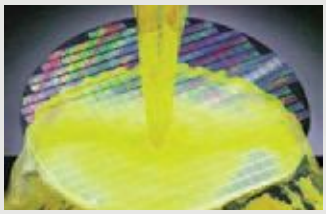
Variseal® PS™

SEALING SOLUTIONS FOR CHEMICAL PROCESSING APPLICATIONS



The Variseal® PS™

The Variseal® PS™ has been developed to provide equipment manufacturers and end users with a sealing solution compatible with virtually all chemical media. This high performing seal type has been designed with a Turcon® PTFE based sealing body, encompassing a polymeric spring which has been tailored to give precisely the correct seal energization at low pressures, while maintaining high pressure sealing integrity by assistance from the system media pressure. The polymer spring and Turcon® jacket both have unrivalled chemical compatability performance – far superior to any existing FKM or FFKM O-Rings.

The Variseal® PS™ has ultra-low leach out impurities as per SEMI standard F57-0301 and no outgassing as seen with rubber O-Rings. Therefore this product is ideally suited for use in semiconductor wet processing where very low leach out impurities are required with chemically inert sealing materials that will not degrade over time.

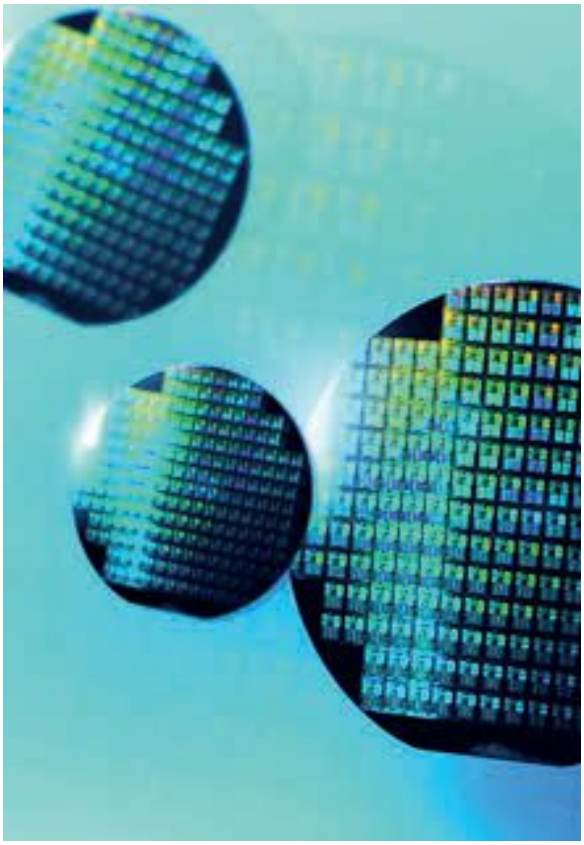
The Variseal® range of sealing solutions is available in size ranges from 5mm/0.20in to 2.5m/100in in diameter from premium grade materials such as Turcon® , polyethylene and Zurcon® polyurethane. Standard spring materials consist of Stainless Steel, Elgiloy and Hastelloy.

Variseal® can be used for sealing rods, pistons and faces in static, reciprocating and rotary applications.

Features

- Thermal stability from -253°C /-423°F to 80°C/176°F
- Vacuum sealing 5.3 x 10^{-8} mbar/l/s^{-1} (4.7 x 10^{-8} psi/in3/s^{-1}) per mm length of seal circumference
- Withstands high pressures in excess of 40 MPa/5,800psi
- Excellent wear and friction characteristics
- Compatible with virtually all chemicals
- Can be supplied clean room washed and packed to class 100
- Suitable for dynamic and static applications
- Materials available compliant to USP Class VI, Cytotoxicity <USP 87>, NSF, EU Machinary Directive, FDA 21 CFR 177.1550 and 3-A
- Suitable for piston, rod, face, rotary, reciprocating and static situations
- Easily retrofitted into standard Variseal® and O-Ring grooves including to MIL-G-5514F, DIN 3771, ISO 6194 and AS-568
- Available in standard and custom seal designs
- Ultra-low leach out and no outgassing
- Patent pending

VARISEAL® PS™ COMPOUND DATA



Materials:

- Variseal® jacket can be supplied in premium grade Turcon® MF PTFE based material, Zurcon® polyurethane or PEEK
- Spring can be supplied in PEEK, Stainless Steel, Elgiloy or Hastelloy

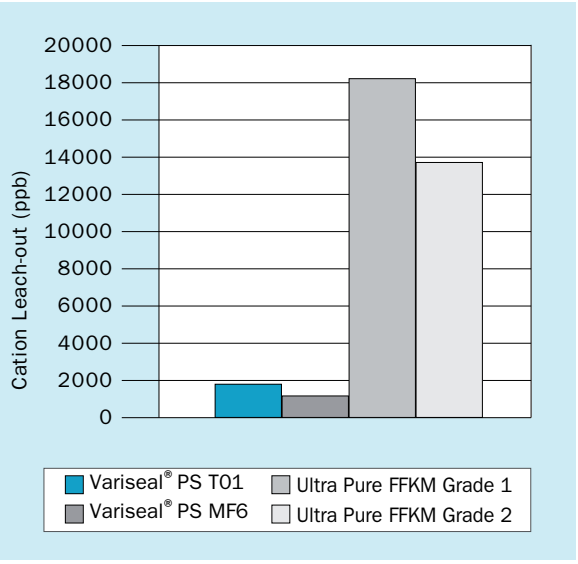
Industries:

- Food, beverage and pharmaceutical manufacturing
- Life science/Medical technology
- Chemical processing
- Semiconductor fabrication

Trelleborg Sealing Solutions service:

- Quality levels to ISO 9001:2000 including 100% inspection and zero defect philosophy
- Wash and pack to class 100 standards
- Leading-edge in-house polymer development and test capability
- Extensive design facilities, including material specific non-linear Finite Element Analysis (FEA)
- Comprehensive technical support and after-sales service through the global Trelleborg Sealing Solutions network
- SCM and logistics support

Turcon® MF Grades		
Turcon® MF1	• Exceptional friction characteristics • Unrivalled low temperature capabilities • Suitable for use with soft mating surfaces	FDA
Turcon® MF2	• Good wear resistance	FDA
Turcon® MF3	• Very good wear and abrasion resistance • Suitable for use with soft mating surfaces	FDA
Turcon® MF4	• Unique lubricating properties • Withstands higher pressures • Suitable for use with medium to hard mating surfaces	FDA USP Class VI
Turcon® MF5	• High wear resistance • Good friction and sliding properties	FDA
Turcon® MF6	• Superior pressure and wear performance • Suitable for gas, high and low viscosity fluids	FDA, USP Class VI



Variseal® PS™ is available in the Trelleborg Sealing Solutions Turcon® MF range. These high purity PTFE based compounds have been specially engineered for hygienic applications. They combine superior sealing capabilities and material purity, with minimal impurities that could potentially contaminate processing systems.

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