FIG. 1

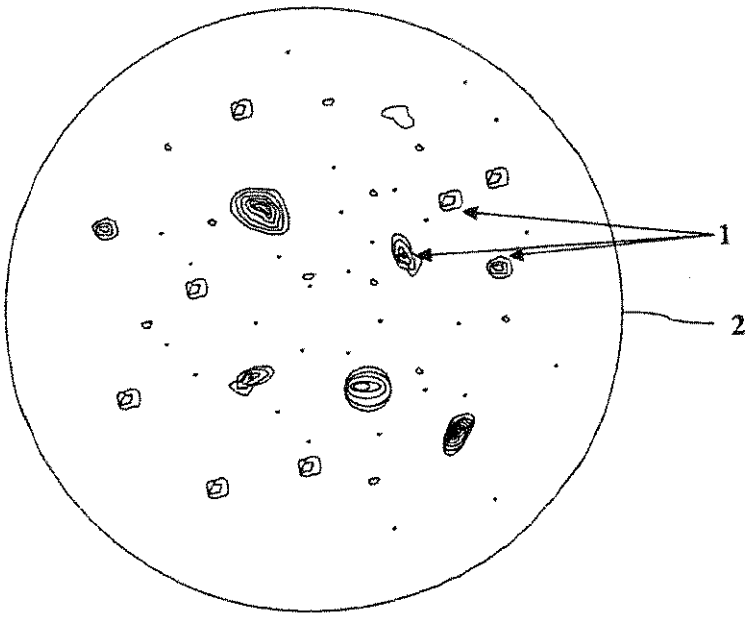


FIG. 2

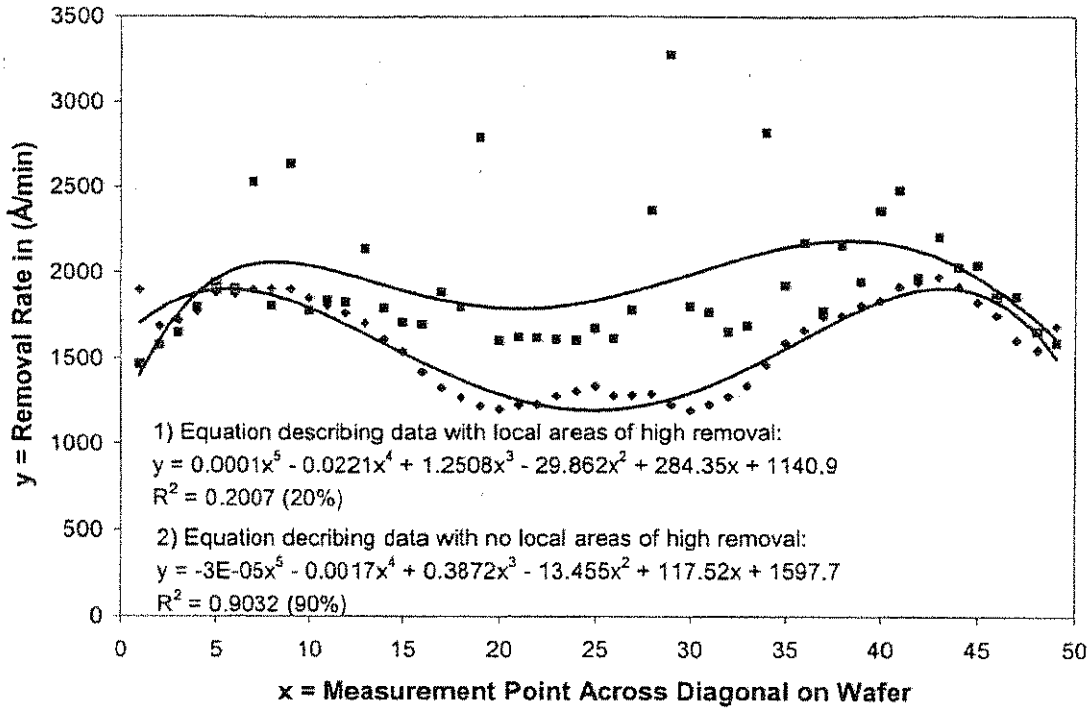

y = Removal Rate in (Å/min)
3500
3000
2500
2000
1500
1000
500
0
0
5
10
15
20
25
30
35
40
45
50
x = Measurement Point Across Diagonal on Wafer
1) Equation describing data with local areas of high removal:
y = 0.0001x^5 - 0.0221x^4 + 1.2508x^3 - 29.862x^2 + 284.35x + 1140.9
R^2 = 0.2007 (20%)
2) Equation decribing data with no local areas of high removal:
