Katon®

# KATON® PF80V

## High Performance Specfluoroelastomer

# KATON® PF80V Series

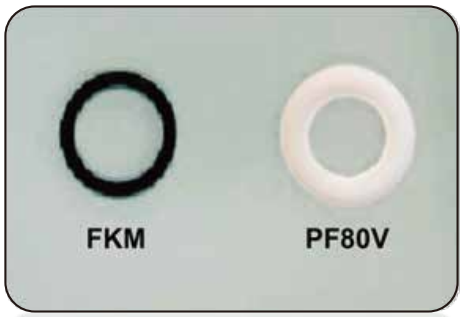
## specfluoroelastomer

### What is KATON® PF80V O-RING ?

- Application of KATON® peroxide macromolecular polymer.
- Resistance to almost all chemicals in touch panel manufacturing process.
- No roller mark formation on glass during manufacturing process.
- Zero metal release without contaminating chemical liquid.

### "Amine resistance"
### (N-butylamine soaking comparison)

Original




9hour

24hour

### "Structure"

Novel terpolymer composition with APA bridging system based on unparalleled KATON® formulation.

$$-CH_2CF_2CF_2CF\left(OCF3\right)-CH_2CH_2-$$

### "Formulations available for diverse manufacturing processes"

- KATON® PF80V-W series
  For water cleaning process (low cost) in glass panel production.
- KATON® PF80V series
  For liquids of all wet chemical processes in glass panel production.

### "Features"

| | KATON® PF80V | FKM |
|---|---|---|
| No roller marks | ○ | × |
| TUJ WN (Dry Etch) Organic solvent mixture | ○ | × |
| Acid mixture | ○ | △ |
| Polar basic amine | ○ | × |
| Etchant mixture | ○ | × |

○ : Excellent △ : Fair × : No good

KATON® PF80V can resist the attack of highly saturated vapor effortlessly, unattainable by most fluoroelastomers.

Katon®

**"Product List"**

| Product Name | KATON® PF80V |
|---|---|
| Distinctive Features | 80 Shore A (Peroxide curing)<br>Roller applications for wet inline tools<br>Wet chemical management systems<br>MOCVD and other select dry processes |

| Performance before vulcanization (Press cure 175°C , 30min) | |
|---|---|
| Appearance | White compound |

| Performance following vulcanization (Press cure 200°C , 4hr) | |
|---|---|
| Specific gravity 23°C (ASTM D792) | 1.99 |
| Hardness Shore A (ASTM D2240) | 80 |
| Rebound resilience (ASTM D297) | 26.15 |
| Elongation length% (ASTM D412) | 155 |
| Tear strength Mpa (ASTM D624) | 15 |
| Compression deformation%, 200°C,70hr (Button) (ASTM D395) | 22 |

