PolyCera®

PolyCera® — The 3rd Membrane Material for Water & Wastewater Filtration

About PolyCera®

In 2010, the Gulf of Mexico experienced the largest marine oil spill in history, creating an urgent need for advanced water cleanup solutions as traditional filtration methods proved ineffective against the scale and complexity of the disaster.

Inspired by Nobel Prize-winning research in organic metal materials and insights from the oil spill response, scientists from UCLA developed a groundbreaking membrane that combined the durability of ceramics with the affordability of polymers. This revolutionary technology was designed to tackle the toughest industrial and environmental challenges.

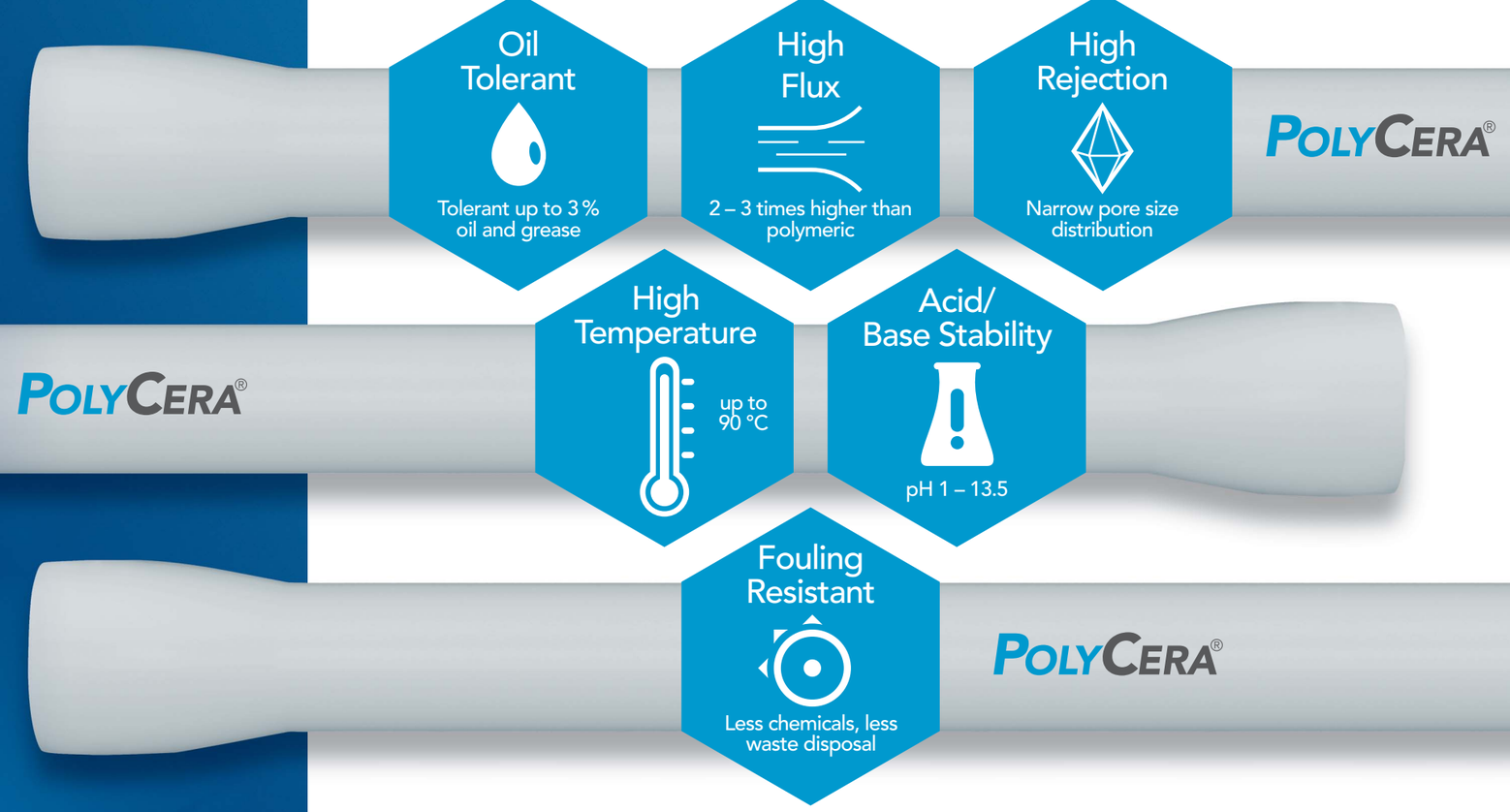
Born out of necessity and driven by innovation, PolyCera® was established in 2016 to bring this technology to the market, setting a new standard: The 3rd Membrane Material for Water & Wastewater Filtration.

