer quality

Pipe sections, manifolds, branches, chambers, sub-assemblies – all our custom-fit solutions will offer you great advantages by saving installation time or reducing downtime in the construction process. We take care for your project from the planning phase to the installation process, offering decades of experience and unrivalled competence.

- **Custom components, delivered preassembled and ready to install directly to the building site**
- **For Monaco: drilled PN 10 flange (EN 1092-1) and tailored segment elbows**
- **Benefits: savings in valuable assembly times, and reduced construction downtimes**
- **Solution for special demands – from the single component to complex piping structures**
- **Focus on custom components for water treatment; swimming pool technology; wastewater and water disposal; and cooling circuits**

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