y = -3E-05x^5 - 0.0017x^4 + 0.3872x^3 - 13.455x^2 + 117.52x + 1597.7
R^2 = 0.9032 (90%)

FIG. 3

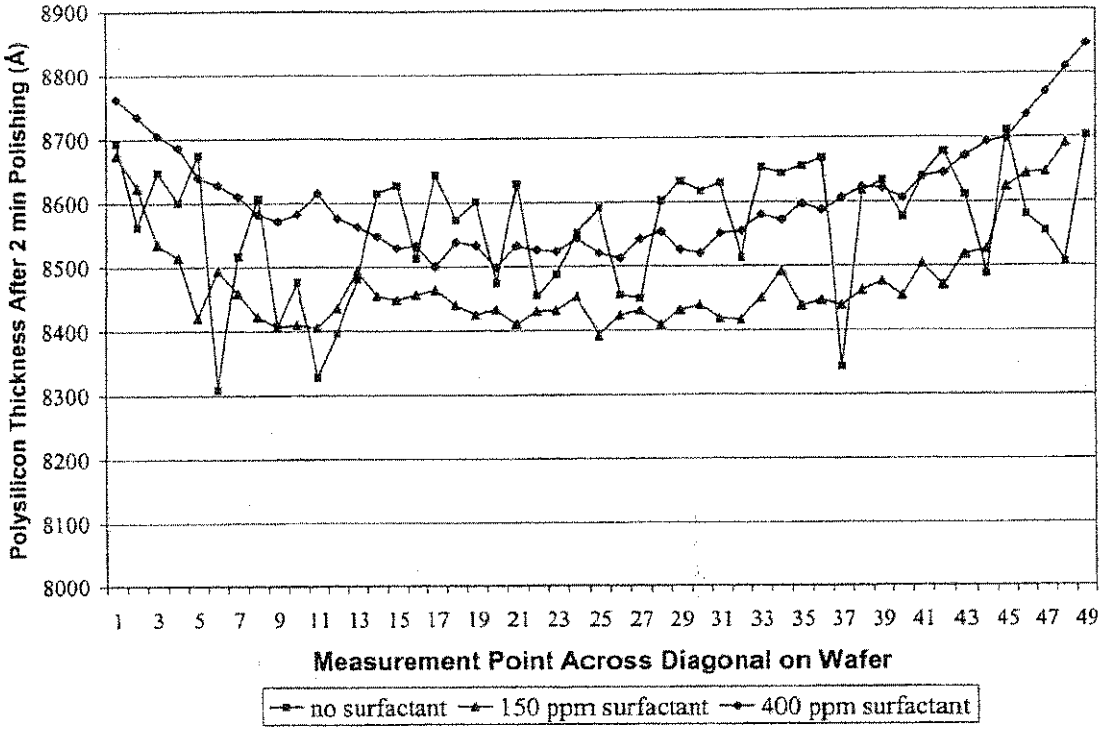

Polysilicon Thickness After 2 min Polishing (Å)
8900
8800
8700
8600
8500
8400
8300
8200
8100
8000
1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35 37 39 41 43 45 47 49
Measurement Point Across Diagonal on Wafer
no surfactant
150 ppm surfactant
400 ppm surfactant

