



Kinetics Controls
& Innovation Ltd
Engineering Leak Sealing Solutions

WELLHEAD
SEAL
ISOLATIONS

GATE VALVE
ISOLATIONS

CONTROL LINE
PLUGGING

CONTROL LINE
LEAK REPAIR

PACKER AND
CASING SHOE
ISOLATIONS

PIPELINE AND
PROCESS VALVE
ISOLATIONS

RING GASKET
GROOVE REPAIR

Rigless Well Integrity
& Intervention Isolations



kciltd.co.uk

Our Solutions

KCI is a global provider of bespoke engineered leak sealing solutions for mature or aging oil & gas facilities.

| Wellheads

| Valves

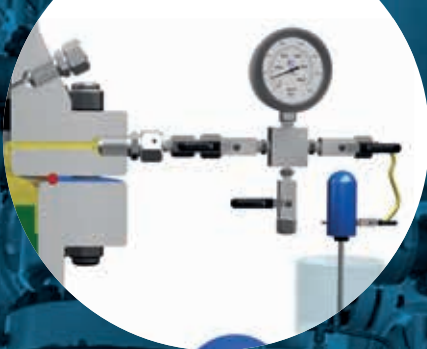
| Downhole

| Onshore

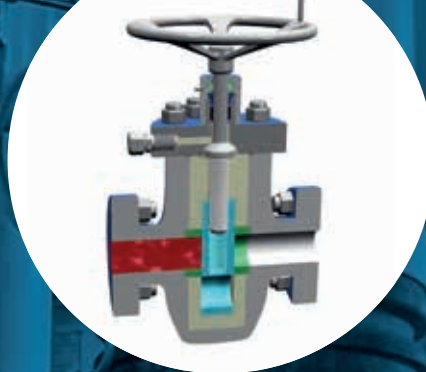
| Offshore

| Subsea

Wellhead Seal Isolations



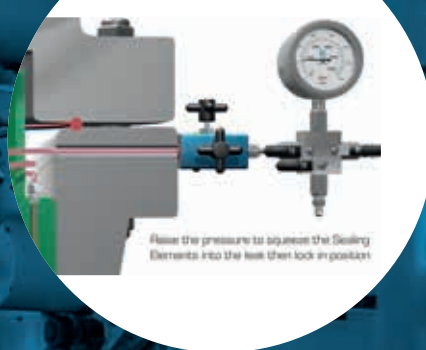
Gate Valve Isolations



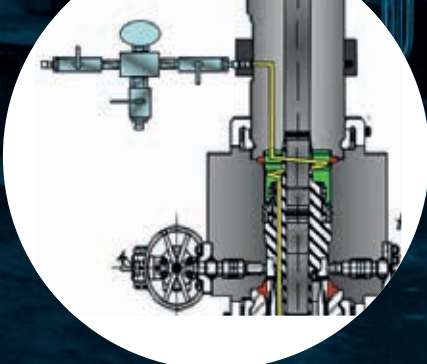
Packer and Casing Shoe Isolations



Control Line Leak Repair



Control Line Plugging



Pipeline and Process Valve Isolations





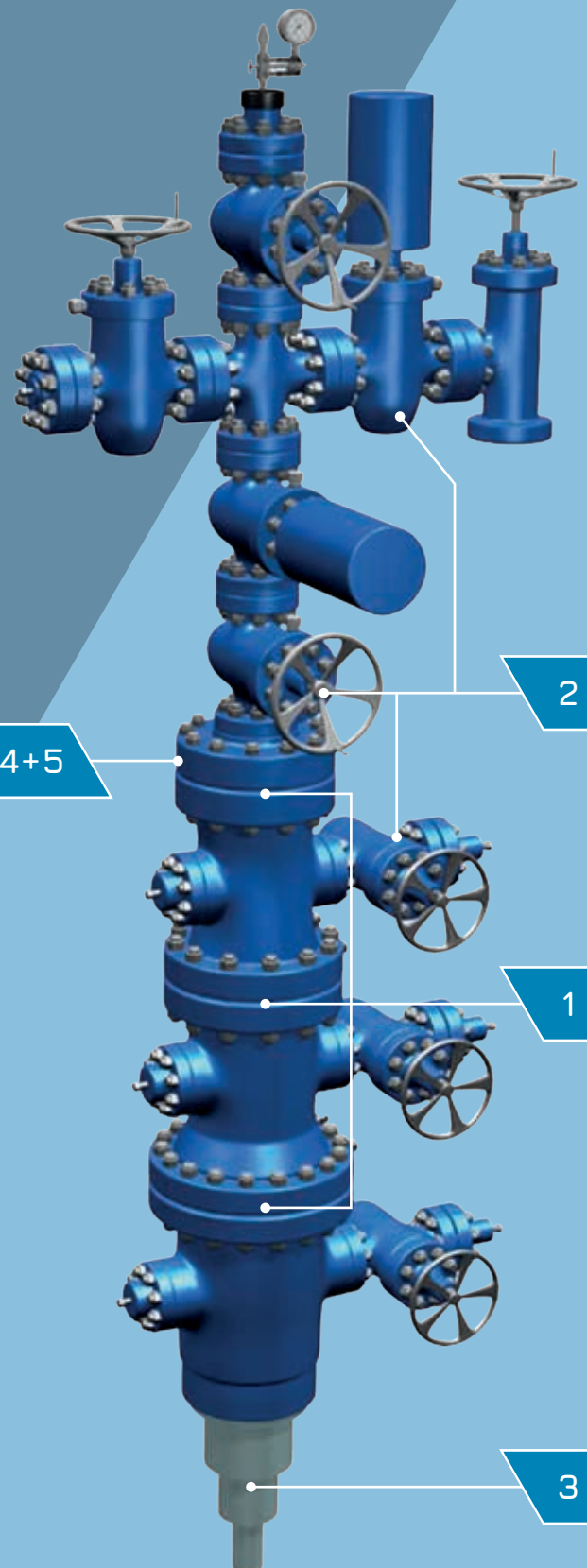
Kinetics Controls
& Innovation Ltd

Engineering Leak Sealing Solutions

The innovation in KCI's business comes from employing its engineering expertise to support complex problems which may be difficult to resolve with conventional methods or technologies.

KCI products and services are recognised as examples of best practice for engineered leak sealing solutions for the worldwide oil, gas and process sectors, securing the company's strong reputation and integrity values.

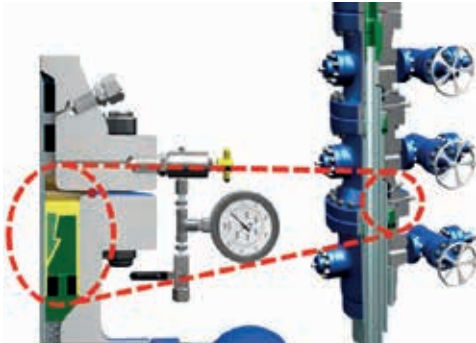
KCI provide fully engineered products and services which increase safety, reduce costs, minimise downtime and maintain or increase production across surface, subsea, downhole, topside, pipeline, refinery, process plant and many other applications.



