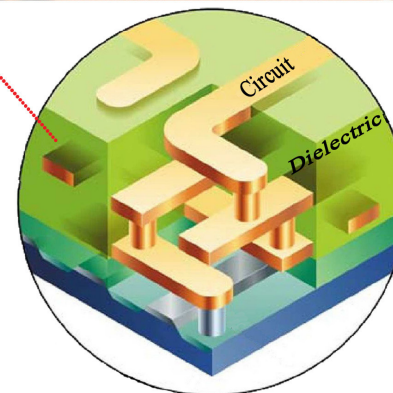
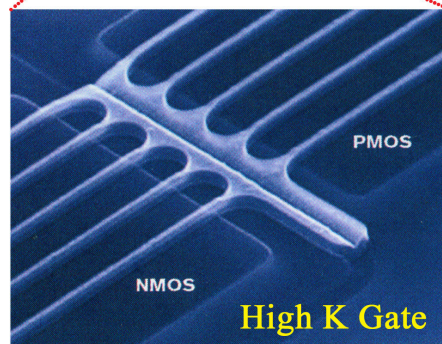
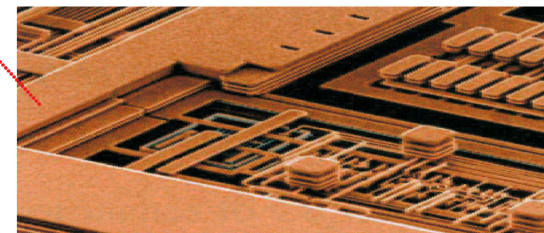
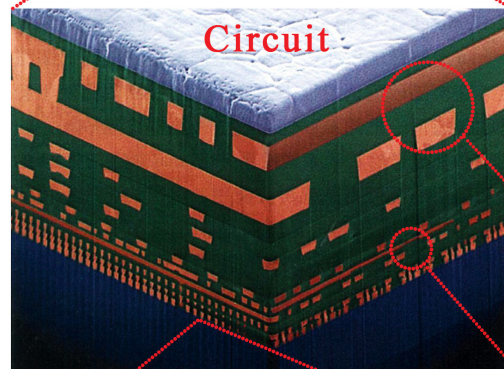
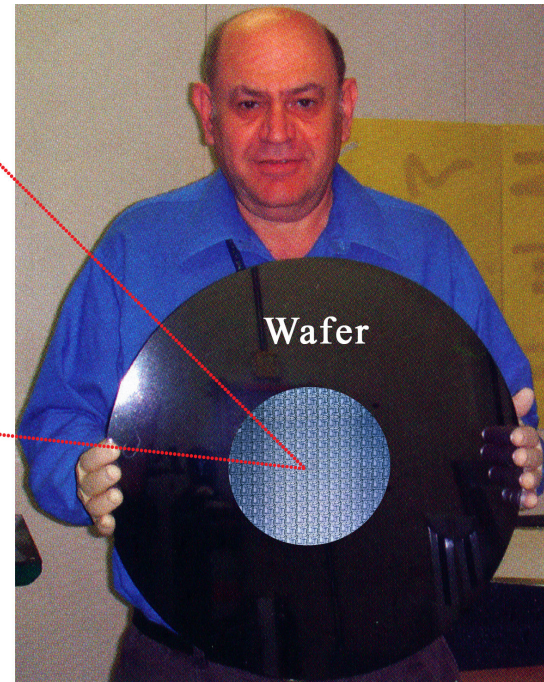
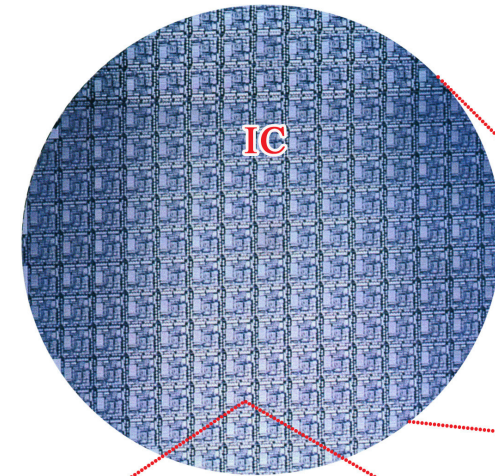


