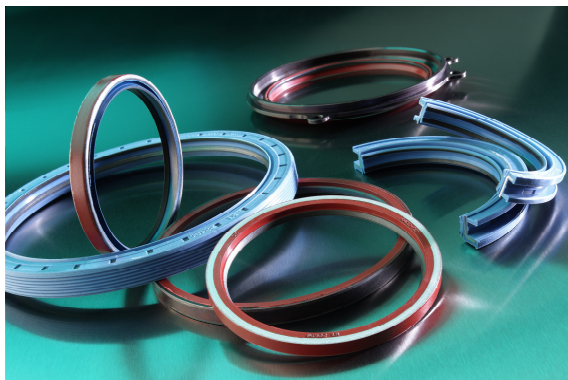




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**WHEN A STANDARD  
SEAL SIMPLY WON'T DO  
!!!**

Blue Diamond has been supplying engineering seals for many years and knows that finding the right seal for a particular project can sometimes be a frustrating and time consuming exercise. Often, the demands of the application mean that it simply isn't possible to find a standard seal that matches the required specification. Responding to this growing demand for high performance seals, Blue Diamond can design and manufacture a wide range of specialist seals to meet individual requirements.

Using powerful software CAD and Parametrics packages, Blue Diamond will custom engineer a seal with the right characteristics for almost any application, taking into account factors like dimensional restraints, operating environment, life expectancy and exposure to aggressive oils, greases and chemicals. Finite Element Analysis (FEA) software is used to analyse the stresses in the seal to ensure it has sufficient mechanical strength and the program can even simulate the effects of wear in a virtual environment. This attention to detail allows individual seals to be carefully optimised to take account of the demands of each application.

By changing different elements of the design, the application engineer can then achieve the optimum result. For example, the material, lip interference and spring loads can all be

instantly varied and their effect on the performance of the seal observed. All this is possible without having to manufacture any prototype products, which can be a costly and time-consuming exercise.

When the engineers are satisfied with the performance of the seal using the computer simulation, samples can be manufactured and the seal characteristics confirmed using Blue Diamond's extensive in house test and development facility. This allows seals to be subjected to harsh environments — usually well beyond the expected performance envelope of even the most arduous field conditions.

Controllable parameters of the mechanical test rigs include speed and direction of rotation, temperature, pressure and time. Dimensional checks are made using the latest sub-micron multi-sensing vision systems, which allow even tiny amounts of wear to be accurately detected.

Sited adjacent to the test area is a comprehensively equipped manufacturing facility and, because the product design and manufacturing programme takes place under the same roof, development times can be minimised.

So there's no need to make do with a seal that compromises your equipment when a custom designed seal from Blue Diamond can provide the exact characteristics and performance demanded by each individual application.

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