

Measurement of water diffusion into sealing layer

For evaluation of water sealing layer, we provide water diffusion measurement service using heavy water (D₂O) treatment and Secondary Ion Mass Spectrometry (SIMS). This service is applicable to organic sealing layer also.

D₂O penetration into sealing layer (example)

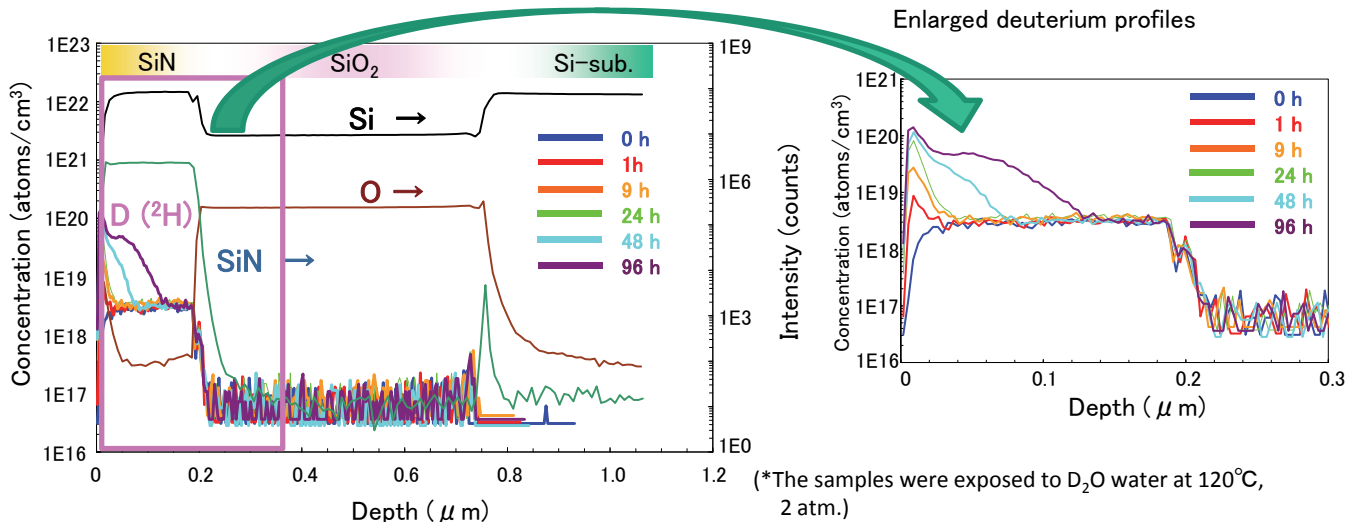


Fig.1 Depth profiles of deuterium in SiN/SiO₂ stack

SIMS enables

- ✓ Depth profiling of hydrogen and deuterium for each layer
- ✓ Detection with high sensitivity (Low detection limit)

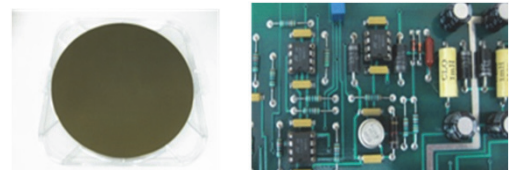
D₂O treatment conditions

Table1 Humidification and immersion conditions

Condition		Temperature range	Exposure time
Humidification	Pressured	R.T. - 120°C	1-100 h
	Atmospheric pressure	R.T. - 200°C	
Immersion		R.T. - 120°C	

Table2 Possible process conditions vs. sample size

Sample size	Humidification		Immersion
	Pressured	Atmospheric pressure	
< 35 mm φ	✓	✓	✓
35 - 50 mm φ		✓	✓
50 - 310 mm φ		✓	



Wafers, boards or panels can be processed.