**"Low-temperature wet penetration (ASTM D417"**

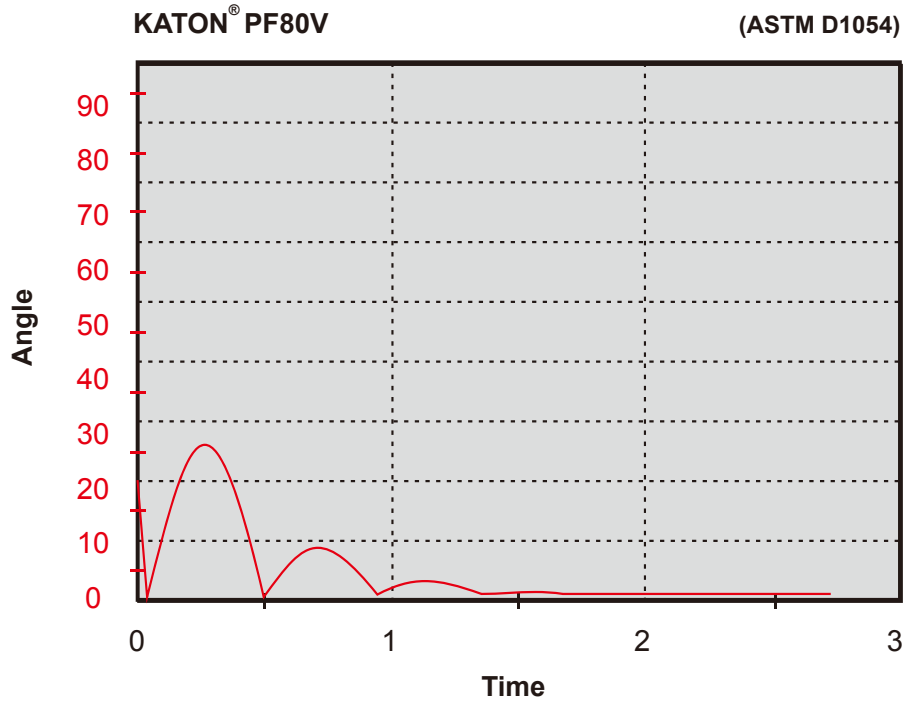
| | FFKM | KATON® PF80V | FKM |
|---|---|---|---|
| Permeabil i tyg/m ². 24hr | 5 | 4 | 10 |

**"Volume changes in various solvents"**

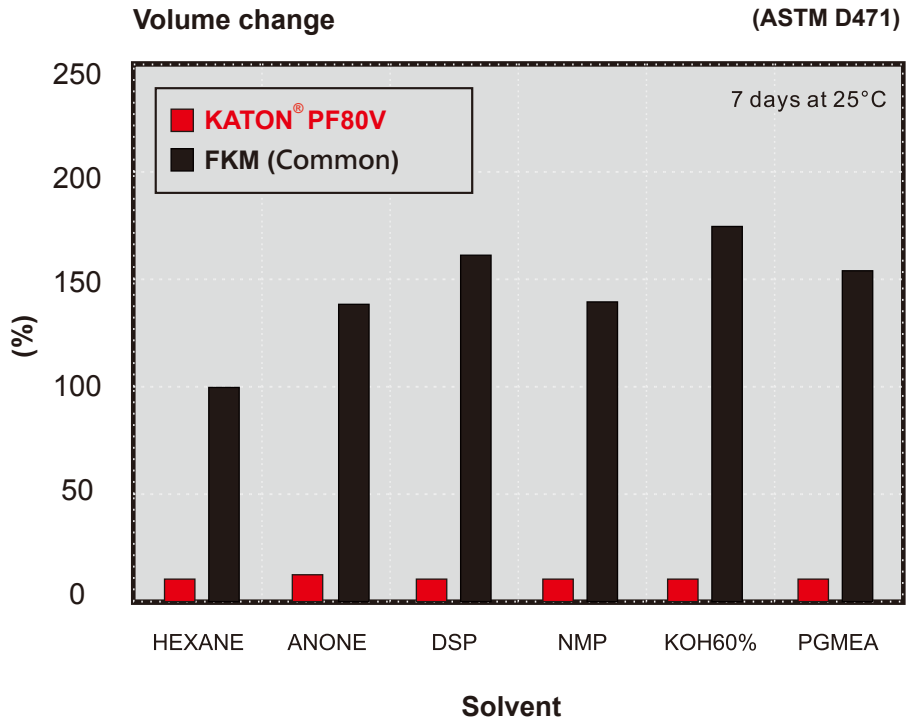
| Product Name | | KATON® PF80V<br>Volume change%, 25oC-70hr | <br>Specific gravity change% |
|---|---|---|---|
| Hydrocarbon | ISOPAH propulsion gas | 0 | 0 |
| | Fuel C | 14 | -7 |
| | Hexane | 11 | -5 |
| | Toluene | 0 | 0 |
| | DI Water | 0 | 0 |
| Photo Resiston | 1500 mixture solution | 6 | -2 |
| Ketone | Acetone | 7 | -9 |
| | MEK | 5 | 0 |
| Ester | Ethyl acetate | 7 | -3 |
| Alcohol | Allyl Alcohol | 0 | 0 |
| | Ethylene glycol | 0 | 0 |
| Ether | Methyl tert-butylether | 0 | 0 |
| | DGME | 1 | -2 |
| Amine | DMAC | 3 | -2 |
| | Butylamine | 10 | -8 |
| | TMAH2.38% tetramethylam-monium hydroxide | 1 | -1 |
| Aldehyde | Formalin | 0 | 0 |

