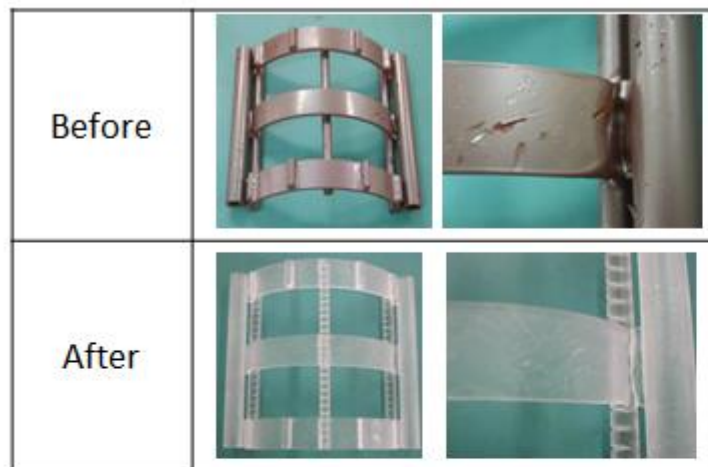
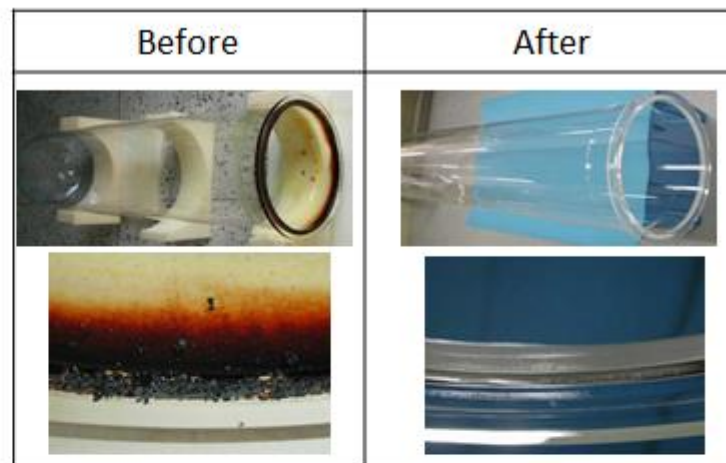


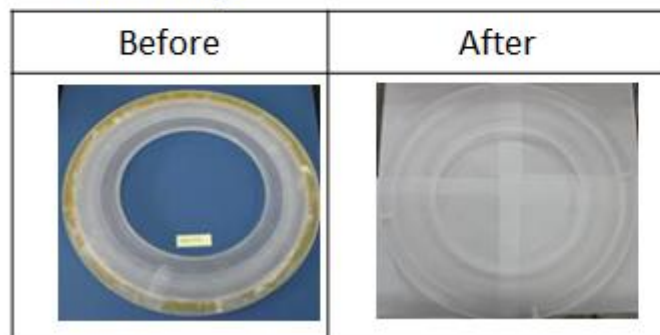
Quartz Boat



Quartz Outer Tube



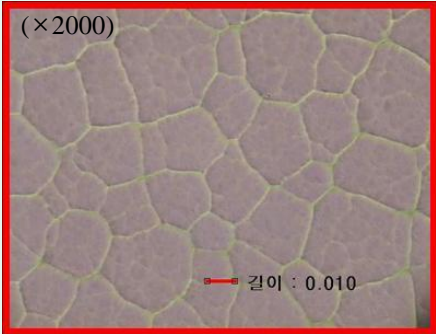
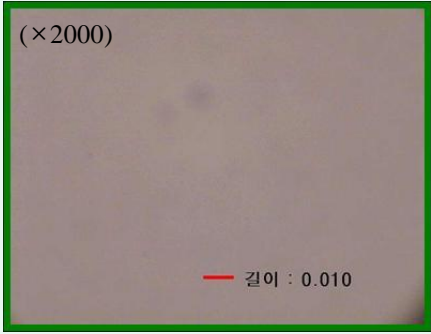
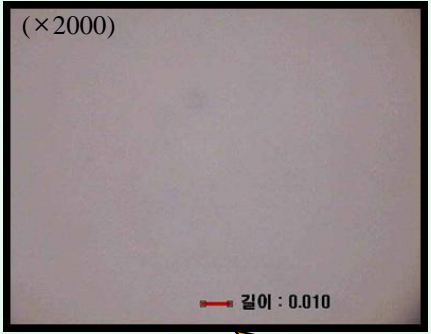
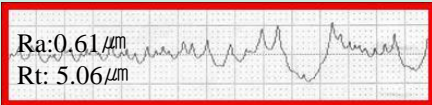
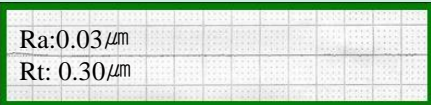