Today, with an installed capacity exceeding 50 million gallons per day (228,000 m³/d), PolyCera® is a trusted global supplier with references in industries such as oil and gas, mining, lithium extraction, semiconductors, zero liquid discharge (ZLD), and many others. Its organic metal membrane technology has consistently proven itself in the most challenging applications, delivering unmatched performance and value.

In 2016, PolyCera® ultrafiltration products were launched.
The Hydro product line delivers high fouling tolerance and chemical resistance, which serves to treat municipal and industrial water. The Titan product line delivers high oil tolerance, high temperature operation and chemical resistance, which assists in oily wastewater treatment applications, such as use in oil and gas production and refineries.

In 2018, the PolyCera® nanofiltration product was launched.
This membrane, which rejects organics while allowing passage of salts, was developed and launched for process separation and COD reduction.

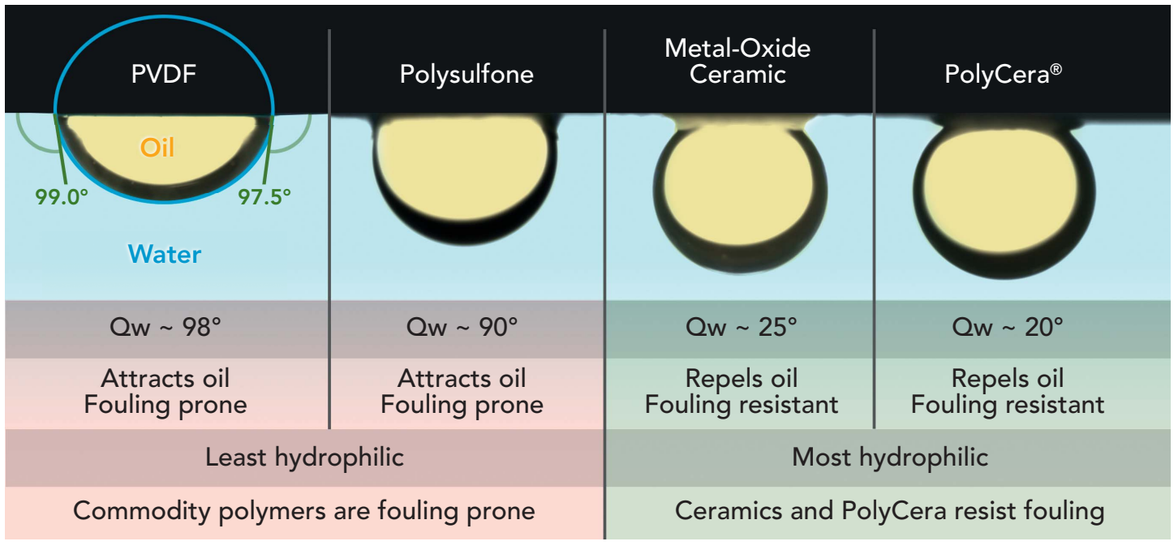
Other types of PolyCera® membrane products are under development and will be launched in the near future.



PolyCera® Membrane Features and Benefits

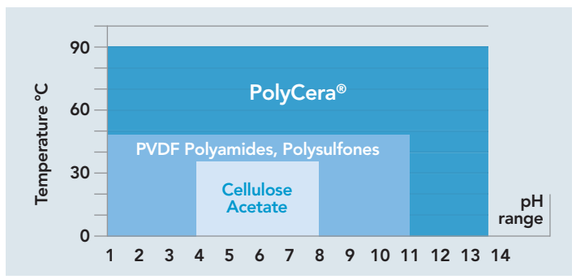
Hydrophilic and oleophobic

- Maximum sustained flux
- Low energy requirements
- Improved organic fouling resistance
- Easy to clean surface and pores



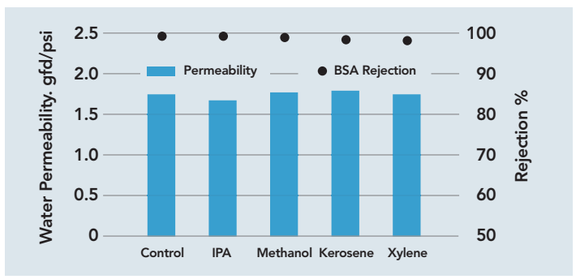
High temperature, acid, base tolerant

- PolyCera® Titan operation temperature: up to 90 °C
- PolyCera® Titan operation pH: 1 – 13.5



Organic solvents tolerant

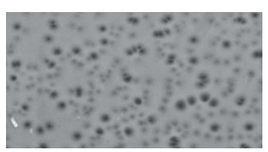
- PolyCera® Titan tolerant to pure organic solvents (alcohols, kerosene, BTEX, etc.)

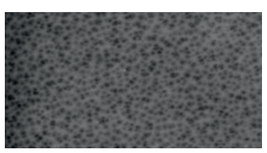


High flux

PolyCera® membranes produce 2 to 3 times more water than conventional polymer membranes at the same applied pressure due to high surface porosity.

