

Savio di Ravenna (Italy)

THE LARGEST HYDROPONICS FARM IN EUROPE

MAPEPLAN MEMBRANES FOR A PROJECT
OF EXCELLENCE IN THE NAME OF SUSTAINABILITY

Savio, in the province of Ravenna (central Italy), just on the edge of the Po Delta Regional Park, is the home of Valle Standiana Farm. Polyglass supplied MAPEPLAN T WT membrane to waterproof 13 hectares of tanks used for hydroponic cultivation, the largest in Europe in terms of size, applied technology and quality of crops harvested. A truly hi-tech greenhouse where various

varieties of lettuce are grown in tanks floating on water, with a low impact on the environment and almost zero waste. The idea to transform 13 hectares of land into a hydroponics farm came from a visionary businessman, Gianluca Rossi. After a number of years studying the subject and spending time abroad, he decided to take on the risks caused by climate change and the various dis-

eases found in open-field cultivation, as well as improve working conditions. Which was how the Ninfa brand of lettuce was developed, marketed by the companies Rossi Ortofrutta Srl and Agr'lt Produce Srl.

99% of Valle Standiana Farm's hydroponic cultivation system is automated, guaranteeing that products are consistently high in quality without the risks



» **MAPEPLAN T WT
IS NON-TOXIC
AND IS ALSO
PROVIDED
WITH ITS OWN EPD**



The water tanks were waterproofed using MAPEPLAN T WT.



normally associated with open-field farming. In fact, thanks to this floating system, it is possible to grow lettuce without the use of herbicides, considerably reducing the use of chemical substances.

Unlike traditional cultivation systems, nutrients (mineral salts) are contained in the water and are fed through a high technology distribution system. They are absorbed by the plants according to their individual daily requirements, which means there is no leaching phenomenon or waste and they do not end up in the surrounding land or ground-water.

The greenhouses also have open sides to provide natural ventilation and oxygenation.

WATERPROOFING THE TANKS

Design work on this complex system also involved the contribution of Polyglass to waterproof the water tanks. The product chosen in this case was

MAPEPLAN T WT, a synthetic waterproofing membrane in flexible polyolefin TPO/FPO, suitable for hydroponic cultivation systems, potable water tanks, reservoirs, basins, cisterns, and irrigation canals. This type of membrane is root-resistant and resistant to microbiological attacks and weathering and has excellent mechanical properties, good workability and excellent weldability. MAPEPLAN T WT waterproofing membranes are thermoplastic elastomers and are hot air welded. This process forms a fusion between the chains of molecules and the weld beads in MAPEPLAN T WT membranes are resistant to hydraulic heads and mechanical loads and stresses.

MAPEPLAN T WT membranes are flexible and have a glass mat reinforcement, which gives them a high level of dimensional stability and a low rate of linear thermal expansion, ensuring a minimum amount of movement caused by temperature variations (day/night, winter/

summer) and, therefore, no risk of folds and waves, thereby forming a perfect membrane to ensure the hydroponic system functions perfectly.

MAPEPLAN T WT membranes come in a special green colour to help them blend in with its surroundings, but the colour also acts as a signal layer so that any damage caused by impact, scratches or tears in the surface can be identified and repaired immediately.

MAPEPLAN T WT is non-toxic, formulated without plasticizers and without hazardous substances which can be dangerous for both the human health and the planet. It is provided with its own EPD (Environmental Product Declaration). An Environmental Product Declaration is a report, written according to international standards (ISO 14025 and EN 15804), which documents the environmental impacts of a product during its whole life-cycle, measured according to the LCA (Life Cycle Assessment) methodology. This is further proof of the commitment of Polyglass and the Mapei Group to the issues of environmental sustainability and transparency towards their clientele. MAPEPLAN T WT contains neither plasticizers nor substances that could be dangerous or harmful for human health and the environment.

In 2019, Valle Standiana Farm is expecting to cultivate around 9 million plants using the floating system, for a total of 4,000 tonnes of lettuce. Using traditional cultivation methods, it would take around 180 hectares of land to produce the same amount as the floating system, which only requires an area of 13 hectares. In savings terms, this system requires 70-80% less water and completely eliminates the use of herbicides, reducing the use of chemicals to a minimum. This cultivation system is a perfect example of the values shared by Polyglass: sustainable progress and technological development that respects the environment and reduces energy consumption.

TECHNICAL DATA

Hydroponic cultivation tanks, Savio di Ravenna (Italy)
Year of construction: 2017
Year of the intervention: 2017

Intervention by

Polyglass: supply of products to waterproof tanks used in hydroponic cultivation
Client: Valle Standiana

Farm

Installation contractor: Fotonica Srl
Polyglass coordinator: Mauro Redemagni, Polyglass SpA (Italy)

POLYGLASS PRODUCT

Mapeplan T WT
 For further information on products visit www.polyglass.com