

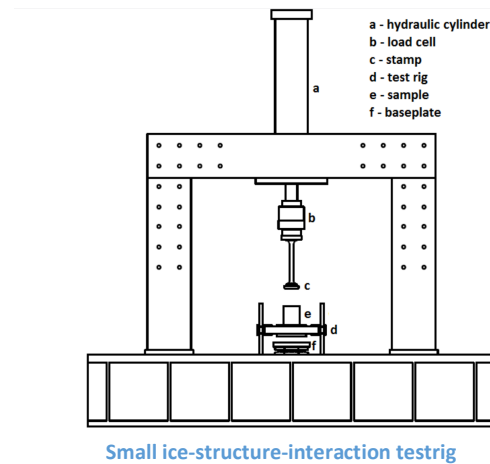
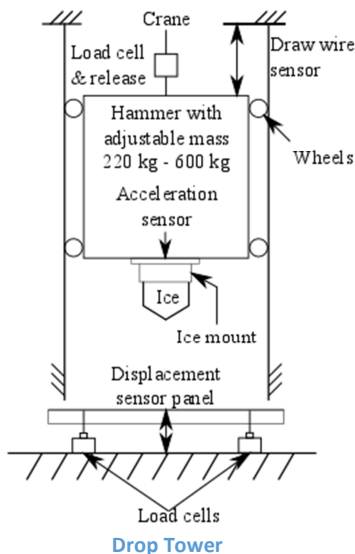
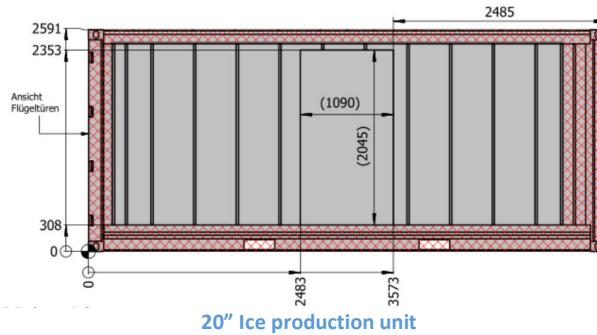
Name of organization Hamburg University of Technology	Year of information updating 2016
Year established 1978	Year of joining the ITTC Not yet
Address Am Schwarzenberg Campus 4C, 21073 Hamburg	Status in the ITTC Secretary of ice committee
Contact details (phone, fax, e-mail) D.Sc. (Tech.) R.U. Franz von Bock und Polach (franz.vonbock@tuhh.de) Prof. D.Sc. (Tech.) Sören Ehlers (ehlers@tuhh.de)	Website www.tuhh.de/skf
Type of facility Strength Lab	Year constructed/upgraded 2014 /2016, 2017
Name of facility TUHH Strength Lab	Location (if different from the above address)

Main characteristics (dimensions of tank/basin/test section; for simulators: full mission, part task or desk top)
Cold room (down to -40 C) for ice specimen production (20" Ice production unit). Mechanical tests can be conducted at three different large hydraulic presses (at ambient temperature) and one drop tower. One cold room for mechanical tests with ice at -15C. Currently, the planning is ongoing to upgrade the facility for model ice production.

Drawings of facility

Top-view plan

Corss-section-view plan



Detailed characteristics (carriages, wave/current/wind generators, instrumentations, etc.)

The cooling capacity of the ice production unit is -40C and -15C of the testing unit, where hydraulic forces of 160 kN can be applied to.

The drop tower allows impact velocity up to 6.5 m/s with a maximum impact mass of 600 kg. The maximum ice specimen diameter is 600 mm.

Furthermore, an in-house developed calibration unit is available to calibrate tactile sensors for measurements of pressure distributions.

Applications (Tests performed)

All performed tests are preparations for future ice-structure interaction experiments

- Tests to produce various ice features of constant properties
- Thin sections and microstructural analysis
- Ice compression tests with 100 mm diameter ice specimens
- Drop tests with ice specimens against full-scale ship structures

Published description (Publications on this facility)