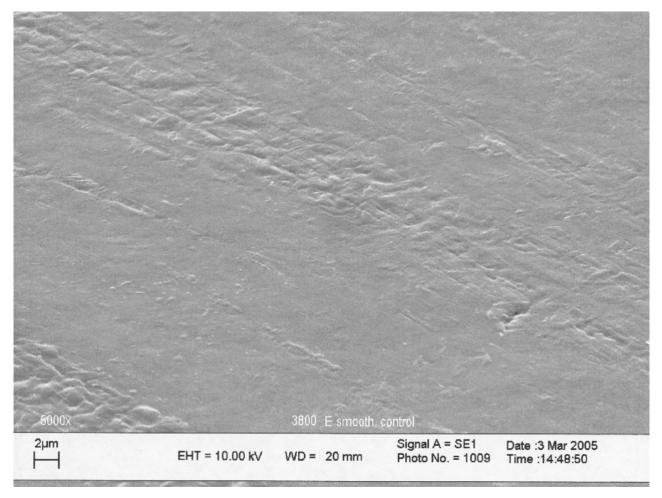
### Lamination to Ultralam 3000

Surface treatments Vs Surface Roughness

# Options

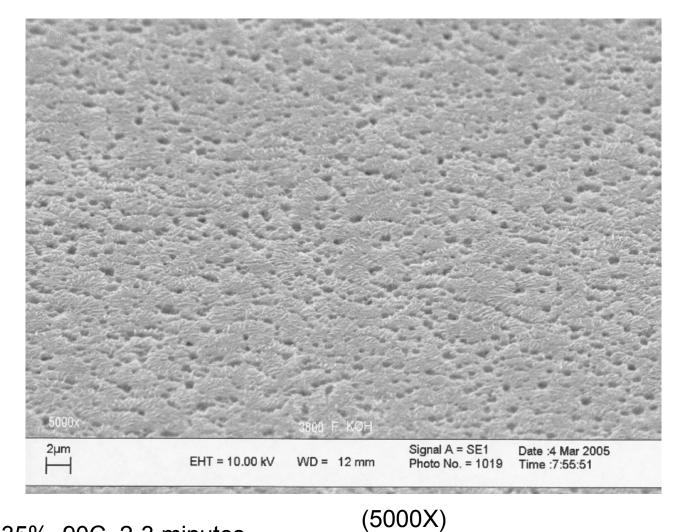
- Providing surface area for bonding is critical.
- The imprint left by our laminated copper foils is best for bonding.
- There are two recommended surface treatment options.
- In all cases, the surfaces will become more wettable.

#### Untreated Ultralam 3800 Dielectric Film Surface



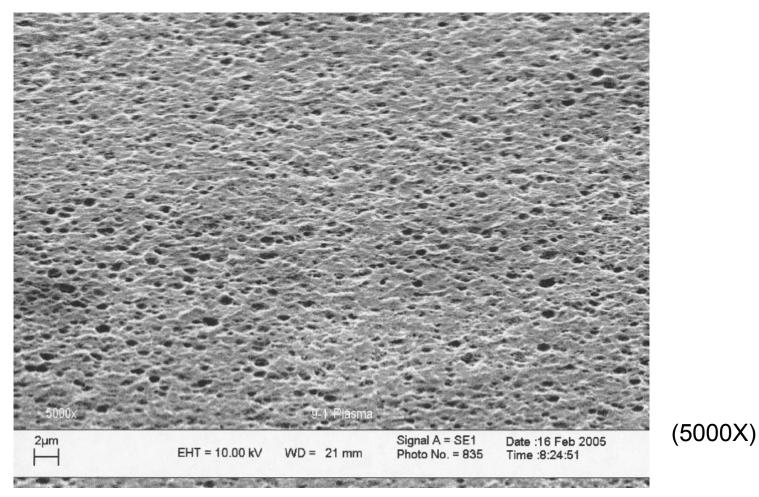
(5000X)

#### KOH Treated Ultralam 3800 Dielectric Film - Good -



35%, 90C, 2-3 minutes

## Plasma Treated Ultralam 3800 Dielectric Film – Better -



We recommend CF4/O2 (10%/90%) followed by H2/N2 (10%/90%)

#### Etched Ultralam 3850 Laminate (Copper clad removed) - Best -

