

# ORD Problem Solved!

## HF355-65 Offers the Cleanliness of a Perfluoroelastomer and the Temperature Performance of a Fluorocarbon



Parker's new highly fluorinated compound HF355-65 offers the cleanliness of a perfluoroelastomer and the temperature performance of a fluorocarbon. The chemical resistance of HF355-65 is slightly better than that of traditional fluorocarbons, especially in resistance to aggressive organics.

HF355-65 is a non-filled compound, meaning it has no carbon black or mineral filler that might shed minute amounts of contamination into an application fluid. Its natural color is a semi-translucent brown; in smaller cross-section parts, it appears more amber colored, and in thicker cross-sections it can look more like a dark brown.

HF355-65 is designed for use in extreme-purity applications like pharmaceutical packaging, semiconductor manufacturing, and analytical chemistry, but its reasonable cost allows it to be used in place of perfluoroelastomers in numerous applications requiring a very clean rubber material.

### Success Story

#### Application:

Glass vial containing an ocular implant that needed a seal between the lip of the glass vial and the plastic cap.

#### Problem:

The implant is shipped and stored in saline solution. For this reason, the customer needed a reliable, airtight seal that would prevent the loss of saline solution and prevent anything from contaminating the solution and the implant. Any foreign material that washed off the surface of the seal or was extracted from the seal material could end up in the patient's eye, so the seals had to be extremely clean and have extremely low extractables.

Originally, the customer chose a competitor's perfluorinated elastomer. Not only was it expensive, but the seal also tended to stick to the vial and fall off in the operating room where it could become a hazard. This often resulted in unacceptably high or low friction. If the friction was too high, the surgeon had trouble opening the vial. Likewise, if the friction was too low, the surgeon could not be sure that the seal was still functional.

#### Parker's Solution:

Parker developed HF355-65, a unique, new "hybrid" compound that offers the extremely low extractables of perfluorinated elastomers coupled with the temperature limits of fluorocarbon. The chemical resistance is slightly better than regular fluorocarbon, and the cost is a fraction of a true perfluorinated elastomer. In addition, the low hardness provides the ideal friction response desired by the surgeon, and the seal stays attached to the cap as intended.

#### Outcome:

The customer received FDA and international approval for their implant, Parker's custom-developed seal material and manufacturing process was also approved by the FDA as a medical device that is considered part of the implant.