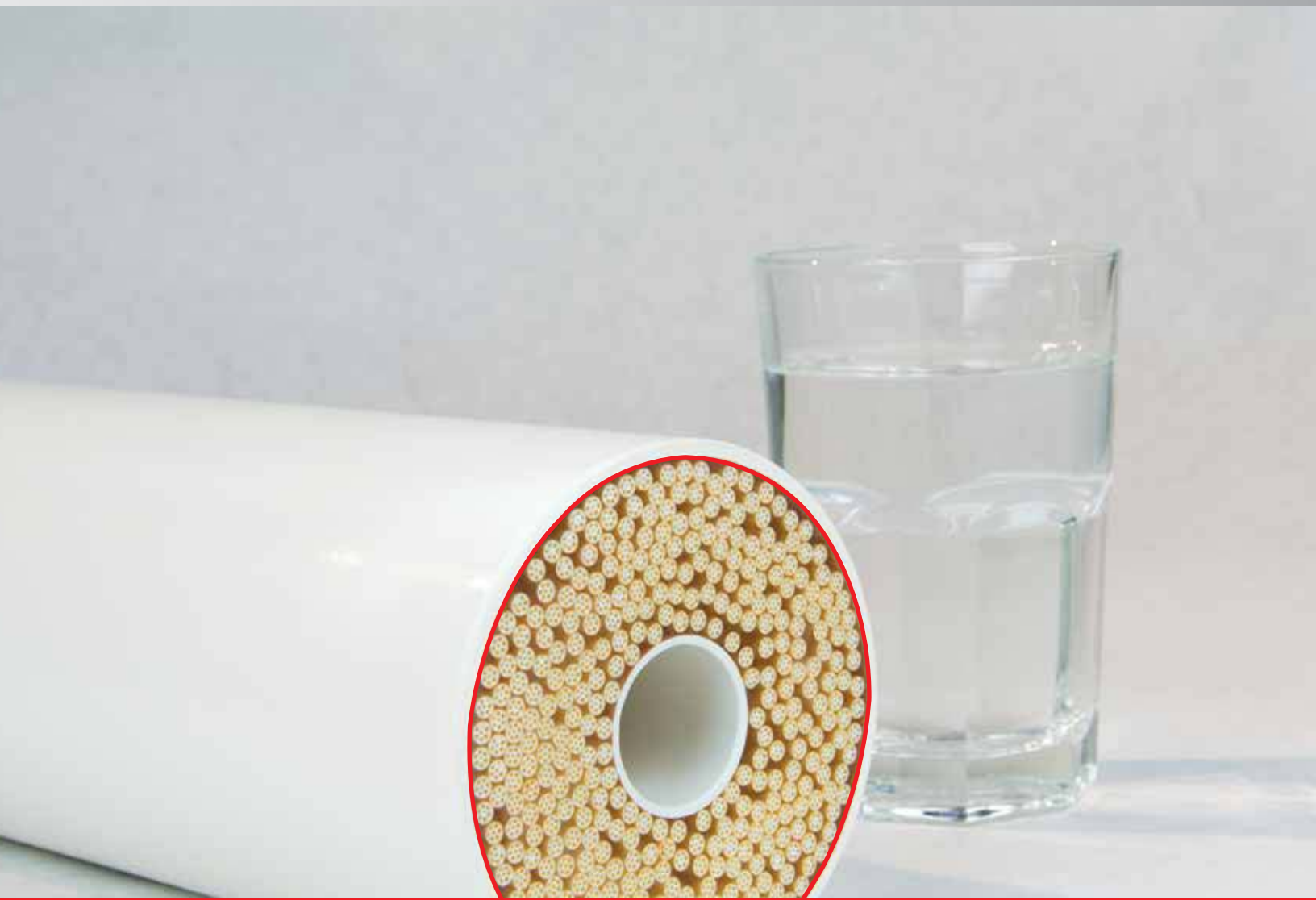


**LOCTITE®**  
**TECHNOMELT®**  
**TEROSON®**

Adhesives, Sealants, Equipment and Services

## Water, Food and Beverage Filtration Solutions Medical Filtration Solutions



Excellence is our Passion

# Henkel. Improving your process, understanding your challenges.

Proven filtration solutions for all your needs – today and tomorrow

Filter manufacturers face daily challenges – reducing costs, improving efficiency, and staying ahead of the competition, to name just a few. 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 the 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. And we'll provide all the testing data to back up our recommendations.

**Let us show you the value Henkel offers.**



## INNOVATION

### More than 30%

of our sales comes from **products launched** in the last five years.



## GLOBAL SUPPLY CHAIN

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

## CUSTOMIZED SOLUTIONS

We will create the formula that meets your **exact** requirements.



## GLOBAL SUPPORT

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

## BROAD PRODUCT PORTFOLIO

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



## INTEGRATED MANUFACTURING PROCESS

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

## COMPREHENSIVE TESTING

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



## ENGINEERING SERVICES

### 10 R&D centers

around the world staffed by 3,000 design and application **professionals**.

