



PRODUCT DESCRIPTION

The LifeTec™ PES-BN A 0.45 filter element is an absolute grade rated, pleated high performance Polyethersulfone membrane filter. Developed for final filtration and microbial stabilization of highly colloidal liquids, it meets the high demands in terms of filtration performance, stability and service life.

The outstanding properties of the LifeTec™ PES-BN A 0.45 filter element is based on its state-of-the-art filtration media. The Polyethersulfone membrane is inherently hydrophilic and distinguishes itself by having an asymmetrically designed pore structure. The pore size steadily decreases towards the centre of the medium resulting in a highly porous structure.

All components meet the EU and USA requirements for food contact use in accordance with CFR (Code of Federal Regulations) Title 21 and 1935/2004/EC and subsequent amendments. All LifeTec™ liquid elements are flushed with deionised water during manufacture.

Based on the available material data, supplier information, and our current state of knowledge, the products do not contain any intentionally added PFAS within the meaning of the ECHA definition.

MAIN FEATURES & BENEFITS

- Absolute grade rating of 0.45 µm
- Excellent flow rate
- Highly resistant materials
- Highly asymmetrical membrane design
- High mechanical and thermal stability
- Approved for food contact use acc. to CFR Title 21 & EC/1935/2004

INDUSTRIES



- Breweries
- Soft Drinks
- Bottled Water
- Wineries
- Chemical Industry

APPLICATIONS

The absolute rated LifeTec™ PES-BN A 0.45 membrane filter is designed and developed for the filtration of highly colloidal liquids:

Clarification and cold sterilization of beverages like

- Beer
- Beer Mix
- Wine
- Spirits

Clarification and final filtration of

- Deionized Water
- Chemically treated Water
- High temperature Water
- Process Water
- Ingredient Water
- Soft Drinks
- Bottled Water

QUALITY TEST

All products have been inspected and released by Quality Assurance as having met the following requirements:

- All 10" filter modules are integrity tested to verify compliance with established quality and design specifications and to assure consistent and reliable performance.
- The traceability of each filter element according to EC/1935/2004 is provided by serial number.
- All LifeTec™ PES-BN A 0.45 filter elements are assembled, tested and packaged in Class 7 clean room facility.
- Quality Management System is approved by an accredited registering body to the appropriate ISO9001 Quality Systems Standard.

MATERIAL COMPLIANCE USA

All components of the LifeTec™ PES-BN A 0.45 filter element are FDA listed for food contact use in the Code of Federal Regulations (CFR), Title 21:

Filter Materials		CFR Title 21
Membrane	Polyethersulfone	§ 177.2240
Upstream support	Polypropylene	§ 177.1520
Scrim	Polypropylene	§ 177.1520
Outer guard	Polypropylene	§ 177.1520
Core	Polypropylene	§ 177.1520
End caps	Polypropylene	§ 177.1520
O-rings	EPDM	§ 177.2600
	Silicone	§ 177.2600
Sealing method	Thermal bonding	

MATERIAL COMPLIANCE EU

The Donaldson LifeTec™ PES-BN A 0.45 filter element meets the guideline for food contact use as given in European Regulation (EC) Number 1935/2004. All polymeric components (Polypropylene, Polyethersulfone) meet the requirements of EU Directive EC/10/2011 relating to plastic materials and articles intended to come into contact with food. Migration tests have been carried out in simulants (B, D1) after flushing or in flow conditions. All materials used do not contain any substances of very high concern (SVHC) as defined in EC/1907/2006 (REACH Guideline) and EC/65/2011 (RoHS Guideline) and are free of any Latex-based components. The PP materials used for cage and core are treated acc. to EMA/410/01 Rev.03 and thus bear no risk of transmitting TSE and BSE.

