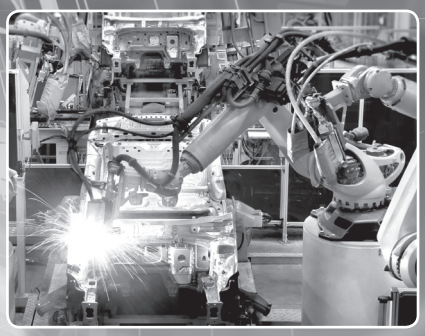
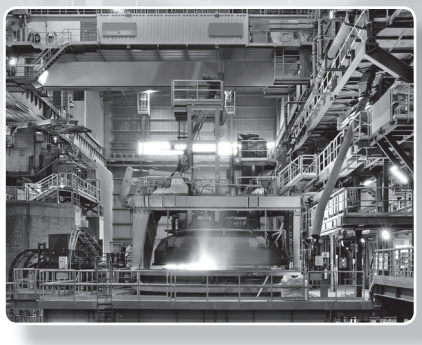
PALL CORPORATION

Supralon™ Filter Elements

for hydraulic and lubrication fluids

- Replacement filter elements for Pall Ultipor® and Coralon® designs
- Stress and Static Charge Resistant Technology
- $Beta_{x(c)}$ ≥2000 Rated Performance
- Long Service Life





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Leadership in Lube and Hydraulic Filtration

- Pall has demonstrated industry leadership through the introduction of an array of innovative technologies over the more than 70 years we have been manufacturing L&H filters
- Pall products reflect our history of partnering with fluid suppliers, equipment manufacturers, and users and the resulting in-depth understanding of market and application needs
- Our customers use our products because they know they can trust Pall to deliver the critical equipment protection and cost savings they desire
- Pall is globally positioned to deliver, service, and support our customers with a focus on providing the lowest total cost of ownership

Next Generation Filter Design

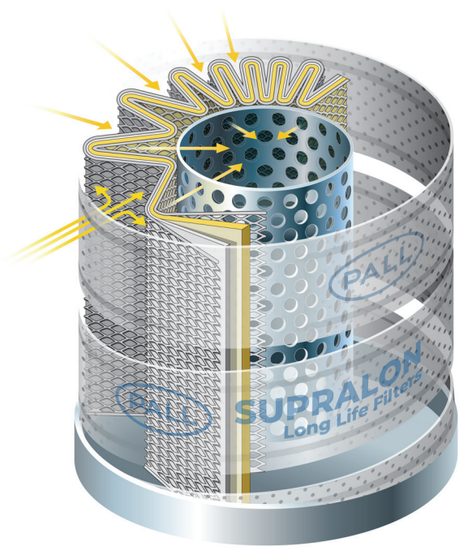
Pall Supralon filter elements are designed for use in Pall Ultipor and other manufacturers housings.

Asymmetric Pack Construction

- New upstream and downstream drainage mesh pairings
- Heavier weight filtration medium with fixed, tapered pore construction
- Optimized pleat heights and pleat counts

Beta ≥ 2000 Rating

- Faster system cleanup rates
- Cleaner achieved system cleanliness levels

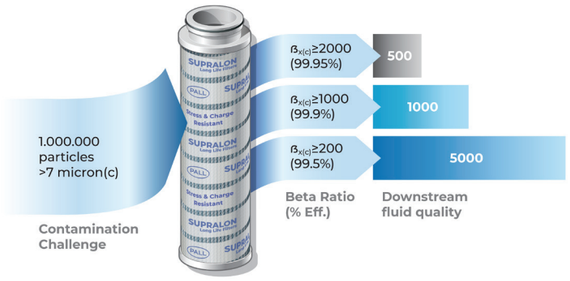


Stress-Resistant Filter Medium

- Unparalleled fluid cleanliness consistency throughout the filter's service life
- Better performance in 'real world' conditions

Fast System Clean-up To Achieve Desired Fluid Cleanliness Levels

Supralon Filters have a Beta ≥ 2000 rating for superior control of particulate contaminants



