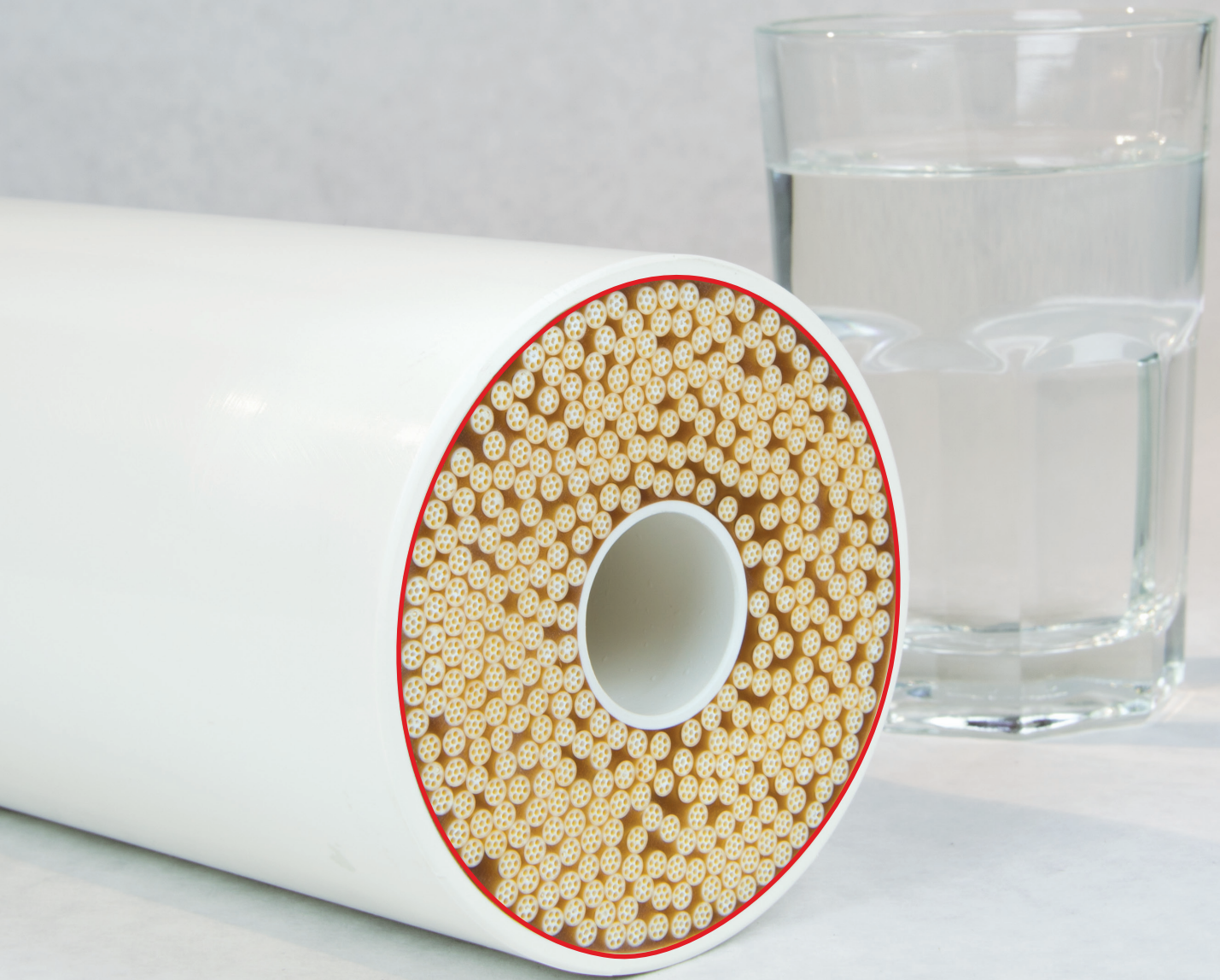


LOCTITE®
TECHNOMELT®
TEROSON®

Medical, Water, Food, and Beverage Filtration Solutions



Henkel Adhesive Technologies

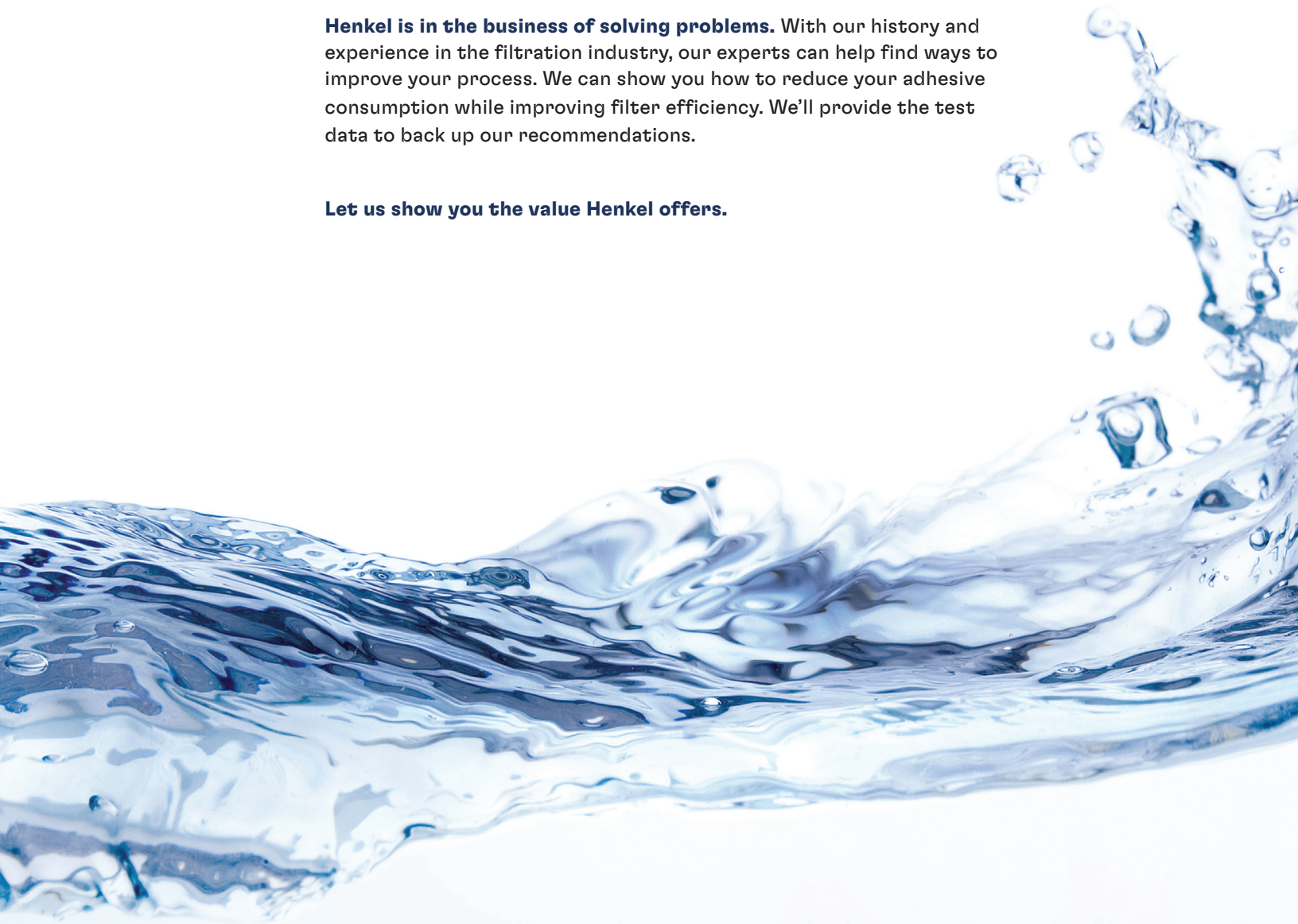
Henkel. Improving your process, understanding your challenges.

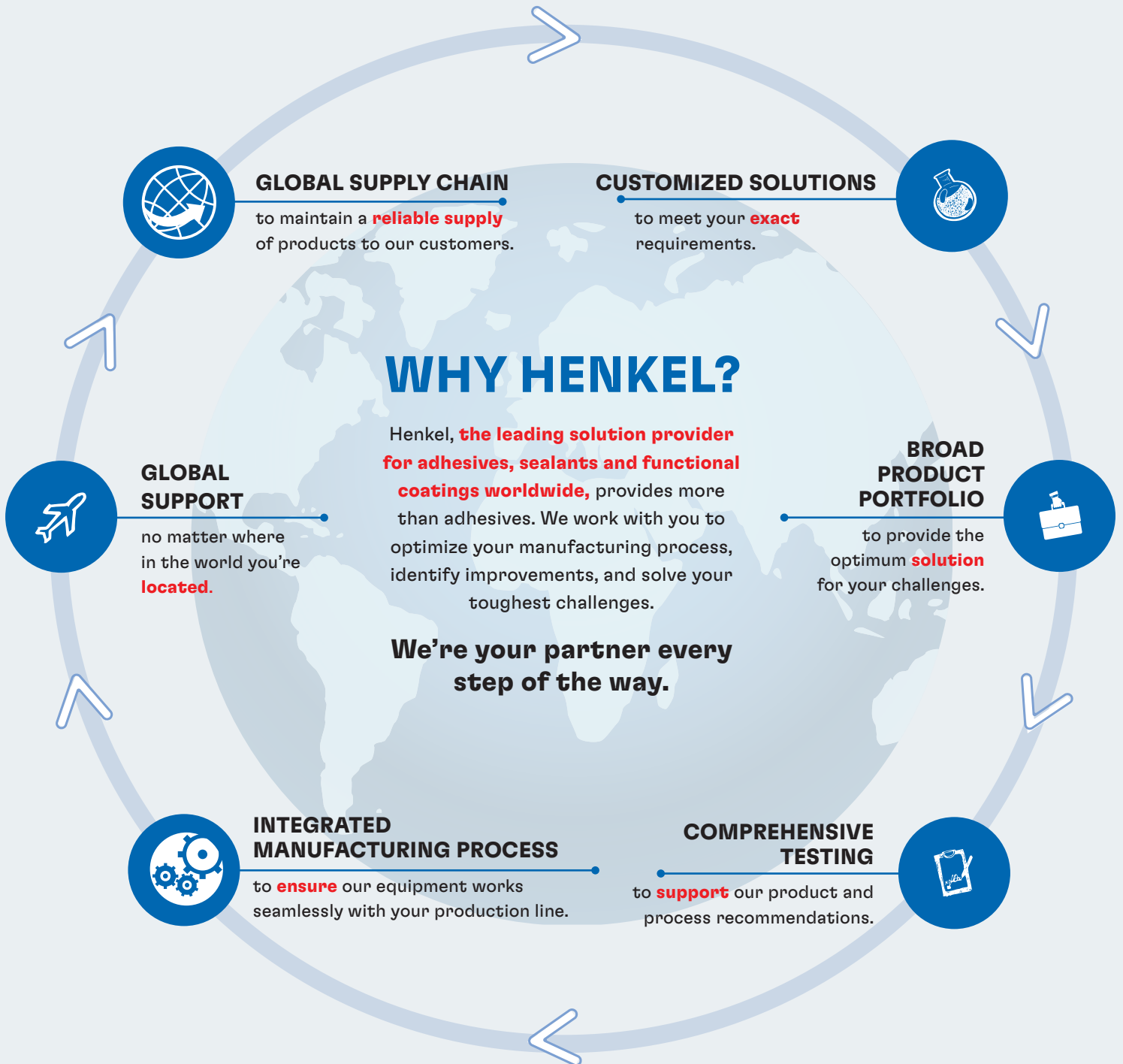
Proven filtration solutions for all your needs – today and tomorrow

