



NEWS RELEASE

Bespoke seals for special applications

Southampton-based engineering company, Blue Diamond, is considered an established specialist in the design and supply of both standard and bespoke 'O' rings, rotary shaft seals and sealing related products. However, it is introducing a new service that centres on the design, manufacture and supply of bespoke sealing solutions to protect against leaks and contamination in a whole host of special applications.

It has become apparent that there is a growing need across many different industries throughout the UK and Europe for non-conventional seals. Increasingly the company is encountering situations where the customer is compromising by trying to adapt their components to suit standard seals, often at great expense. Furthermore, the end result is commonly a less effective product as it has migrated from its original design.

Blue Diamond offers product designers and developers the opportunity to source a bespoke seal that is purpose-designed to suit the application. Using the company's extensive in-house resource and expertise, Blue Diamond is already reporting rapid uptake of the new service for both rotary/dynamic and static applications. The latter might include situations where IP67 protection is required between two mechanical faces, for example.

A case in point is a manufacturer of jet tenders for the marine industry, which recently contacted Blue Diamond regarding a sealing problem. Not only was the problem resolved but the project was extended to include the re-design of the entire drive shaft assembly complete with bespoke bearings and anti-vibration mountings.

Elsewhere, a manufacturer of exterior CCTV cameras for shopping precincts has benefited from Blue Diamond bespoke seals whereby the solution helped protect the equipment from the weather and subsequently reduce failure times and service intervals.

Other recent applications include a bespoke seal solution for a powder milling machine used in a clean-room environment by a supplier of dosage processing solutions for the pharmaceutical industry; and a seal for an intrinsically-safe camera that can be used in hazardous petrochemical areas.

Bespoke seals are either manufactured by Blue Diamond in the UK, typically encompassing volumes from 1-off up to 500, or for higher volumes through our manufacturing partners in the Far East. Materials are carefully selected according to the application, and can include standard materials such as Viton/FKM, Silicone, Nitrile, HNBR or ACM, or bespoke materials – Blue Diamond regularly works with material suppliers to formulate special rubber blends.

Despite the bespoke nature of the service, Blue Diamond has been known to supply bespoke seals within days of order receipt, even allowing for the manufacture of tooling and seal curing time. A large part of the secret behind such rapid turn-around is the company's non-linear FEA software, which has been customised by Blue Diamond to include special subroutines that reflect the actual operating conditions of customer components/assemblies.

Additionally, if customers already have a bespoke seal and are seeking a replacement, Blue Diamond's in-house expertise and technology is able to identify the material, and reverse engineer the design, optimising the product where required.

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