STAVANGER ENGINEERING

14050 – Neodrill – Quick Seafastening

Concept Development

2014.11.18

Summary

1. Problem
2. Concept Data
3. Initial Concept
4. Concept Development

1. Problem

For use mainly when recovering the CAN we are looking at designing a sea-fastening frame/grillage. The frame can also be used for installations.

The intention is that we should not need to weld the CAN for sea-fastening on vessel offshore, but should have some kind of safe, quick and easy locking mechanism of CAN to this frame.

The frame can be made from H beams and be welded to the T-bars in deck as normally during mob.

The CAN, when recovered from seabed and lifted on-board, will be lifted on to the frame and guided down into position. Then the CAN should be fastened to the frame in the number of attachment points as needed. No welding between CAN and frame and preferably no modifications should be needed to the CAN.

Frame should have some kind of guiding when landing the CAN on top of it.

So the challenge is how to fix the CAN to the frame by use of some kind of clamping or friction locking arrangement to the skirt.

The frame shall be designed to restrain the CAN against sliding and tipping during transit.

With capacity according the properties of the largest CAN (12m, 83t, CoG pos.) with max CAN recovery weight (incl mud, well equipment.)

It should be suitable for use on different vessels for transit to offshore locs.

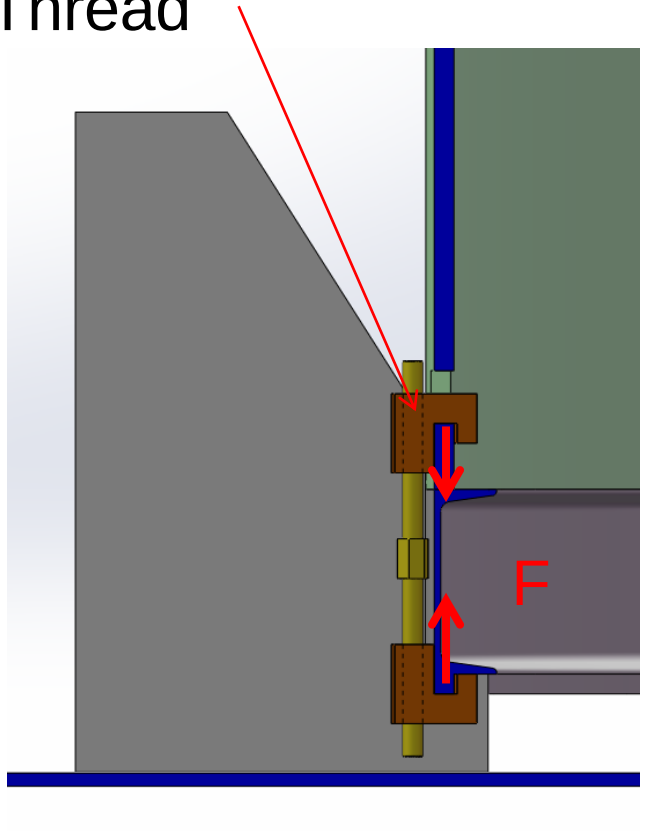
2. Concept Data

- Quick seafastening for CAN;
- Axial alignment obtained with wedge plates;
- Transversal loads to be taken by lateral plates;
- Holes below 200mm height on CAN sidewall;
- Light locking mechanism (Sliding L hook type);
- Rotational pre-alignment of +/- 100mm;
- Generic as far as possible to different decks;

