



VICTOR REINZ®

Sealing Products

Valve Stem Seals



Reducing Emissions One Seal at a Time

The first positive valve stem seal was a Dana invention in 1958. Whether it's an automotive gasoline engine or a heavy-duty diesel engine, Dana's flexibility allows the sealing of applications ranging from line trimmers to locomotives.

Valve stem seals are designed to provide a precise amount of lubrication at the interface between the valve stem and the valve guide. Excessive oil in this area can lead to higher hydrocarbon and particulate emissions, fouling exhaust after-treatment devices over time. This is not a concern with a Victor Reinz® valve stem seal.

Testing Yields Benefits

Each valve stem seal design is evaluated on an oil-metering rate bench test to ensure optimum oil-metering rate for the best valve train durability, oil consumption, and emissions balance.

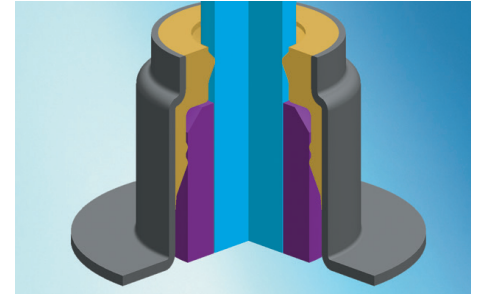
Dana's proprietary fluoroelastomer compounds are mixed in-house and fully tested, allowing ultimate control over quality and performance. Each valve stem seal is taken through a state-of-the-art molding and assembly process. Every application uses custom designs and processes that best meet customer goals of cost, performance, and timing. Prototype and production parts are made in the same facility to ensure a smooth launch to high-volume production.

Dana's more modern valve stem seals are all made of a fluoroelastomer and possess superior oil and heat resistance. Material research is continuous to ensure materials are compatible with the latest industry oil specifications.



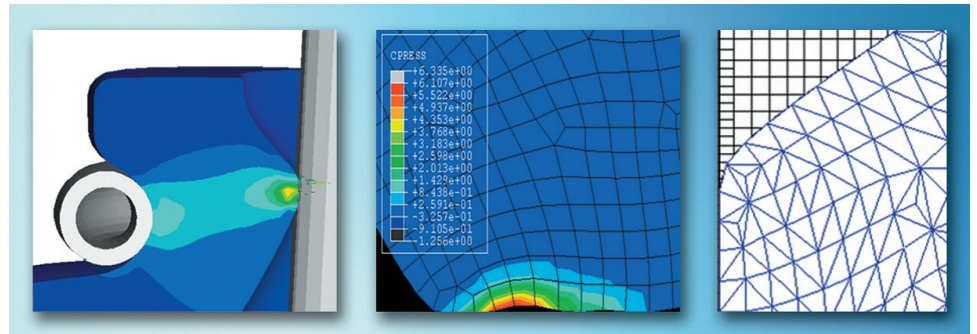
Innovative Designs

Dana's new AllBond™ patented seal design technology combines the benefits of a high-port pressure design with a one-piece construction. The benefits are robust performance through steel reinforcement and lower cost using a reduced number of components.



Finite Element Analysis (FEA)

Using FEA coupled with computational fluid dynamics (CFD), Dana simulates oil leakage through a valve stem seal, which involves complex fluid structure interaction (FSI) between a moving valve stem, oil, and the rubber seal.



Product Features

- Fluoroelastomer sealing element
- Case-hardened valve spring seat (integral seals)
- Precise oil metering
- Custom design solutions
- Multiple rubber colors for product differentiation
- Diverse product offering
- Exclusive designs for high-port pressures

Product Benefits

- Reduced emissions
- Improved oil economy
- Design creativity
- Increased component life
- FEA

Dana.com/light-vehicles

Application Policy

Capacity ratings, features, and specifications vary depending upon the model and type of service. Application approvals must be obtained from Dana; contact your representative for application approval. We reserve the right to change or modify our product specifications, configurations, or dimensions at any time without notice.

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