# 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.

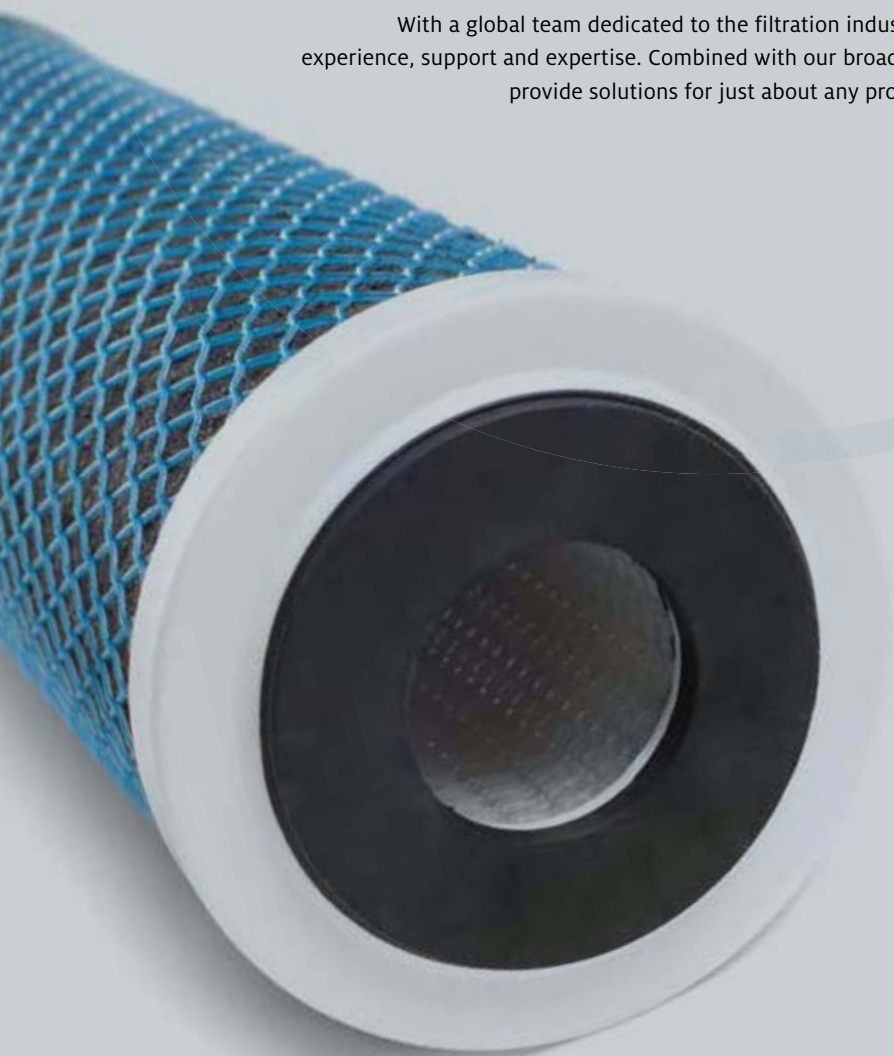
**We're your partner every step of the way.**



# Filtration Expertise and Value-Added Partnership

In-depth industry knowledge. And the broadest technology portfolio in the business.

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 | 8****Drinking Water****Dairy, Food and Beverage****Wastewater****Process Water****Pool and Spa****Technology Overview | 10**

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# 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**

