

## Water Swelling Salinity Working Range Guide 2018

Water swell	Swell rate	4-20°C	20-40°C	40-60°C	60-80°C	80-100°C	100-120°C	120-140°C	140-160°C	160-180°C	180-200°C	200-220°C	220-240°C
W01	Normal		0-5%	0-5%	5-10%	10-15%	15-20%	15-20%	15-20%				
W02	Normal		0-5%	0-5%	5-10%	10-15%	15-20%	15-20%	15-20%	15-20%			
W03	Fast		0-5%	0-5%	5-10%	10-15%							
W04	Very Fast		0-5%	0-5%	5-10%	10-15%							
W05	Normal							0-5%	0-5%	0-5%	0-5%	0-5%	
W06	Normal	0-20%	20% +										
W08	Slow		0-5%	0-5%	0-5%	5-10%	10-15%	15-20%	15-20%	15-20%			
W09	Fast								0-5%	0-5%	0-5%	0-5%	0-5%
W10	Very Fast								0-5%	0-5%	0-5%	0-5%	0-5%
W13	Under Development					10-15%	H2S resistant						
W20	Normal (Black)		0-5%	0-5%	5-10%	10-15%	15-20%	15-20%					

The exact water-swell compound for the well requirement is a function of a number of parameters and varies according to a combination of temperature, salinity and well requirements. These are only to be used as guides to the compounds available not engineering details

## HYBRID Water Swelling Salinity Working Range

Hybrid water swell	Swell rate	4-20°C	20-40°C	40-60°C	60-80°C	80-100°C	100-120°C	120-140°C	140-160°C	160-180°C	180-200°C	200-220°C	220-240°C
C01	Normal			0-5%	0-5%	0-5%	5-10%	10-15%					
C02	Normal						0-5%	0-5%	0-5%	5-10%	10-15%		
C03	Normal							5-10%	10-15%	10-15%	10-15%	15-20%	
C05		0-20%	0-20%	0-20%									
C06						10-15%							

## OIL Swelling and Hybrid Oil swelling Working Range

Oil swell	Swell rate	4-20°C	20-40°C	40-60°C	60-80°C	80-100°C	100-120°C	120-140°C	140-160°C	160-180°C	180-200°C	200-220°C	220-240°C
O01	Normal			☑	☑	☑	☑						
O02	Fast	☑	☑	☑	☑	☑							
Hybrid Oil swell		4-20°C	20-40°C	40-60°C	60-80°C	80-100°C	100-120°C	120-140°C	140-160°C	160-180°C	180-200°C	200-220°C	220-240°C
C01	Normal			☑	☑	☑	☑	☑	☑				
C02	Normal				☑	☑	☑	☑	☑	☑	☑		
C03	Normal						☑	☑	☑	☑	☑	☑	
C05	Under Development	☑	☑	☑									
C06	Under Development					☑	H2S resistant						

## Special Elastomer Working Range

Specials	Swell rate	4-20°C	20-40°C	40-60°C	60-80°C	80-100°C	100-120°C	120-140°C	140-160°C	160-180°C	180-200°C	200-220°C	220-240°C
A-01 (Acid Swell)	Slow				10-20% HCL	10-20% HCL	10-20% HCL						
Silicone Oil Swell	Slow	☑	☑	☑	☑	☑							



The correct Oil or Hybrid swelling compound for the well requirements is a function of Oil API and temperature along with water salinity and well conditions. These are only to be used as guides to the compounds available not as engineering details