dp update

the unseen advantage

AUTUMN 2013

Sub-sea success

Over the past 17 years, we've become widely acknowledged as a world leader in sub-sea seals and mouldings – and with the opening of our new 4,800 sq ft manufacturing unit, we believe we now offer a range of dedicated facilities and expertise that few can match.

Developing rubber glands, seals and mouldings for demanding sub-sea signal, data, fibre-optic and power cable connectors calls for exhaustive knowledge of materials and processes - from blend selection, through tool development and prototyping to volume delivery – and we've continuously demonstrated our capabilities with some of the global leaders in sub-sea cable connectors for telecommunications, oil and gas exploration, ROV and oceanography.

"Having a dedicated sub-sea manufacturing unit with its own highly focussed team enables us to provide our customers with a complete service," says Operations Manager, Ken James. "And this allows maximum production flexibility and optimum response for short prototype runs, limited number production runs and standard scheduled work."

The new unit supports all manufacturing processes – from polymer material preparation through cleaning, inspection and quality assurance – with six new presses, ranging from 40 to 300 ton machines, extending our capabilities still further.

We've also produced a short video on our new sub-sea unit, so if you'd like a virtual tour of everything on offer, *just click on the video panel on our home page.*

Welcome to the first edition of DP Update, our newly revamped newsletter to keep you in touch with all the latest developments, projects and partnerships with which we're involved.

From now on, we'll be producing it at regular intervals – and making it available in a variety of formats, including online HTML, interactive PDF and even a printed version as well.

We hope you find DP Update both interesting and informative, and if you'd like us to include any of your projects, details of how our businesses have worked successfully together or simply give us any feedback or suggestions, then please contact me at *andrew@dpseals.com* or the editorial team at *dmc@dpseals.com*

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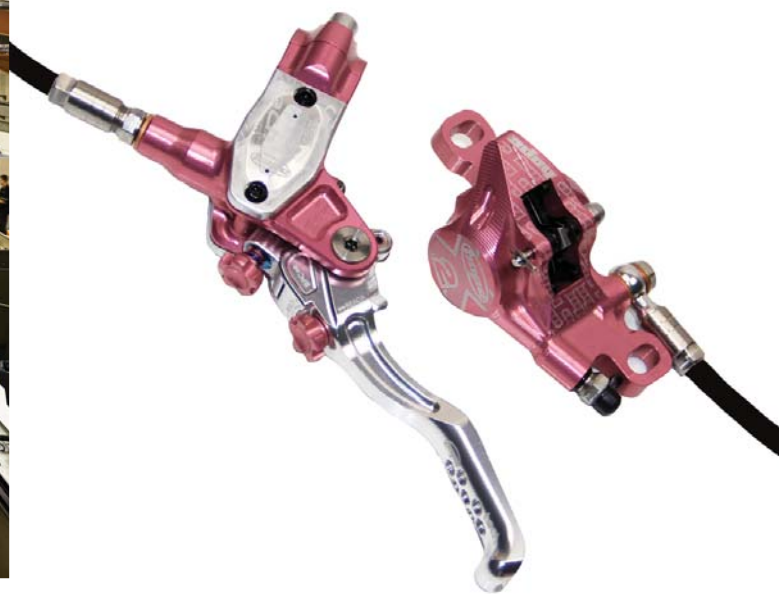
On your bike...

It's well over 15 years since we began working with Hope Technology – one of the UK's foremost manufacturers of mountain bike brakes and components – and although the company produces almost everything it needs at its Barnoldswick Factory, the rubber seals they rely on are still supplied by us.

Perhaps not surprisingly, Hope is incredibly demanding when it comes to outside sourcing, and when they originally asked us for specialist custom rubber seals and mouldings, their insistence on the highest standards of quality, engineering excellence and service were evident right from the start.

"Off-the-shelf seals and O-rings don't always fit the bill," says Simon Sharp, co-founder of Hope Technology, "and more often than not, we need custom components to meet specific needs, or polymer blends with very demanding characteristics."

Working closely with Hope's own design team, we've developed mouldings for both disc brakes and lights – with the brake components individually composed of specific material blends to offer high tensile strength and excellent resistance to silicone oils, greases and brake fluids – and in total, we now deliver between 5,000 and 20,000 items every other month.