"Unique characteristics"

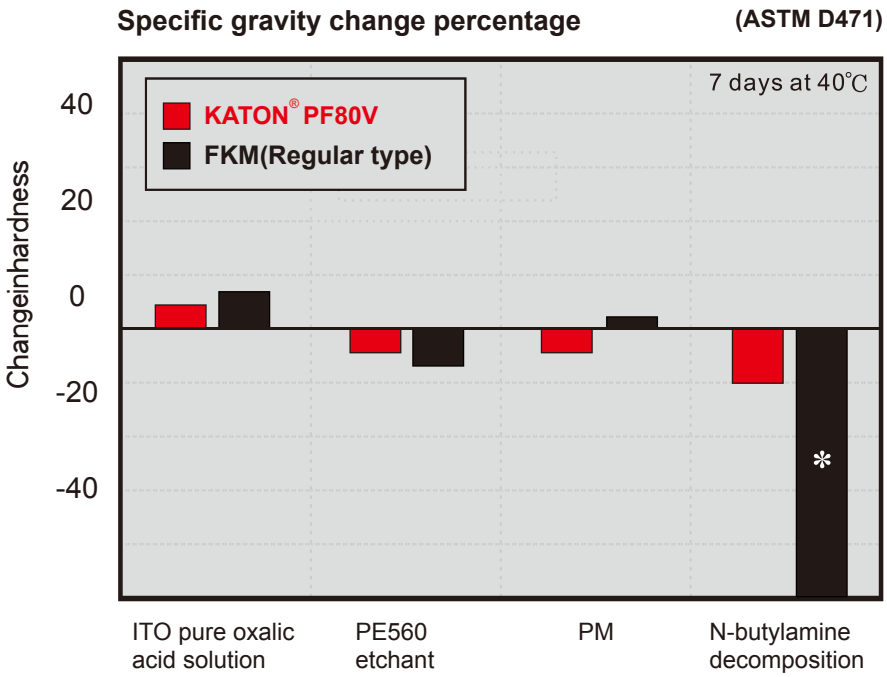
## Rebound resilience



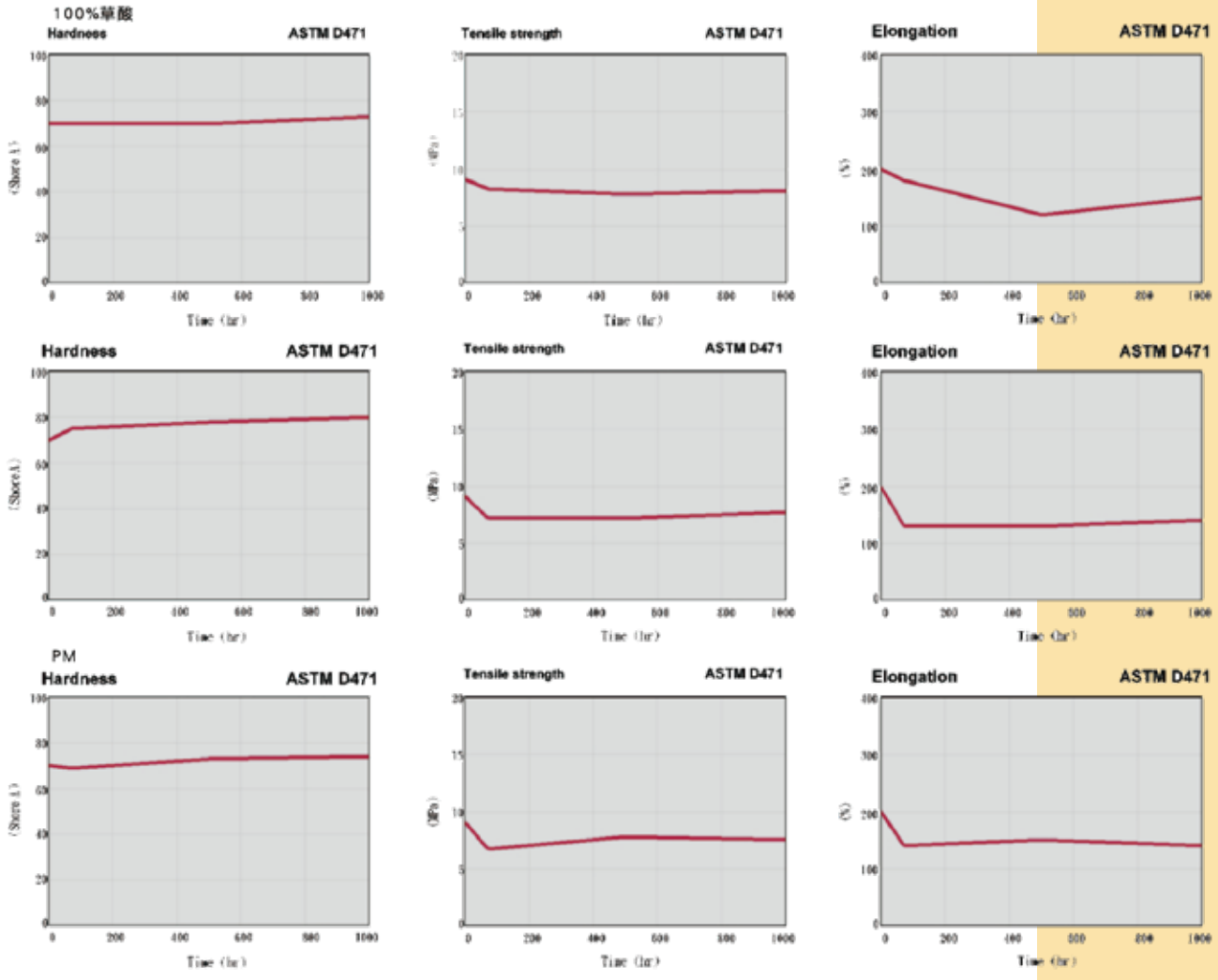

## Solvent resistance performance




## Specific gravity change percentage




## Etchant mixture

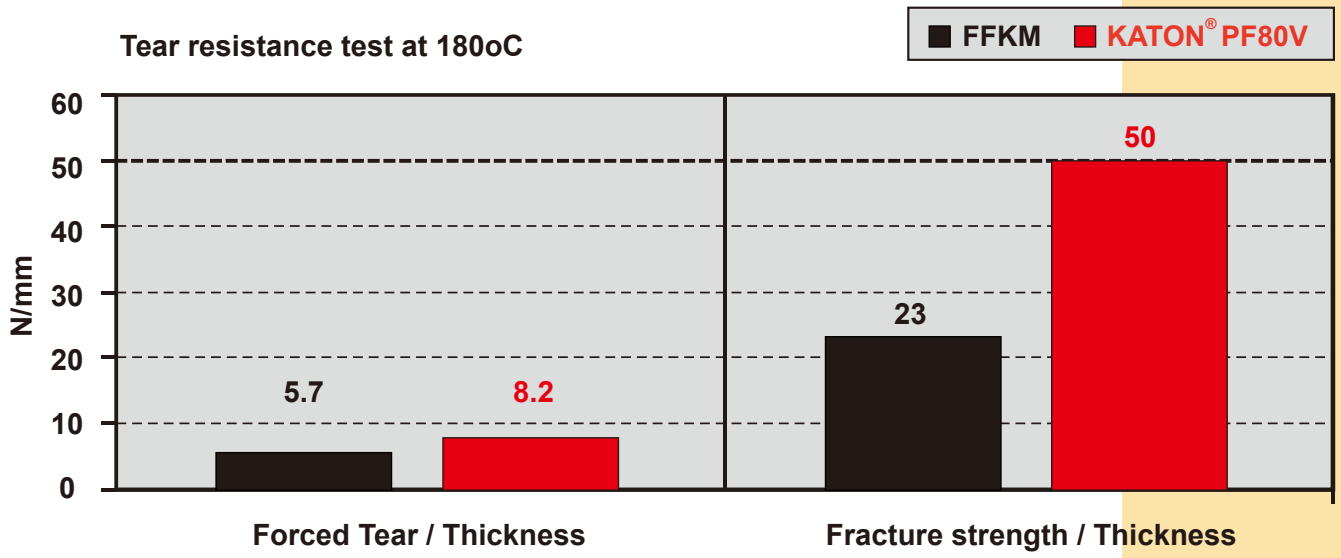