Filter manufacturers face daily challenges to reduce costs, improve efficiency, and stay ahead of the competition. Many suppliers can offer an adhesive, but Henkel offers much more: engineering expertise to integrate the adhesives into your manufacturing process; custom-formulated products to meet your specific application requirements; and an innovation pipeline to offer you a continuous stream of new and creative solutions.

Henkel is in the business of solving problems. With our history and experience in the filtration industry, our experts can help find ways to improve your process. We can show you how to reduce your adhesive consumption while improving filter efficiency. We'll provide the test data to back up our recommendations.

Let us show you the value Henkel offers.





WHY HENKEL?

Henkel, **the leading solution provider for adhesives, sealants and functional coatings worldwide**, provides more than adhesives. We work with you to optimize your manufacturing process, identify improvements, and solve your toughest challenges.

We're your partner every step of the way.



GLOBAL SUPPLY CHAIN

to maintain a **reliable supply** of products to our customers.



CUSTOMIZED SOLUTIONS

to meet your **exact** requirements.



BROAD PRODUCT PORTFOLIO

to provide the optimum **solution** for your challenges.



GLOBAL SUPPORT

no matter where in the world you're **located**.



INTEGRATED MANUFACTURING PROCESS

to **ensure** our equipment works seamlessly with your production line.



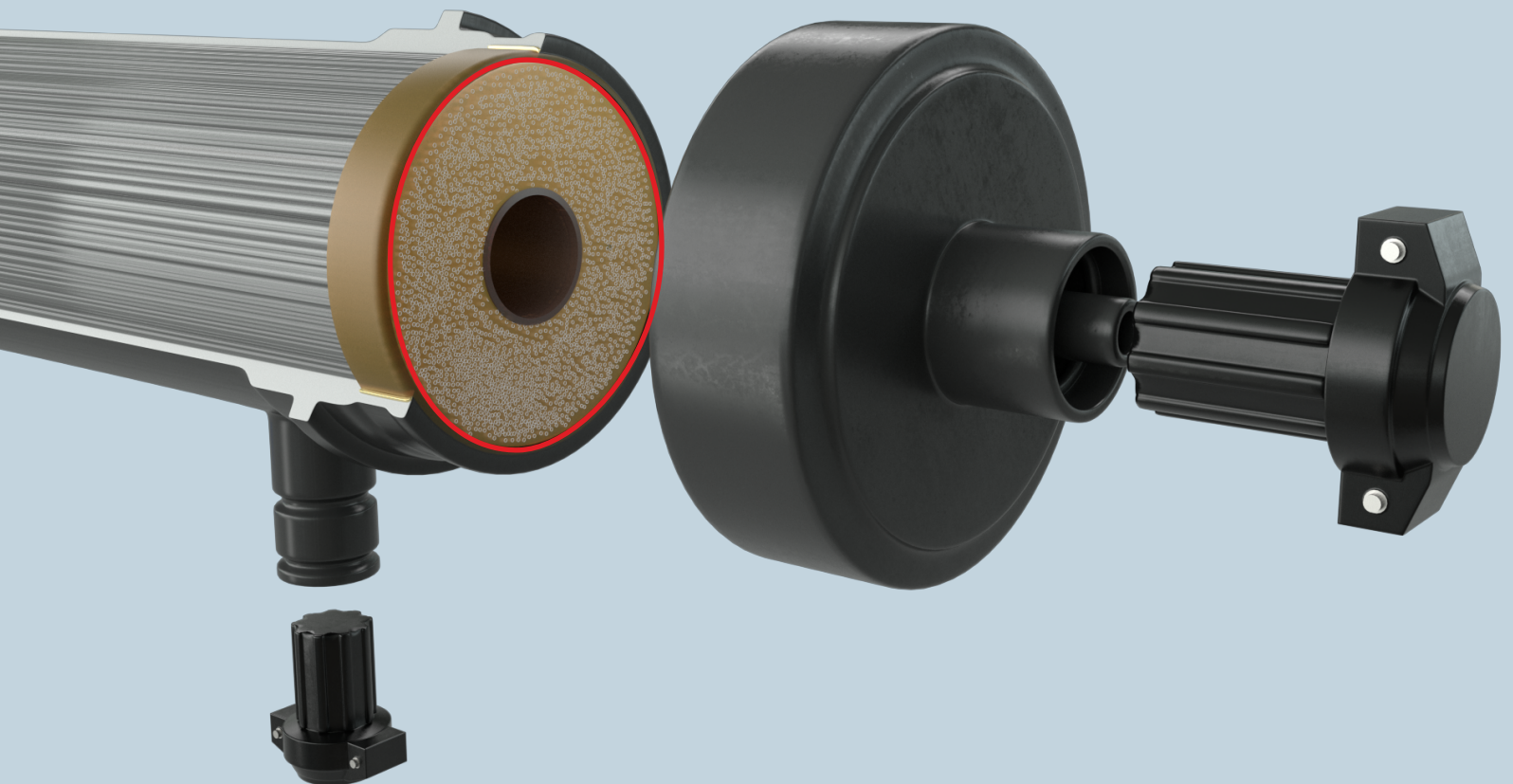
COMPREHENSIVE TESTING

to **support** our product and process recommendations.

Filtration Expertise and Value-Added Partnership

**In-depth industry knowledge
broad technology portfolio**

With a global team dedicated to the filtration industry, Henkel offers years of experience, support, and expertise. Combined with our broad product portfolio, we can provide solutions for just about any product or process challenge.



INNOVATIONS IN ADHESIVE SOLUTIONS | 6

WATER, FOOD, AND BEVERAGE FILTRATION MARKETS | 9



Drinking Water



Dairy, Food, and Beverage



Wastewater



Process Water



Pool and Spa

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MEDICAL FILTRATION MARKETS | 27



Dialyzers and Oxygenators

Hollow Fiber Potting.....	28
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HENKEL SERVICES | 31

**Innovation.
Partnership.
Solutions.**

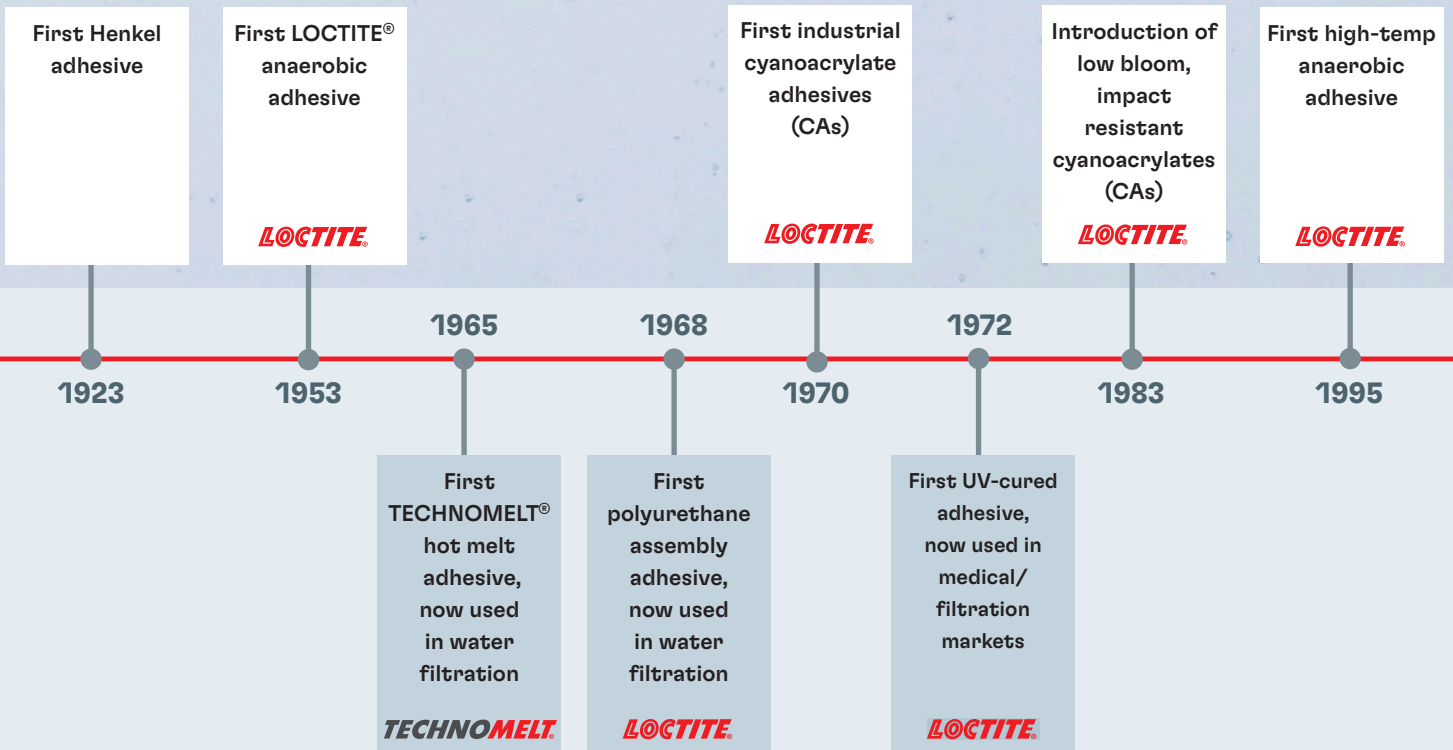
Many of our solutions work across filtration applications. We've categorized them here so that you can easily identify the solutions that meet your needs. We're not just a supplier, we're a solution provider. Contact us to help solve your manufacturing challenges.

