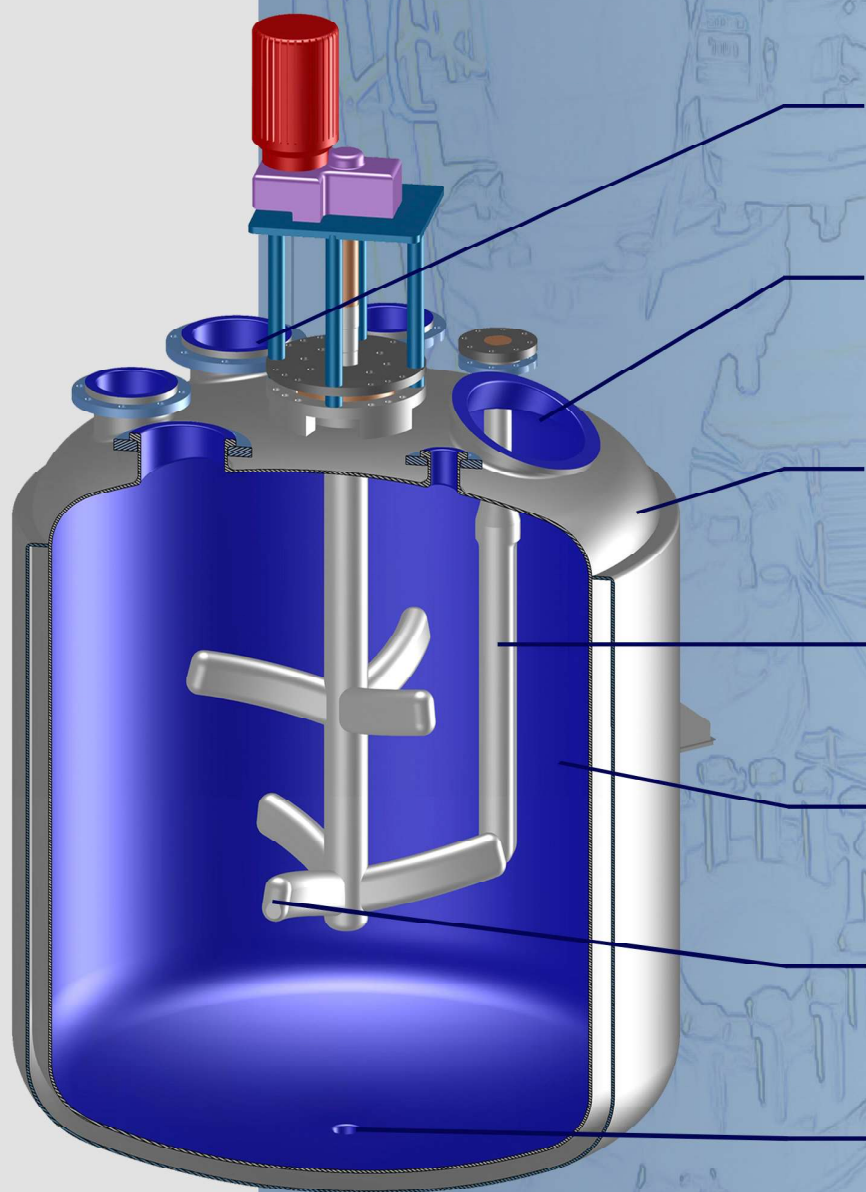
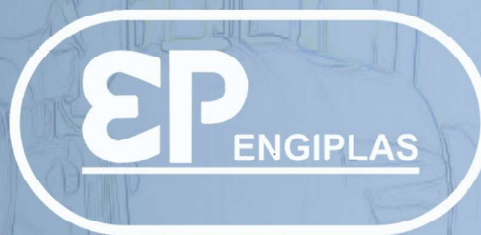


ENGIPLAS

Keeping your process flowing



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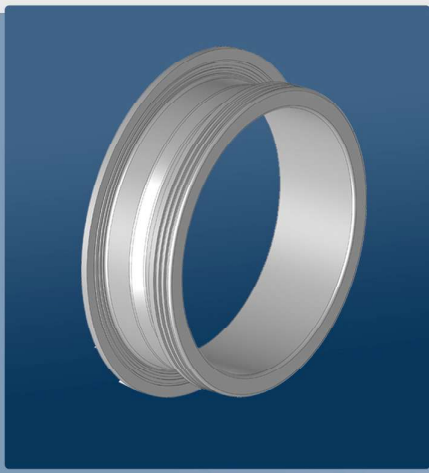
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GLASS LINED REACTOR REPAIRS

NOZZLE REPAIR



PTFE sleeve is used to repair damages found on the Nozzle's neck and sealing face. PTFE provide ultimate protection in a broad range of chemical environments with no metal components which can contaminate sensitive batches. The PTFE sleeve is insert and pressed from the outside. Proper geometry enables sealing at -1 / + 6 barg and temperature cycling. The bottom sealing fingers are mechanically seal against the area of the nozzle which is undamaged. In case of cold tempreture processing, FKM O-rings shall be installed between the fingers support the sealing lips and hold them against the glass surface and eliminate the leakage.

REACTOR WALL PATCH

Plug and Patch are frequently used to repair small or large damages found on the reactor's walls. The plug or patch are made from CS/SS core and covered with thick PTFE/PFA lining from all sides.

The compression is done by a SS PFA lined or Tantalum bolts. These bolts can be fixed on the wall of the reactor inwards or go through to the outside of the tank and tighten by an external nut. A PTFE sealing is used to seal between the patch and the reactor wall. Repair area ranges from 10 mm to 400 mm (in larger areas more bolts are needed). The plug or the patch can be made before maintenance breakdown and store at the customer or local agent, saving the plant precious time to retrieve the reactor back to work.

