

## Swivel ring flange failures

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**We have recently received the following information from one of our Members.**

All diving personnel should exercise extreme caution when tightening a leaking swivel ring flange. Application of additional bolt load to certain lightweight swivel ring flanges can cause leakage to worsen. In extreme cases, these flanges have failed catastrophically, causing a hazard to personnel and the environment.

There have been several recent failures of lightweight swivel ring flanges. In these cases the rotating ring and/or the hub portions of these flanges did not comply with the appropriate strength requirements. The failures occurred either during the bolt tightening sequence or at a later date, when additional external loads (thermal or mechanical) were applied to the pipeline.

The contractor has issued the following advice to its divers. A swivel ring flange is unlikely to comply with appropriate standard specifications if the thickness of the rotating ring is identical to that of a standard weld neck flange. In general, the rotating ring should be about twice the thickness of the mating weld neck flange to provide sufficient strength.

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