

PLASTICS MANUFACTURING

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Water Management at „La Casa de Suiza“



La Casa de Suiza (The House of Switzerland) is made from hundreds of triangular wood pieces, and was given the final touches before its inauguration during the celebrations of the seventieth anniversary of diplomatic relations between Mexico and Switzerland. (Andrea Ornela)

Mexico, a country stretching from Guatemala's subtropical climates in the south up to the dry Arizona desert in the north, is continuously confronted with water shortages as well as polluted subterranean and surface waters.

Consequently, wastewater treatment has the two-fold objective of preventing the contamination of water bodies, while at the same time using waste water to generate purified water, which can be used for irrigation and/or sanitary purposes.

Eight years ago, the company Think TIM brought European technology to Mexico to carry out this task on a small scale at domestic level, or to treat

water in small establishments such as hotels, businesses, or residential developments.

The House of Switzerland

Last year, during the celebrations of the seventieth anniversary of diplomatic relations between Mexico and Switzerland, a privileged location was chosen for building La Casa de Suiza, a temporary thematic pavilion that hosted an



TRIAC in action

exhibition about Switzerland's historical, cultural, and scientific heritage for the duration of two months. Louis-José Touron, the current Swiss Ambassador to Mexico, described the house as “a temporary and sustainable space that will enable the strengthening of bilateral links with Mexico, while at the same time opening spaces for Mexicans to learn a little more about our history, science, traditions, and gastronomy”.

Consecrated to sustainability and facing the limitation of not having access to infrastructure services such as water supply and used waster disposal, the project presented an opportunity for Think TIM to provide a solution that enables the local treatment of water and its reuse in the bathrooms. In addition, the company Sistemas Pluviales installed a rain water collection and purification system to guarantee drinking water supply for washrooms and a restaurant. During the two months of the exhibition, the integral solution saved about 60 trips with a 10,000 ltr. tanker trunk for drinking water supply and used water collection.

According to Jachen Schleich, Swiss partner of the prestigious architectural firm Dellekamp Arquitectos, “the two most important natural elements in the pavilion were wood and water, and both were used in a sustainable manner”.

He further pointed out that the wood came from renewable sources and “while a cubic meter of wood absorbs carbon dioxide and cleans the environment, a cubic meter of cement will generate CO₂”. The water used in the facilities of The House of Switzerland (for purposes other than human consumption) was recycled. At the same time, the features of the house provided good seismic behavior and made it much less prone to fires.

Among others, the sponsors included SIKA and Geberit. While Geberit provided the bathroom fittings, SIKA contributed materials for waterproofing the roof, which was installed with LEISTER equipment (Triac & Triac Drive).

The sponsorship provided by several Swiss companies, including ABB, Geberit, Nestlé, Roche, Novartis, and Zurich, and the support of the Swiss College Mexico and the Asociación Suiza de México, enabled the installation of thematic exhibitions such as a replica of the Solar Impulse, the first solar-powered aircraft to fly around the world, one dedicated to the Gotthard Base Tunnel, and one with the stories of fifteen Swiss men and women who shaped the history of Mexico in the last two centuries.



Water management



The original structure of the trees from the Chapultepec Forest was spiked for the construction.

Switzerland's presence in Mexico

Having invested 9 billion dollars between 2000 and 2015, and with a presence of 400 Swiss companies, Switzerland is the eighth biggest investor in Mexico. The bilateral commerce between the two countries was worth 3.4 billion dollars in 2015. The inauguration of the Swiss-Mexican Chamber of Commerce and Industry, consisting of 35 founding companies which provide 34,000 out of a total of 50,000 jobs generated by all Swiss companies established in Mexico.

LEISTER has been in Mexico for over 25 years, increasing the productivity and competitiveness of Mexican industry through its distributor LDM SA de CV. TIM produces its treatment plants entirely from polypropylene and with LEISTER equipment provided by LDM.

Decentralized waste water treatment

In Mexico, a country 50 times bigger than Switzerland and 5.5 times bigger than Germany, it has always been common practice – as in the United States – to drain the waste water in septic tanks. A sewage system that covers most of the populated land of a country, as we know it in

Switzerland, is probably the only one of its kind in the world. Rather than a septic tank, there is a possibility of installing micro-treatment plants, a product developed in Europe and improved over the last 20 years, because European regulations governing the discharge of wastewater have continuously become stricter, which has made it more expensive for users of septic tanks to maintain them.

Small treatment plants enable the decentralization of services which are normally handled at municipal level. On one hand, this provides an answer to the pollution of water bodies, and on the other, it is a unique opportunity to recycle water for flushing the toilet, washing the dishes, or taking a daily shower.

TIM facilitates wastewater recycling in irrigation systems and toilets with its products, providing a clean solution because the biological treatment is done by microorganisms and there are no bad smells emanating from the treatment unit. The treatment system is almost completely made of polypropylene, and LEISTER employs diverse equipment in its manufacturing process. The end product is installed inside a simple civil engineering fixture to start the biological process. The treated effluence is received and reused in a plastic receptacle.

The work could be completed due to the efficiency and capacity of the following LEISTER equipment:

- TRIAC ST: Used for working in hard-to-access areas inside treatment plants.
- WELDPLAST S1 and FUSION 3: They are used for executing the final construction of polypropylene cylinders.

Towards a more sustainable future

LEISTER products, as well as the use of plastic in industry, construction, and the particular sector, foster sustainable development. Waterproofing with plastics replaces traditional contaminating methods that require a lot of maintenance, and plastic containers that replace materials which leave a negative environmental footprint, such as concrete; or septic tanks that replace the TIM treatment plants, which enables returning a clean, treated product to the natural water cycle.

Project

House of Switzerland

<http://www.houseofswitzerland.org>

Material

PP

Leister products

FUSION

WELDPLAST S2

TRIAC ST

Sales and support partner:

LDM Mexico

www.ldm.la

THINK TIM SA DE CV

www.think-tim.mx



Container and apparatus manufacturing with FUSION



FUSION 3C