The Dressing of Pads for CMP of Next-Generation Wafers

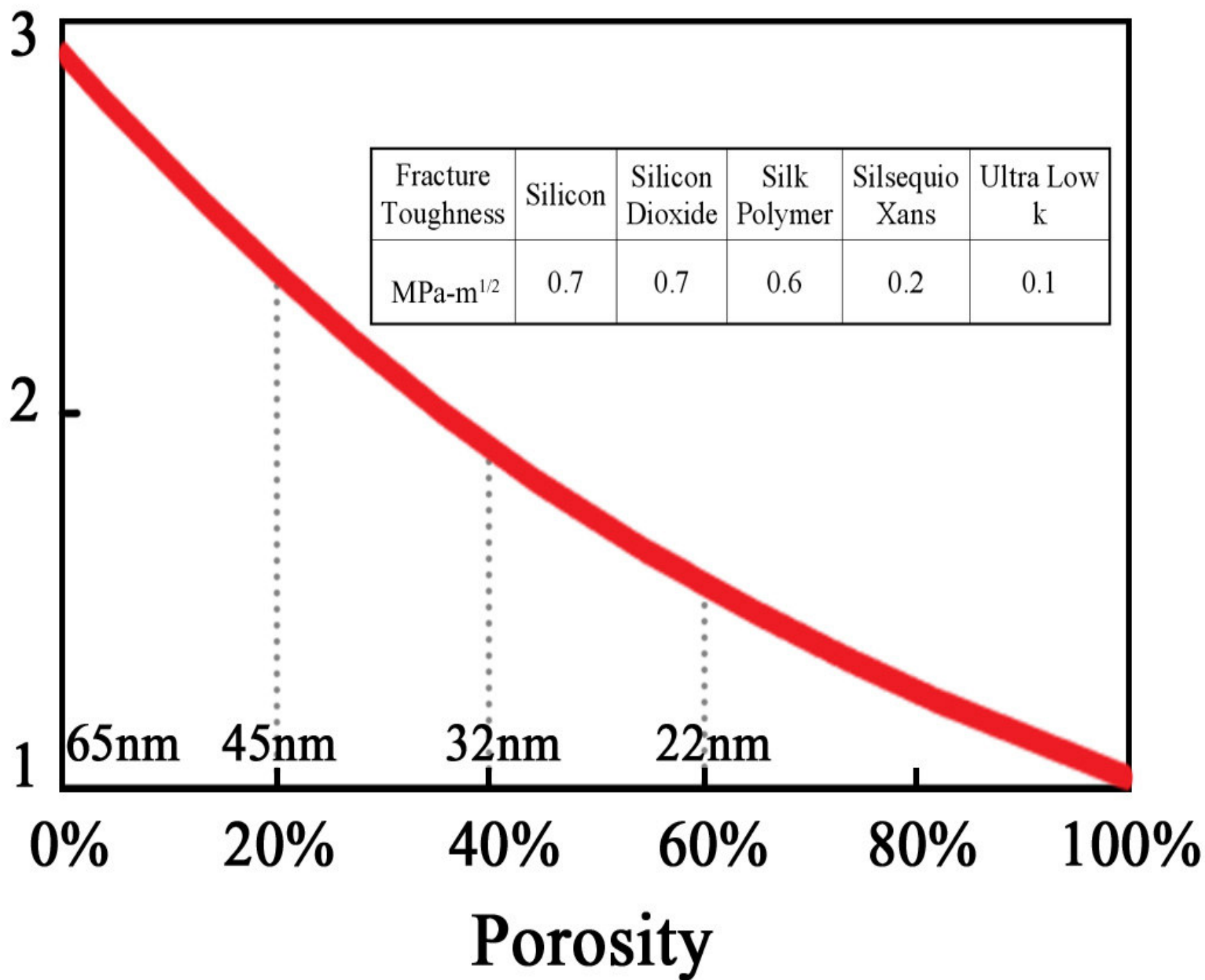
Dr. James C. Sung
Inventor of DiaGrid Disks and PCD Pad Conditioner
Dr. Michael Sung

