

## ABOUT ROGERS CORPORATION

Rogers Corporation (NYSE:ROG) is a global leader in engineered materials to power, protect, and connect our world. With more than 180 years of materials science experience, Rogers delivers high-performance solutions that enable clean energy, internet connectivity, and safety and protection applications, as well as other technologies where reliability is critical. Rogers delivers Power Electronics Solutions for energy-efficient motor drives, vehicle electrification and alternative energy; Elastomeric Material Solutions for sealing, vibration management and impact protection in mobile devices, transportation interiors, industrial equipment and performance apparel; and Advanced Connectivity Solutions for wireless infrastructure, automotive safety and radar systems. Headquartered in Arizona (USA), Rogers operates manufacturing facilities in the United States, China, Germany, Belgium, Hungary, and South Korea, with joint ventures and sales offices worldwide.

FOR MORE INFORMATION, VISIT [WWW.ROGERSCORP.COM](http://WWW.ROGERSCORP.COM).

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Rogers Corporation continuously innovates and expands offerings of PORON® microcellular polyurethane foams to meet customers' dynamic design needs. The AquaPro™ family of high-performance foam products provides enhanced water sealing solutions from "soft" (41) to "very soft" (37). The versatile range of materials ensures that design engineers never have to settle when a high performing water seal is required.

## PORON® AQUAPRO™ FAMILY: FORMULATIONS 37 & 41

### PORON AQUAPRO FAMILY

The AquaPro family provides enhanced protection from water ingress due to its water sealing capability and long term performance. The AquaPro 37 formulation requires the lowest compression force of any PORON water sealing formulation in achieving a tight seal.

- Resistance to stress relaxation and compression set
  - Durable, long-term performance needed to maintain a seal
- Broad temperature range
  - Performs reliably between -40°C and 90°C for constant use and up to 120°C for intermittent use
- Chemical resistance
  - Survives exposure to a wide range of common automotive fluids
- Flame retardant
  - Meets flammability requirements of UL 94 HBF and FMVSS 302
- Low Outgassing
  - No plasticizers to migrate, noncorrosive to metal and environmentally safe
- Backed by Rogers Corporation
  - 180 years of experience developing innovative material solutions

**NOTE:** Please refer to the Formulation 37 & 41 Data Sheets for UL certifications.

### DURABLE PERFORMANCE. DIVERSE APPLICATIONS.

PORON AquaPro material provides better sealing for a wide variety of applications, even in less-than-ideal conditions.



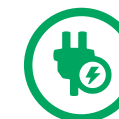
ROOF MOUNTED ANTENNA



HVAC SEALS



HEADLIGHTS/ TAIL LIGHTS



ELECTRICAL ENCLOSURES

### INTRODUCING A NEW HYDROPHOBIC TECHNOLOGY

With AquaPro 37 polyurethane you don't have to choose between good water sealing and long-term performance. AquaPro 37 material is a softer, better sealing material for long-lasting protection of sensitive electronics and enclosed devices.

### LEARN MORE

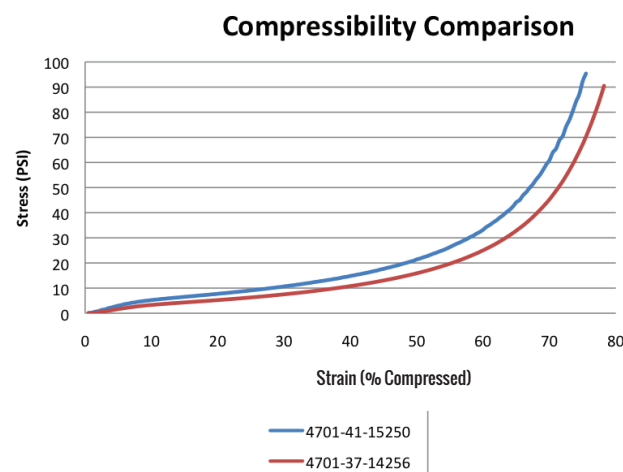
Contact your local Rogers sales rep for more information and receive a free sample of AquaPro 37 foam.

# Two important factors determine the optimal grade and thickness for a water sealing application: *Compressibility and Sealing Effectiveness.*

## 1 COMPRESSIBILITY

Compression Force Deflection (CFD) curves represent the amount of force needed to compress the foam a percentage of the total thickness. During installation, it is important to take CFD into consideration, as the substrate can deflect or damage if the foam is too firm or compressed too much.