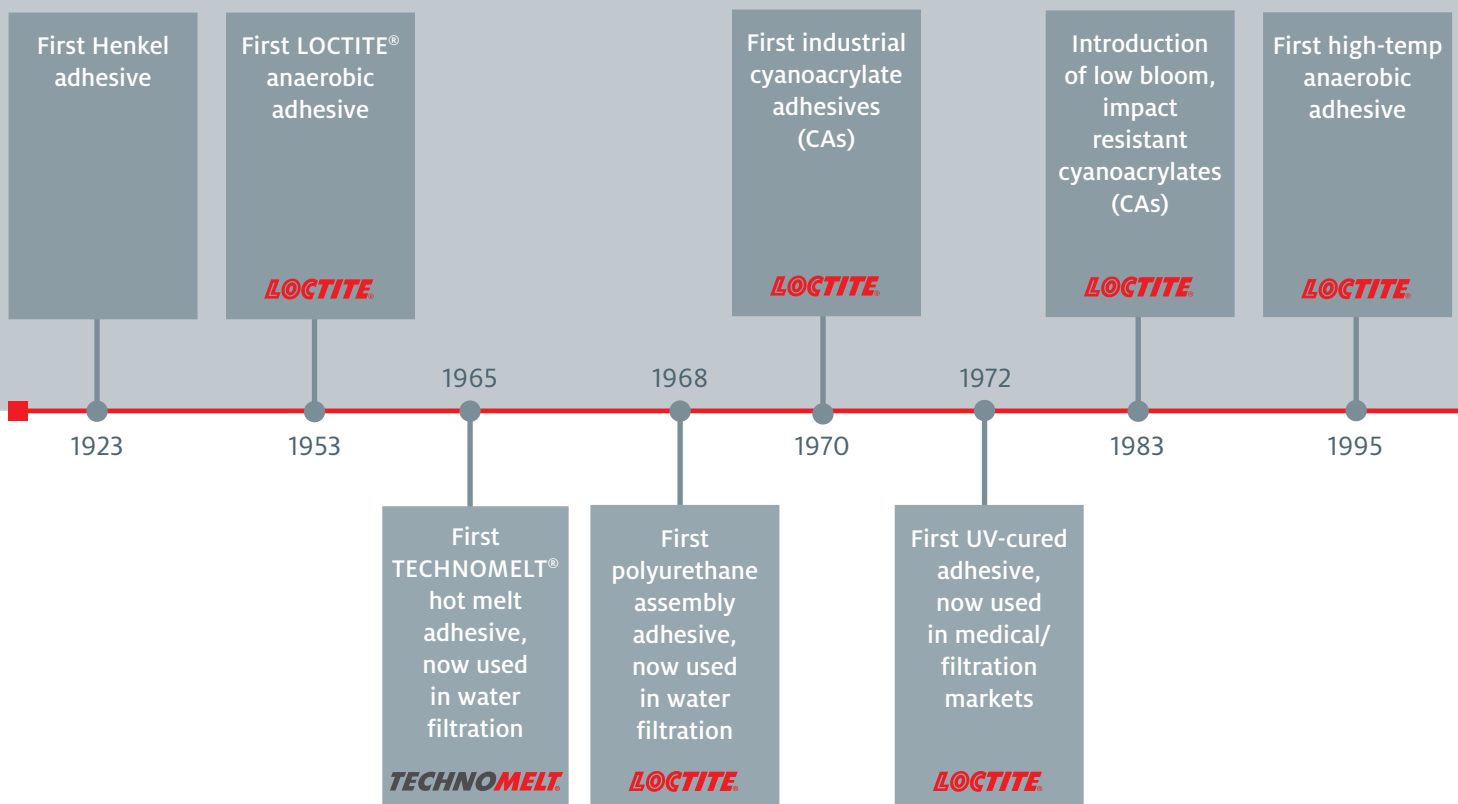
**or visit**

**[www.henkelna.com/filters](http://www.henkelna.com/filters)**



## Innovations in Adhesive Solutions

A brief history of Henkel breakthroughs

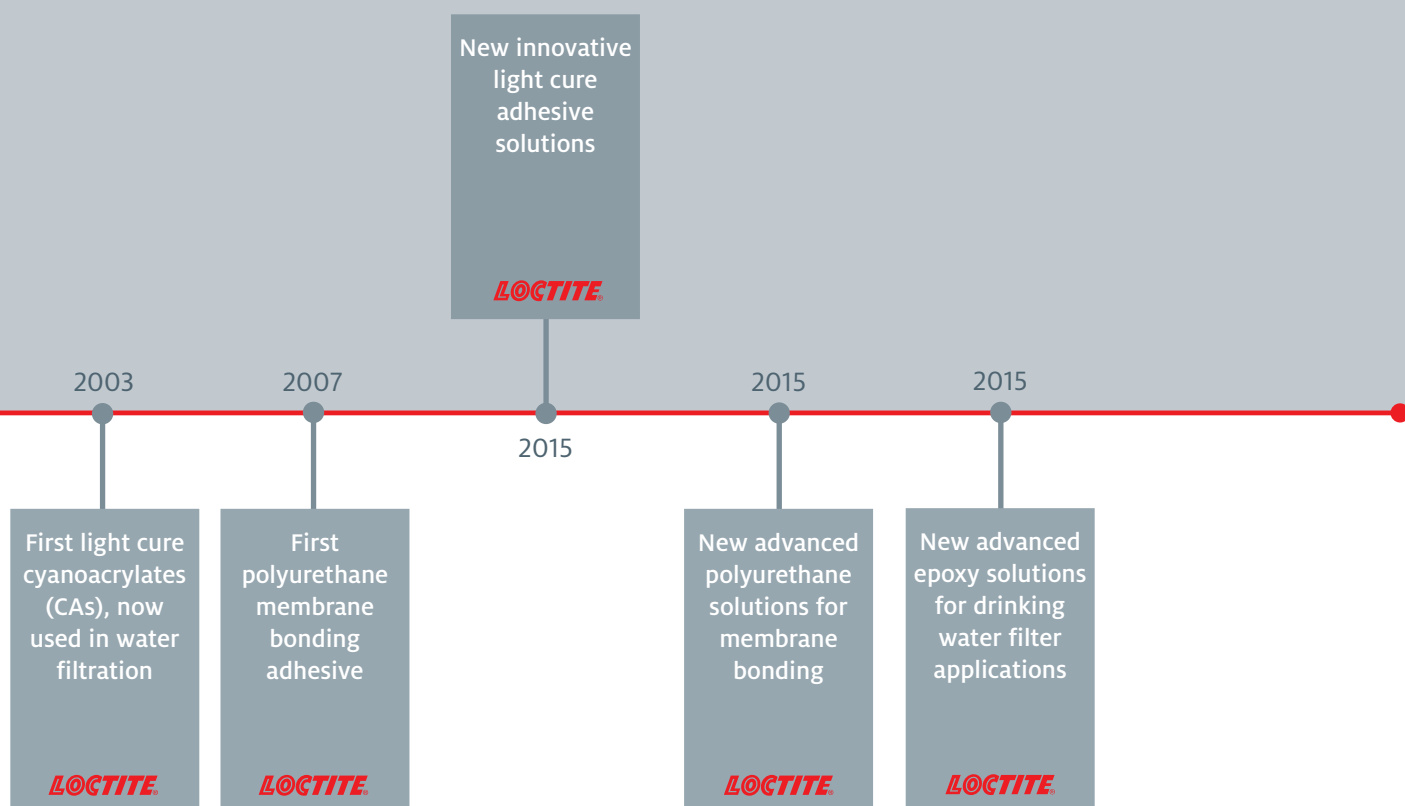


## Expertise in Adhesives; Expertise in Filtration

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

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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

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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

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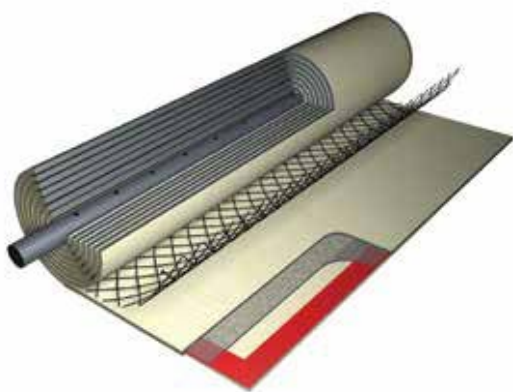
End cap replacement, pleat separation,  
First pleat/last pleat bonding

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 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



## Hollow Fiber Potting

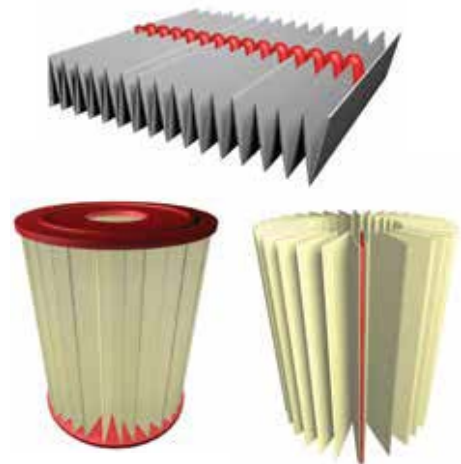
Henkel provides adhesive solutions for any of your dry and/or wet hollow fiber application needs, for static or centrifugal processes.

### 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 Bonding

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



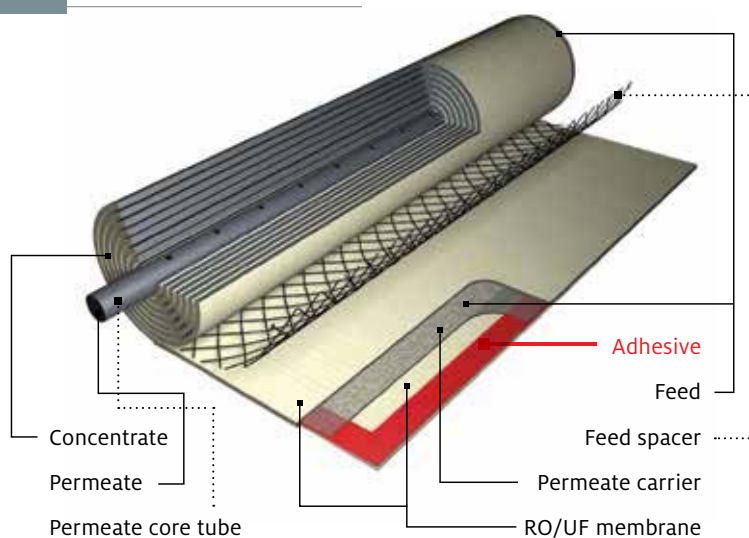
Spiral wound filtration elements support a wide range of applications and environmental conditions. Henkel offers adhesive solutions for both wet and dry membranes that provide the temperature and chemical resistance required for virtually any application. Our solutions can improve filter designs and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

