

Summary

In the installation of heavy objects offshore, the installation contractors use slings (heavy lift steel wire ropes). Because every individual lift job has quite specific requirements concerning the slings, slings are often purpose built, although a vast stock of used slings is available.

This report is a study to possible reduction of purpose built sling costs.

First the problem and the phenomenon sling are introduced in Chapter 2.

In Chapter 3 is analyzed what type of lift jobs are theoretically the most critical concerning sling use, i.e. have the smallest sling length tolerances. The most critical lift jobs turn out to be the single crane, four point lift in which no paired slings can be used, and the dual crane, six and eight point lifts.

Analyzing Heeremac's review of installation jobs in 1992 (Chapter 4) showed that none of these critical arrangements had occurred. However, purpose built sling expenses were still high.

The problem had to have other causes.

Nevertheless, in Chapter 5 possible solutions are presented in case the problem would have been caused by the small length tolerances in statically indeterminate lifts. Most of these solutions turn out to be (too) huge, heavy and expensive, especially when compared to the possible savings.

Finally, in Chapter 6 the real causes of the sling use problem are given; they turn out to be:

- Practically all purpose built slings have been used for extremely heavy projects. There were simply no slings of this capacity available for this goal.
- For very special, unique projects, like the very heavy ones, the question if slings can be used from stock or have to be purpose built has a low priority; first other requirements have to be fulfilled.
- Sometimes slings are bought without immediate necessity, for a wide variety of reasons
- If one sling of a pair gets damaged, one will decide to complete the pair again by buying a new one.
- Some clients want their objects to be lifted by means of purpose-built slings.

A recommendation is done to extend the rigging calculation programme "LIFT" (used by Heeremac) with an auto sling selection option. When this is done, over-dimensioning is slings can be reduced and one can be sure that the sling stock is optimally used. It seems to be the best and cheapest option to reduce sling costs.