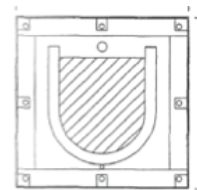
The PORON AquaPro products range in compression force deflection values from soft (41) to very soft (37) making the material selection process easier.



## 2 SEALING EFFECTIVENESS

### A WATER IMPERMEABILITY

A U-shaped gasket is compressed 30% with vacuum grease on both sides. After conditioning at 70°C for 22 hours, water is added and the fixtures are observed for leakage.



MATERIAL	TYPE	RESULTS
AquaPro Formulation 41	PU	Sealed for test duration (11 days)
AquaPro Formulation 37	PU	Sealed for test duration (11 days)
Competitor N	EPDM	Failed after 1 minute
Competitor R	EPDM	Failed after 72 hours

### AUTOMOTIVE SPECIFICATION COMPLIANCE

PORON AquaPro 37 foam passes GMW15473 water impermeability testing at both the 'as received' and aged sealability conditions. A 0.250" thick sample of AquaPro 37 material compressed 30% seals for a minimum of one hour after seven cycles of 12 hours at 121°C and 12 hours at -29°C.

### B INGRESS PROTECTION

IEC 60529 Classification of Degrees of Protection Provided by Enclosures provides a system for specifying the enclosures of electrical equipment on the basis of protection from water and particulates provided by the enclosure. The IEC publication defines Ingress Protection with the following nomenclature:

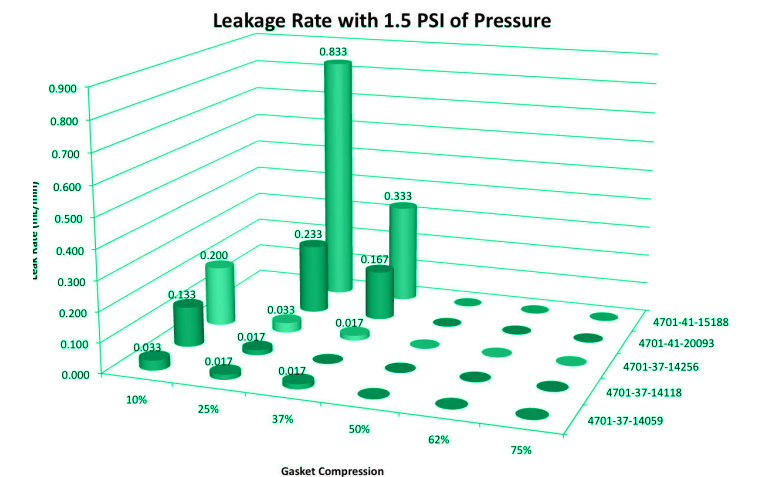
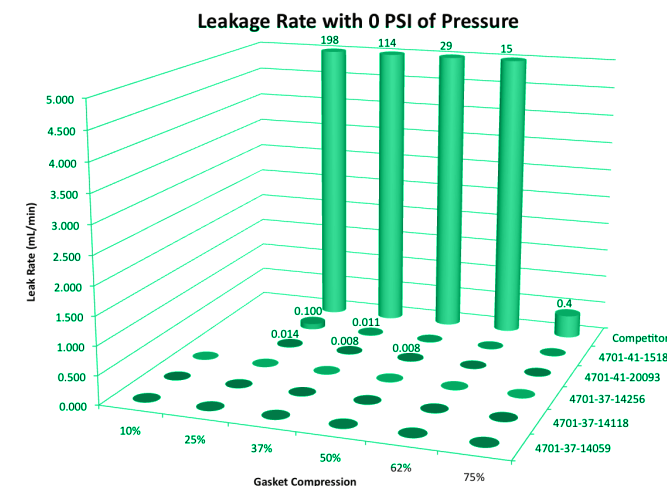


Rogers performs a test that is similar to IPX7, a stringent enclosure requirement in the IP rating system required for the most demanding applications. A circular gasket with adhesive on both sides is compressed to varying levels and immersed in one meter of water for 30 minutes.

The PORON AquaPro family is critical to achieving the desired IP rating.

### C ASTM F37

This standard test for gasket materials helps determine sealing performance by measuring water leakage rate. Gaskets are compressed between two flat surfaces while pressurized water is forced from the center through the cross-section of the gasket at various compression levels.



**NOTE:** Competitor N could not withstand the testing conditions with elevated pressure.