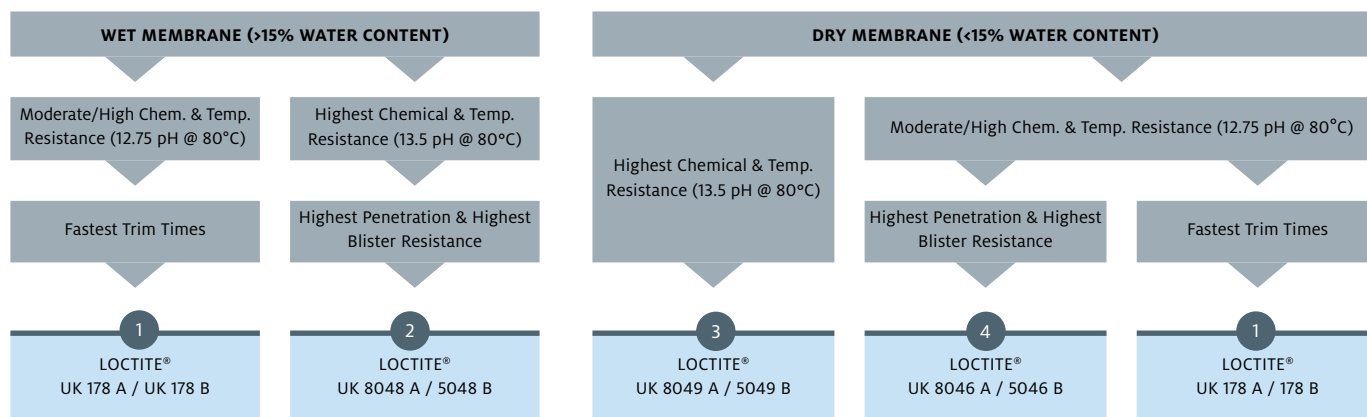
Minimize your investment and risk with fully tested and qualified solutions. Henkel can thoroughly test the performance of our adhesives with your membrane. From the lab to the shop floor, we will optimize the adhesive and application process to maximize your manufacturing efficiency and filter performance.

## 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



## SPIRAL WOUND FILTRATION SOLUTIONS — TWO-PART POLYURETHANE SYSTEMS



## TWO-PART POLYURETHANE SYSTEMS – Typical Properties

SPIRAL WOUND MEMBRANE BONDING													
	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)	OPEN TIME (MIN.)	TRIM TIME (HRS.)	VISCOSITY (cPs)	COLOR	AGENCY	DESCRIPTION
1	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			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			
2	LOCTITE® UK 8048 A		LOCTITE® UK 8048 A and UK 5048 B combined										
	IDH 2008995 (Pail) IDH 2008997 (Drum)	Polyol								30,000			Highest temp. and chemical resistance, wet or dry membrane
	LOCTITE® UK 5048 B		1:1	0.89:1	18,000 (thixo.)	50 (D)	40-60 min.	20	< 8 hrs.		Amber	FDA 175.105	
	IDH 2008347 (Pail) IDH 2008348 (Drum)	Iso								11,000			
3	LOCTITE® UK 8049 A		LOCTITE® UK 8049 A and UK 5049 B combined										
	IDH 2008976 (Pail) IDH 2008994 (Drum)	Polyol								30,000			Highest temp. and chemical resistance, dry membrane
	LOCTITE® UK 5049 B		1:1	0.89:1	18,000 (thixo.)	50 (D)	40-60 min.	20	< 8 hrs.		Amber	FDA 175.105	
	IDH 2008345 (Pail) IDH 2008346 (Drum)	Iso								11,000			
4	LOCTITE® UK 8046 A		LOCTITE® UK 8046 A and UK 5046 B combined										
	IDH NA (Drum) IDH NA (Pail)	Polyol								20,000			High temp. and chemical resistance, highest penetration, dry membrane
	LOCTITE® UK 5046 B		1:1	0.89:1	13,000 (thixo.)	95 (A)	60-80 min.	15-20	4 hrs. (@ 50°C)		Amber	FDA 175.105	
	IDH NA (Drum) IDH NA (Pail)	Iso								7,000			

### 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.

# Filament Winding

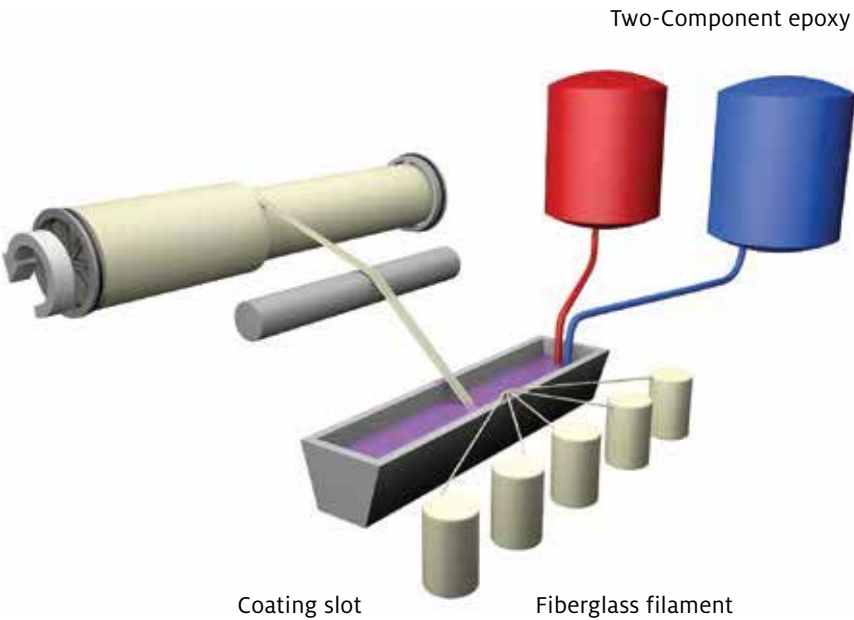
Drinking water applications  
Low viscosity, high strength



## EPOXY – Typical Properties

FILAMENT WINDING												
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
LOCTITE® EA 1623986™ A and B												
IDH 1638452 A (Drum)	Resin	3:1	100:29	3,000	1,000	80-85 (D)	17 min. (200 g)	High	High	Clear	FDA 175.300	Low viscosity
IDH 1638450 B (Drum)	Hard			22								High strength

