

# FIBRE GLASS 2D FLUME - 32m x 750mm x 1000mm



## DESCRIPTION

The fibre glass 2D flume is mainly used for breakwater slope stability tests. The flume has proven to be a very economical means of doing stability tests in a short space of time.

## SPECIFICATIONS

Length: 32 m  
Existing Test Width: 750 mm  
Max. Water Depth: 1.00 m

The wave makers can generate waves of 20cm high at periods of between 1.0s to 2.0s. Both regular and irregular waves can be generated.

Peak factors for various energy spectrums can be selected in the wave software program, as can the frequency limits, length of the wave series, number of waves in a series and the phase limits.

The wave signal software has been developed in house. The wave height is controlled by means of a voltage regulator, which is regulated manually with a PC. Wave heights and periods are measured through twin wire resistance probes. Three probes each are used both for deep and shallow water wave measurements.

There is no mechanism of reflection compensation fitted on the wave maker. Reflection is separated from the incident wave field after testing using the method of Mansard and Funk (1980). A gravel beach at the back of the flume assists with reflection absorption.

A 1:10 slope in front of the wave makers is required for correct transformation of the incoming wave spectrum. Bathymetry can be built to suit where required in the flume using a sand/cement mixture.

## PREVIOUS STUDIES

Previous model studied in the fibre glass 2D flume include:

- *Port of Poti crest stability:*

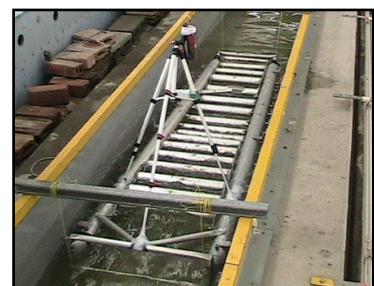
Analyses of breakwater crest stability. Various rock sizes and



breakwater cross section configurations were used to optimize the design. The CSIR developed Armor Track Software was used to quantify the amount of damage to the breakwater.

- *Patented Wave Power generator:*

Preliminary Tests were done to determine the power extraction potential of a locally patented wave power generator. Measurements of the movements of the floating arms were made to compare the amount of energy the wave power generator extracted from the incident wave field with that calculated from theory.



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