## KATON® PF80V's effect on tear performance in dynamic roller usage

KATON® PF80V & FFKM, comparison result of tear strength at elevated temperature

Test temperature：180°C

Test standard：ASTM D624B

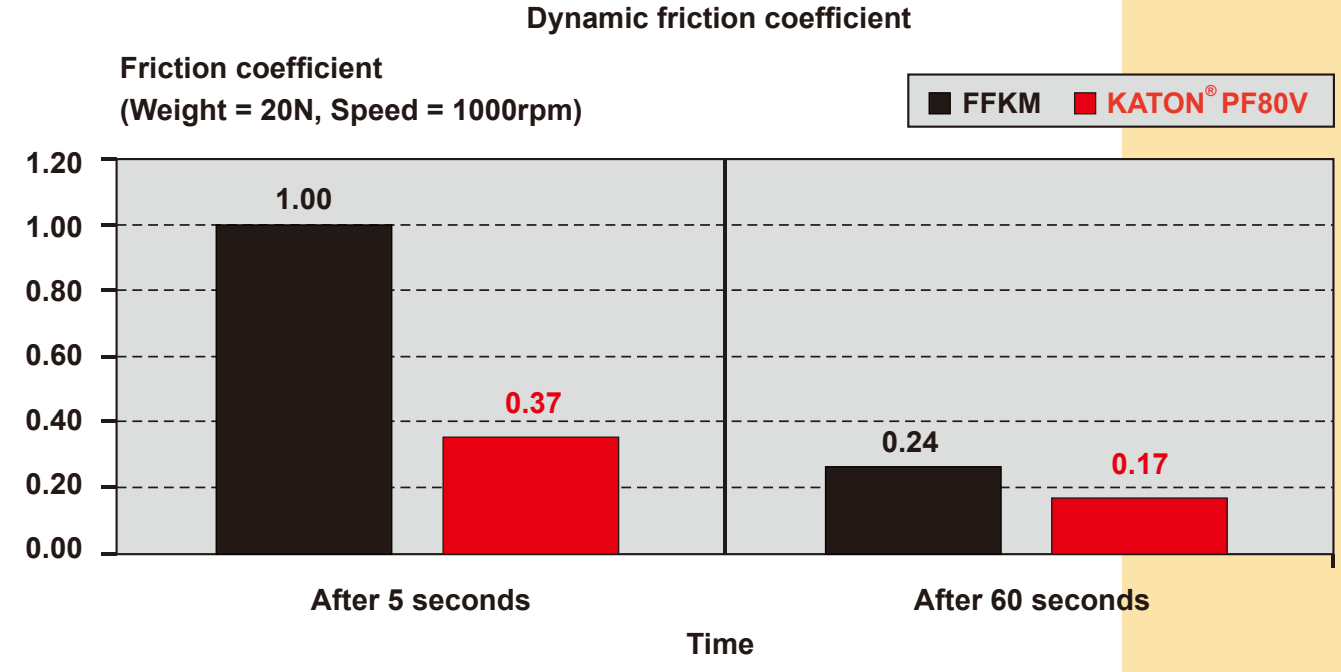



