



# Wave Flumes



**Flanders**  
State of  
the Art

Wave flumes are used for two-dimensional research (head-on waves) on coastal structures in the context of coastal safety. Main research topics are:

- wave run-up and wave overtopping on (sea) dykes and quay walls;
- water pressure and wave force on structures.

In both wave flumes it is possible to generate regular (monochromatic) and irregular (spectral) waves. Both wave paddles are fitted with an active wave absorption system so that reflected waves propagating towards the wave paddle are not reflected again.

The wave flumes have a large section of glass panels on both sides. This allows for observations and the use of advanced optical measuring techniques.

## Large wave flume: Specifications

The large wave flume is under construction and will be operational by mid 2024.

- Dimensions: length 84 m x width 2.00 m x height 2.50 m
- Standard water depth: 1.50 m
- State-of-the-art wave generation
- Maximum regular wave height  $H_{reg,max}$ : 0.80 m
- Maximum significant wave height (irregular)  $H_s$ : 0.40 m
- Active wave absorption

## Small wave flume: Specifications

- Dimensions: length 41 m x width 0.70 m x height 0.86 m
- Standard water depth: 0.50 m
- State-of-the-art wave generation
- Maximum regular wave height  $H_{reg,max}$ : 0.30 m
- Maximum significant wave height (irregular)  $H_s$ : 0.15 m
- Active wave absorption