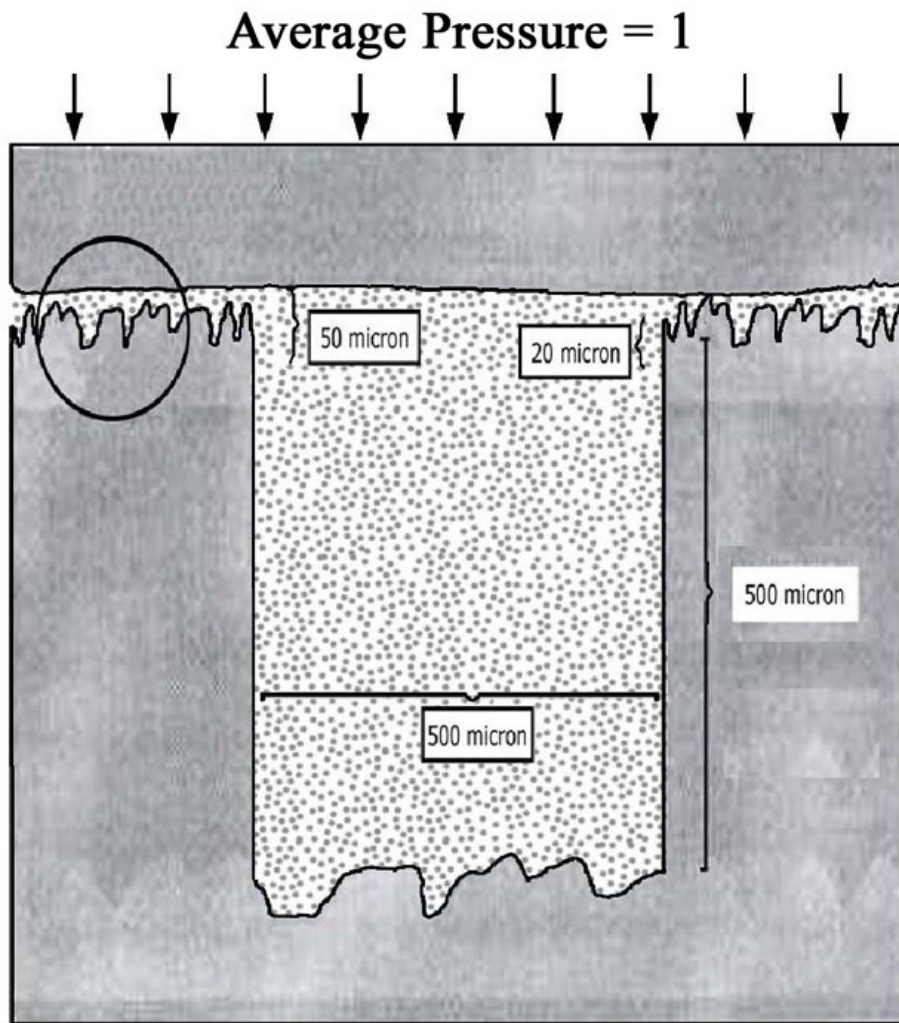
Moore's Law For 2012 & Beyond : 450 mm Wafer/ 22 nm Node > 10^7