**For Assistance, Call
1-800-562-8483
or visit
www.henkelna.com/filters**



Innovations in Adhesive Solutions

A brief history of Henkel breakthroughs

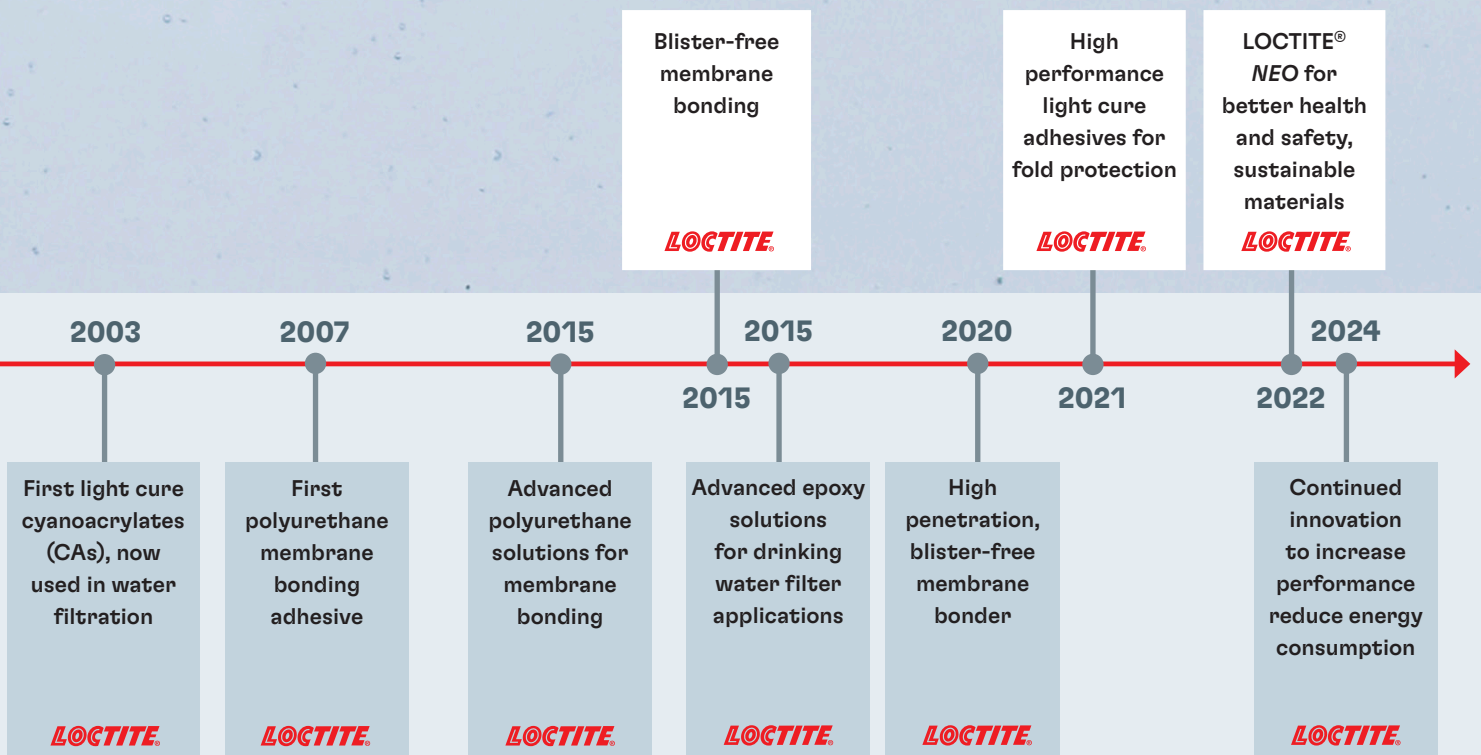


Expertise in Adhesives; Expertise in Filtration

Henkel's commitment to innovation has led to breakthroughs in the adhesives industry for more than 90 years. Today, more than 30 percent of our sales comes from products launched in the last five years. Our focus on innovation helps us find solutions to our customers' toughest challenges.

Henkel's global filtration team is dedicated to helping filter manufacturers solve problems, reduce costs, and improve efficiencies. Let us help you:

- Optimize your adhesive use while improving filter performance
- Increase production speed
- Increase filter reliability
- Reduce inventory and scrap costs
- Reduce overall manufacturing costs and increase efficiency





WATER FILTRATION MARKETS



Drinking Water Dairy, Food, and Beverage Process Water

**Spiral wound membrane bonding,
filament winding, end cap bonding**

As water becomes a scarce resource in many regions of the world, filter manufacturers need to keep pace with the demand for better, more refined filtration options. Henkel has the expertise to formulate custom adhesives to meet your changing needs. Our polyurethane adhesives resist a wide range of pH, chemicals, temperatures and pressures while meeting agency approvals. Our hot melt adhesives offer reliable performance for carbon block and end cap bonding.



Wastewater Management Process Water Water Recycling

Hollow fiber potting, fiber sealing

The municipal wastewater, industrial wastewater, and water recycling industries are facing increased regulations for water treatment and recycling. Henkel's innovation capabilities allow us to develop new adhesive solutions to keep pace with changing substrates, process automation upgrades, and more demanding filtration requirements.



Pool and Spa

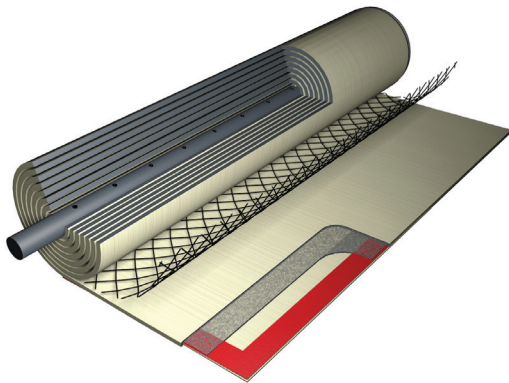
**End cap replacement, pleat separation,
first pleat/last pleat bonding**

Pool and spa owners want filters that keep their water clean and clear with simple operation, low maintenance and reliable performance. Henkel offers an array of adhesive solutions for end cap replacement, pleat separation and first pleat/last pleat bonding that help filter manufacturers guarantee filter function and durability.

PARTNER WITH HENKEL FOR SOLUTIONS IN ALL FILTRATION TECHNOLOGIES

Industry standards: FDA, NSF, KTW, EU Food, ISO

Low scrap ▪ Fast processing speeds ▪ Flexibility



SPIRAL WOUND MEMBRANE

Membrane Bonding

Henkel's solutions for spiral wound filtration elements range from microfiltration to reverse osmosis.

- High chemical resistance
- Blister-free
- Low scrap
- Increase production speeds
- Stable raw material supply
- Industry standards – FDA, NSF, KTW and EU Food

Filament Winding

- Low viscosity
- High strength



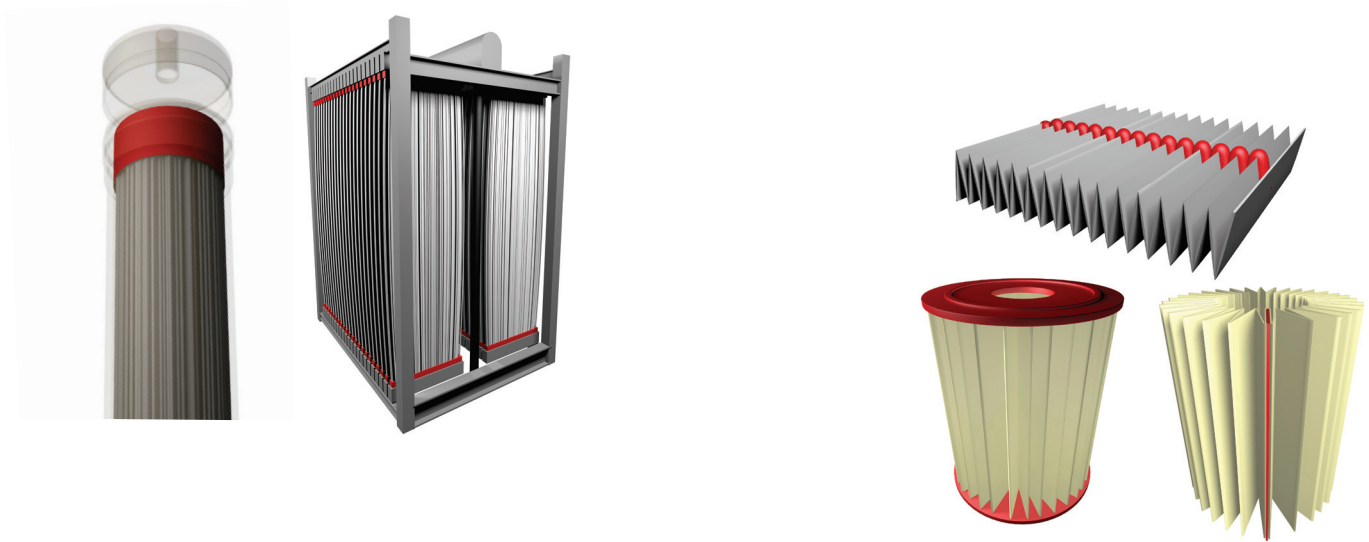
CARBON BLOCK FILTRATION

Henkel offers reliable solutions for end cap bonding as well as end cap molding and demolding.

- Long open times
- Good adhesion to low surface energy plastics, i.e., PP, PE
- Clear or off-white to match end caps
- Industry standards — FDA, KTW, NSF and EU Food

Industry standards: FDA, NSF, KTW, EU Food, ISO

Low scrap ▪ Fast processing speeds ▪ Flexibility



HOLLOW FIBER POTTING

Henkel provides adhesive solutions for any of your dry and/or wet hollow fiber application needs, for static or centrifugal processes.