Quartz Ring



Belljar

Comparison of Cleaning Test for Si_3N_4 Film on Quartz

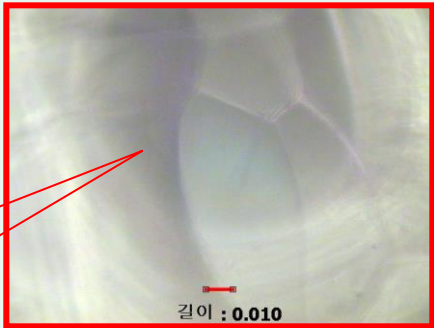

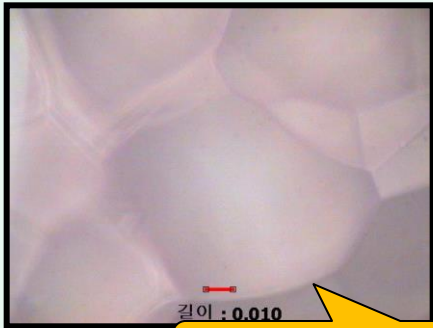
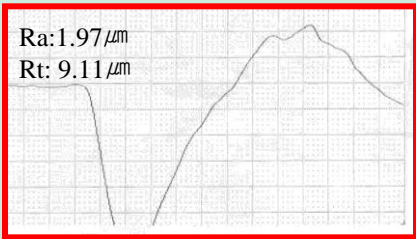
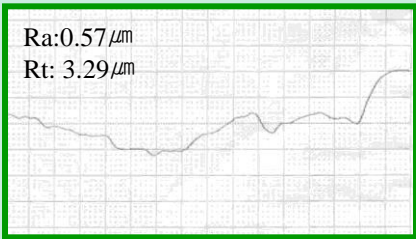
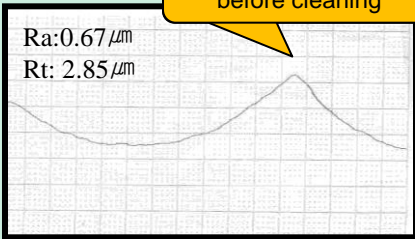
◆ Comparison of HF VS QNST Solution

	HF (25%)	QNST	Remarks
Treatment Time	60min	60min	
Etch Rate	0.44 $\mu\text{m}/\text{min}$	0.11 $\mu\text{m}/\text{min}$	HF E/R is four times faster
Loss of Weight	1.36%	0.34%	
Surface (Microscope Image)			 <p>Data before cleaning</p>
Surface (Roughness Data)			

Comparison of Cleaning Method for Poly-Si film on Quartz



◆ Comparison of HF+HNO3 VS QPST Solution

	HF+HNO3 (1:2)	QPST	Remarks
Treatment Time	60min	60min	
Etch Rate	0.40 $\mu\text{m}/\text{min}$	0.15 $\mu\text{m}/\text{min}$	Mixed acid E/R is 2.5 times faster than QPST's
Loss of Weight	1.32%	0.28%	
Surface (Microscope Image)	 <p>길이 : 0.010</p>	 <p>길이 : 0.010</p>	 <p>길이 : 0.010</p>
Surface (Roughness Data)	 <p>Ra: 1.97 μm Rt: 9.11 μm</p>	 <p>Ra: 0.57 μm Rt: 3.29 μm</p>	 <p>Ra: 0.67 μm Rt: 2.85 μm</p>

Health & Environmental Premium II : Less Reactive gases



■ Mixed Acid(HF+HNO3) VS Jiwon Chemical (QPST)

👉 Experimental procedure : Captured one liter of outgases from each jars where 1g of Si piece is resolved in. And then measured the outgases volume through the test agency.

👉 Photos of reactive jars

👉 Captured gas volume data