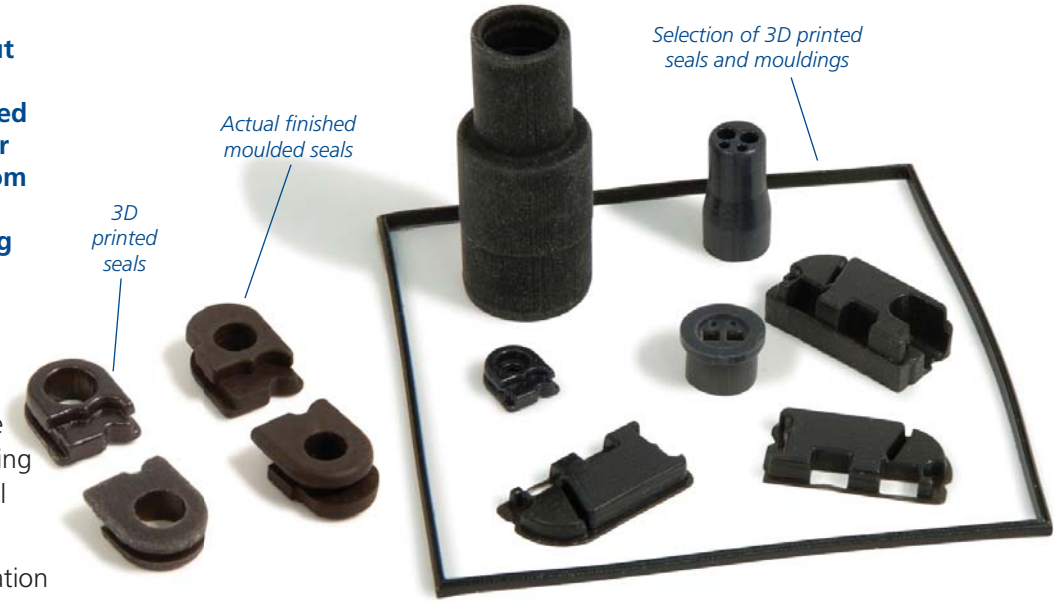
Prototyping enters another dimension

To ensure accurate prototype tooling in optimum time without compromising on precision or quality, we've long since provided a direct on-line link between our customers and our own tool room – and to streamline this process even further, we're now offering 3D printing of custom seals and mouldings as well.

"It was the next logical step," says Technical Director, Andrew Piper. "It's really fast and, because we use a rubber-like print medium, visualising the end result and identify potential design faults is significantly easier."

The catalyst to adopting this innovation was the increased availability of rubber-like materials that exhibit many elastomeric characteristics – and it's this enhanced level of flexibility that allows the customer to iron out problems and make modifications prior to committing to final tooling.

One recent example of the use of 3D printing was a cable end-cap for an aerospace application, shown here together with the actual seal and the multipart tool for the moulding itself.

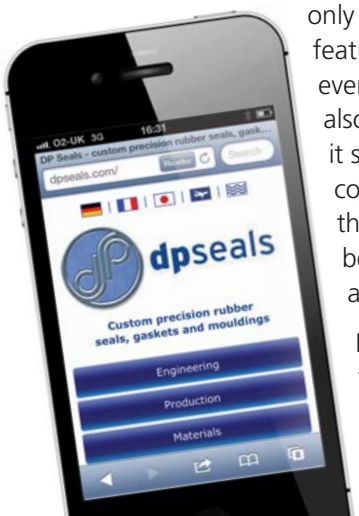


Final multi-part tool

Standard prototype

Website insight

After analysing the search phrases and data from our website, we've made some changes to make navigating as smooth and straightforward as possible. For example, one of the key phrases used when searching is 'rubber-to-metal bonding', so we've now made sure you can access such information with just one click of your mouse.



We've also revised our much used Chemical Compatibility Database – not only making it a feature item on every page, but also expanding it so that it fills the central content area instead of just the side section. You can then bookmark that page for easy access.

Last but not least, our long-term marketing partner, Direction, has rebuilt all our websites – incorporating responsive web design using HTML5 to ensure all of them are equally easy to view and use whether on a smartphone, tablet, pc or any other device you care to mention.