Supralon Filters

- 2X better particle removal efficiency compared to $B_{X(c)}$≥1000 rated filters and 10X better efficiency than common $B_{X(c)}$≥200 rated filters
- Significantly fewer passes required to reach target cleanliness level
- Reduces equipment maintenance and unscheduled downtime costs

Long Filter Service Life

The unique 'composite structure of Supralon filter elements has been optimized to deliver long service life, including applications that can experience upset conditions (e.g., water ingression)

Proprietary Filter Medium Construction

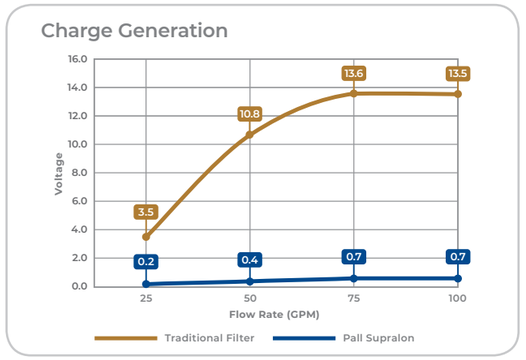
- Heavy weight, tapered pore medium to enhance dirt holding capacity
- Small diameter inert, inorganic fibers in a fixed pore matrix to deliver high efficiency performance
- Uniform filter medium control layer to ensure performance consistency

Redesigned Filter Medium Support Structure

- A unique pairing of up and downstream meshes and open, high strength support material optimizes flow distribution for long life and enhanced gel resistance, and provides additional support during cold starts

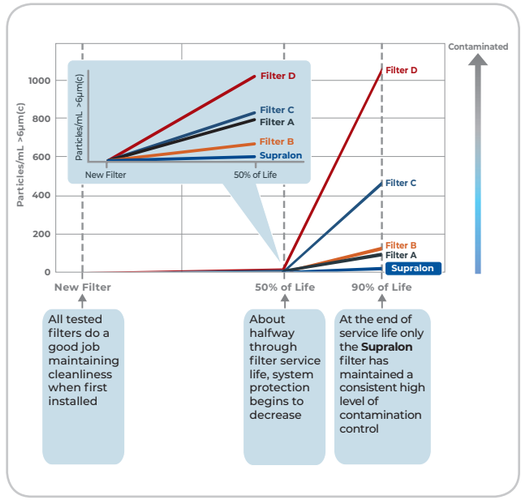
Proprietary Outer Helical Wrap

- Elements are tightly spiral wrapped with the wrap bonded to each pleat to ensure optimal pleat spacing and full medium utilization even under severe duty applications



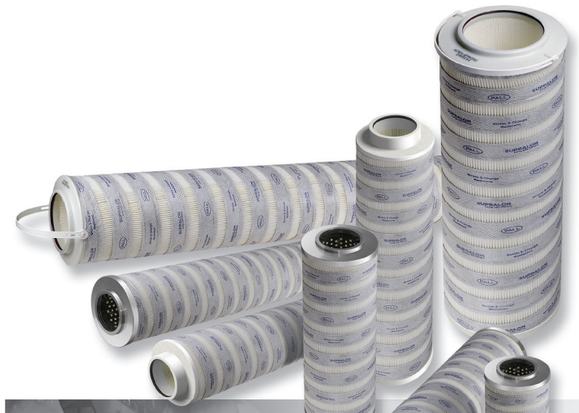
Sustained System Protection Over The Life Of The Filter

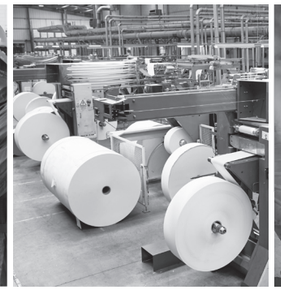
Protecting fluid systems relies on the filter's ability to maintain fluid cleanliness throughout its service life. Testing (SAE ARP4205) has shown that typical system stresses such as flow cycles and dirt loading can reduce a filter's ability to maintain fluid cleanliness over time. This graph shows that different manufacturers' filters deliver good fluid cleanliness early in service life, but as time goes on, most have their ability to maintain fluid cleanliness drastically reduced. In contrast, Supralon filters incorporate stress-resistant technology, which enables them to produce sustained fluid cleanliness over the full life of the filter.