Low K Dielectric

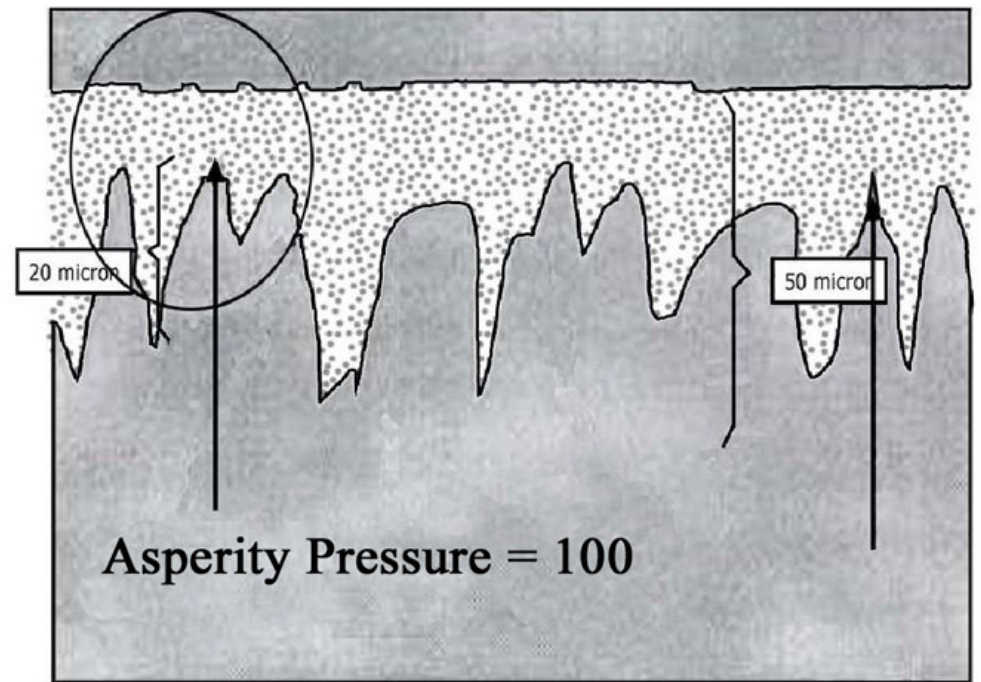
Dielectric Constant



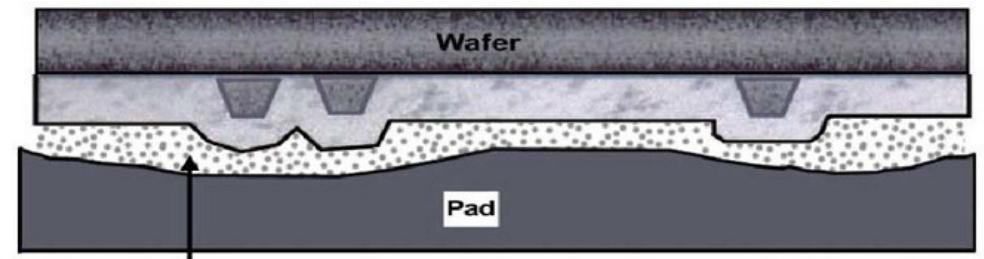


©2000 Philipossian

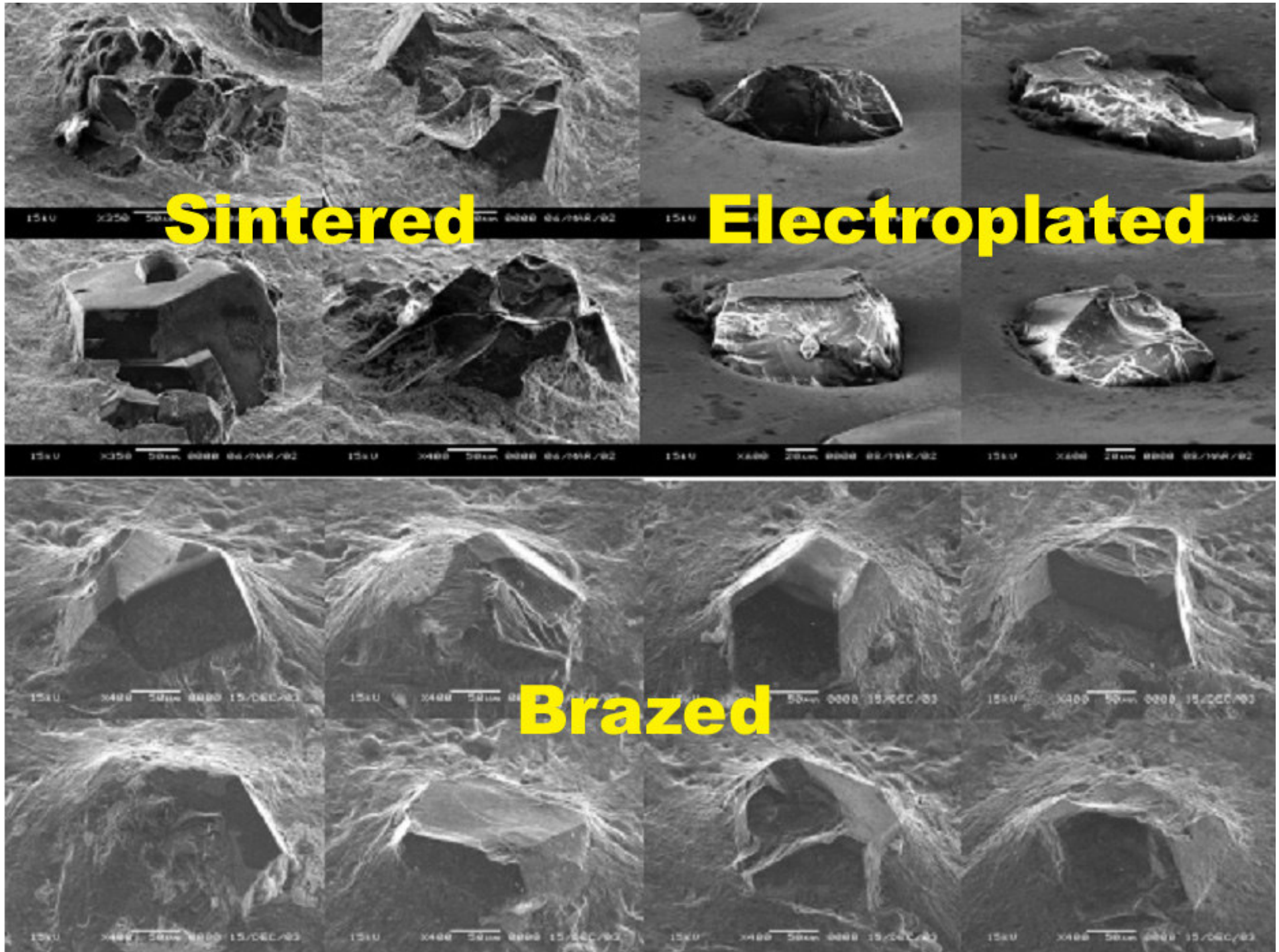
7



