

TECH TRANSFER INC
COMPRESSOR SKID ATTACHMENT TO DECKS
25-APR-01

Regarding attachment of compressor skids to offshore platform and FPSO decks, following is a summary of TTI's recommendations:

MATING SURFACES

Using common structural fabrication techniques and tolerances, neither the platform deck structure nor the skids will be flat or level. When the skids are set on the platform deck, there will be gaps between the bottom of the skids and the top of the platform deck at the attachment points.

To minimize these gaps, the welds should be ground flush on both the skid bottoms and the top of the platform deck within each compressor skid perimeter.

SPACER PADS

Placing spacer pads on the platform deck at each attachment point will not significantly change the gap locations or sizes. Adding spacer pads will allow better welding access, but the additional time and cost are not normally justifiable for new platform installations. For these reasons, Tech Transfer only recommends pads for existing installations with deck plate.

ATTACHMENT WELDS

The compressor skid must be welded to the platform deck with hard support points adjacent to each weld. This will insure proper energy paths to transmit the unbalanced forces out of the skid and into the platform deck and will prevent fatigue failure of the attachment welds.

Any gaps between the bottom of the skid and the top of the deck at the attachment points should be filled with steel plate, shims or tapered plate to achieve a minimum of 85% contact immediately adjacent to the weld. The objective is to provide "hard" support points that will prevent flexing and fatiguing of the welds. Epoxy fillers, or grout, are not suitable as replacement for the steel plate, shims or tapered plate.

PIPING CONNECTIONS

Connections from the process piping to the skids should not have any influence on the method of attachment of the skids to the deck. The process piping should have adjustments for the skid connections via field welds in all three axes.

**TECH TRANSFER INC
COMPRESSOR SKID ATTACHMENT TO DECKS
25-APR-01**

ATTACHMENT WELD METHOD

1. The bottom-side compressor skid welds should be ground flush. All top-side platform deck welds should be ground flush within each compressor skid perimeter.
2. Retract skid jacking bolts and set skid in place on platform deck. Whatever position the skid adopts is considered its natural, settled position in relation to the platform deck. Do not attempt to level the skid in any fashion relative to the earth or to the platform deck. Compressor frame levelness, driver alignment, and soft foot checks should be made after the skid installation.
3. Measure and document any gaps between the skid and the platform deck at the attachment points. Structural fitters should be utilized for this task.
4. Using steel flat bar, shims or tapered plate, fill the gaps in a fashion that provides 85% contact immediately adjacent to each attachment welds (1"-2" in from weld). Gaps in the center of the attachment support area are not of concern. Structural fitters should be utilized for this task.
5. Weld out all attachment points, starting with points most central to the compressor area and working outward in all directions in an alternating side-to-side and alternating end-to-end pattern.

NOTES

1. If it is not possible to access an attachment point at the exact location shown on the drawings, then the attachment should be relocated as close to the original location as possible.
2. When possible, attachment points should be welded on all four sides. Where access is limited, this may not be possible and welding a minimum of two sides is acceptable. In cases of extreme access limitations, the attachment point may be welded on one side only, but consideration should first be given to relocation of the attachment point to gain access to a minimum of two sides.

Geoffrey S. Anderson

Geoffrey S. Anderson, PE
Tech Transfer, Inc.
Consultant