## KATON® PF80V's effect on dynamic friction coefficient in touch panel manufacturing

KATON® PF80V 80A

Pressure: 0.17 MPa 100 mm stainless steel rod

Rotational speed: 1000rpm

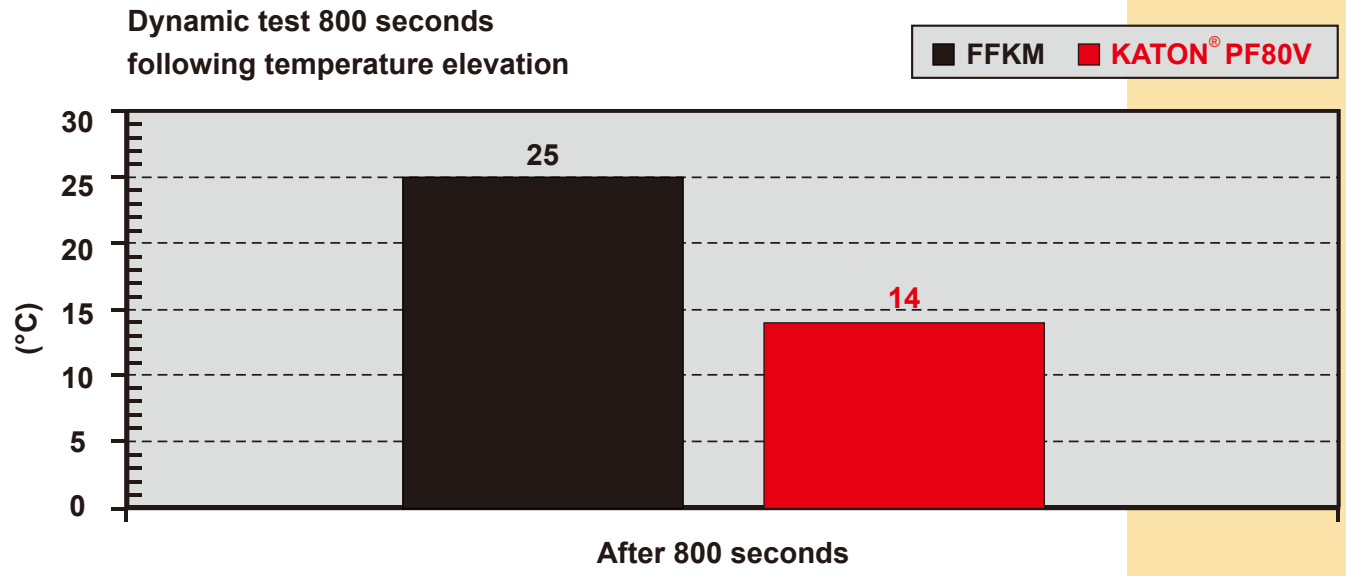


## KATON® PF80V's effect on friction