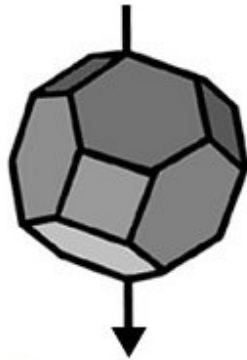
©2000 Philipossian



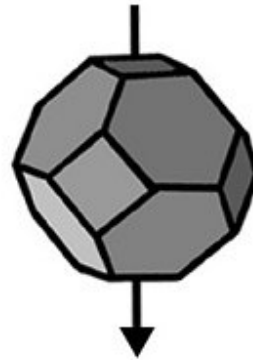
Abrasive Pressure = 1000



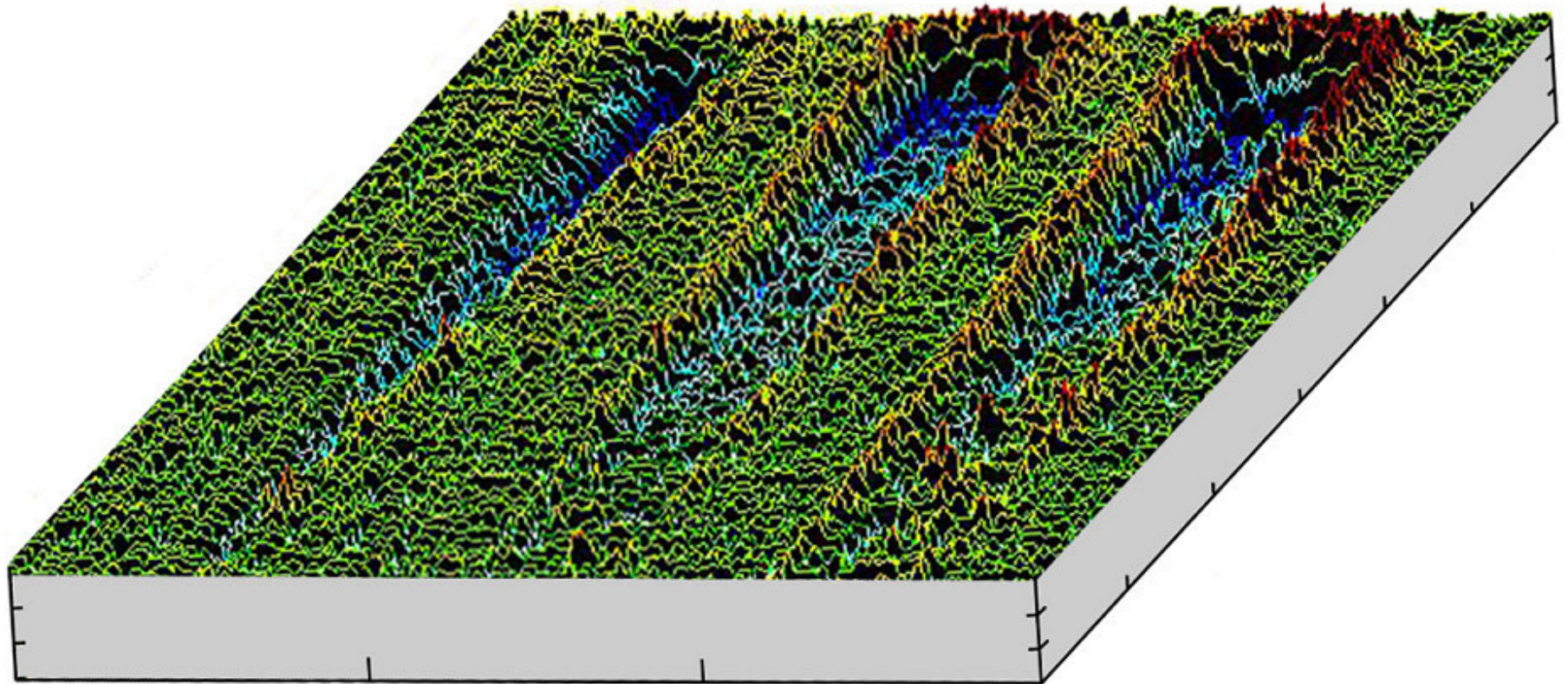
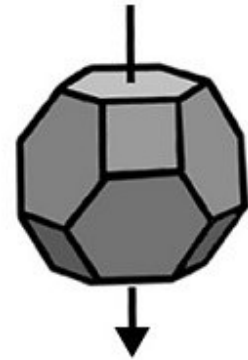
Point



