ARDL

AKRON RUBBER DEVELOPMENT LABORATORY, INC.

EST. 1962

AEROSPACE POLYMER TESTING & SOLUTIONS

Material Confidence for Mission-Critical Performance

ARDL provides independent testing, development and problem-solving support for aerospace polymers and components. From material qualification through performance validation and failure analysis, our experts help manufacturers understand performance under demanding service conditions.

AEROSPACE APPLICATIONS

- Seals, O-rings and gaskets
- Hoses, bellows and flexible components
- Vibration isolators and dampers
- Interior and protective materials
- Adhesives, coatings & bonded assemblies
- Specialty molded components

PHYSICAL & DYNAMIC

Evaluate material and component performance under mechanical stress and repeated loading.

- Tensile, tear and hardness
- Compression and stress relaxation
- Adhesion and bond strength
- Dynamic fatigue and crack growth
- Finished-component testing

ENVIRONMENTAL DURABILITY

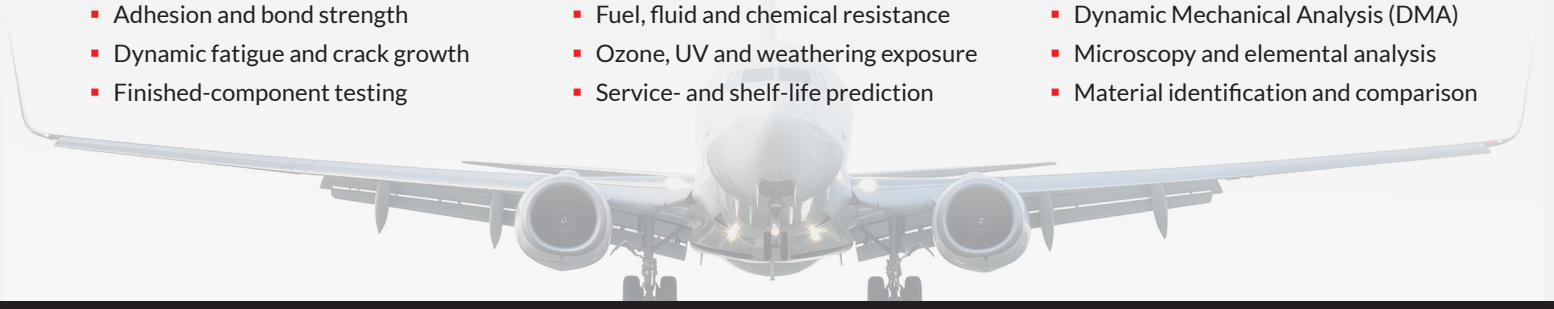
Understand how materials respond to demanding service and storage conditions

- Heat and accelerated aging
- Low-temperature performance
- Fuel, fluid and chemical resistance
- Ozone, UV and weathering exposure
- Service- and shelf-life prediction

CHEMICAL & ANALYTICAL

Identify composition, changes and factors affecting material durability and performance.

- FTIR and GC/MS
- TGA and DSC
- Dynamic Mechanical Analysis (DMA)
- Microscopy and elemental analysis
- Material identification and comparison



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FROM DEVELOPMENT THROUGH FAILURE ANALYSIS

Support Across the Material Lifecycle

ARDL combines polymer science, testing and engineering expertise to help aerospace manufacturers develop materials, validate components and solve performance challenges.

1 | DEVELOP — Material Development & Selection

Develop, compare and optimize polymer materials for application-specific requirements.

- Compound formulation and optimization
- Alternative material evaluation and benchmarking
- Prototype mixing and molding
- Performance validation

2 | VALIDATE — Performance & Component Validation

Evaluate performance using standard methods or testing designed around the application.

- Customer-specific test programs
- Custom fixtures and geometries
- Combined environmental exposures
- Finished-component testing

3 | INVESTIGATE — Failure Analysis & Consulting

Determine why a material or component did not perform as expected.

- Chemical and thermal analysis
- Microscopy and surface examination
- Contamination identification
- Root-cause investigation

WHY CHOOSE ARDL?

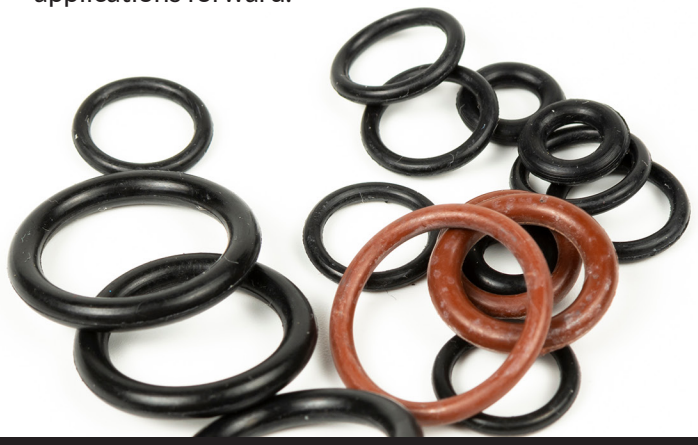
- Independent and confidential
- More than 60 years of polymer expertise
- Experienced scientists and engineers
- Standard and custom testing capabilities
- A2LA accredited to ISO/IEC 17025:2017
- ISO 9001:2015 and ISO 13485:2016 registered

ISO 17025 ACCREDITED LABORATORY ISO 17025

ISO 9001 QUALITY MANAGEMENT ISO 9001

ISO 13485 MEDICAL DEVICES ISO 13485

From material development through performance validation and failure analysis, ARDL delivers the technical insight needed to move aerospace applications forward.



ARDL.com 866-778-ARDL CONNECT:

GO BEYOND TESTING WITH ARDL.