

## ALCHEMY HPS HDCEAL®

### PRODUCT DESCRIPTION

The Alchemy HDCeal® range of sealing materials (**HDCeal® 100**, **HDCeal® 150** and **HDCeal® 300**) are high density two part silicone based liquid systems in which a Catalyst reacts with a Base in a pre-determined ratio based on the application, to form a hard and resilient sealing material. Once the material is cured it forms a solid rubber seal, similar to an o-ring. The seal is very stable with chemicals and fluids normally found in the oilfield and can be used across a wide range of temperatures and scenarios.

### APPLICATIONS

The HDCeal® range of materials is extremely effective when used for grouting and clamp repair systems, isolating pipeline and manifold areas, sealing control lines, sealing valve casing leaks and valve stem packing areas. The material can also be used in wellheads as an emergency repair system, for casing hanger joints and other gallery areas, or where O-ring seals may have lost integrity. The system is flexible and self-energising and, dependant on the sealing cross sectional area, high pressure may be effectively contained during testing and operations.

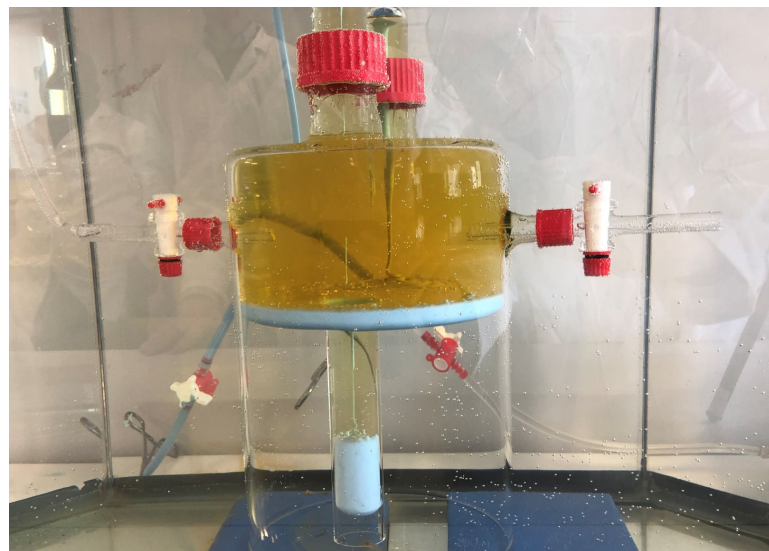
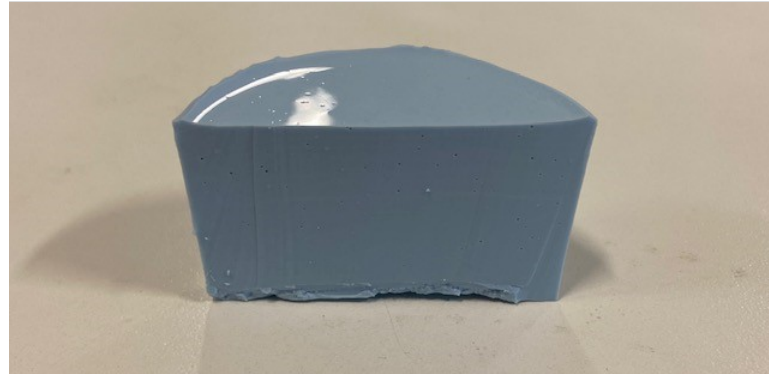
### EASY TO USE & DEPLOY

The material is deployed as a pre-measured two-part system (Base and Catalyst) which is mixed at the work site before being injected into the area in which sealing is required. The seal can be left in situ for a period of time. Alternatively, it can be mechanically recovered or dissolved.

### ADDITIONAL FEATURES

A low density variant (**LDCeal® 100** and **LDCeal® 300**), with an SG of approx. 0.9 and similar properties to the high density series is also available.

Depending on the application the HDCeal and LDCeal seal can be dissolved using **Ceal®Solve**.



### TYPICAL PROPERTIES

|                             | Alchemy HDCeal®              |
|-----------------------------|------------------------------|
| Viscosity of mixed product  | approx. 10,000 to 20,000 mPa |
| Specific Gravity            | approx. 1.1 - 1.2            |
| Pot Life at Ambient T       | 1 - 8 hours                  |
| Set Time at Ambient T       | 24 - 48 hours                |
| Operating temperature range | -50 to 200° C                |

The above properties are typical of the range of HDCeal® materials but the data presented is not a specification for any single product in the range.

## INNOVATIVE CHEMISTRY

## ALCHEMY HPS HDCeal®

### CASE HISTORIES

- HDCeal® was specified by our client for isolation in a 16" downline in the Dunlin Field. In this application a hot tap was made to install an inflatable gas bag to support the weight of the HDCeal® plug which was to be formed in the appropriate area. Once the gas bag was installed and inflated the HDCeal® was added in small portions to allow setting to occur in stages behind the bag without causing it to deflate by over pressuring due to weight of product. When all of the product that was to be applied above the bag had set, the majority of the plug was then pumped in above the already set and firm support within the line. The system was left to cure completely and then pressure tested for integrity before the engineering repairs were carried out.
- In a high temperature application HDCeal® was used to seal around a clamp on a leaking flange on a Glycol Re-boiler System at St Fergus (UK) which was cooled for the application but normally operates at 165°C. The HDCeal® successfully isolated the leak path.
- HDCeal® was used to seal round the top of an outer casing to wellhead gap. It was thought that as a contingency a sealing pad should be placed in this area for a wellhead operation. A test was undertaken to 30 barg without a support above, in an open to ambient application. The expectation was that it would be challenging to meet this specification however the HDCeal® out-performed the test and was qualified at over 100 barg.

### ABOUT US

Alchemy was founded in 2005 to provide Gels and Sealing materials to the energy industry. Our main product lines consist of Aqueous Gels, Gel Pigs, Glycol based Gels and Pigs and our range of sealant products.

We provide unique solutions to our Clients problems including consultancy and bespoke chemicals, usually on a tight time scale and delivery schedule.

We operate from our purpose build facility on the outskirts of Inverurie in the UK, ideally placed to service on and off-shore markets both in the North Sea and world wide.

Alchemy is ISO registered, and all products we supply for use in the North Sea associated with drilling and production are environmentally friendly and are registered with CEFAS.

### CONTACT US

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