

# Washing unit for wood flakes

Lichtervelde, Belgium

A company that processes wood to flakes needed a washing unit to separate the sand from the wood flakes. Retaining walls were erected out of FRC to maintain and store the wood flakes.



Project owner  
Aggregate Industries

Product  
DURUS EasyFinish

Function  
DURUS Macro Synthetic  
fibres to replace steel  
mesh

Volume:  
100m<sup>3</sup>

## Challenge

The washing unit is typically subjected to high abrasion forces. Wooden flakes are transported in and out the unit by means of heavy earth moving equipment.

In the original design, the walls and floor of the washing unit (15.6x2.4x2.4m) contained steel mesh.

Due to the abrasion action of the earthmoving equipment in combination with the presence of water, the steel would quickly be subjected to corrosion and the durability of the design could therefore not be guaranteed.

## Solution

- After consultation with the Client and Installation Contractor, ADFIL were provided with the design criteria and loading information to enable a Professionally Indemnified solution to be provided by one of their Consulting Engineers.
- ADFIL liaised with the Installing Contractor and Readymix Supplier to ensure the proposed Macro Fibre solution was accepted and fit for purpose.
- Support was given to the Readymix Supplier and Site Contractor to ensure a high quality end product.



With the **DURUS** Synthetic Macro Fibre reinforcement already contained in the concrete when it is delivered to site, large areas can be poured which greatly reduces construction time. By eliminating all steel mesh in the walls, the risk for the steel mesh to move during pouring is also eliminated.

#### Benefits of the solution

- Replacing the conventional steel mesh reinforcement with DURUS Synthetic Macro Fibre has resulted in reduced construction time and easier installation along with a significant cost saving compared to the original steel mesh specification.
- Any risk of reduced service life due to the corrosion of conventional steel mesh reinforcement in this aggressive environment has been removed.
- The significant Health & Safety hazards associated with steel mesh fixing have been eliminated during installation.
- DURUS Synthetic Macro Fibre reinforcement is distributed evenly throughout 100% of the volume of the concrete, so it can not be placed incorrectly and jeopardise structural performance.



Apart from the washing unit, retaining walls of 3.25m high 0.3m thick, were poured in one time made solely out of FRC. Only in the bottom at the connection of the wall to the foundation some steel rebar was positioned.

#### Result

- The contractor saved one full day of steel fixing.
- Service life has been maintained by eliminating the risk of surface spalling resulting from steel corrosion. The risk of damage to mobile plant tyres from exposed steel mesh is also no longer a potential issue.
- Installation was completed well within the planned construction schedule.
- The use of DURUS Synthetic Macro Fibre has resulted in an approximate saving of embedded CO<sub>2</sub> of 56% when compared to conventional steel mesh reinforcement construction methods.

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#### Products used: DURUS EasyFinish



**DURUS EasyFinish Macro Synthetic Fibre**  
 Replaces conventional steel fabric mesh reinforcement in ground bearing concrete pavement applications.