

# Probond™

Probond cartridges have a unique, proprietary two-stage filtration design to maximise particle removal and service life in viscous fluid filtration applications. An outer, spiral, prefilter wrap increases cartridge strength and eliminates residual debris associated with other, machined, resin bonded cartridges.

Probond filter cartridges are available in eight differentiated removal rating from 2µm through to 150µm to meet a wide range of performance requirements.



## Features and Benefits

Outer, spiral wrap collects large particles and agglomerates, while inner layers control particle removal at rated size.

Outer wrap increases surface area without machining. Eliminates loose debris and contamination caused by machined products. Extra-long acrylic fibers provide added strength, resist breakage and migration common in competitive “short fiber” cartridges.

Phenolic resin impregnation strengthens cartridge for fluid viscosities up to 15,000 SSU (320 cks). Withstands pressure surges up to 150 psid across cartridge (depending on fluid temperature) One-piece construction eliminates bypass concerns on multi length cartridges and eases change out. Silicone-free construction ensures no contamination to effect adhesion properties of coatings.

## Applications

- Paints
- Printing Inks
- Adhesives
- Resins
- Polymers
- Emulsions
- Chemical Coatings
- Organic Solvents
- Petroleum Products
- Process Water
- Oilfield Fluids
- Animal Oils
- Waxes
- Plasticizers

## Materials of Construction

Acrylic, long staple fiber; phenolic bonding resin.

## Type of Construction

Coreless, one piece, rigid resin bonded fibrous matrix.

## Particle Removal Ratings

2µm, 5µm, 10µm, 25µm, 50µm, 75µm, 125µm, 150µm.

## Dimensions (mm)

- O.D. : 65 mm
- I.D. : 28.6 mm
- Lengths: 9.75" (247 mm), 10" (254 mm), 19.5" (495 mm), 20" (508 mm), 29.25" (743mm), 30" (762mm), 39" (991mm) 40" (1016mm)

## Probond Length Factors

Length (in)	Length Factor
9	1.0
10	1.0
19	2.0
20	2.0
29	3.0
30	3.0
39	4.0
40	4.0

## Operating Conditions

- Maximum Recommended Flow Rate: 18.9 lpm per 10" increment
- Max. Recommended Temperature: 121°C
- Recommended Changeout Pressure: 3.5 bar
- Cartridge Pressure Resistance:
 

10 bar @ 21°C	4.5 bar @ 82°C
8.6 bar @ 38°C	1.7 bar @ 121°C
6.2 bar @ 65°C	

## Environmental/ Chemical Compatibility

- Classified as a non-hazardous material
- Incinerable (8000BTU/lb)
- Crushable and shreddable
- Certified silicone-free
- Suitable for weak acids and bases (pH 5 - 9)
- Unsuitable for oxidising agents
- Not recommended for FDA applications.

## ProBond Flow Factors

Rating (µm)	Flow Factor
2	0.08
5	0.04
10	0.02
25	0.012
50	0.01
75	0.006
125	0.0013
150	0.0010

(psid/gpm) @ 1 cks

## Flow Rate and Pressure Drop Formulae

$$\text{Flow Rate(gpm)} = \frac{\text{Clean } \Delta P \times \text{Length Factor}}{\text{Viscosity} \times \text{Flow Factor}}$$

$$\text{Clean } \Delta P = \frac{\text{Flow Rate} \times \text{Viscosity} \times \text{Flow Factor}}{\text{Length Factor}}$$

### Notes:

1. **Clean ΔP** is PSI differential at start.
2. **Viscosity** is centistokes.  
Use Conversion Tables for other units.
3. **Flow Factor** is ΔP/GPM at 1 cks for 10 in (or single).
4. **Length Factors** convert flow or ΔP for 10 in (single length) to required cartridge length.

## Ordering Guide

Name	Micron Rating		Nominal Length		Special
	2µm	50µm	9"	29"	
ProBond	5µm	75µm	10"	30"	
	10µm	125µm	19"	39"	
	25µm	150µm	20"	40"	

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