The right connections

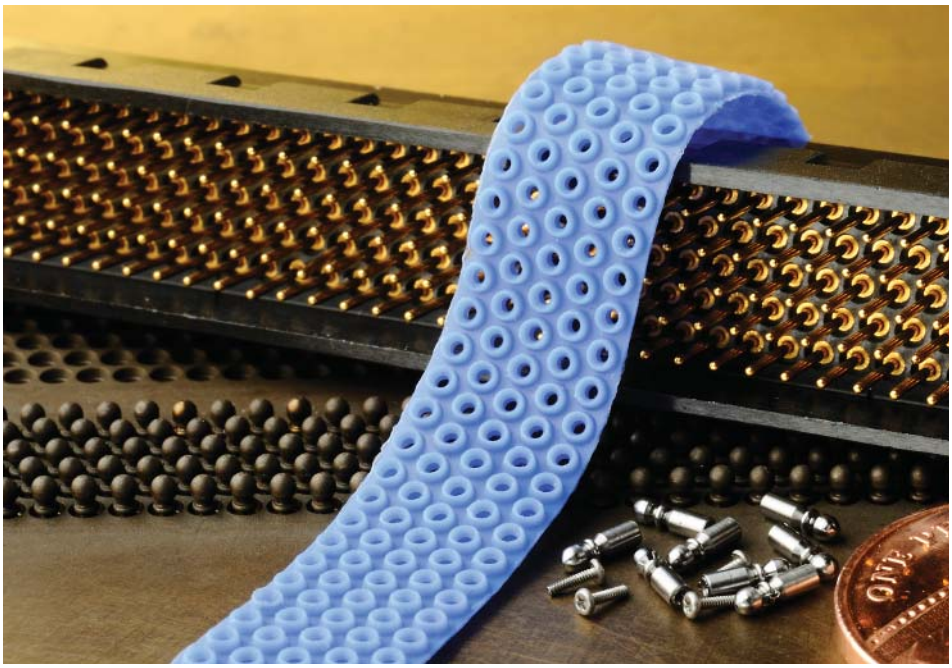
Another customer to benefit from our unseen advantage has been Hypertac – who recently set us one of our most challenging projects with its requirement for high-precision fluorosilicone seals for its high-density PCB connectors that are used in critical applications such as aerospace, defence, mass transit and marine.

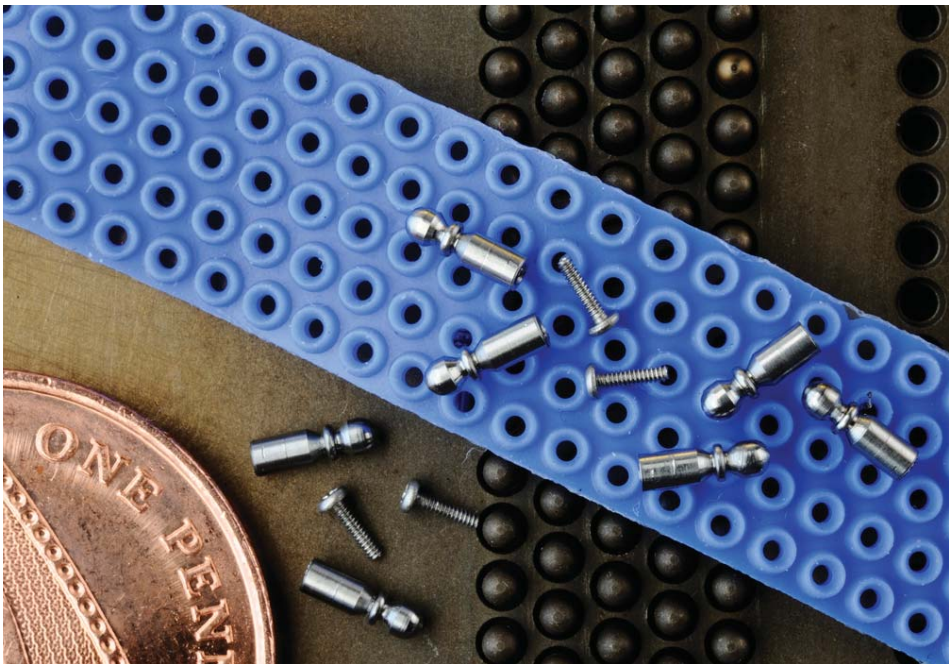
Designed for use in its latest generation high-density PCB signal connectors, the interfacial seals had to ensure electrical isolation and constant mating tolerances between connector pins, as well as high reliability protection against fluid ingress.

"We were extremely impressed with DP Seals' materials knowledge and manufacturing quality, and the pro-active role they took in helping us develop the solution," said Anthony Hall, lead engineer on the project.

With the connectors using 0.6mm pins in multiple rows on a 0.953mm staggered pitch, our tooling not only had to match the dimensions absolutely precisely, but also add the detail essential for a tight seal against dirt, oil and other liquids. To meet this demanding specification, we fabricated a set of tools where each individual connector pin was represented by a custom-designed 0.7mm minimum diameter tool steel pin, held in place with a M0.6 countersunk screw just 2.5mm long.

"It was one of our toughest tooling tests for many years," said Tool Room Manager, Russell Willis, "and we even had to manufacture our own Philips screwdrivers for the job."





Win an Android tablet

We'll be announcing the winner of our free prize draw in the next issue of DP Update – so if you want to be in with a chance of picking up a smart new Android tablet, make sure you complete and return our questionnaire before the end of November.

http://www.dpseals.com/dpmarkform.html