

## CHEMICAL RESISTANCE TEST KIT ID NR. 173610

This kit will enable you to carry out initial testing to see which materials used in our pumps are likely to be most compatible with your liquids.

## **Important Notes**

- This kit contains a selection of materials we use regularly for our products. For exceptional cases, where none of the included materials are suitable, we can offer additional material options. Not every material may be available for every product, but we will always work with you to find a good solution.
- A static soak test should only be used for initial screening: to identify and eliminate any materials which are clearly incompatible with your liquid. A soak test cannot replace a long-term validation test with a pump running in a real system. In some cases, the materials may only swell after many months of dynamic use.
- In a typical fluidic system, component lifetime will be influenced by several parameters such as liquid temperature, chemical concentration, operating pressure, flow rate and exposure to abrasive particles.
- Even highly resistant parts may absorb some liquid and gain weight but still function perfectly. We are more concerned with dimensional changes: typically swelling of the valves (or other parts) due to chemical reaction.
- All our pumps will tolerate a small degree of swell. As a rough guide:
  - 0 3% swelling is acceptable
  - 3 6% swelling can still work depending on pump type and application
  - > 6% will most likely lead to reliability issues

This kit contains the most used materials but KNF does offer other material types so please contact us to see what else is available

CONTENTS OF THE KIT				
		0		
Color	Material	Quantity		
PLASTIC HEAD PARTS				
Turquoise	PP Polypropylene 2			
Cream	PVDF Polyvinylidene fluoride	2		
Black	PPS Polyphenylene sulphide	2		
Brown	PEEK Polyetheretherketone 2			
ELASTOMER PARTS				
Black	EPDM- A 2			
Black	EPDM- B	2		
Green	FKM	2		
Black	FFKM- A	2		
Black	FFKM- B	2		
Black	FFKM- C	2		
White	PTFE	2		

There are always two parts of each material included in the kit. One for the soak test and one which can be used as a comparison.



## Tips on making the test

There are two parts of each material included in the kit: one part should be used for the soak test, and one should be kept as a reference part for making comparisons.

We recommend that you place the parts in your liquid for at least one week, to allow enough time for a reaction to take place. Either make measurements of the longest dimensions of the parts before and after the test, or place the two parts on top of each other and make a visual comparison to see if any swelling has occurred. If you decide to take measurements with a micrometer, take care with the elastomer parts to ensure the micrometer is not distorting the parts thus giving a false measurement.

Material and Colour		Comments after Test
PP (turquoise)		
PVDF (cream)		
PPS (black)		
PEEK (brown)		
EPDM- A (3 notches)		
EPDM- B	()	
FKM (green)	00	
FFKM- A (2 notches)	<b>()</b>	
FFKM- B	O	
FFKM- C	00	
PTFE		