Fully Engineered Leak Sealing Solution

Wellhead Seal Isolations

1



Two-part, time-activated, various viscosity sealant which self-energises under differential pressure when cured. Bridges and isolates large gaps and holes in seal structures, unlike pressure-activated sealants which require small gaps and high pressures to activate.

Rigless isolations successfully deployed worldwide reinstating barriers to maintain safe and effective production.

- Reinstatement of tubing and casing void seals and pack-offs.
- Protection of the environmental gasket between wellhead spools.
- Isolation of lockdown screw packing.
- Safeguarding of failed injection fittings.

Gate Valve Isolations

2



One-part, non-curing, high viscous sealant product which is deployed into the valve cavity filling scores, scratches and damaged areas around the gate and seat area creating an isolation.

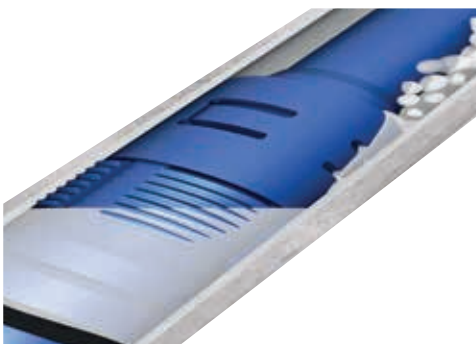
Very effective alternative to plastic packing and ideal for re-energising damaged "P" seals.

- Isolate gate valves to allow intervention rig up.
- Provides a repeatable isolation for failed valve stem packing leaks.

- Remains in the valve cavity much longer than grease.
- Protects against well debris and corrosive fluids.
- Operational temperature of -50° to $+250^{\circ}\text{C}$.
- Displace and replace valve grease providing a superior high-temperature lubricant.
- No issues with future valve operating torque, production flow, wireline or coiled tubing activity.

Packer and Casing Shoe Isolations

3



Time-activated sealant. Cures to soft flexible gel material. High compression value but a low torsion/tear threshold.