3. Initial Concept

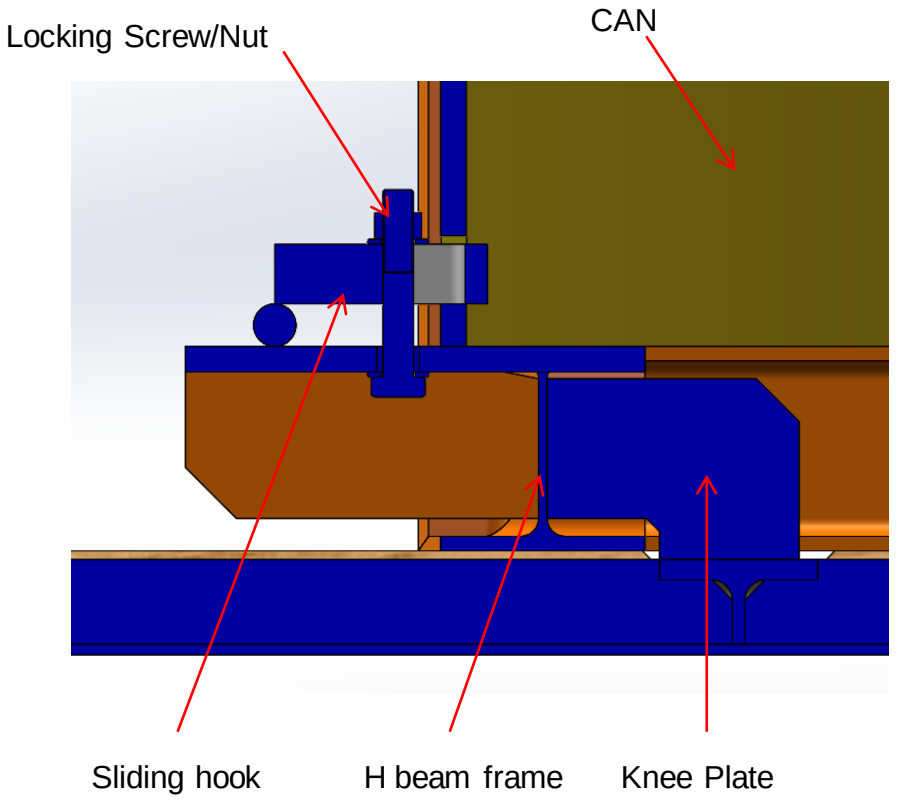
Left and Right Thread

- Adaptive height;
- Vertical tensioning;
- Insensible to axial misalignment;
- Lightweight hooks;
- Requires centering plates to take transversal loads;
- The CAN must be elevated 450mm;