Centrifugal Potting

- Fast curing
- Low shrinkage and wicking
- Controlled trim windows
- Industry standards: FDA, NSF, KTW, EU Food, ISO

Static Potting

- Larger potting areas
- Chemical-resistant applications
- Industry standards: FDA, NSF, KTW, EU Food, ISO



PLEATED FILTERS

Henkel offers a variety of hot melt adhesive solutions for end cap replacement, pleat separation and first pleat/last pleat applications.

- Fast processing speeds
- Low wicking
- Excellent chemical resistance
- Industry standards: FDA, KTW, NSF and EU Food

SPIRAL WOUND MEMBRANE



Applications include drinking water, process water, desalination, dairy, food, and beverage filtration

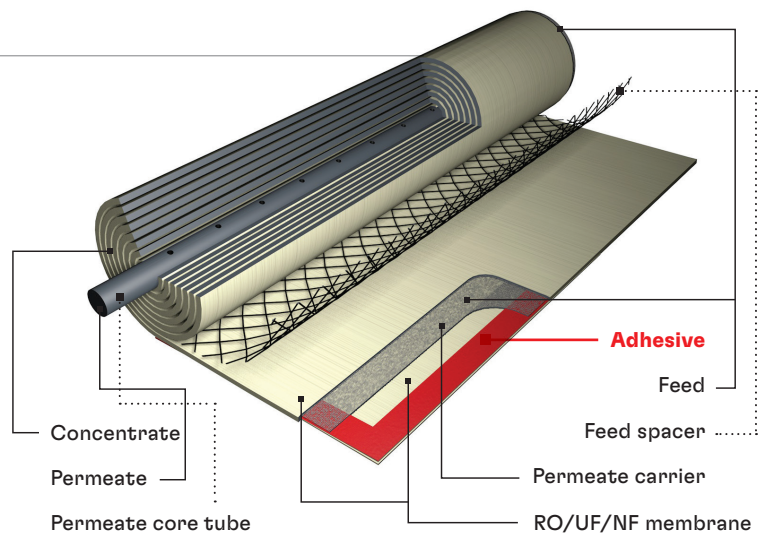
Spiral wound filtration elements support a wide range of applications and environmental conditions. Henkel offers adhesive solutions for both wet and dry membranes that provide the temperature and chemical resistance required for virtually any application. Our solutions can improve filter designs and manufacturing with:

- **Improved efficiencies** – optimized adhesive leaves more available membrane surface area
- **Higher production outputs** – optimized for dispense and cure speed
- **Reduced field failures** – robust, specifically designed adhesive systems
- **Reduction of work in process (WIP)** – faster, streamlined
- **Reduced scrap cost** – optimized penetration for reducing blistering and veining, minimal variation

Minimize your investment and risk with fully tested and qualified solutions. Henkel can thoroughly test the performance of our adhesives with your membrane. From the lab to the shop floor, we will optimize the adhesive and application process to maximize your manufacturing efficiency and filter performance.

SPIRAL WOUND FILTER DIAGRAM

- High chemical resistance
- Blister-free
- Low scrap
- Increase production speeds
- Stable raw material supply
- Industry approvals – FDA, NSF, KTW and EU Food

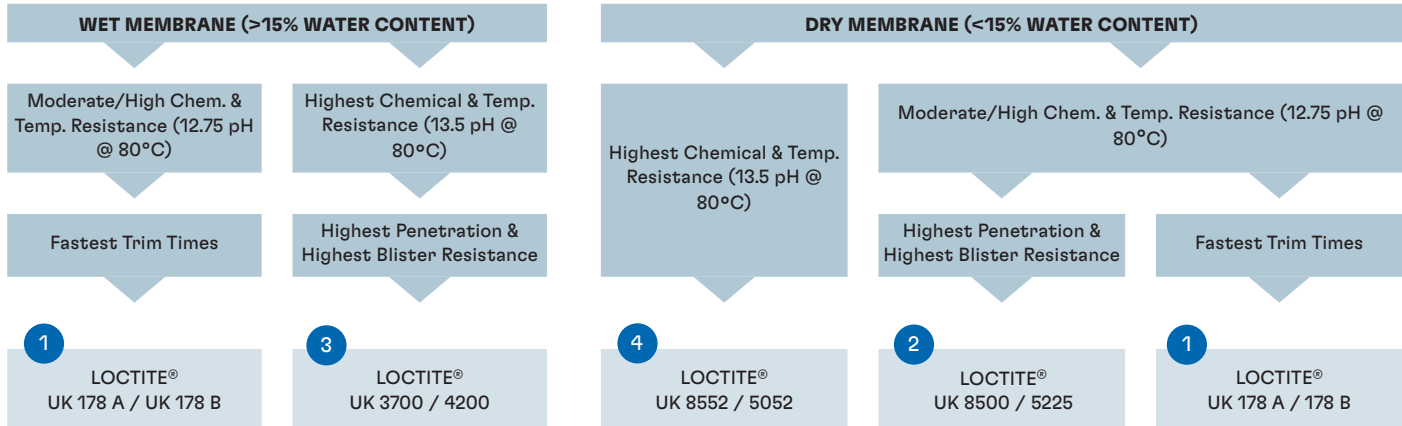


LEARN MORE:

This catalog lists the most common products used in each application. Many additional products are available. Not all products are available in all countries. Contact your Henkel representative for assistance.

MEMBRANE BONDING

SPIRAL WOUND FILTRATION SOLUTIONS — TWO-PART POLYURETHANE SYSTEMS



*For high temperature and/or high chemical resistance requirements in spiral wound elements, an epoxy might be appropriate. Consult your Henkel filtration team.

TWO-PART POLYURETHANE SYSTEMS – Typical Properties

SPIRAL WOUND MEMBRANE BONDING												
PRODUCT NO.	TYPE	MASS			SHORE HARDNESS	GEL TIME (100 G AT 77°F)	OPEN TIME (MIN.)	TRIM TIME (HRS.)	VISCOSITY (cPs)	COLOR	AGENCY	DESCRIPTION
		VOL. MIX RATIO (A:B)	MIX RATIO (A:B)	MIXED VISCOSITY (cPs)								
LOCTITE® UK 178 A		LOCTITE® UK 178 A and UK 178 B combined										
IDH 1579616 (Pail) IDH 1219058 (Drum) IDH 1219060 (Tote)	Polyol							18,000				<ul style="list-style-type: none"> • Fast trim times • optimized performance for wet and dry membrane
LOCTITE® UK 178 B		1:1	0.9:1	18,000	85-90 (A)	40-60 min.	15-20	4-8 hrs.	Amber	FDA 175.105 & NSF 61		
IDH 1579615 (Pail) IDH 1219061 (Drum) IDH 1219063 (Tote)	Iso							18,000				
LOCTITE® UK 8500		LOCTITE® UK 8500 A and UK 5225 B combined										
IDH 2504466 (Drum)	Polyol							496,000	Amber			<ul style="list-style-type: none"> • Highest penetration • Highly thixotropic • Blister resistant • Improved moisture resistance
LOCTITE® UK 5225		2:1	1.62:1	22,000 cP	50 (D)	35-65 min.	20	< 8 hrs.	Light Yellow	NSF & FDA 175.105		
IDH 2476274 (Drum) IDH 2476292 (Tanker)	Iso							675				
LOCTITE® UK 3700		LOCTITE® CR 3700 A and CR 4200 B combined										
IDH 2558955 (Drum)	Polyol							10,500	Amber			<ul style="list-style-type: none"> • Highest temp. and chemical resistance • wet or dry membrane
		2:1	100:61	5,000 cP	85 (A)	25-30 min.	20	< 8 hrs.		NSF & FDA 175.105		
LOCTITE® UK 4200												
IDH 1454100 (Drum)	Iso							3,500	Yellowish			
LOCTITE® UK 8552 A		LOCTITE® UK 8552 A and UK 5052 B combined										
IDH 2691235 (Drum) EU	Polyol							40,000	Amber			<ul style="list-style-type: none"> • Highest temperature stable • Highest chemical stable • Blister resistant • High penetration • Improved moisture resistance • Controlled trim time
LOCTITE® UK 5052 B		2:1	1.64:1	25,000 cP	50 (D)	25-35 min.	20	< 8 hrs.		NSF & FDA 175.105		
IDH 2767712 (Drum) EU	Iso							700	Light Yellow			

FILAMENT WINDING



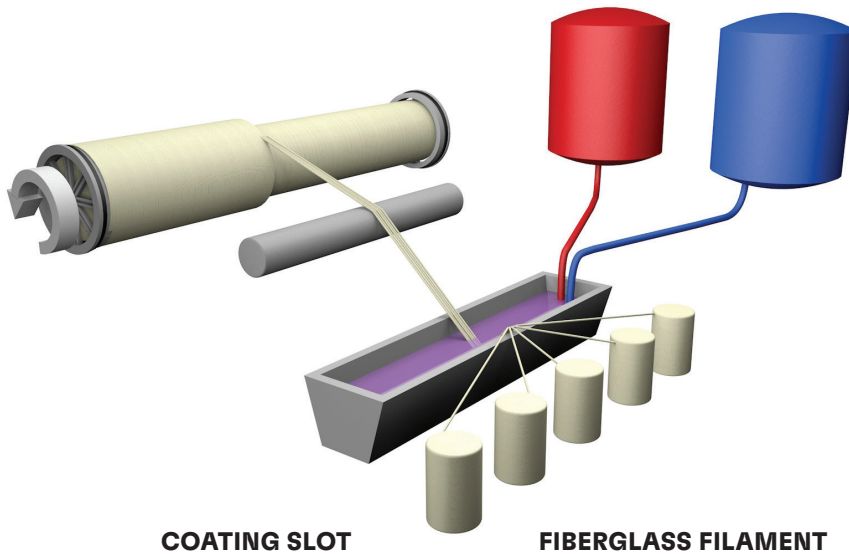
Drinking water applications: **Low viscosity, high strength**

EPOXY - Typical Properties

Product No.	Type	Vol. Mix Ratio (A:B)	Mass Mix Ratio (A:B)	Viscosity (cPs)	Mixed Viscosity (cPs)	Shore Hardness	Gel Time (100 G at 77°F)	Tensile Strength (PSI)	Tear Strength (LBS./In.)	Color	Agency	Description
FILAMENT WINDING												
LOCTITE® EA 1623986™ A	Resin			3,000								
IDH 1638452 A (Drum)		3:1	100:29		1,000	80-85 (D)	17 min. (200 g)	High	High	Clear	FDA 175.300	Low viscosity high strength
LOCTITE® EA 1623986™ B	Hard			22								
IDH 163840 B (Drum)												

FILAMENT WINDING

TWO-COMPONENT EPOXY



SUSTAINABILITY

Significant reduction in energy consumption with new technologies

Filament Winding can be done with a single component, cure-on-demand resin, which cures in less than one minute. Ask how Henkel Innovations can benefit your operation.