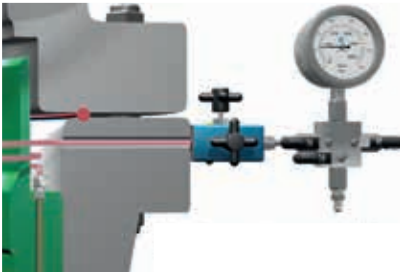
Designed and formulated to provide isolations within annuli preventing well fluid migration.

The sealant is weighted to sink through existing annuli fluids. Small volumes required, no squeezing or bull heading required.

- Production packer element damage isolation.
- Damaged cement shoe isolation.
- Repair micro annuli or porosity issues.
- Small footprint, hand-portable air-driven tooling.
- Operational Temperature of -5° to $+175^{\circ}\text{C}$.

Control Line Leak Repair

4



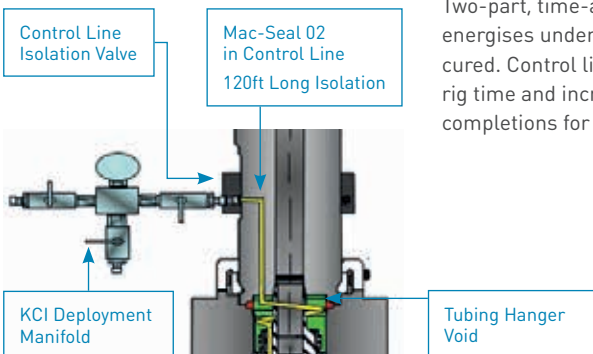
Raise the pressure to squeeze the Sealing Elements into the leak then lock in position

One-part, non-curing gel sealant product designed to isolate hydraulic control line leaks in downhole safety valve (DHSV) control line compression fittings where the hydraulic fluid is leaking out of the system while under pressure.

- Maintains the functionality of a downhole safety valve (DHSV).
- A genuine alternative to pressure-activated sealants.
- Neutrally buoyant and will remain in a suspended position.
- Successfully pressure tested up to 10,000psi.
- Operational temperature -50°C to +175°C.
- Expected lifespan of 25 years if left undisturbed.

Control Line Plugging

5



Two-part, time-activated sealant which self-energises under differential pressure when cured. Control line plugging is used to reduce rig time and increase safety when pulling completions for workover or abandonment.

- The sealant is used on control lines, creating plugs to completely block and isolate the line.
- This application can be deployed at the same time as ongoing deep set plugging operations - "Sim Ops".
- Cures to a solid yet flexible material.
- Successfully pressure tested up to 10,000psi.
- Operational temperature -50°C to +250°C.
- Expected lifespan of 25 years if left undisturbed.

Pipeline and Process Valve Isolations

6



Failed isolations can be detrimental to your operation, causing you delays and downtime. There is no need to have a lack of barriers delay your inspection, repair and maintenance programme. Reduce your delays and get production back online with our fully engineered pipeline and process valve isolations. At KCI we understand the pressure operators are under to maintain assets and reinstate valuable production.

As it becomes increasingly more difficult to obtain isolations on ageing valves, KCI's fully engineered pipeline and process valve isolations will help to minimise downtime and reinstate valuable production safely and effectively.

- Engineering-led leak sealing solutions.
- Successfully reducing downtime since 2002.
- In-depth inspection and investigation of every project.

Other Solutions

Ring Gasket Groove Repair



Mac-Seal 06 offers a quick, safe, robust, and cost-effective solution. Time-activated and available in various viscosities depending on your requirements.

- Sealant is quick to prepare and can be installed by the team on site with minimum downtime.
- Mix and apply Mac-Seal 06 to the upward-facing flange.
- Install the gasket and press to displace the sealant.
- Remove excess and reposition inside the gasket.
- Apply Mac-Seal to the downward-facing flange.
- Mate the two flanges together and tighten.
- The upper and lower flange sealant meet, bond and cure to create a single isolation.
- Pressure testing can take place after the sealant has cured.

Subsea Deployment Skids



DNV-certified subsea deployment skids and umbilical hose reel. Easy to fill and reload for a fast turnaround.

Each deployment skid has 8 x 5 litre deployment tools giving a 40 litre output capacity.

3,000psi output pressure.

Suitable for deploying tree valve grease or KCI's isolation and sealant products in subsea applications.

- The skids are compact and easy to handle to limit vessel deck space.
- The deployment tools are simple to use with diver friendly control panels.
- Designed for subsea valve and pipeline isolations.



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