FIG. 4

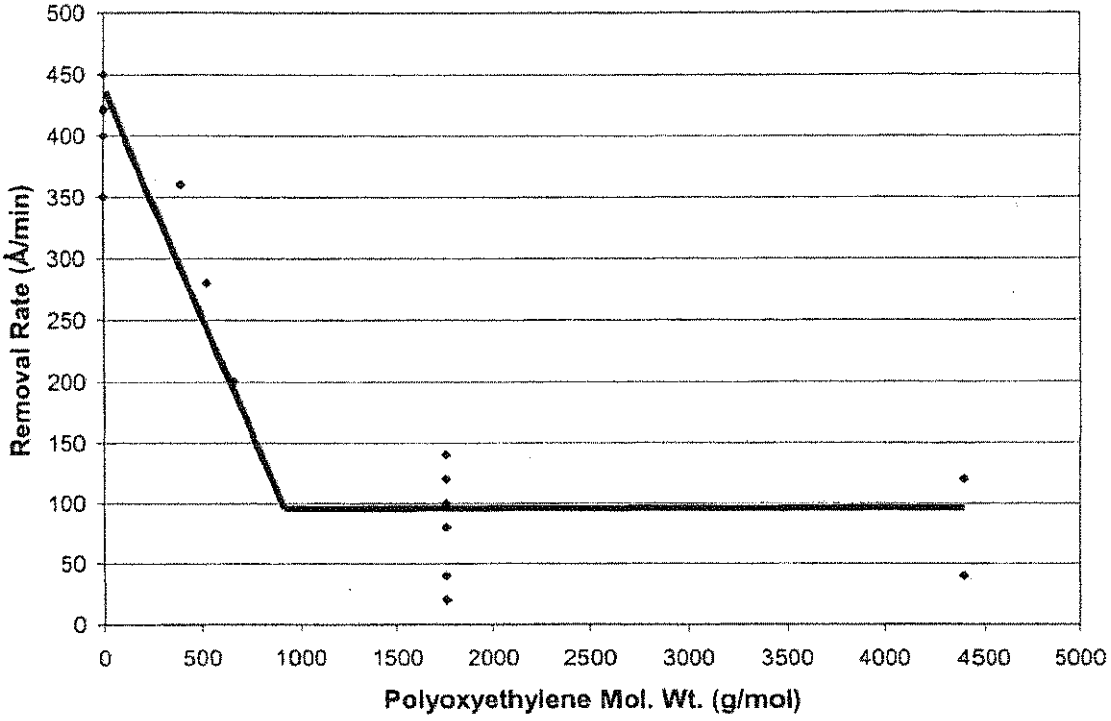

Removal Rate (Å/min)
500
450
400
350
300
250
200
150
100
50
0
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
Polyoxyethylene Mol. Wt. (g/mol)