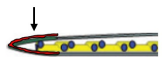
SPIRAL WOUND MEMBRANE FOLD PROTECTION



Value Proposition for Fold Protection

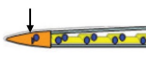
- Remains flexible throughout condition with no color change
- Complies with FDA regulatory requirements needed for water, food and beverage filtration
- Allows for fold protection process automation compared to traditional methods

Traditional Technology



Pressure sensitive/
heat seal tape

or

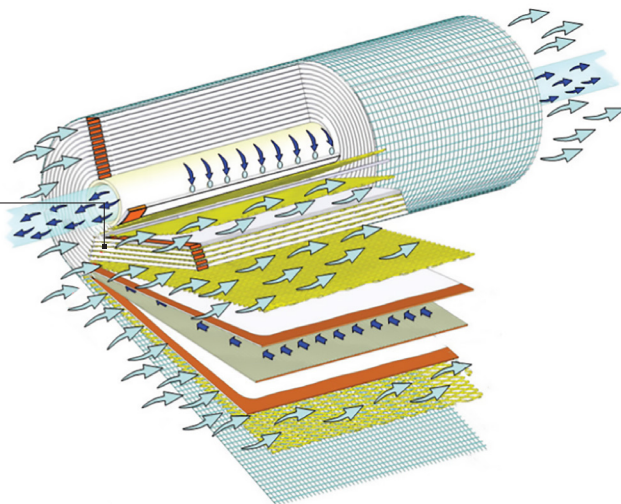


Glue-in-fold method
(2k PU glue + film)

New Technology



LOCTITE® AA 3923 applied to either top or bottom of membrane



Product No.	Type	Viscosity (cPs)	Open Time	Cure Time	Cure State	Benefits
Spiral Wound Membrane Fold Protection						
LOCTITE® AA 3923						
NA: 2721871 (1L)						
EU: 2729740 (1L)	1-part Light Cure	450	Unlimited (If no light exposure)	< 10s (6 mW/cm ²)	Tack free & flexible	<ul style="list-style-type: none"> • Thermal resistance <90°C • Flexible designed for hard fold • pH resistance for dairy applications • KTW and food compliant
NA: 2721570 (15L)						
EU: 2730221 (15L)						

CARBON BLOCK FILTRATION END CAP BONDING



Drinking water applications
Reliable performance

End caps on carbon block cylinders are an important part of filter performance, since they ensure that water is forced through the carbon. The end caps also ensure that the filter cartridge seals properly within the housing. Adhesives for end cap bonding must be able to accommodate a wide variety of manufacturers' product sizes and production needs.

Henkel's hot melt adhesives for end cap bonding offer:

- **Long open times up to 80 seconds**
- **Good adhesion** to low surface energy plastics, i.e., PP, PE
- **Clear and off-white colors** to match end caps
- **Industry approvals:** FDA 175.105, KTW, and NSF



HOT MELT - TYPICAL PROPERTIES

Product No.	Type	Assembly Time	Open Time (sec.)	Softening Point (°C)/(°F)	Viscosity (CPS)		Color	Agency	Description
					At 325°F	At 350°F			
END CAP BONDING									
TECHNOMELT® AS 2787 IDH 1469016 (Box)	PO	Moderate	Moderate (40-60)	90/194	4,800	3,800	Yellow	FDA 175.105	High Tack
TECHNOMELT® AS 4222 IDH 266079 (Box)	PO	Fast	Short (10-20)	160/320	4,800	8,100	White	FDA 175.105/NSF* and KTW	High temp. and fast set speed
TECHNOMELT® AS 4208 IDH 930825 (Box)	PO	Moderate	Moderate (40-60)	100/212	17,000	12,000	White	FDA 175.105/NSF* and KTW	Well-balanced
TECHNOMELT® AS 947C IDH 1217927 (Box)	EVA	Moderate	Long (60-80)	78/172	7,400	4,500	White	FDA 175.105/NSF*	Go-to product
TECHNOMELT® AS 232 IDH 420348 (Box)	EVA	Moderate	Long (60-80)	87/189	17,000	11,000	White	FDA 175.105/NSF*	Go-to product
TECHNOMELT® AS 8947 IDH 2112457 (Box)	EVA	Moderate	Moderate (40-60)	90/194	3,800	2,300	Off-White	FDA/NSF*	Low viscosity for good flow/wet-out for better adhesion, low stringing

*Filters manufactured with these products have been NSF approved. Note: Typically entire filter assemblies must be submitted and approved by NSF.

HOLLOW FIBER POTTING



Applications include: drinking water, process water, wastewater, dairy, food and beverage, and medical filtration

SOLUTIONS FOR STATIC AND CENTRIFUGAL PROCESSES

Hollow Fiber Potting

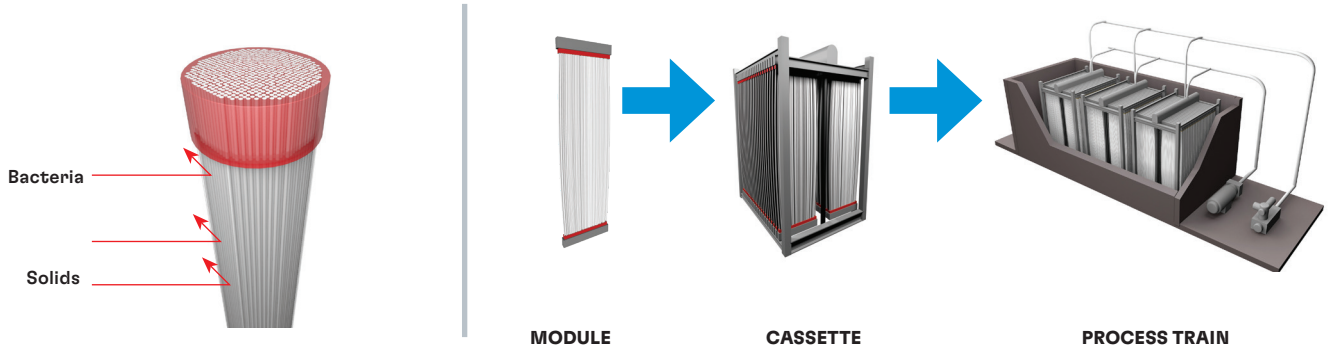
Henkel can provide adhesive solutions for any of your hollow fiber potting application needs, whether you have large parts requiring a static process or high speed production needs with a centrifugal process. We will recommend the right adhesive, develop an optimized process and bring in equipment partners to provide best-in-class solutions.

PRODUCT NO.	APPEARANCE	VISCOSITY PART A mPa·s	VISCOSITY PART B mPa·s	MIXED RATIO BY VOLUME	MIXED RATIO BY WEIGHT	OPEN TIME (MIN.)	GEL TIME (MIN.)	RECOMMENDED CURING CONDITIONS	SHELF LIFE (MONTHS)	FINAL HARDNESS (SHORE D)	T _g /DMA (C°)
LOCTITE® NEO											
LOCTITE® NEO 1300		LOCTITE® NEO 1300 A and NEO 2700 B combined									
Resin Part A											
LOCTITE® NEO 2700	Light yellow to brown	180	20	100:113	100:90	12	21.5	1 week	24	68	47
Hardner - Part B											
LOCTITE® NEO 1300		LOCTITE® NEO 1300 A and NEO 2800 B combined									
Resin Part A											
LOCTITE® NEO 2800	Light yellow to brown	180	20	100:11:00	100:89	9.2	16.5	1 week	24	72	60
Hardner - Part B											
LOCTITE® NEO 1300		LOCTITE® NEO 1300 A and NEO 2300 B combined									
Resin Part A											
LOCTITE® NEO 2300	Light yellow to brown	180	20	100:106	100:85	20	20	1 week	24	56	43
Hardner - Part B											

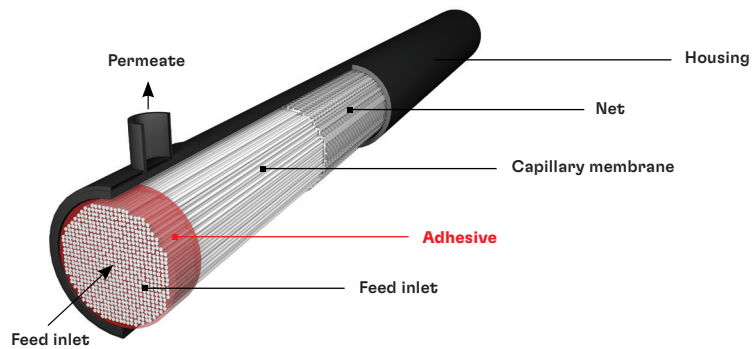
Call Henkel's Technical Customer Support for other innovative processing solutions to speed up your production line.

