

A Patented Breakthrough in Resin Bonded Cartridge Design

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

ProBond filter cartridges are available in seven differentiated removal ratings from 2µm, 5µm, 10µm, 25µm, 50µm, 75µm and 125µm pore sizes to meet a wide range of performance requirements.

Applications

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



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 and eliminates loose debris and contamination caused by machined products.
- Extra-long acrylic fibers provide added strength, resist breakage and migration common with competitive "short fiber" cartridges.
- Phenolic resin impregnation strengthens cartridge for use with fluid viscosities up to 15,000 SSU (3200 cks).
- Withstands pressure surges up to 150 psid across cartridge (depending on fluid temperature).
- One-piece construction eliminates bypass concerns with multilength cartridges and eases change out.
- Silicone-free construction ensures no contamination to adversely affect adhesion properties of coatings.

Process Filtration Division

Resin Bonded Series

Specifications

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 and 125µm

Dimensions, in (mm):

- Outside Diameter: 2.56 (65)
- Inside Diameter: 1.12 (28.6)
- Lengths: 9.75 (247), 10 (254), 19.5 (495), 20 (508), 29.25 (743), 30 (762), 39 (991), 40 (1016)

Recommended Operating Conditions:

- Maximum Flow Rate: 5 gpm per 10 in increment (18.9 lpm per 254 mm increment)
- Maximum Temperature: 250°F (121°C)
- Change Out ΔP: 50 psid (3.5 bar)
- Cartridge Pressure Resistance: 150 psid (10 bar) @ 70°F (21°C)
125 psid (8.6 bar) @ 100°F (38°C)
90 psid (6.2 bar) @ 150°F (65°C)
65 psid (4.5 bar) @ 180°F (82°C)
25 psid (1.7 bar) @ 250°F (121°C)

Environmental/Chemical Compatibility:

- Classified as a nonhazardous material
- Incinerable (8000 BTU/lb)
- Crushable and shredable
- Certified silicone-free
- Suitable for weak acids and bases (pH 5-9)
- Unsuitable for oxidizing agents
- Not recommended for FDA applications

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

Flow Rate and Pressure Drop Formulas:

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

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

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 from 10 in (single length) to required cartridge length.

ProBond Flow Factors (psid/gpm @ 1 cks)

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

Ordering Information

PRO	5	—	29	XA	—	N
Cartridge Code	Micron Rating (µm)		Length	End Cap Options		Seal Options
PRO	2		(code) (in) (mm)	Omit = Standard (coreless)		Omit = DOE or XA
	5		9 9-3/4 247	XA = Poly Extender		N = Buna-N O-Ring
	10		10 10 254	TC = Single Open End		E = EPDM O-Ring
	25		19 19-1/2 495	(222 O-ring/Flat Cap)		S = Silicone O-Ring
	50		20 20 508			V = Viton** O-Ring
	75		29 29-1/4 743			
	125		30 30 762			
			39 39 991			
			40 40 1016			

Process Filtration Division

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Parker
Filtration

* Patent pending

** A trademark of E. I. du Pont de Nemours & Co.