PVDF 100kDa-Surface





PolyCera® 100kDa-Surface

PolyCera® Membrane Products

PolyCera®	Fouling Resistant Membrane				Oil Tolerance Membrane	
Product	Hydro-UF-10	Hydro-UF-50	Hydro-UF-100	Hydro-UF-250	Titan-UF-70	Titan-NF-500
MWCO, Da	10k	50k	100k	250k	70k	500
Maximum Temperature,°C	70	70	70	70	90	90
Operation pH range	1 – 13.5	1 – 13.5	1 – 13.5	1 – 13.5	1 – 13.5	1 – 13.5
Maximum Oil Tolerance, mg/L	50	50	50	50	10000	10000
Typical Function	• Protein separation • Colloidal particle removal • COD reduction	• Specialty separation/ concentration	• Suspended solids removal • Bacteria/virus removal • Acid/base recovery	• Suspended solids removal • Bacteria removal	• Suspended solids removal • Free and emulsified oil removal • Bacteria/virus removal • High temperature application • Specialty separation/ concentration	• Emulsified and dissolved oil removal • Color removal • COD reduction • High temperature application • Specialty separation/ concentration
Typical Application	• Industrial ZLD • Whey protein concentration • Colloidal silica removal	• Coal mine wastewater • Pharmaceutical product separation • Food industry wastewater • Textile dye wastewater • Coal chemical production wastewater	• Cooling tower blow-down • Boiler feed treatment • Lithium extraction • Semiconductor production wastewater • Solar panel production wastewater	• MBR • Ultrapure water production • Municipal water and wastewater • SWRO pretreatment	• Oil & gas field produced water • Process condensate • Refinery wastewater • Oily wastewater	• Dye removal/ concentration • Pharmaceutical product purification/ concentration • Protein purification/ concentration • Coking wastewater COD removal • Dissolved oil removal

PolyCera® Application

Industrial wastewater – Handling high-strength waste streams with unmatched fouling resistance.

Municipal wastewater – Improving water reuse and reducing treatment costs.

Process separation – Delivering high-purity separation with lower energy demand.

Fossil fuel energy – Treating produced water, refinery wastewater and coal mine wastewater with high oil tolerance.

Clean energy – Supporting lithium extraction, solar panel manufacturing, and battery recycling with sustainable filtration solutions.

From industrial wastewater to high-purity separations, PolyCera® membranes perform in the toughest conditions. With high durability and fouling resistance, they ensure efficient, cost-effective water treatment.

PolyCera® Certification

PolyCera® membranes meet rigorous industry standards, ensuring safe, high-performance water treatment. Our UL certification to the NSF/ANSI 61 standard guarantees compliance for drinking water applications, reinforcing trust and reliability. Designed for industrial, municipal, and process separation needs, PolyCera® technology provides consistent quality, fouling resistance, and cost-effective operation. With our commitment to excellence and innovation, industries worldwide can rely on PolyCera® membranes for sustainable, high-quality filtration solutions.

PERRY JOHNSON REGISTRARS, INC.

Certificate of Registration

Perry Johnson Registrars, Inc., has audited the Quality Management System of:

PSP.US, Inc.
721 South Glasgow Avenue, Suite D, Inglewood, CA 90301 United States

(Hereinafter called the Organization) and hereby declares that Organization is in conformance with:

ISO 9001:2015

This Registration is granted subject to t
Organization hereby covenants with the A

Design and Manufacture Membrane

PERRY JOHNSON REGISTRARS, INC.

ANAB ACCREDITED

The use of the ANAB accreditation symbol
The validity of this

Effective Date:
March 25, 2021

CERTIFICATE OF COMPLIANCE

Certificate Number	20190130-MH61477
Report Reference	MH61477-20160426
Issue Date	2019-JANUARY-30
Issued to:	PSP.US, Inc. 721 S Glasgow Ave, Unit D Inglewood CA 90301
This certificate confirms that representative samples of	DRINKING WATER SYSTEM COMPONENTS Trade Designation "PolyCera BE100FS"
	Have been investigated by UL in accordance with the Standard(s) indicated on this Certificate.
Standard(s) for Safety:	NSF/ANSI 61, Drinking Water System Components - Health Effects
Additional Information:	See the UL Online Certifications Directory at https://iq.ulprospector.com for additional information.

This *Certificate of Compliance* does not provide authorization to apply the UL Mark. Only the UL Follow-Up Services Procedure provides authorization to apply the UL Mark.

Only those products bearing the UL Mark should be considered as being UL Certified and covered under UL's Follow-Up Services.

Look for the UL Certification Mark on the product.

Bruce Mahrenholz, Director North American Certification Program
UL LLC

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PolyCera®