1-800-562-8483

WATER PURIFICATION



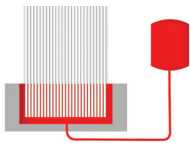
WATER PURIFICATION



STATIC POTTING

Benefits:

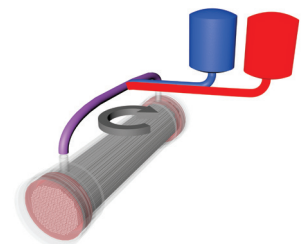
- Larger potting areas
- Chemical-resistant applications



CENTRIFUGAL POTTING

Benefits:

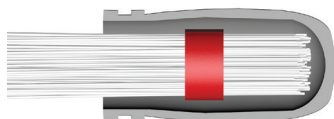
- Fast curing
- Low shrinkage and wicking
- Controlled trim windows



Fiber Sealing

Step One:

- Bundle with quick-setting hot melt



Step Two:

- Pot with epoxy or polyurethane



INTRODUCING NEW TECHNOLOGY FOR HOLLOW FIBER POTTING: LOCTITE® NEO



Capture the Value of Advanced Technology:
Ideal for hollow fiber potting applications



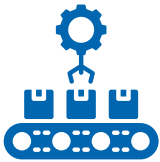
Lower Production Cost

- Energy Consumption
- Safety/Environmental
- Scrap Reduction
- Asset Utilization
- Storage Requirements



Increase Capacity of Existing Lines

- Eliminate Drying Step
- Minimize Centrifuge
- Increase Productivity



New Production Line

- Design Freedom
- Optimize Cycle Time
- Minimize WIP
- Minimize Footprint
- Minimize CAPEX

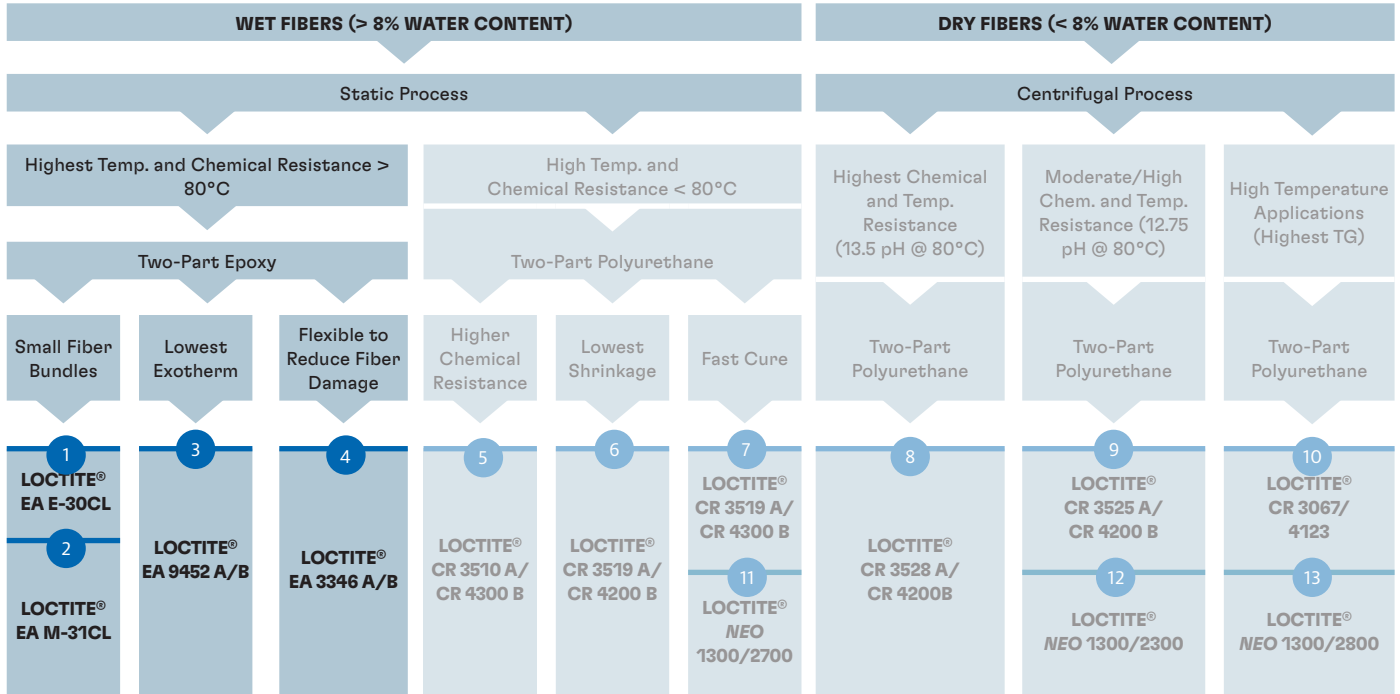
Performance	Epoxy	Polyurethane	LOCTITE® NEO
Chemical Resistance	High	Lower	Medium
Maximum Operation Temperature	High	Lower	Medium
Storage Stability	High	Lower	High
Moisture Sensitivity	None	High	None
Hardness	High	Fast	Medium
Cure Speed	Slow	Fast	Fast
Exotherm	High	Low	Low
Noxious Chemicals	High	High	Low

Health & Safety



Free of Isocyanates,
epoxy, BPA or silicone

HOLLOW FIBER POTTING



TWO-PART EPOXY SYSTEMS – Typical Properties

HOLLOW FIBER POTTING											
PRODUCT NO.	TYPE	VOL. MIX		MIXED		GEL TIME (100 G AT 77°F)	TENSILE STRENGTH (PSI)	VISCOSITY (cPs)	COLOR	AGENCY	DESCRIPTION
		RATIO (A:B)	MASS MIX RATIO (A:B)	VISCOSITY (cPs)	SHORE HARDNESS						
LOCTITE® EA E-30CL		LOCTITE® EA E-30CL									
IDH 233992 (Pail)	Resin	2:1	100:46	6,000	85 (D)	160 min.	High	10,500	Clear	—	Controlled viscosity (small application < 30 g)
IDH 233994 (Pail)	Hardener							2,000			
IDH 237116 (50 ml Cart.)	Dual	2:1	100:46	6,000	85 (D)	160 min.	High	10,500			
IDH 237118 (400 ml Cart.)								Hardener			
LOCTITE® EA M-31CL		LOCTITE® EA M-31CL									
IDH 235021 (50 ml Cart.)	Dual	2:1	100:46	6,000	85 (D)	160 min.	High	10,500	Clear	ISO 10993	Controlled viscosity (small application < 30 g)
IDH 235023 (200 ml Cart.)								Hardener			
LOCTITE® EA 9452 A		LOCTITE® EA 9452 A and EA 9452 B combined									
IDH 2048334 (Drum)	Resin	2.14:1	100:39	3,281	80 (D)	3.6 hrs.	High	17,420	Amber	KTW, EU 10/2011	Controlled viscosity Medium pot life Peak exotherm 137C ²
IDH 2048333 (Drum)	Hardener							154			
LOCTITE® EA E3346 A		LOCTITE® EA E3346A™ and EA E3346B™ combined									
IDH 1294260 (Pail)	Resin	1.71:1	100:54	7,000	85 (D)	60 min.	16,324	2,500	Purple	—	Controlled viscosity and high elongation (46%)
IDH 1294291 (Pail)	Hardener							20,000			

¹ Peak exotherm measured on 20 gm mass

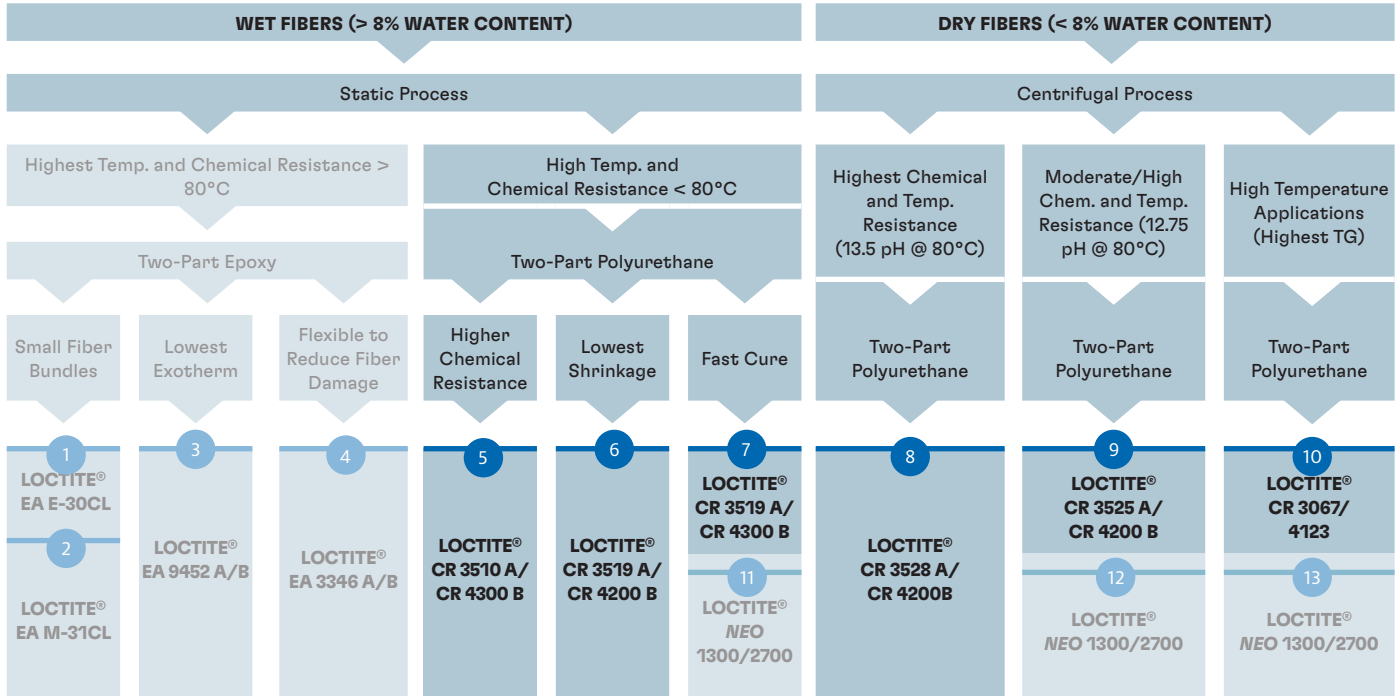
² Peak exotherm measured on 200 gm mass

LEARN MORE:

This catalog lists the most common products used in each application. Many additional products are available. Not all products are available in all countries. Contact your Henkel representative for assistance.