### Filament Winding



**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.



# 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

END CAP BONDING									
PRODUCT NO.	TYPE	ASSEMBLY TIME	OPEN TIME (SEC.)	SOFTENING POINT (°C) / (°F)	VISCOSITY (CPS)		COLOR	AGENCY	DESCRIPTION
					AT 325°F	AT 350°F			
TECHNOMELT® AS 2787								FDA 175.105	High tack
IDH 1469016 (Box)	PO	Moderate	Moderate (40-60)	90 / 194	4,800	3,800	Yellow		
TECHNOMELT® AS 4222								FDA 175.105/NSF* and KTW	High temp. and fast set speed
IDH 266079 (Box)	PO	Fast	Short (10-20)	160 / 320	4,800	8,100	White		
TECHNOMELT® AS 4208								FDA 175.105/NSF* and KTW	Well-balanced
IDH 930825 (Box)	PO	Moderate	Moderate (40-60)	100 / 212	17,000	12,000	White		
TECHNOMELT® AS 947C								FDA 175.105/NSF*	Go-to product
IDH 1217927 (Box)	EVA	Moderate	Long (60-80)	78 / 172	7,400	4,500	White		
TECHNOMELT® AS 232								FDA 175.105/NSF*	Go-to product
IDH 420348 (Box)	EVA	Moderate	Long (60-80)	87 / 189	17,000	11,000	White		

\*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

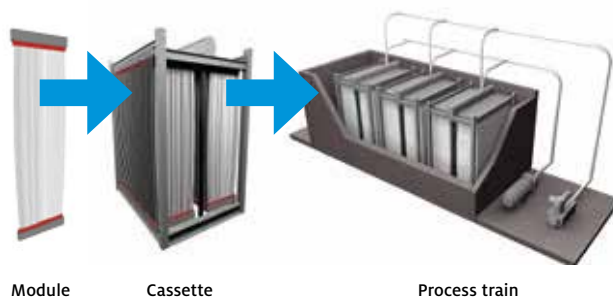
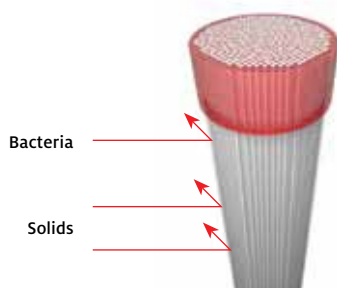
Solutions for static and centrifugal processes



## 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 the equipment partners to provide best-in-class solutions.

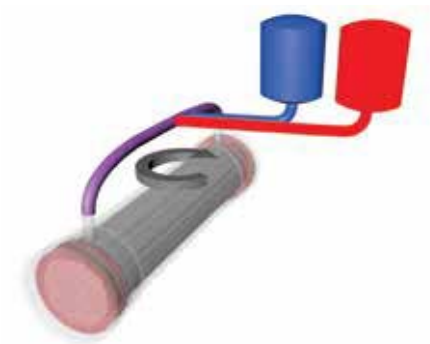
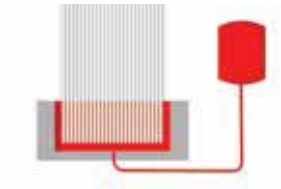
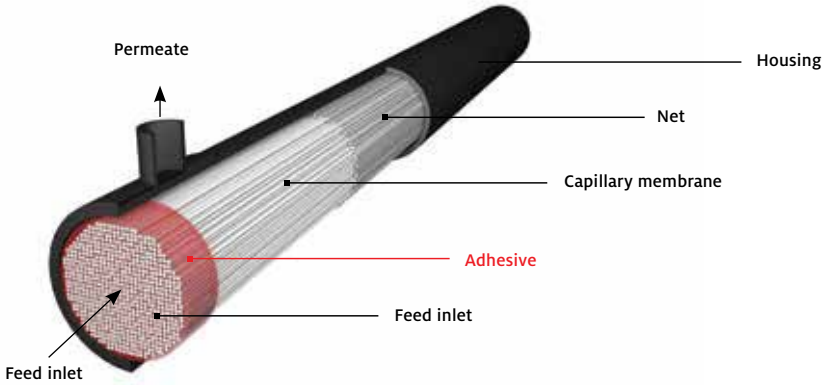
### Water Purification



