

Solutions for **Side Entry Mixers** In Crude Oil Storage

One of the more difficult petrochemical processes is the storage of crude oil in tanks while practically controlling the accompanying sedimentation and sludge. Modern side entry mixers are a popular choice for crude oil storage because of their ability to keep sludge suspended during operation.



Because sludge is heavier than crude oil, it must be properly dispersed within the tank or it will settle and solidify on the tank floor. The resulting accumulation can exacerbate corrosion of the tank's walls as well as significantly reduce the available operating volume of the tank. And removing accumulated sludge can be a nightmare of downtime and cleaning costs. The mixer seal is an invaluable element of the effective and economical operation of this storage system.

Flexaseal Engineered Seals and Systems, LLC has extensive experience in repairing and replacing mixer seals across a variety of industries and applications for OEMs such as Chemineer®, Ekato®, Lightnin®, Pfaudler®, and Philadelphia®. We provide failure analysis, repair to like-new condition, and OEM-standard materials. We also offer engineering review to ensure your seal is being repaired and optimized to your specific operating parameters and conditions. Our repair process is outlined on the next page.

Flexaseal's Repair Process

Sleeve (and Driver if present):

- ID and OD surface tolerances are QC'd
- Any machined rework is done to bring surfaces back to specification.
- Parts are cleaned and polished for reassembly.

Bearings, Fittings, and Lip Seals:

- Bearing and fittings
Are examined for reuse or replacement.
- Lip Seals are replaced.

Gaskets, Elastomers, Springs, Hardware:

- Elastomers and gaskets are replaced.
- Any PTFE components are also replaced.
- Springs are analyzed for wear and damage and replaced as needed.
- All screws are replaced.



Seal Ring Assemblies:

- Faces are analyzed for chips, cracks, and leaching.
- Faces are relapped or replaced dependent on condition.
- Inserted assemblies are pressure-tested for sealing integrity.

Inner and Outer Glands, Intermediate Flange, Bearing Plates:

- All bores and diameters are QC'd for tolerance.
- Machined rework is done to bring all ID wear back into tolerance.
- New dowel pins are installed.
- All (reusable) flanges and plates are cleaned and polished for reassembly.