

# THEORETICAL THICKNESS OF SPIN-COATING PHOTORESIST

MATERIAL	KINEMATIC VISCOSITY (cSt)
SU-8 10	1,050
SU-8 100	51,500
Polyimide (HD-4100)	3060 ± 660 (Check Specific MSDS)
Polyimide (Durimide 7520)	
Polyimide (Durimide 115A)	
PMGI (SF3)	
Shipley (S1813)	
Futurrex (NRP 1000PY)	

EXAMPLE: SU-8 100

$$\text{Kinematic viscosity } (\mu) = 51500 \text{ cSt} = 0.0515 \frac{\text{m}^2}{\text{s}}$$

$$\text{Time } (t) = 45 \text{ seconds}$$

$$\text{Angular velocity } (\omega) = 3000 \text{ RPM} = 314.2 \frac{\text{rad}}{\text{s}} = 100\pi \text{ Hz}$$

$$\text{Thickness } (h) \sim \sqrt{\frac{\eta}{t\omega^2}}$$

$$h \sim \sqrt{\frac{(0.0515 \frac{\text{m}^2}{\text{s}})}{(45 \text{ s}) \cdot (100\pi \text{ Hz})^2}} \sim 108\mu\text{m}$$