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

1-800-562-8483

# 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

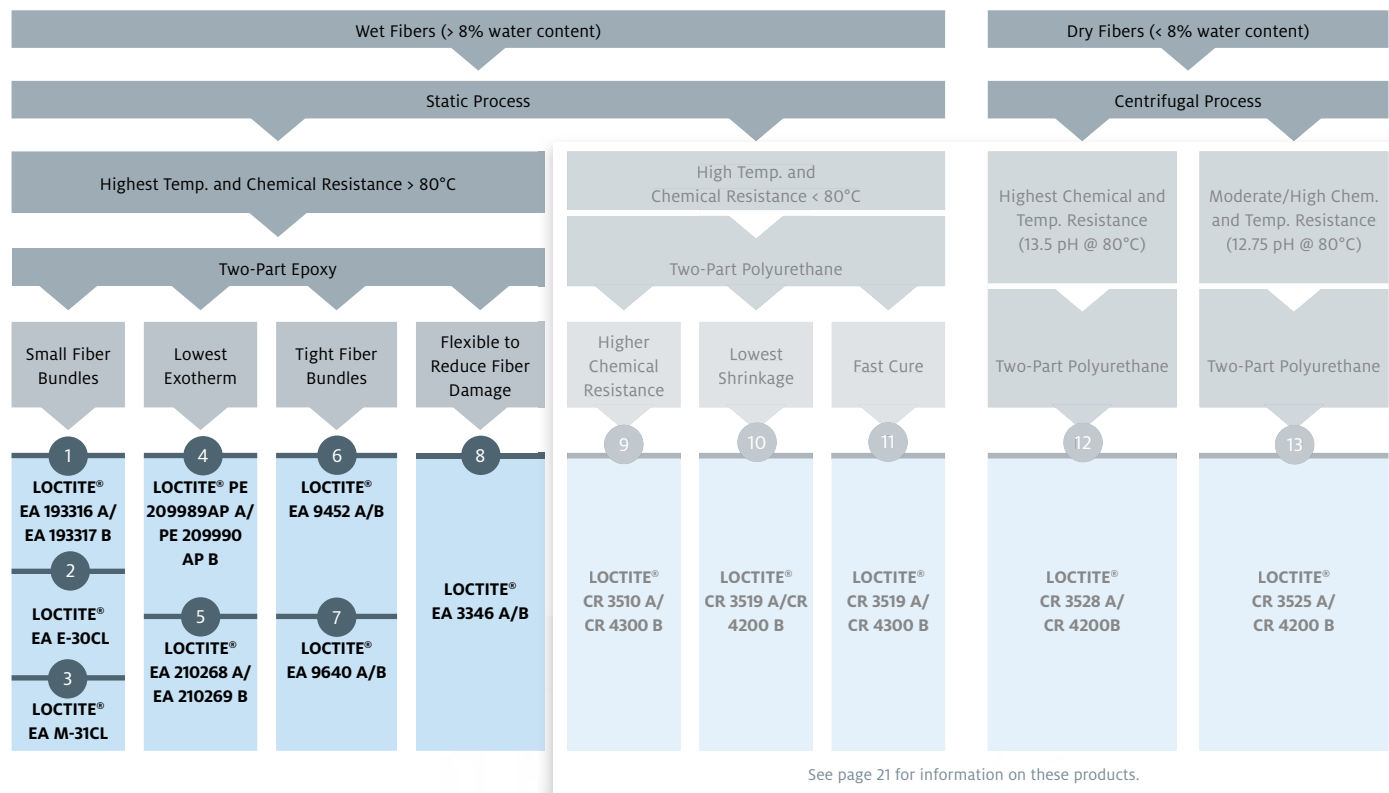


## Step Two:

- Pot with epoxy or polyurethane



## HOLLOW FIBER POTTING



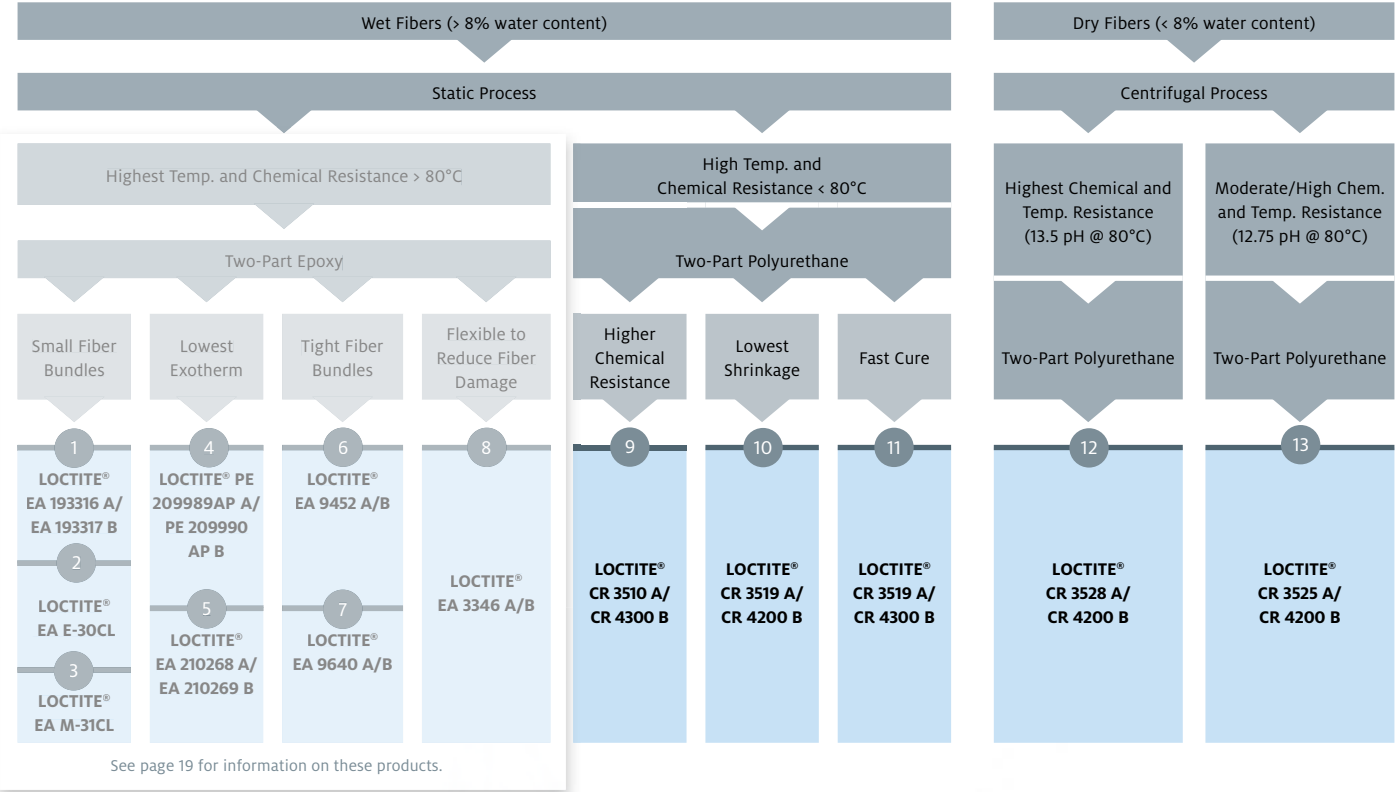
## TWO-PART EPOXY SYSTEMS – Typical Properties