coefficient of touch sensor glass

KATON® PF80V 80A

Pressure: 0.17 MPa 100 mm stainless steel rod

Rotational speed: 1000rpm

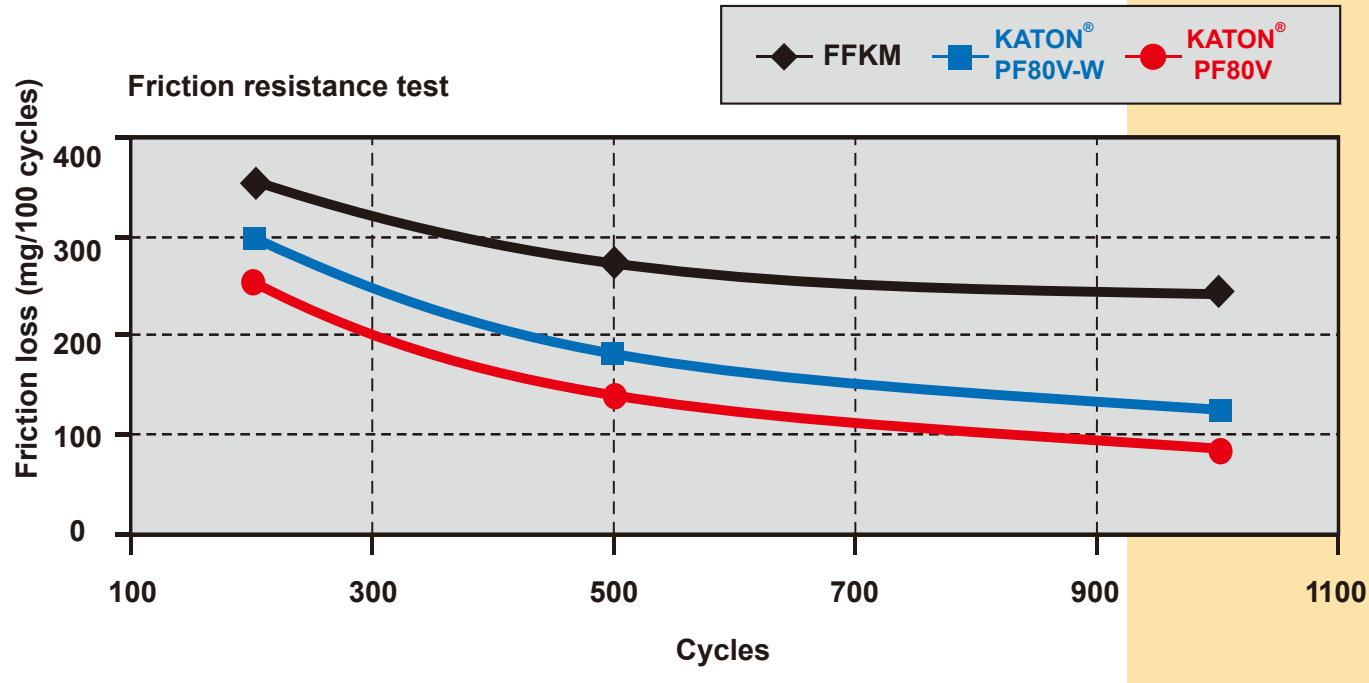



## KATON® PF80V's effect on friction loss of O-Ring (P-38)

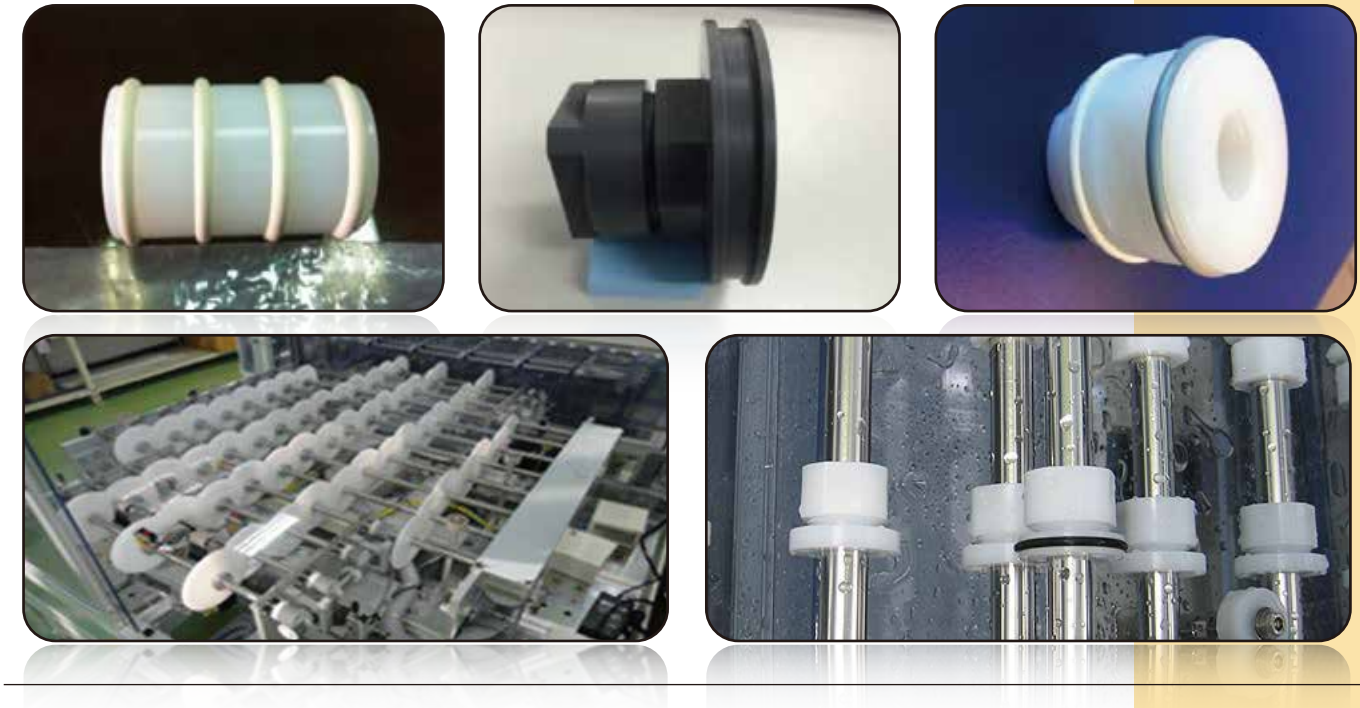