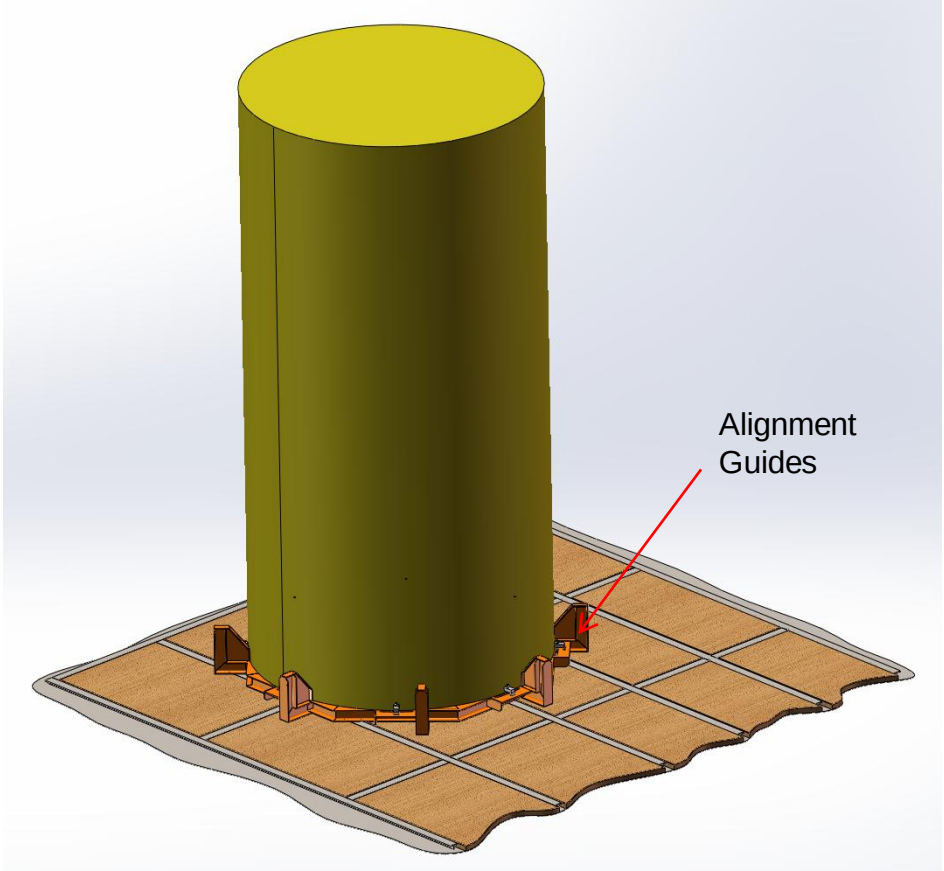


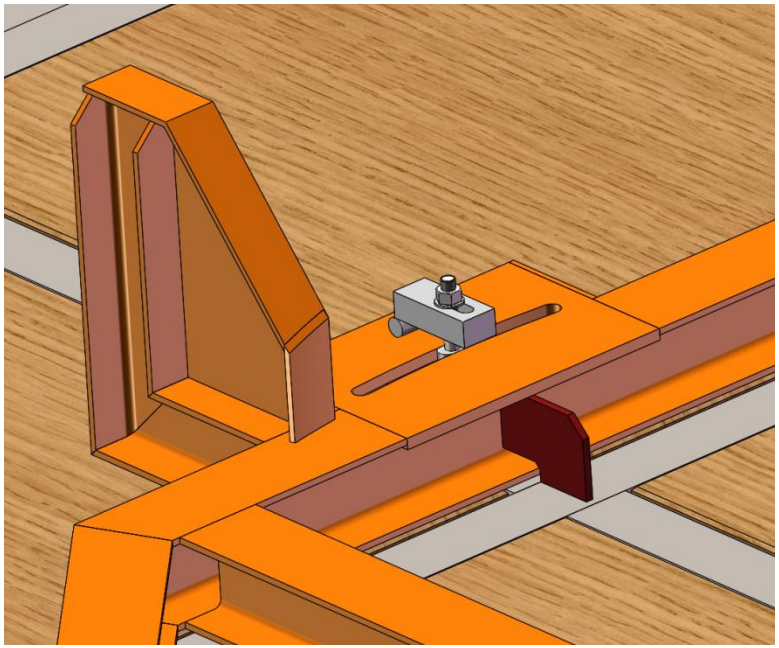
4. Concept Development

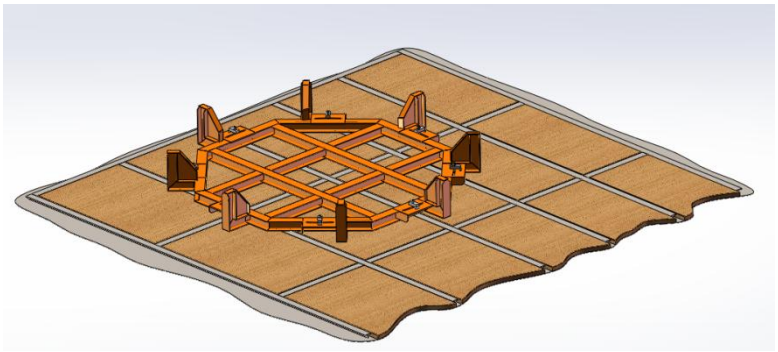
- Hook slides to lock CAN;
- Movable parts weight <20kg;
- Vertical tensioning using a bolt/nut;
- To be tightened using a rachet;
- Knee plate to be welded on the deck;
- Hole to be made on the CAN ☐120x80;
- Estimated frame weigth 5,8mT;
- Estimated HEB 240mm beam;
- Estimated overall dimensions:
  - 7,5x7,5x1m



4. Concept Development







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