HOLLOW FIBER POTTING												
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	
1	<b>LOCTITE® EA 193316 A</b>	LOCTITE® EA 193316 A and EA 193317 B combined										
	IDH 1094638 (Can)	Resin						3,500				
	<b>LOCTITE® EA 193317 B</b>		2.44:1	100:34.5	3,000	85 (D)	180 min.	High	Amber	—	Controlled viscosity	
	IDH 1094639 (Can)	Hardener						500				
2	<b>LOCTITE® EA E-30CL</b>	LOCTITE® EA E-30CL										
	IDH 233992 (Pail)	Resin						10,500				
	IDH 233994 (Pail)	Hardener	2:1	100:46	6,000	85 (D)	160 min.	High				
	IDH 237116 (50 ml Cart.)							2,000	Clear	—	Controlled viscosity (small application < 30 g)	
	IDH 237118 (400 ml Cart.)	Dual	2:1	100:46	6,000	85 (D)	160 min.	High				
								10,500 Resin/ 2,000 Hardener				
3	<b>LOCTITE® EA M-31CL</b>	LOCTITE® EA M-31CL										
	IDH 235021 (50 ml Cart.)	Dual						10,500 Resin/ 2,000 Hardener	Clear	ISO 10993	Controlled viscosity (small application < 30 g)	
	IDH 235023 (200 ml Cart.)		2:1	100:46	6,000	85 (D)	160 min.	High				
4	<b>LOCTITE® PE 209989AP A</b>	LOCTITE® PE 209989AP A and PE 209990AP B combined										
	IDH 429357 (Pail)	Resin						5,750				
	<b>LOCTITE® PE 209990AP B</b>		2:1	100:46.1	4,900	78 (D)	30 min.	High	Clear	—	Controlled viscosity and low exotherm (85°C)	
	IDH 429358 (Pail)	Hardener						3,250				
5	<b>LOCTITE® EA 210268 A</b>	LOCTITE® EA 210268 A and EA 210269 B combined										
	IDH 529103 (Tote)	Resin						3,500				
	<b>LOCTITE® EA 210269 B</b>		2:1	100:46.5	3,200	78 (D)	30 min.	High	Clear	—	Controlled viscosity and low exotherm (85°C)	
	IDH 529104 (Tote)	Hardener						2,500				
6	<b>LOCTITE® EA 9452 A</b>	LOCTITE® EA 9452 A and EA 9452 B combined										
	IDH 2048334 (Drum)	Resin						17,420				
	<b>LOCTITE® EA 9452 B</b>		2.14:1	100:39	3,281	80 (D)	3.6 hrs.	High	Amber	KTW, EU 10/2011	Controlled viscosity, medium pot life and 137°C exotherm	
	IDH 2048333 (Drum)	Hardener						154				
7	<b>LOCTITE® EA 9640 A</b>	LOCTITE® EA 9640 A and EA 9640 B combined										
	IDH 1210148 (Drum)	Resin						2,800				
	<b>LOCTITE® EA 9640 B</b>		2.36:1	100:35	2,800	80 (D)	5 hrs.	High	Amber	—	Controlled viscosity, medium pot life and 140°C exotherm	
	IDH 1210150 (Drum)	Hardener						2,700				
8	<b>LOCTITE® EA E3346 A</b>	LOCTITE® EA E3346A™ and EA E3346B™ combined										
	IDH 1294260 (Pail)	Resin						2,500				
	<b>LOCTITE® EA E3346 B</b>		1.71:1	100:54	7,000	85 (D)	60 min.	16,324	Purple	—	Controlled viscosity and high elongation (46%)	
	IDH 1294291 (Pail)	Hardener						20,000				

## LEARN MORE:

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# HOLLOW FIBER POTTING





## TWO-PART POLYURETHANE SYSTEMS – Typical Properties

HOLLOW FIBER POTTING												
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 (cPs)	COLOR	AGENCY	DESCRIPTION
<b>LOCTITE® CR 3510 A and CR 4300 B combined</b>												
9 IDH 973549 (Pail)	Polyol								2,000			
LOCTITE® CR 4300 B		2:1	100:60	400	70 (D)	25-35 min.	12	Static (flip in 2-4 hrs.)		Cream	KTW	Harder, less moisture-sensitive for wet membranes
IDH 1126373 (Can)									55			
IDH 1126199 (Can)	Iso											
<b>LOCTITE® CR 3519 A and CR 4200 B combined</b>												
10 IDH 1337628 (Drum)	Polyol								3,200			
LOCTITE® CR 4200 B		1.45:1	100:80	2,000	60-70 (D)	30-40 min.	12	Static (flip in 2-4 hrs.)		Cream	KTW	Flexible, less shrinkage, less moisture-sensitive for wet membranes
IDH 1454191 (Pail)	Iso								1,500			
<b>LOCTITE® CR 3519 A and CR 4300 B combined</b>												
11 IDH 1337628 (Drum)	Polyol								3,200			
LOCTITE® CR 4300 B		2:1	100:59	400	70 (D)	25-35 min.	12	Static (flip in 2-4 hrs.)		Cream	KTW	Fast cure speeds, harder, less moisture-sensitive for wet membranes
IDH 1126373 (Can)									55			
IDH 1126199 (Can)	Iso											
<b>LOCTITE® CR 3528 A and CR 4200 B combined</b>												
12 IDH 1337629 (Drum)	Polyol								1,300			
LOCTITE® CR 4200 B		1.55:1	100:82	1,300	70-80 (D)	15 -20 min.	30 min. (@ 60°C)	Centrifugal		Amber	KTW	For dry membrane, higher chemical and temp. resistance (harder and higher exotherm)
IDH 1454191 (Pail)	Iso								1,500			
<b>LOCTITE® CR 3525 A and CR 4200 B combined</b>												
13 IDH 1335594 (Pail)	Polyol								1,300			
LOCTITE® CR 4200 B		1.67:1	100:75	1,400	63 (D)	25 min.	30 min. (@ 60°C)	Centrifugal		Amber	KTW	For dry membrane
IDH 1454191 (Pail)	Iso								1,500			

## FIBER BUNDLING ADHESIVES

PRODUCT NO.	TYPE	APPLICATION	ASSEMBLY TIME	OPEN TIME	SOFTENING POINT (°C) / (°F)	VISCOSITY (cPs)		COLOR	AGENCY	DESCRIPTION
						AT 325°F	AT 350°F			
<b>TECHNOMELT® AS 4208</b>										
IDH 930825 (Box)	PO Hot Melt	Fiber Bundling	Moderate	Moderate 40-60 sec.	100 / 212	17,000	12,000	White	FDA 175.105/ NSF* & KTW	For fast assembly process
<b>TEROSON® MS 939 BK</b>										
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:

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# Pleated Filters

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

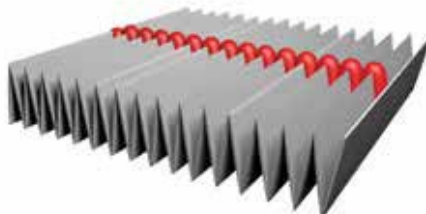
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### LEARN MORE:

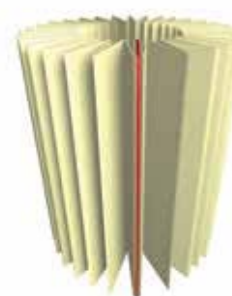
This catalog lists the most common products used in each application. Many additional products are available. Not all products are available in all countries. Contact your Henkel representative for assistance.