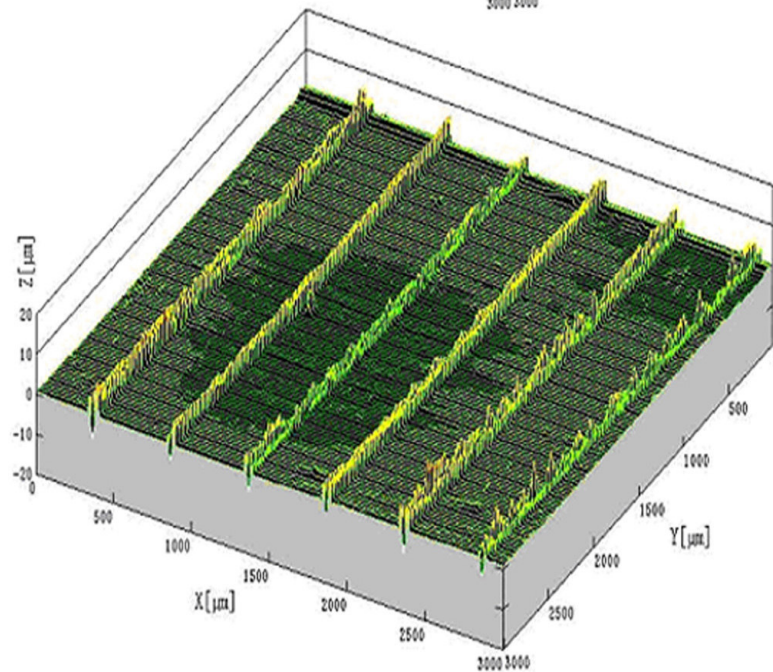
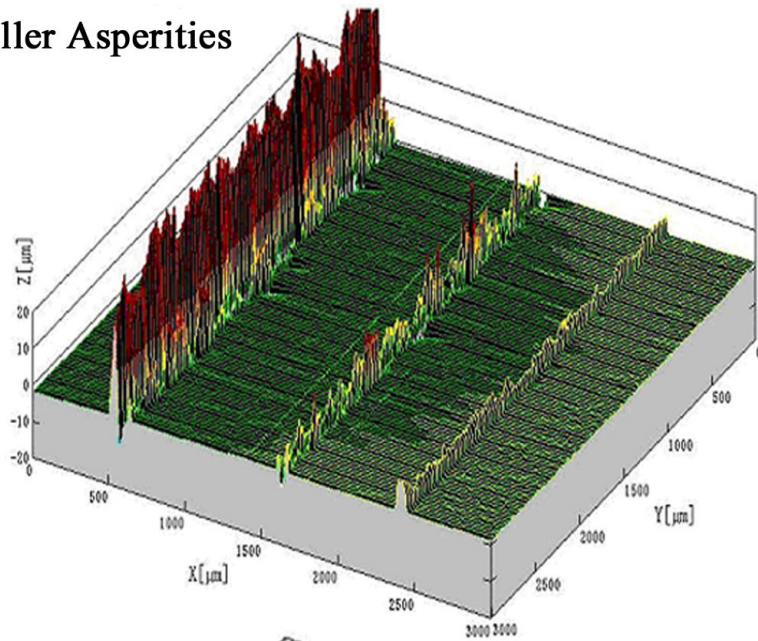
Edge