HOLLOW FIBER POTTING



TWO-PART POLYURETHANE SYSTEMS – Typical Properties

PRODUCT NO.	TYPE	VOL. MIX RATIO (A:B)	MASS MIX RATIO (A:B)	MIXED VISCOSITY (cPs)	SHORE HARDNESS	GEL TIME (100 G AT 77°F)	CUTTING WINDOW (HRS.)	PROCESS	VISCOSITY		AGENCY	DESCRIPTION
									(cPs)	COLOR		
HOLLOW FIBER POTTING												
LOCTITE® CR 3510 A		LOCTITE® CR 3510 A and CR 4300 B combined										
IDH 973549 (Pail)	Polyol									2,000		
LOCTITE® CR 4300 B												
IDH 1126373 (Can)	Iso	2:1	100:60	400	70 (D)	25-35 min.	12	Static (flip in 2-4 hrs.)		55	KWT	Harder, less moisture-sensitive for wet membranes
IDH 1126199 (Can)												
LOCTITE® CR 3519 A		LOCTITE® CR 3519 A and CR 4200 B combined										
IDH 1337628 (Drum)	Polyol									3,200		
LOCTITE® CR 4200 B												
IDH 1454191 (Pail)	Iso	1.45:1	100:80	2,000	60-70 (D)	30-40 min.	12	Static (flip in 2-4 hrs.)		1,500	KWT	Flexible, less shrinkage, less moisture-sensitive for wet membranes
LOCTITE® CR 3519 A		LOCTITE® CR 3519 A and CR 4300 B combined										
IDH 1337628 (Drum)	Polyol									3,200		
LOCTITE® CR 4300 B												
IDH 1126373 (Can)	Iso	2:1	100:59	400	70 (D)	25-35 min.	12	Static (flip in 2-4 hrs.)		55	KWT	Fast cure speeds, harder, less moisture-sensitive for wet membranes
IDH 1126199 (Can)												
LOCTITE® CR 3528 A		LOCTITE® CR 3528 A and CR 4200 B combined										
IDH 1337629 (Drum)	Polyol									1,300		
LOCTITE® CR 4200 B												
IDH 1454191 (Pail)	Iso	1.55:1	100:82	1,300	70-80 (D)	15-20 min.	30 min. (@ 60°C)	Centrifugal		1,500	KWT	For dry membrane, higher chemical and temp. resistance (harder and higher exotherm)
LOCTITE® CR 3525 A		LOCTITE® CR 3525 A and CR 4200 B combined										
IDH 1335594 (Pail)	Polyol									1,300		
LOCTITE® CR 4200 B												
IDH 1454191 (Pail)	Iso	1.67:1	100:75	1,400	63 (D)	25 min.	30 min. (@ 60°C)	Centrifugal		1,500	KWT	For dry membrane
LOCTITE® CR 3067*		LOCTITE® CR 3067*										
IDH 2922620 (Drum)	Polyol									2,000		
LOCTITE® CR 4123*												
IDH 2923466 (Drum)	Iso	1.48:1	100:75	500	70 (D)	30-45 min.	>60 min.	Centrifugal		100	KWT	High Tg PU (>70°C) for specialty high temperature applications

*Check for Medtronic product

FIBER BUNDLING ADHESIVES

PRODUCT NO.	TYPE	APPLICATION	ASSEMBLY TIME	OPEN TIME	SOFTENING POINT (°C) / (°F)	VISCOSITY (cPs)			AGENCY	DESCRIPTION
						AT 325°F	AT 350°F	COLOR		
TECHNOMELT® AS 4208										
IDH 930825 (Box)	PO Hot Melt	Fiber Bundling	Moderate	Moderate 40-60 sec.	100 / 212	17,000	12,000	White	FDA 175.105/ NSF* & KWT	For fast assembly process
TEROSON® MS 939 BK										
IDH 504842 (Drum)	MS Polymer	Pre-casting Fibers (close fibers)	Long	4-10 min.	N/A	N/A	N/A	Black	—	Highly flexible non-sagging paste

*Filters manufactured with these products have been NSF approved. Note: Typically entire filter assemblies must be submitted and approved by NSF.

LEARN MORE:

This catalog lists the most common products used in each application. Many additional products are available. Not all products are available in all countries. Contact your Henkel representative for assistance.

Part A + Part B combinations Depending on application requirements

Resin A

LOCTITE® NEO 1300 / IDH 2857866

Hardener - Part B

**LOCTITE® NEO 2800 /
IDH 2851911**

**LOCTITE® NEO 2700 /
IDH 2854062**

**LOCTITE® NEO 2300 /
IDH 2854063**

PRODUCT NO.	TYPE	APPEARANCE	VOL. MIX RATIO (A:B)	MIXED RATIO BY		VISCOSITY mPa·s	OPEN TIME (MIN.)	GEL TIME (MIN.)	SHELF LIFE (MONTHS)	FINAL HARDNES (SHORE D)	DESCRIPTION
				WEIGHT	MIXED VISCOSITY						
LOCTITE® NEO											
LOCTITE® NEO 1300			LOCTITE® NEO 1300 A and NEO 2700 B combined								
IDH 2857866	Resin	Light yellow to brown	100:113	100:90	100	180 20	12	21.5	24	68	<ul style="list-style-type: none"> • ISO & epoxy free • Longest open time of NEO line • KTW-BWGK & NSF 61 compliant
LOCTITE® NEO 2700 IDH 2854062	Hardener										
LOCTITE® NEO 1300			LOCTITE® NEO 1300 A and NEO 2800 B combined								
IDH 2857866	Resin	Light yellow to brown	100:111	100:89	100	180 20	9.2	16.5	24	72	<ul style="list-style-type: none"> • ISO & epoxy free • High P modules • Highest Tg & hydrophobicity of NEO line • KTW-BWGK & NSF 61 compliant
LOCTITE® NEO 2800 IDH 2851911	Hardener										
LOCTITE® NEO 1300			LOCTITE® NEO 1300 A and NEO 2300 B combined								
IDH 2857866	Resin	Light yellow to brown	100:106	100:85	100	200 20	10.5	20	24	56	<ul style="list-style-type: none"> • ISO & epoxy free • Highest fiber penetration of NEO line • KTW-BWGK & NSF 61 compliant
LOCTITE® NEO 2300 IDH 2854063	Hardener										

LEARN MORE:

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END CAP MOLDING



Pool and Spa Applications: Fast processing and curing speeds, excellent chemical resistance

End Cap Replacement

The end cap helps to provide structural support and increase filter cartridge durability. It must also withstand chlorine degradation. Henkel's LOCTITE® adhesives for end cap replacement offer the following benefits:

- **Fast cure speeds**
- **Controlled viscosity** to limit wicking
- **Clean demolding** lettering using FREKOTE Exitt
- **NSF approval**
- **Chemical resistance**

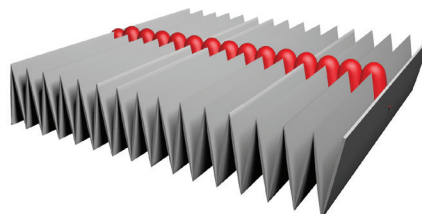
Pleat Separation and First Pleat/Last Pleat

Pleats are key to the filter's performance. Clearly defined and easily separated pleats allow for increased water flow and quality filtration. Our TECHNOMELT® adhesives for pleat applications offer a number of benefits:

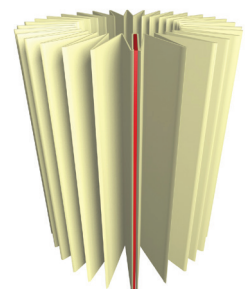
- **Fast processing speeds**
- **Low wicking**
- **Excellent chemical resistance**
- **Industry approvals:** FDA, KTW, NSF, and EU Food



END CAP REPLACEMENT



PLEAT SEPARATION



FIRST PLEAT/LAST PLEAT

TWO-PART POLYURETHANE SYSTEMS - TYPICAL PROPERTIES

Product No.	Type	Vol. Mix Ratio (A:B)	Mass Mix Ratio (A:B)	Mixed Viscosity (cPs)	Shore Hardness	Gel Time (100 G at 77°F)	Tensile Strength (PSI)	Viscosity (cPs)	Color	Agency	Description
End Cap Molding											
LOCTITE® UK 180 A IDH 1219066 (Drum)	Polyol	1.34:1	1.11:1	1,200	85-95 (A)	2 min.	2,400	1,500	Blue	NSF*	Self-leveling, fast de-molding, low wicking and excellent chemical resistance
LOCTITE® UK 180 B IDH 1219067 (Drum)	ISO	1.34:1	1.11:1	1,200	85-95 (A)	2 min.	2,400	1,100	Amber	NSF*	Self-leveling, fast de-molding, low wicking and excellent chemical resistance

MOLD RELEASE - TYPICAL PROPERTIES

Product No.	Type	Finish	Substrates Released	Agency	Description
End Cap De-Molding					
LOCTITE® FREKOTE® EXITT IDH 398492 (Aerosol Can)	Sacrificial	High Glass	Thermoset Polyurethanes and Hot Melts	-	Silicone mold release agents offer superb release properties, choice of finish, and excellent part detail to meet your specific molding requirements
LOCTITE® FREKOTE® LIFFT IDH 420456 (Drum)	Sacrificial	Semi-Gloss	Thermoset Polyurethanes and Hot Melts	-	Silicone mold release agents offer superb release properties, choice of finish, and excellent part detail to meet your specific molding requirements

HOT MELT - TYPICAL PROPERTIES

Product No.	Type	Assembly Time	Open Time (sec.)	Softening Point (°C) / (°F)	Viscosity (cPs)		Color	Agency	Description
					at 325°F	at 350°F			
FIRST PLEAT/LAST PLEAT PLEAT SEPARATION TECHNOLOGY									
TECHNOMELT® AS 4208 IDH 930825 (Box)	PO	Moderate	Moderate (40-60)	100 / 212	17,000	12,000	White	FDA 175.105/ NSF* and KTW	For highest bond strengths to olefins
TECHNOMELT® AS 947C IDH 1217927 (Box)	EVA	Fast	Long (60-80)	78 / 172	7,400	4,500	White	FDA 175.105/ NSF*	Long open times for proper assembly process
TECHNOMELT® AS 232 IDH 420348 (Box)	EVA	Moderate	Long (60-80)	87 / 189	17,000	11,000	White	FDA 175.105/ NSF*	Long open times for proper assembly process
TECHNOMELT® AS 8947 IDH 2112457 (Box)	EVA	Moderate	Moderate (40-60)	90 / 194	3,800	2,300	Off-White	FDA/NSF*	Low viscosity for Good flow/wet-out for better adhesion, Low Stringing

*Filters manufactured with these products have been NSF approved. Note: Typically entire filter assemblies must be submitted and approved by NSF.