End cap replacement



Pleat separation



First pleat/last pleat

## TWO-PART POLYURETHANE SYSTEMS – Typical Properties

END CAP MOLDING												
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)	TEAR STRENGTH (LBS./IN.)	VISCOSITY (cPs)	COLOR	AGENCY	DESCRIPTION
<b>LOCTITE® UK 180 A</b>	LOCTITE® UK 180 A and UK 180 B combined											
IDH 1219066 (Drum)	Polyol								1,500	Blue		Self-leveling, fast de-molding, low wicking and excellent chemical resistance
<b>LOCTITE® UK 180 B</b>		1.34:1	1.11:1	1,200	85-95 (A)	2 min.	2,400	140			NSF*	
IDH 1219067 (Drum)	Iso								1,100	Amber		

## MOLD RELEASE – Typical Properties

END CAP DE-MOLDING					
PRODUCT NO.	TYPE	FINISH	SUBSTRATES RELEASED	AGENCY	DESCRIPTION
<b>LOCTITE® FREKOTE® EXITT</b>			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
IDH 398492 (Aerosol Can)	Sacrificial	High Gloss			
<b>LOCTITE® FREKOTE® LIFFT</b>				—	
IDH 420456 (Gallon)	Sacrificial	Semi-Gloss			

## HOT MELT – Typical Properties

FIRST PLEAT/LAST PLEAT PLEAT SEPARATION TECHNOLOGY									
PRODUCT NO.	TYPE	ASSEMBLY TIME	OPEN TIME (SEC.)	SOFTENING POINT (°C) / (°F)	VISCOSITY (cPs)		COLOR	AGENCY	DESCRIPTION
					AT 325°F	AT 350°F			
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

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

# MEDICAL FILTRATION



# MARKETS



## Ensuring Reliable Performance for Medical Filtration

### Hollow Fiber Potting

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

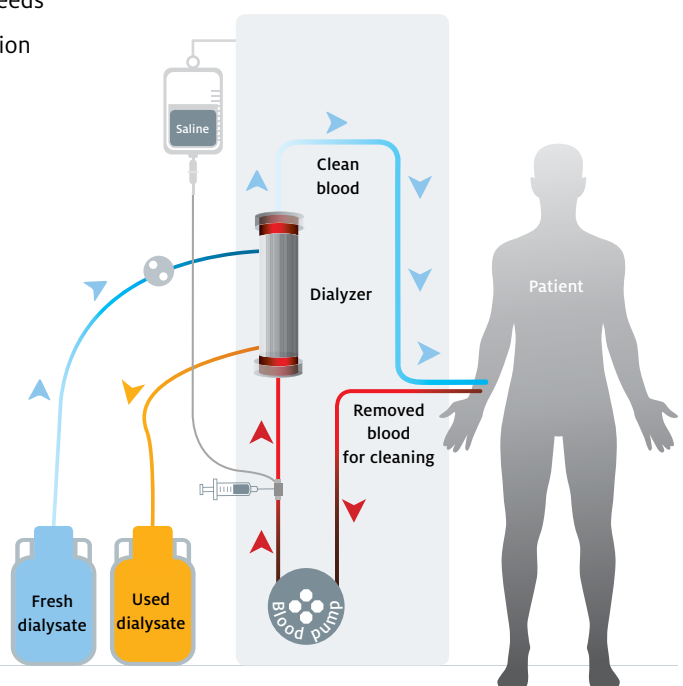
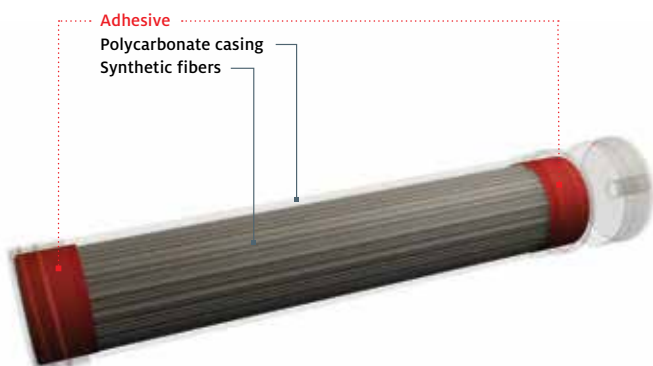
Henkel's two-part polyurethane adhesives for hollow fiber filtration offer flexibility and customized options for medical filter manufacturers. Henkel has the expertise to customize our products for your specific application needs.

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 / 4100 B

Medium Trim Times

LOCTITE®  
CR 5103 A / 4620 B

Highest Flexibility with Trim Times

LOCTITE®  
CR 3502 A / CR 4100 B

## TWO-PART POLYURETHANE SYSTEMS – Typical Properties

HOLLOW FIBER POTTING												
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
<b>LOCTITE® CR 5103 A</b>			LOCTITE® CR 5103 A and CR 4100 B combined									
IDH 1126372 (Drum)	Poly	1,200										Fast trim times, controlled viscosity (mixed static or dynamically)
<b>LOCTITE® CR 4100 B</b>			1.75:1	100:72	1,000	63 (D)	5-8 min.	1-2	Dynamic	Yellow	ISO 10993	
IDH 1126194 (Drum)	Iso	1,100										
<b>LOCTITE® CR 5103 A</b>			LOCTITE® CR 5103 A and CR 4620 B combined									
IDH 1126372 (Drum)	Poly	1,200										Fast trim times, controlled viscosity (mixed static or dynamically)
<b>LOCTITE® CR 4620 B</b>			1.75:1	100:72	1,100	63 (D)	7-9.5 min.	4-6	Dynamic	Yellow	ISO 10993	
IDH 1572702 (Drum)	Iso	1,400										
<b>LOCTITE® CR 3502 A</b>			LOCTITE® CR 3502 A and CR 4100 B combined									
IDH 1293634 (Drum)	Poly	1,200										Long cutting window, controlled viscosity (mixed static or dynamically)
<b>LOCTITE® CR 4100 B</b>			2.03:1	100:62	1,000	92 (A)	5-8 min.	1-72	Dynamic	Yellow	ISO 10993	
IDH 1126194 (Drum)	Iso	1,100										

### LEARN MORE:

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# Henkel Partnership

Services to help you succeed

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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Call Henkel's Technical Customer Support  
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to speed up your production line.

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**BONDERITE®**  
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