KATON® PF80V 80A

Pressure: 0.17 MPa 100 mm stainless steel rod

Rotational speed: 1000rpm



## ITO wet cleaning process and etching equipment usage



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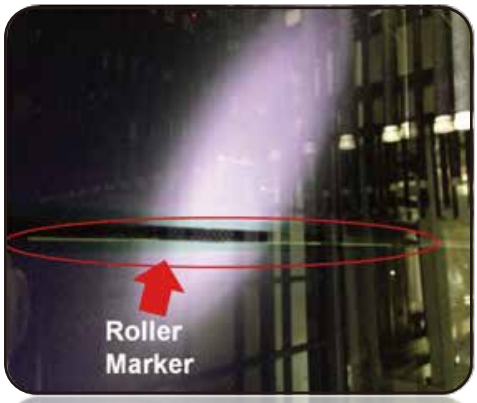
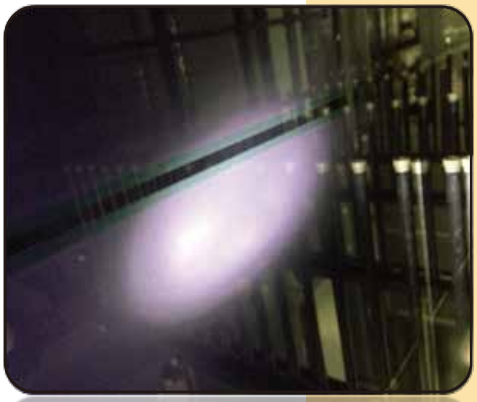



Before improvement: Yield is affected by Roller Marke.



After improvement: Yield is improved efficiently.

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|---|---|
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