FIG. 5

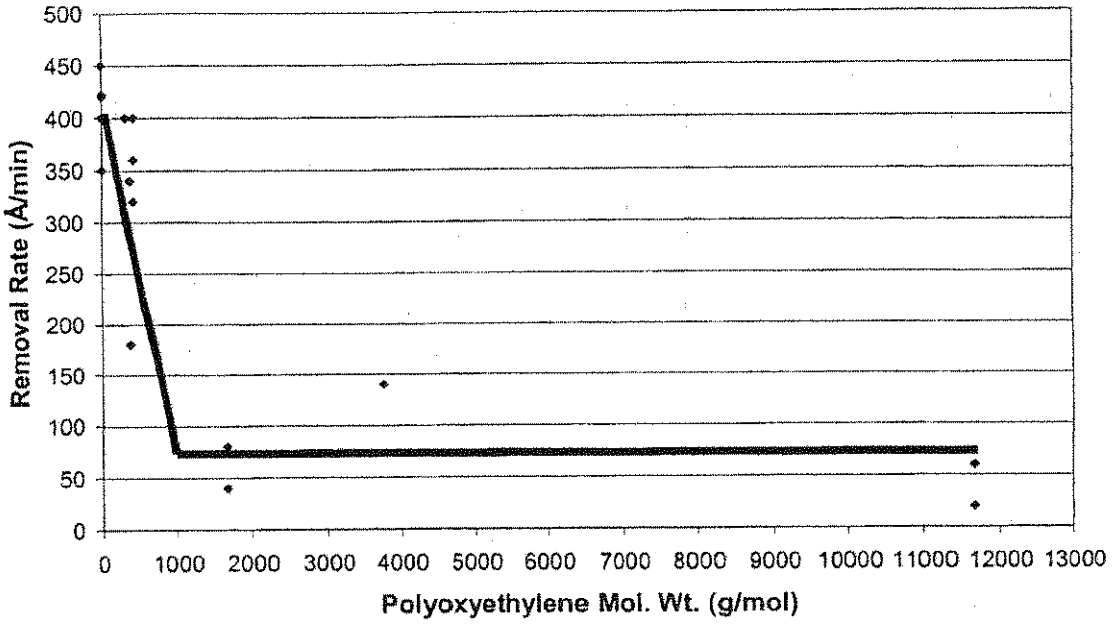
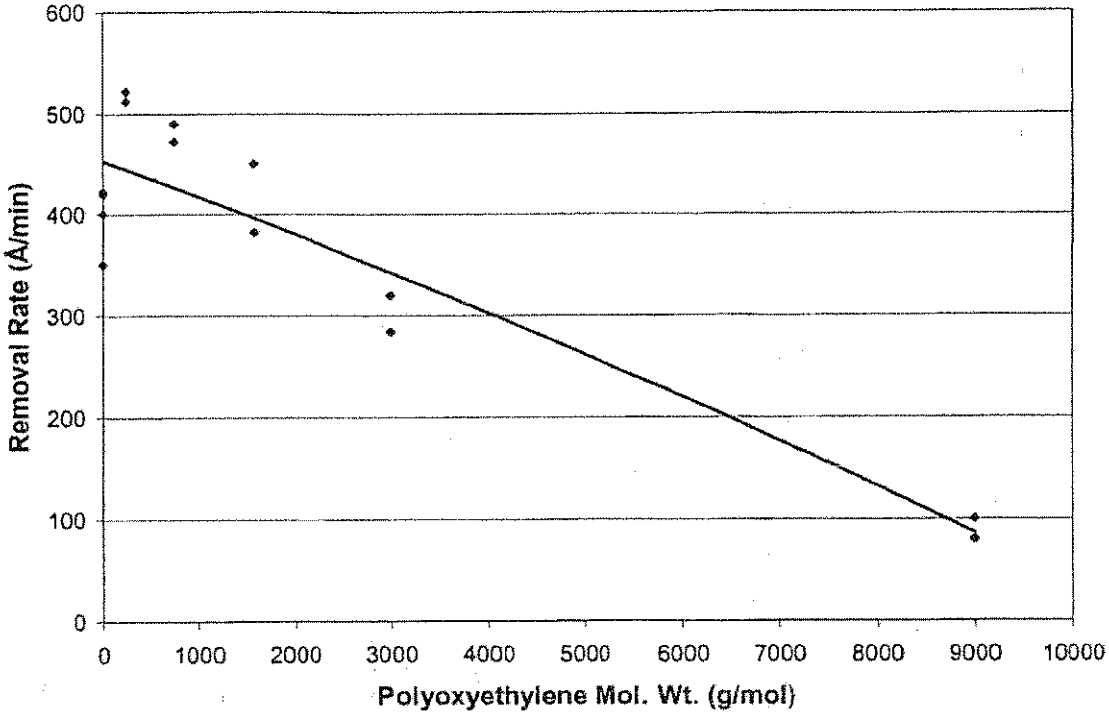

Removal Rate (Å/min)
500
450
400
350
300
250
200
150
100
50
0
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000
11000
12000
13000
Polyoxyethylene Mol. Wt. (g/mol)

FIG. 6


600
500
400
300
200
100
0
Removal Rate (Å/min)
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000
Polyoxyethylene Mol. Wt. (g/mol)