

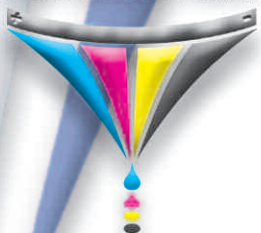


Pall Corporation

# POLY-FINE® XLD Filter Cartridges for Digital Ink Formulation



Pall Ink Jet Team



*Filtration. Separation. Solution.<sup>SM</sup>*

IJ 1786



## Optimized Hybrid of Depth and Pleated Filtration Technologies

The Pall® **POLY-FINE** XLD filter is an innovative synthesis of depth and pleated filtration technologies. This product combines the high flow capacity and low pressure loss of pleated filters, with the gel retention capability and long life of a depth filter.

The **POLY-FINE** XLD filter is an excellent choice for a wide range of digital printing inks. The construction of the **POLY-FINE** XLD filter has been tailored to meet the needs of digital ink formulation and the all-polypropylene construction is compatible with many of the current ink jet ink chemistries. The multi-layer media structure has been developed with fine dispersion classification and gel retention in mind.

Reference Pall literature publication 1254-B "Filtration Solutions for Ink Jet Ink Formulation" for specific recommendations.

### Description and Key Features

- **Pall POLY-FINE** XLD filters are pleated-depth filters with all-polypropylene construction.
- Four nominal filter lengths are available: 10"/254mm, 20"/508mm, 30"/762mm, and 40"/1016mm.
- **Pall POLY-FINE** XLD filters for digital ink filtration are available in key removal ratings from 1.5 to 10µm absolute (coarser grades are available for other applications).

### Features

- Optimized media structure
- Absolute rated filter media
- Thick media structure
- All-polypropylene construction
- High void volume media structure
- Robust construction for higher viscosity fluids
- Cartridges are free of surfactants, binders, resins and adhesives

### Advantages

- Improved dispersion classification performance
- Consistent, repeatable filtration performance
- Excellent gel retention
- Excellent compatibility with most digital ink chemistries
- Significant porosity to capture and retain contaminant
- Filter pleats will resist pleat deformation when filtering higher viscosity digital inks
- Very low extractables in most ink systems

### Benefits

- Effectively removes oversized material with minimum removal of colorant
- Dependable ink quality on every batch
- Increased ink cleanliness and printer performance
- Ink chemists need to approve only one material for new ink formulations
- Long service life and low filter cost per gallon
- Even pleat flow throughout service life for maximum media utilization and long service life.
- No impact on critical ink properties



## Technical Information

### Materials of Construction

Filter Media	Polypropylene
Core, Cage and Endcaps	Polypropylene
Gaskets/O-Rings	Ethylene Propylene (EPDM) <sup>(1)</sup>

<sup>(1)</sup>Please contact Pall for other available materials

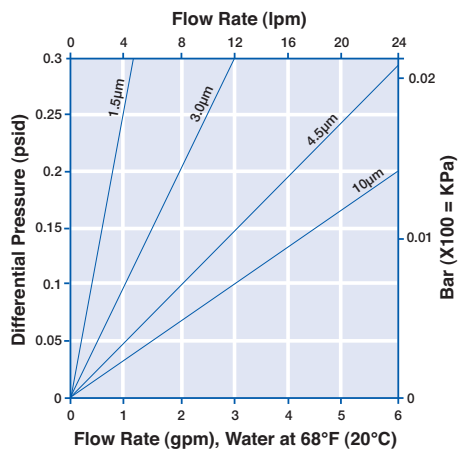
### Operating Conditions<sup>(2)</sup>

Maximum operating differential pressures and temperatures in compatible fluids:

Operating Temperature	Maximum Differential Pressure
68°F/20°C	75 psid/5.1 bard
150°F/65°C	40 psid/2.8 bard

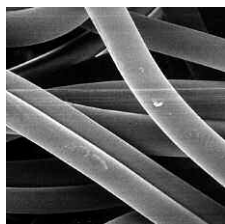
<sup>(2)</sup> Fluids that do not soften, swell or adversely affect the filter or materials of construction

### Typical Liquid Flow Rate versus Differential Pressure<sup>(3)</sup>

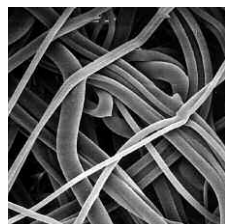


<sup>(3)</sup> Flow rate is per 10"/254mm cartridge. For liquids with viscosities differing from water, multiply the pressure drop by the viscosity in centipoise (cP)

### Micrograph of POLY-FINE XLD Series filter media (magnification x500)



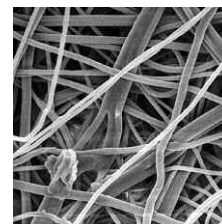
Outer Pre-Filtration Layer 1



Pre-Filtration Layer 2



Pre-Filtration Layer 3



Inner Final Filtration Layer  
(Constant Pore Size)



## Ordering Information

(This is a guide to part number structure only. For availability of specific options, please consult Pall)

**X L D**        
 Table 1 Table 2 Table 3 Table 4 Table 5 Table 6

**Table 1**

Code	Absolute Removal Rating <sup>(4)</sup>
1.5	1.5µm
3	3.0µm
4.5	4.5µm
10	10µm

<sup>(4)</sup> Based on >99.9% Retention Rating by ASTM F-795 Test

**Table 2**

Code	Cartridge Length
10	10"
20	20"
30	30"
40	40"

**Table 3**

Code	Hardware
U	Polypropylene

**Table 4**

Code	Gasket/O-ring Material
E	EPDM (standard)
V	'Viton' A
N	Buna N

**Table 5**

Code	End Configuration
No Code	Double-Open End (DOE)
M3	SOE, flat closed end, external 222 o-rings
M7	SOE, fin end, external 226 o-rings
M8	SOE, fin end, external 222 o-rings

**Table 6**

Code	Special Ink Jet Specification
147	Preflushed cartridge with optimized media



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