Reactor	**Oxford Flexal ALD**	
Date	**10-Jan-20**	
Growth	HfO2 on 4" silicon wafer	
Expected growth rate	1.1-1.2 Angstrom per cycle	
Expected Refractive Index	1.98-2.06	
Recipe Name	mrichmon - TDMAH HfO2 Plasma @ 300C	
Growth Temperature	300	°C
Precursor	TDMAH	
Number of Cycles	100	Cycles
Angstroms grown	133.71	Angstroms
Gaertner Refractive Index	2.0194	n
Gaertner growth rate (A/cycle)	1.34	Angstoms/cycle
VASE Thickness		Angstroms
VASE MSE		
VASE Refractive index		n
VASE growth rate (A/Cycle)	0	Angstroms/cycle

Gaertner measurements		**Thickness (A)**	**R.I.**
	Top Left	134.00	2.0198
	Top Right	133.51	2.0133
	Center	133.08	2.0239
	Bottom left	133.53	2.0162
	Bottom Right	134.42	2.0240
Average		**133.71**	**2.0194**

Recipe information

Dose	240	milliseconds
Purge time	10	seconds
Stabiliztion time	500	milliseconds
Plasma time	6	seconds
Plasma power	300	watts
Plasma purge time	10	seconds
Bubbler jacket temp (Oven)	70	°C