PALL Pall Corporation

# Athalon™ Filters

## Overview of Validation Process

### Athalon Filters Product Overview

Athalon filter elements incorporate Pall Corporation's advanced filter medium pack construction that benefits from Stress-Resistant filter medium Technology (SRT) along with other material upgrades. These upgrades include specially blended layers of fiberglass, optimized construction for low differential pressure and stress resistance, tapered pore construction, uniform pore size control layer and epoxy resin bonded fiber structure. Athalon filters are rated $Beta_{x(C)} > 2000$.

The Athalon filter element validation process included a Production Qualification Process and Internal Laboratory Filter Testing per ISO Filter Test Standards.

### Production Qualification of Athalon Filter Elements

A Production Qualification process was carried out on the Athalon filter elements in order to confirm manufacturing process capabilities, clarify SPC (Statistical Process Control) requirements for defined critical to quality measurements, clarify the requirements for releasing Athalon work cells for production and document requirements for production at Pall manufacturing sites. Upon successful completion of the Production Qualification process, representative Athalon filter element samples were manufactured for internal laboratory filter testing.

### Pall Internal Laboratory Testing

Internal laboratory filter testing per ISO Filter Test Standards on the Athalon filter elements was conducted in order to generate product performance claims and specifications. All testing is complete and the results show that the Athalon filter elements have met the performance goals.

This internal laboratory testing included:

1. Material Compatibility per ISO 2943 - Verified by heat soak for 72 hours at 15°C (27°F) higher than the above rated maximum temperatures in a series of fluids and qualified by similarity to Ultipor® III and Ultipleat® SRT filter element materials.
2. Fabrication integrity per ISO 2942, "Hydraulic fluid power – Filter elements – Verification of fabrication integrity and determination of the first bubble point".
3. Clean Element differential pressure per ISO 3968 - "Hydraulic fluid power – Filters – Evaluation of pressure drop vs. flow characteristics".
4. Filtration ratios and dirt capacity per ISO 16889, "Hydraulic fluid power filters – Multi-pass method for evaluating filtration performance of a filter element".
5. Collapse ratings per ISO 2941, "Hydraulic Fluid Power – Filter Elements – Verification of collapse/burst resistance".
6. Stress-Resistance Test and Cyclic Stabilization ratings per SAE ARP 4205, "Aerospace fluid power – Hydraulic filter elements – Method for evaluating dynamic efficiency with cyclic flow".


Athalon Filter Elements

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