



**Flanders**  
State of  
the Art

# Wave basin

## Use

The wave basin is mainly used for research regarding ports and coastal safety. 3D scale models can be built in the wave basin to conduct controlled tests.

Various approaches and extensions of a port can be modelled to scale and tested so that the best solution for a specific port can be chosen.

For coastal safety the following topics can be tested:

- 3D stability of breakwaters and breakwater heads;
- wave run-up and wave overtopping on (sea) dykes and quay walls;
- wave penetration in ports;
- water pressure and wave force on structures.

Flanders Hydraulics' wave basin was recently built in accordance with the current international standards including a multi-directional wave paddle. Both long-crested oblique waves and short-crested waves (from multiple directions at the same time) can be generated. The wave paddle is fitted with an active wave absorption system so that reflected waves propagating towards the wave paddle are not reflected again.

## Specifications

- Dimensions: length 23.20 m x width 17.90 m x height 1.20 m
- Standard water depth: 0.45 m
- State-of-the-art wave generation
- Maximum regular wave height  $H_{reg,max}$ : 0.25 m
- Maximum significant wave height (irregular)  $H_s$ : 0.13 m
- Active wave absorption