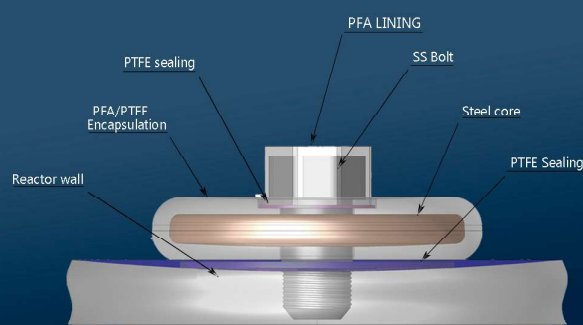
BENEFITS :

- *Universal corrosion resistance*
- *Any PH range*
- *Resist up to 180 deg C*
- *Installed by your maintenance*
- *Easy and fast repair*
- *Cost effective than Tantalum*



BENEFITS :

- *Universal corrosion resistance*
- *Any PH range*
- *Resist up to 200 deg C*
- *Installed by your maintenance*
- *Easy and fast repair*
- *Cost effective than Tantalum*



DRAIN NOZZLE REPAIR



Drain nozzle repair is used to repair small or large damages found on the reactor's floor. The patch is made from CS/SS core and covered with thick PTFE/PFA lining from all sides. It reaches from the reactor's floor down to the sealing face of the drain nozzle. By the external tightening system and the PTFE flexible sealing it is good for working at -1 / barg and temperature cycling. Repair area ranges from 100 mm to 500 mm. The patch is produced per request and it can be delivered in a short delivery time, saving the plant precious time to retrieve the reactor back to work.



BENEFITS :

- *Universal corrosion resistance*
- *Any PH range*
- *Resist up to 180 deg C*
- *Installed by your maintenance*
- *Easy and fast repair*
- *Cost effective than Tantalum*



NOZZLE CONECTION REPAIR

Nozzle connection repair is located at the connection point of the nozzle to the top dish of the reactor. This area is considered to be almost impossible to repair. Thanks to the state-of-the-art system Engiplas can repair even this area.

The patch is made from CS/SS core and covered with thick PTFE/PFA lining from all sides. It reaches from the reactor's top up to the sealing face of the drain nozzle. The main core idea is to copy the curvature of the damaged area and to supply molded patch with the same geometry.

By the external tightening system and the PTFE flexible sealing it is good for working at -1 / + 6 barg and temperature cycling.

Repair area ranges from 100 mm to 300 mm.

The patch is produced per request after a short procedure that the customer needs to apply inside the reactor.

BENEFITS :

- *Universal corrosion resistance*
- *Any PH range*
- *Resist up to 180 deg c*
- *Installed by your maintenance staff*
- *Easy and fast repair*
- *Cover areas up to*
- *The only solution for this area*



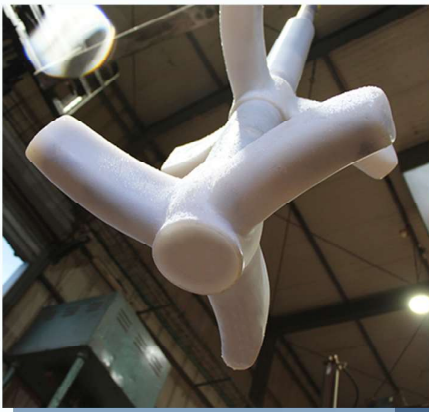
LINED AGITATORS

Glass lined agitators tends to wear after short period especially when working with solids or other abrasive media.

Fluoropolymers lined agitators consist of CS/SS core with almost the same geometry like the Glass lined ones with one major difference – they are covered with thick lining of 5-10 mm of PTFE or PFA, enable them to work at $-1 / + 6$ barg and temperature cycling with much more abrasion resistance than 1 mm of glass lining.

One or two sets of wings are applicable.

The top mechanical seal area is machined and smoothen to adapt your existing mechanical seal .



LINED BAFFLES

Glass lined baffles tends to wear after short period especially when working with solids or other abrasive media.

Fluoropolymers lined baffles consist of CS/SS core with almost the same geometry like the Glass lined ones with one major difference – they are covered with thick lining of 5-10 mm of PTFE or PFA, enable them to work at $-1 / + 6$ barg and temperature cycling with much more abrasion resistance than 1 mm of glass lining

The top mechanical lock is identical to the glass lined baffle.

The use of inner Thermo couple reading is applicable.

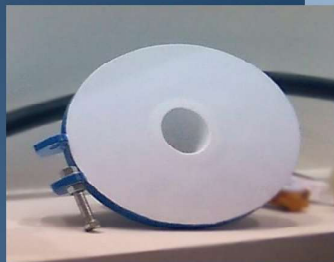
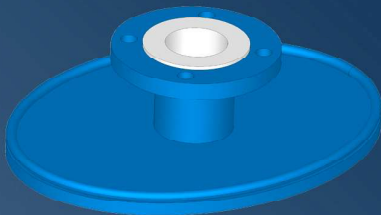


LINED MANHOLE COVER

Glass lined covers tends to wear and break after short periods.

Fluoropolymers lined covers consist of CS/SS core with the same geometry like the Glass lined ones with one major difference – they are covered with thick lining of 5-10 mm of PTFE or PFA, enable them to work at $-1 / + 6$ barg and temperature cycling with much more abrasion resistance than 1 mm of glass lining.

They don't break and they don't shatter, they last longer.



BENEFITS:

- *Universal corrosion resistance*
- *Any Ph range*
- *Resist up to 180 deg c*
- *Installed by your maintenance staff*
- *Cost effective than Glass lined agitators*