Face

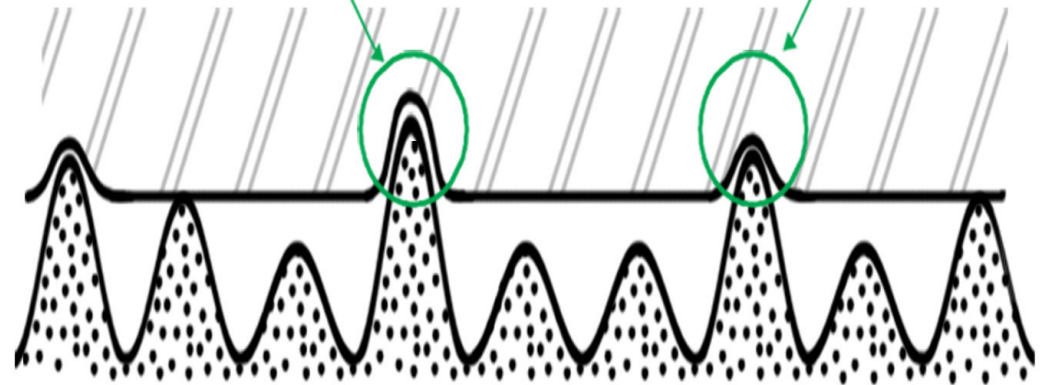


Killer Asperities



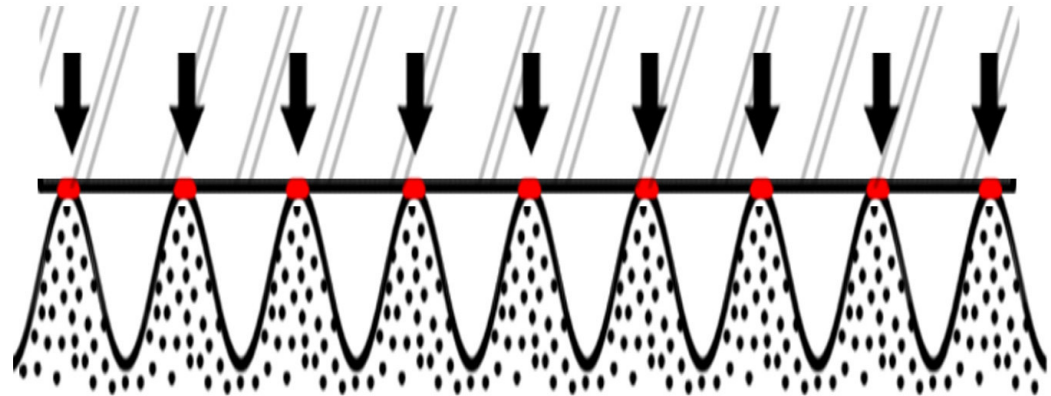
Scratch

Dishing



DiaGrid® Dressed Pad

Uniform Loading

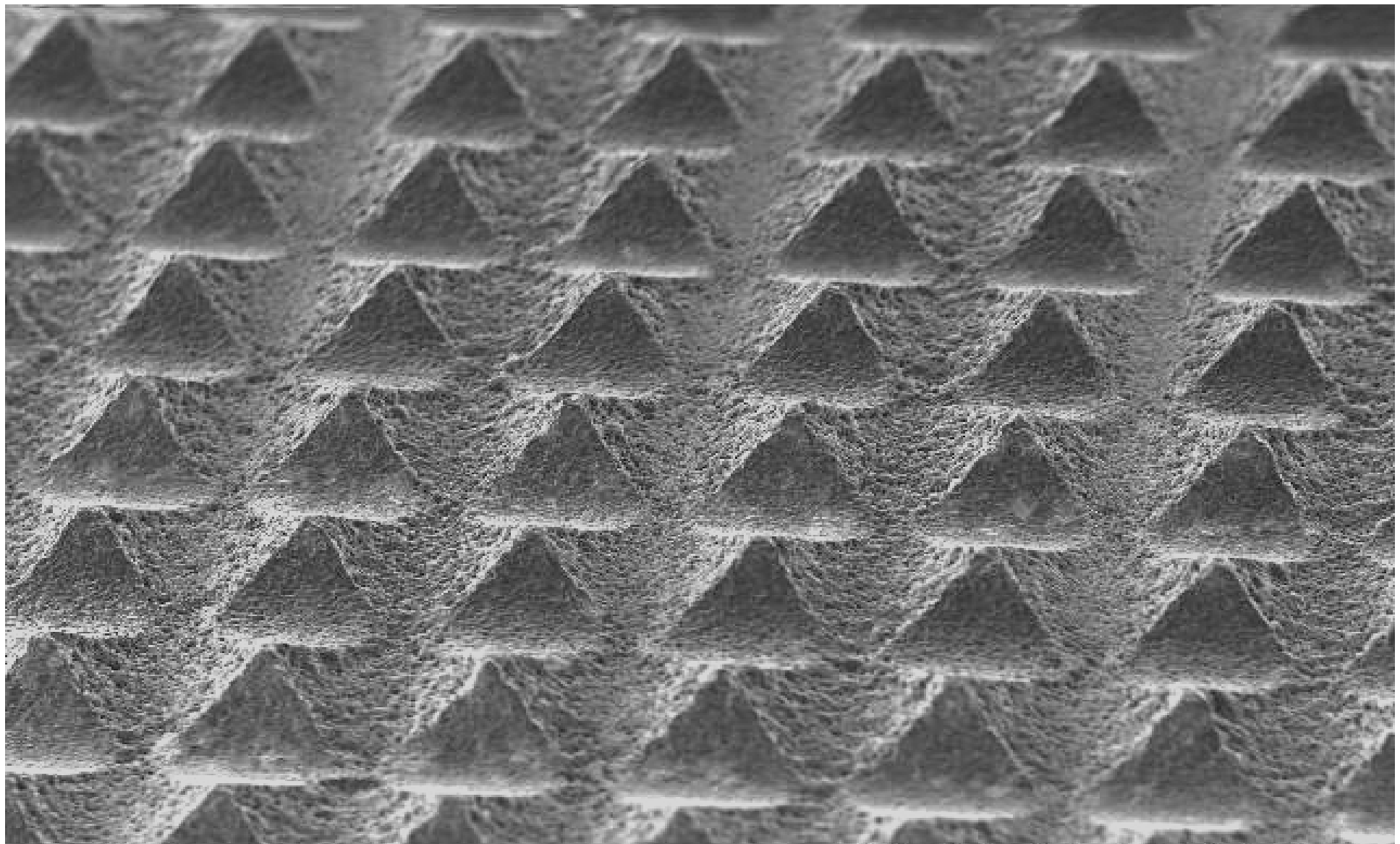


ADD™ Dressed Pad

DiaGrid Disks & Advanced Diamond Disks (ADD)

