

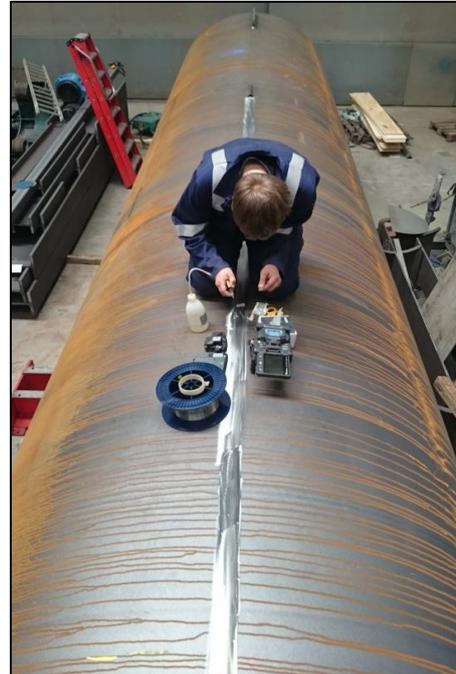
LOAD TESTING OF A MOORING BUOY ANCHORING

The project entailed the testing of a mooring buoy anchoring pile that was vibratory-drilled into the bottom of the Beneluxhaven in the Port of Rotterdam. The pile had a length of 22m and a diameter of 2m. After the pile had been put in place a number of tests were conducted in order to examine its structural behaviour under varying load conditions.

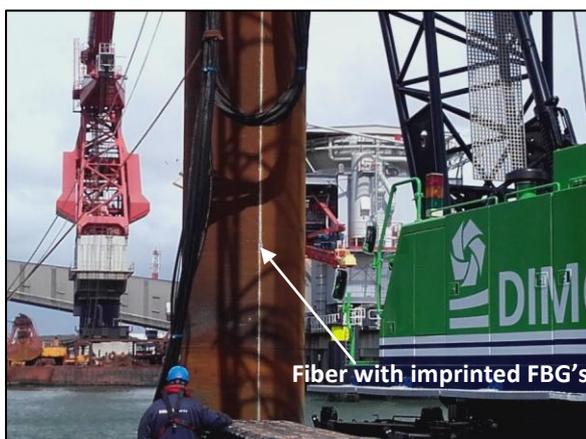
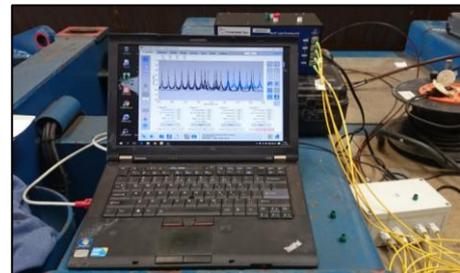
On the basis of its extensive experience in structural monitoring Inventec was elected to engineer, supply and install a monitoring package required to register the behaviour of the pile.

For measuring the bending strain a number of optical fibers with imprinted Fiber Bragg Gratings (FBG's) were glued on the pipe over its full length. The advantage of FBG's is that a relatively large number of these (up to 40) can be put on a single fiber and be interrogated simultaneously via a single connector, thereby reducing the amount of cabling to the absolute minimum.

In order to measure the physical deformation a 22m long SAAF was installed in a tubular profile welded to the pile.



Glueing of the fibers



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Drilling the pile into place