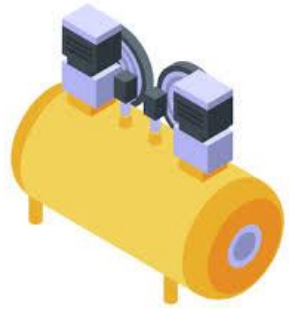
Seal and Packing Evaluation Under Severe Operating Conditions

- Overview -

eSeal enables you to review the design of seals under conditions that are difficult to observe during testing.
It is possible to consider very high pressure and high/low temperature conditions, allowing to predict behavior of seal and evaluate the sealability under severe conditions.

Compressors

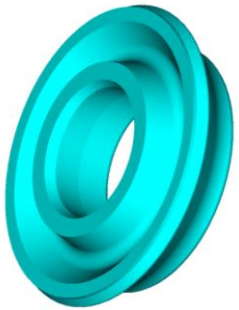



- Examples of Use -

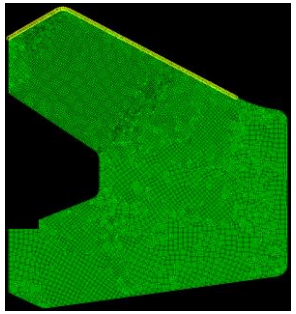
Packing for water-resistant elements
(Compressors)
Hydraulic piston seals
(Heavy machinery, CVT, Brakes)

Heavy machinery


CVT



Brakes



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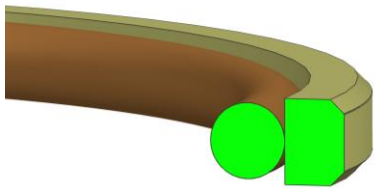
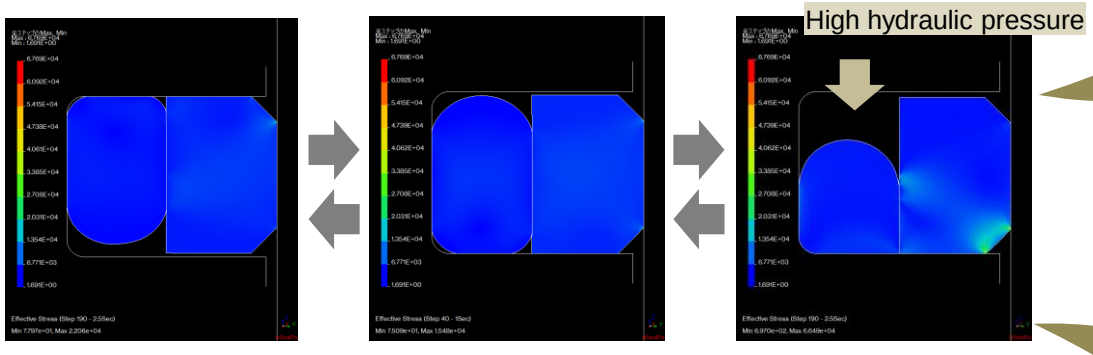
- High pressure oil seal -



- **Seal condition due to sliding cycles and changes in hydraulic pressure**

  Visualize the deformation of the oil seal and seal performance in each process by representing the pressure and shaft motion under analytical conditions.

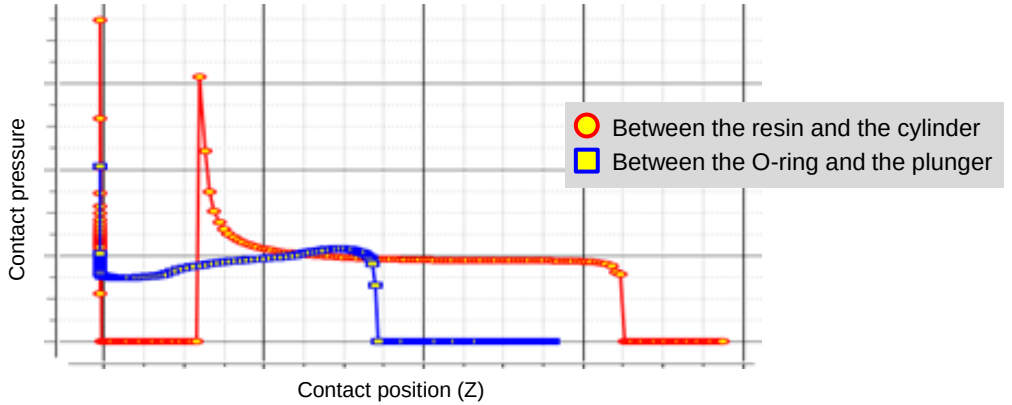


Pulling process *During assembly* *Pushing process*

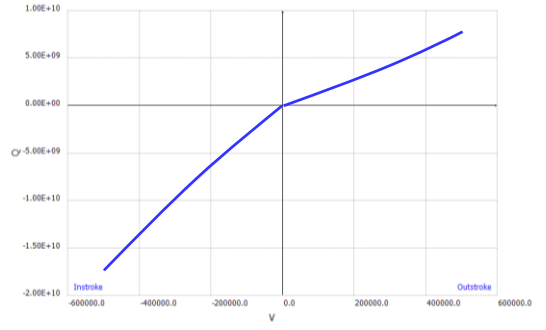
- **Durability and seal performance**

  eSeal can model material properties that resists severe environments. In severe conditions where temperature and pressure fluctuate significantly, the durability of a sealing material directly affects its functionality. Even with an assembly that has passed a simple test, unpredictable problems can arise in the actual working environment.

- **Contact pressure distribution**



- **Application to lubrication calculation**（NewtonSuite-RSCalc）
  - Can apply the contact pressure distribution and seal surface rigidity calculated by eSeal to the lubrication calculation tool.
  - Estimate the varying oil film thickness, fluid pressure, and leakage depending on the sliding speed.



Sliding speed and leakage amount