Protecting the Fluid, Filter, And Other Components From Static Discharge

- Supralon filters incorporate a novel outer wrap, designed to minimize static charge build-up in the element
- Anti-static design dramatically reduces damaging static charge generation compared to conventional lube and hydraulic filter elements
- Static charge resistance is a standard feature included across the entire Supralon product range





Measuring Filter Performance - Cyclic Stabilization Test (based on SAE ARP4205)

Conditions such as varying flow, cold starts, shock and vibration can potentially reduce the effectiveness of a filter in an operating system. The Cyclic Stabilization Test examines the effects of cyclic flow conditions and dirt loading on the capture and retention characteristics of the filter. The result is an improved filter performance reporting method that simply tells the user via ISO Codes the level of contamination control that can be maintained throughout the filter's service life.

Cleanliness Code Ratings

Media Grade Code	Rating (µm)$ß_{x(c)}$>2000 based on ISO 16889	CST* ISO Code Rating based on SAE ARP 4205
Z	3	06/04/<1
P	5	12/08/<1
N	7	14/09/04
S	12	18/16/08
T	25	19/17/12

** CST: Cyclic Stabilization Test to determine filter rating under stress conditions, based on SAE ARP4205. Note these ISO codes are laboratory measurements under standard conditions. Cleanliness measured in actual operation will depend on operating conditions and sampling method.*

Understanding your Supralon part number
Example P/No: HC9600FRP16Z

HC denotes it is a Pall hydraulic cartridge
9600 is the product family,
F (filter element) or S (for spin-ons)
R designates the Supralon medium type for standard collapse elements; H designates the medium type for high collapse elements (H& R replace A, C, D, K, M, U or X in previous Coralon or Ultipor III designs)
P is the Medium grade. There are 5 standard grades **Z**, **P**, **N**, **S**, and **T** (see media grade table for associated ratings above)
16 is the Nominal filter length (in inches) – there are a number of lengths available across all series ranging from 4 to 39 inches.
Z is the Seal material, fluorocarbon as standard, other materials available upon application

Note: some elements may have added digits to the p/n to designate it as a special design.

Specification

Element Collapse/Burst Rating (ISO 2941)
10 bard (150 psid) minimum for Coreless filter elements
20 bard (300 psid) minimum for Standard filter elements
210 bard (3,045 psid) minimum for High Collapse Strength filter elements

Flow vs. Pressure Drop (ISO 3968)
See appropriate Ultipor housing literature on www.pall.com

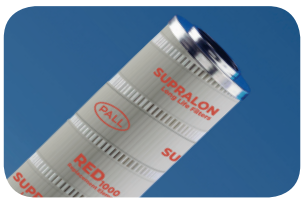
Fluid Compatibility (ISO 2943)
Compatible with petroleum oils, water glycols, water-oil emulsions, and high water containing fluids. Fluorocarbon seals are standard, enabling use with industrial phosphate esters, diesters, and specified synthetics.

Flow Fatigue (ISO 3724)
Contact factory; filter element pleats are fully supported, both upstream and downstream to achieve excellent fatigue cycle life.

Fabrication Integrity (ISO 2942)
Fabrication integrity is validated and assured during the manufacturing process by numerous evaluations and inspections including Bubble Point testing.

Temperature Range
Fluorocarbon seals: -29˚C (-20˚F) to +120˚C (+250˚F)
Note: Maximum 60˚C (140˚F) in water based fluids.
Other seal materials available on application

Quality Control
All filter elements are manufactured by Pall to exacting procedures and strict quality controls. Filter elements are checked against rigorous ongoing validation test protocols within Pall Corporation. Pall is accredited to ISO 9001 and QS 9000.



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