Regulation (EC) No. 1935/2004	
Regulation (EU) No. 10/2011	
FDA Code of Federal Regulations Title 21	
USP Class VI, <88>	
ISO 9001:2015	
Regulation (EC) No. 1907/2006 (REACH)	
Directive 2011/65/EU (RoHS)	

RETENTION RATES (ACCORDING TO HIMA CHALLENGE PER ASTM)

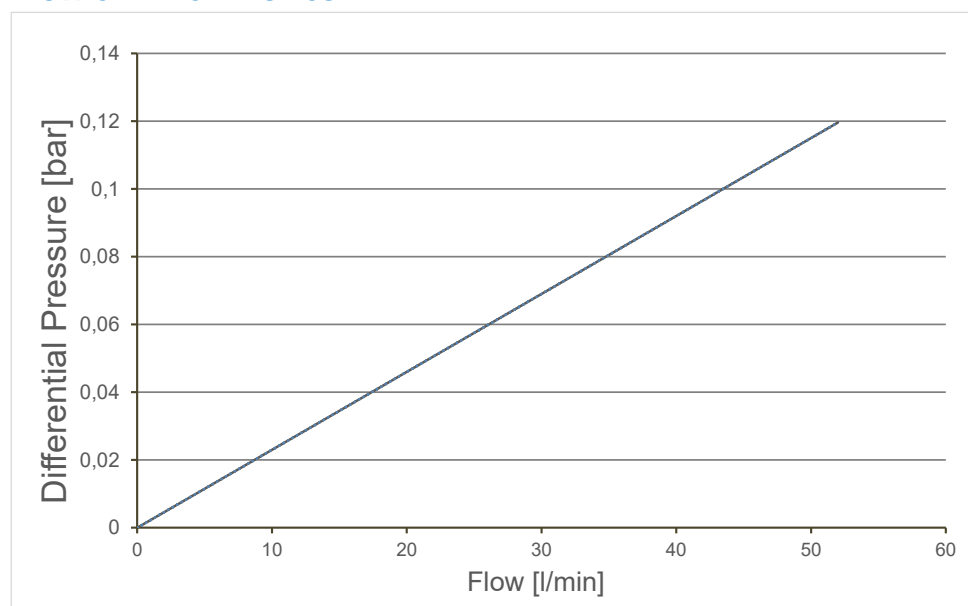
Filter Grade	Microorganism	LRV / cm ²
0.45 µm	Lactobacillus brevis	>7
	Pediococcus damnosus	>9
	Saccharomyces cerevisiae	>10
	Dekkera bruxellensis	>11

PRODUCT SPECIFICATIONS

Product Specifications				
Filter Grade	0.45 µm (absolute retention rate)			
Filtration Surface	0.71 m ² per 250 mm element (10")			
Maximum Differential Pressure	Operating temperature		Differential pressure	
	°C	°F	bar	psi
	38	100	5.5	79
	66	150	4.1	59
	82	180	2.1	30
Cumulative Steaming Time*	121-125 °C (20 minutes) saturated steam (forward flow) more than 75 cycles			

*Tested in laboratory environment per stated specifications. Actual number of cycles depends on application and process conditions.

FLOW CHARACTERISTICS



LifeTec™ PES-BN A 0.45
10", Deionized water, 20°C

INTEGRITY TESTING

Diffusion Test / Forward Flow Test	
Filter Grade	Maximum Diffusion Values
0.45 µm	25 ml/min @ 1000 mbar (14.50 psi)

Connection	Description	
CODE 2 connection	2 x 226 o-rings, bayonet 2 locking tabs, flat end cap, integrated reinforcement ring	
CODE 3 connection	2 x 222 o-rings, plug connection, flat end cap, integrated reinforcement ring	
CODE 7 connection	2 x 226 o-rings, bayonet 2 locking tabs, locating fin, integrated reinforcement ring	
CODE 8 connection	2 x 222 o-rings, plug connection, locating fin, integrated reinforcement ring	
CODE 9 connection	2 x 222 o-rings, bayonet 3 locking tabs, locating fin, integrated reinforcement ring	

Integrity test was done with Bubble Point or Forward Flow Test

For information on test equipment or test services, please contact your Donaldson Sales Engineer and visit our website at www.donaldson.com



donaldson.com/process

Donaldson Company, Inc.
Minneapolis, MN

Contact us



Important Notice: Many factors beyond the control of Donaldson can affect the use, performance, or results of Donaldson products or services in a particular application, including the conditions impacting how the products or services are selected, used, installed, or maintained. Because these factors are uniquely within the user's knowledge and control, it is essential the user evaluate both the products and any related services to determine their suitability for the user's intended purpose and application, including fitness for the particular purpose. All products, services, product specifications, availability and data are subject to change without notice and may vary by region or country

F119118 ENG (05/26) LifeTec PES-BN A 0.45 ©2026 Donaldson Co., Inc. Donaldson and the color blue are marks of Donaldson Company, Inc. All other marks belong to their respective owners.