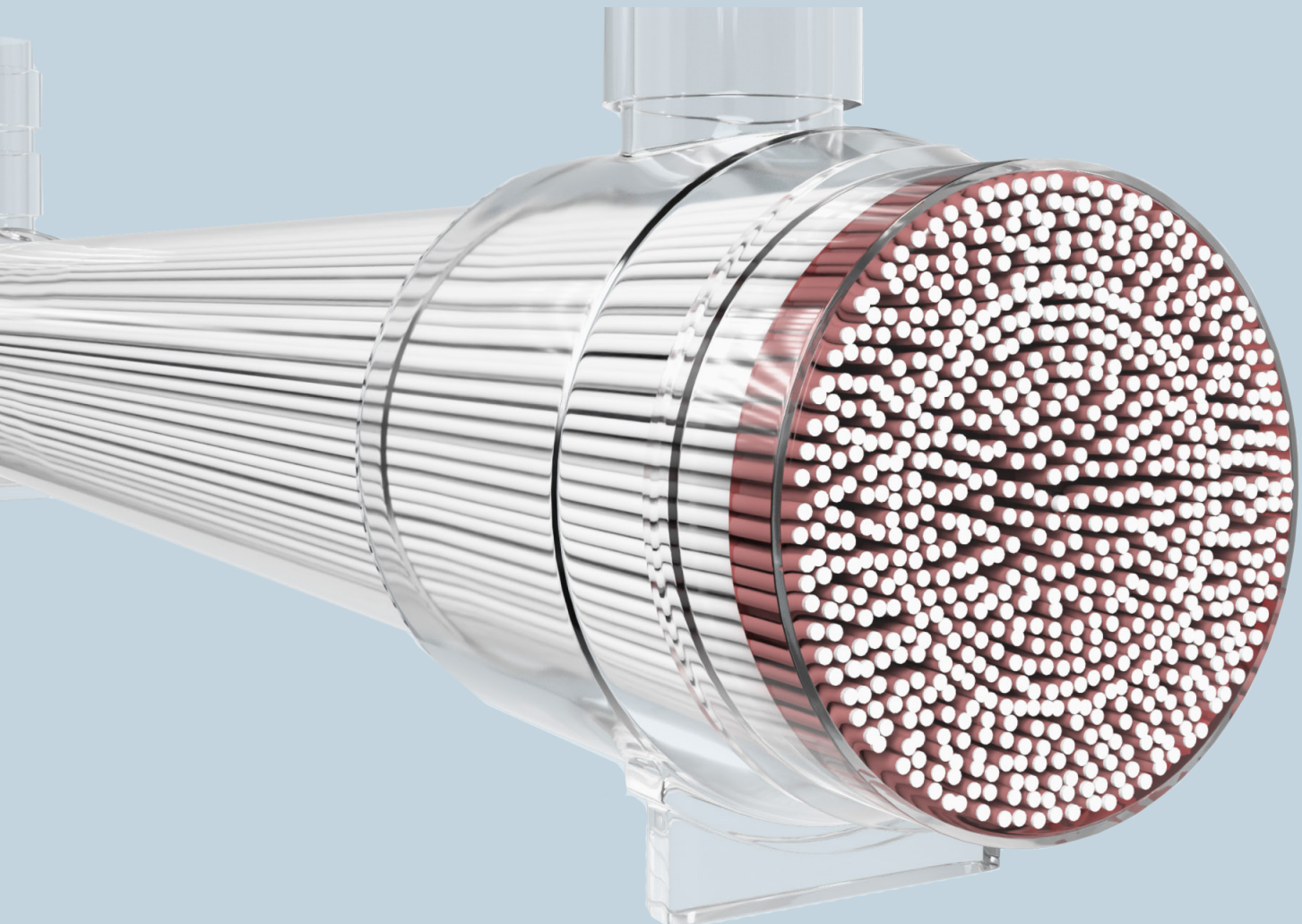
LEARN MORE:

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Medical Filtration Markets

Ensuring Reliable Performance for Medical Filtration.

Demand for medical filtration will continue to increase due to aging populations and improved access to medical care, especially in developing countries. Henkel's experience in the medical device industry can assist medical filter manufacturers by developing customized solutions and recommending optimized processes and products to meet their specific requirements.



CUSTOMIZED PRODUCTS FOR MEDICAL FILTERS



Controlled trim times, defined viscosity and ISO 10993 approved

Dialyzers and Oxygenators

Hollow fiber potting

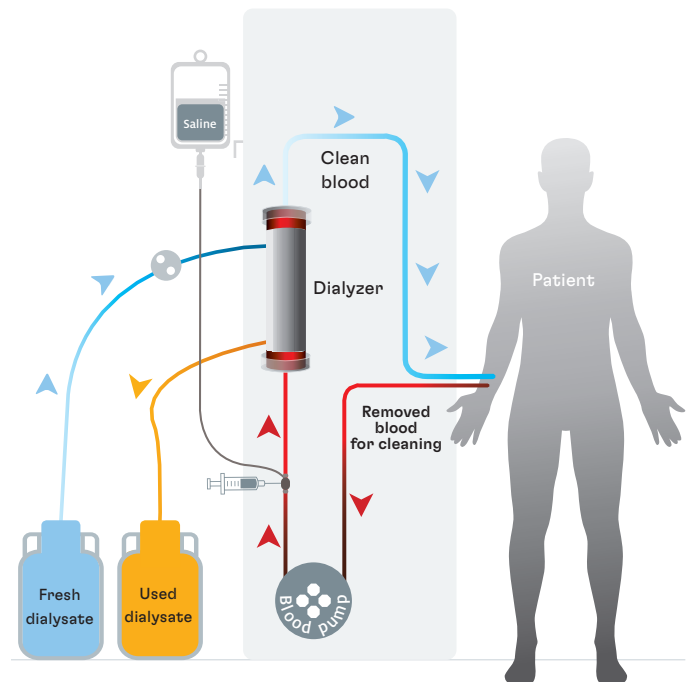
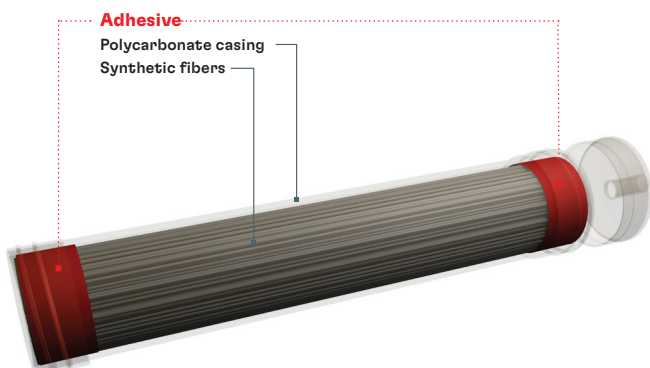
Henkel's two-part polyurethane adhesives for hollow fiber filtration offer flexibility and customized options for medical filter manufacturers.

Cutting the adhesive to open the fibers is critical to producing a good dialyzer. The adhesive needs to be cut within the "cutting window" to allow the adhesive to build enough hardness to avoid delamination from the housing, but not gain too much hardness so that a smooth surface can be obtained.

Henkel's customized options ensure the proper use of our adhesives so that customers can consistently produce dialyzers with an efficient and optimized process.

Benefits:

- **Customized products** for specific application needs
- **Low viscosity** for optimal fiber bundle penetration
- **High adhesion** to plastic housings
- **Process optimization** recommendations
- **Industry approvals:** ISO 10993



MEDICAL DIALYZERS

Fast Trim Times

LOCTITE®
CR 5103 A / 4150 B

Medium Trim Times

LOCTITE®
CR 5103 A / 4620 B

Highest Flexibility with Trim Times

LOCTITE®
CR 3502 A / CR 4150 B

*CR4100 B is still supported and used in the medical industry

TWO PART POLYURETHANE - TYPICAL PROPERTIES

Product No.	Type	Viscosity (cPs)	Vol. Mix Ratio (A:B)	Mass Mix Ratio (A:B)	Mixed Viscosity (cPs)	Shore Hardness	Gel Time (100 g) @ 30°C	Cutting Window (Hrs.)	Process	Color	Agency	Description
Hollow Fiber Potting												
LOCTITE® CR 5103 A												
IDH 1126372 (Drum)	Poly	1,200										
			1.75:1	100:72	1,000	63 (D)	5-8 min.	1-2	Dynamic	Yellow	ISO 10993	Fast trim times, controlled viscosity (mixed static or dynamically)
LOCTITE® CR 4150 B												
IDH 1126194 (Drum)	ISO	1,100										
LOCTITE® CR 5103 A												
IDH 1126372 (Drum)	Poly	1,200										
			1.75:1	100:72	1,000	63 (D)	7-9.5 min.	4-6	Dynamic	Yellow	ISO 10993	Fast trim times, controlled viscosity (mixed static or dynamically)
LOCTITE® CR 4620 B												
IDH 1572702 (Drum)	ISO	1,400										
LOCTITE® CR 3502 A												
IDH 2146946 (Drum)	Poly	1,200										
			2.03:1	100:62	1,000	92 (A)	5-8 min.	1-72	Dynamic	Yellow	ISO 10993	Long cutting window, controlled viscosity (mixed static of dynamically)
LOCTITE® CR 4150 B												
IDH 2146960 (Pail)	ISO	1,100										

LEARN MORE:

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HENKEL PARTNERSHIP

In addition to offering the broadest product portfolio in the adhesives industry, Henkel provides an array of services to help our filtration customers optimize their manufacturing processes, improve efficiency, and reduce overall costs. The following services are available worldwide.



PROCESS OPTIMIZATION

Henkel has decades of success optimizing manufacturing processes. We can analyze your complete manufacturing process and provide tailor-made recommendations for reducing production cycle times and rejection rates, thereby lowering your overall costs and increasing your productivity.



LAB TESTING

Henkel's testing capabilities can provide complete data, relevant and applicable to your process, on our product recommendations. Whether you want to analyze a single component of your production process or review the complete system, our labs can provide all the data you need.



CUSTOMER TRAINING

Henkel offers an array of customized training programs to help customers learn the details of our product technologies and how to apply them effectively. We can also train you to use our custom-designed equipment efficiently. Our Technology Days provide additional training and demonstrations of our newest innovations.



VALUE CALCULATORS

Using our Value Calculators, our adhesives specialists can accurately analyze the total costs of your adhesive processes and determine your savings potential. Simply arrange an appointment with our specialists, and they will visit your production facilities to conduct an in-depth analysis.



ANALYTICAL SERVICES

Henkel provides comprehensive analysis of all steps in your manufacturing process using our own technical staff and industry experts. We will identify problem points on the production line and recommend improvements to the manufacturing process, along with Henkel products and equipment that can help improve results. These services can also include equipment tear-downs, surface analysis and testing.

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TECHNOMELT®
TEROSON®
AQUENCE®

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