Fulflo® ProBond™ Filter Cartridges

Patented break-through in resin-bonded cartridge design

Parker ProBond™ cartridges have a unique, proprietary two-stage filtration design to maximize particle retention and service life in viscous fluid filtration applications. An outer, spiral, prefilter wrap, made from a fiber blend of polyester and acrylic, increases cartridge strength and eliminates residual debris associated with conventional or machined and grooved, resin bonded cartridges.

ProBond filter cartridges are available in eight differentiated removal ratings of 2µm, 5µm, 10µm, 25µm, 50µm, 75µm, 125µm and 150µm pore sizes to meet a wide range of performance requirements.

Contact Information

Parker Hannifin Corporation
Industrial Process Filtration - N.A.
118 Washington Avenue
Mineral Wells, TX 76067

phone +1 940 325 2575
industrialprocess.na@parker.com

www.parker.com/industrialprocess

Benefits

- Outer, spiral wrap collects large particles and agglomerates, while inner layers control particle removal at rated size
- Outer wrap increases surface area, & 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
- Available with optimal single-open-end seals (222 o-ring with flat cap) in ABS or nylon
- Phenolic resin impregnation strengthens cartridge for use with high viscosity fluid
- Withstands pressure surges up to 150psid across cartridge (depending on fluid temperature)
- One-piece construction eliminates bypass concerns with multi-length cartridges and eases change out
- Silicone-free construction ensures no contamination to adversely affect adhesion properties of coatings
- ISO 9001 registered company

Applications

- Paints
- Printing Inks
- Adhesives
- Resins
- Emulsions
- Chemical Coatings
- Organic Solvents
- Plasticizers
- Waxes
- Oil & Gas Fluids
- Petroleum Products

Fulflo® ProBond™ Filter Cartridges

SPECIFICATIONS

Materials of Construction

1st stage Pre-filter wrap:
- Polyester/Acrylic long staple fiber blend

2nd stage Final Filter wrap:
- Acrylic long staple fiber
- Fibers impregnated with Phenolic Resin

Type of Construction

Coreless, one-piece, rigid resin bonded fibrous matrix

Maximum Recommended Operating Conditions

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

Particle Removal Ratings

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

Dimensions, in. (mm)

Outside Diameter: 2-$^{9}/_{16}$ in (65)
Inside Diameter: 1-$^{1}/_{8}$ in (28.6)
Lengths: Nominal, 10, 20, 30 and 40 in.

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

End Adapters

- None on double open end style
- ABS (Acrylonitrile Butadiene Styrene) for most applications
- Nylon (NTC) for aromatic solvents

ProBond Flow Factors

Rating (µm)	Flow Factors
2	0.08
5	0.04
10	0.02
25	0.012
50	0.01
75	0.006
125	0.0013
150	0.0010
200	0.0005
250	0.0001

ProBond Length Factors

Length (in)	Length Factors
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

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

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

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

Ordering Information

PRO – ☐ – ☐ ☐ –

Cartridge Code	
PRO	ProBond Series

Micron Rating
(µm)
2
5
10
25
50
75
125
150
200
250

Nominal Length		
CODE	IN.	mm
9	9-¾	248
10	10	254
19	19-½	495
20	20	508
29	29-¼	743
30	30	762
39	39	991
40	40	1016

End Cap Configuration	
CODE	DESCRIPTION
None	Std. double open end (DOE) coreless
CXC	Extended tinned steel core
C	Tinned steel core
NTC	Single open end 222 o-ring/Flat cap (Nylon)
OB	Std. open end/Polypropylene spring closed end
TC	Single open end 222 O-ring/Flat cap (ABS Plastic)
XA	Poly extender
XB	Extended core open end/ Polypropylene spring closed end

Seal Material	
CODE	MATERIAL
None	DOE and XA
E	EPR
N	Buna-N
S	Silicone (O-ring only)
T	PFA Encapsulated Viton® (222, 226 O-ring only)
V	Viton®