

Focus On Preventing Spills: Camlock couplings

Spill Prevention, Preparedness & Response

Camlock couplings

Camlock couplings, also known as cam and groove fittings, are a critical component in many oil transfers. Ensuring the fittings are in good condition and working properly will reduce the risk of spills.

Recent incidents

Camlock issues have been involved in a number of recent incidents:

- **Loose cap:** The camlock cap was not secured prior to sending the hose end over the water. The cap fell off and oil spilled to water.
- **Improper camlock seat:** The camlock came loose during a transfer.
- **Failure of cam arm:** The camlock arm failed during a transfer.
- **Worn sealing surfaces:** The coupling was too worn to create a secure seal, resulting in leaks during the transfer.

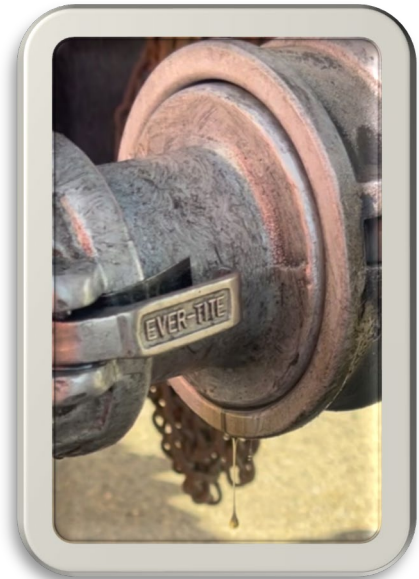
Using camlock couplings

These best practices will reduce the chance of a spill.

- **Inspect sealing surfaces:** A positive seal requires the gasket seat, the adapter face, and the gasket to be smooth and uncontaminated.
- **Inspect the groove surface:** Excessive wear on the groove surface from contact with cam arms can prevent the adequate compression of the gasket.
- **Use a suitable gasket:** The gasket must be in good condition and approved for use with oil products. A hard or brittle gasket must be replaced.
- **Connect:** Insert the adapter into the coupler. Make sure the adapter and coupler are aligned, with the adapter sitting flush against the gasket. Close both cam arms simultaneously to produce uniform gasket compression. Cam arms should close by hand, with resistance.
- **Secure cam arms:** Secure all cam arms (e.g. with straps or pins) to prevent the arms from opening accidentally.
- **Replace worn components prior to use:** Use inspections to identify signs of deterioration and replace items as needed. Use of shims is not recommended as a way to improve the seal on worn components.



A camlock connection with cam arms secured with twine.



A camlock fitting that is dripping oil due to an inadequate seal.



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