1



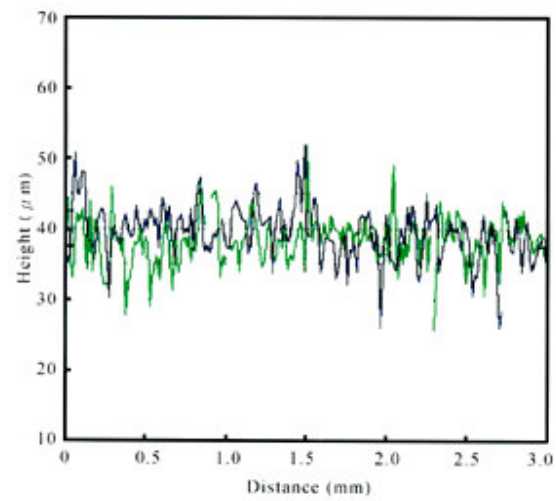
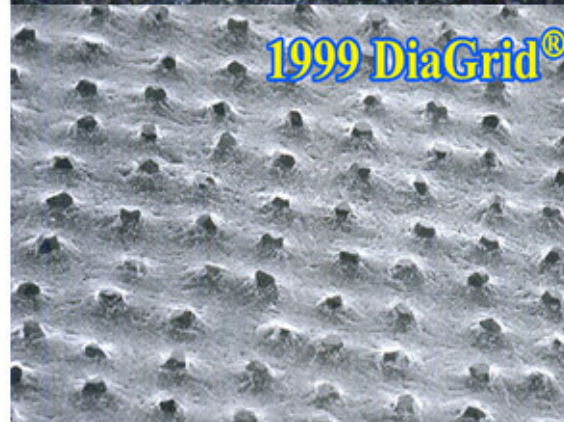
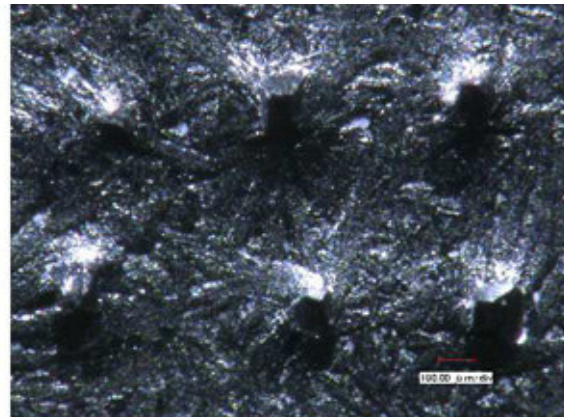
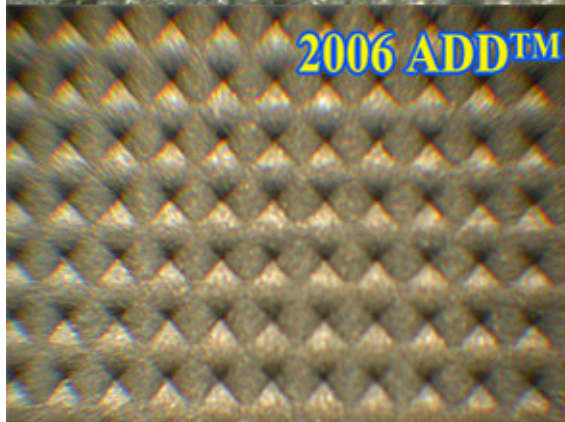
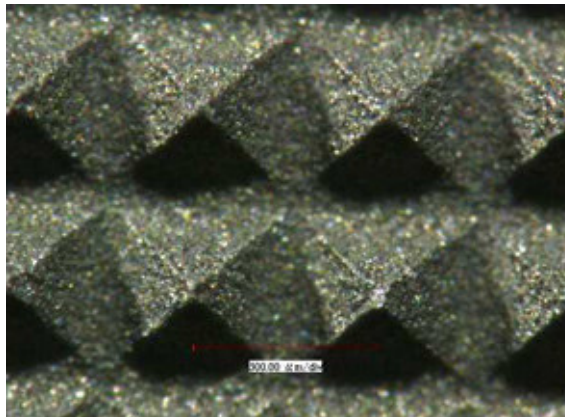


SE

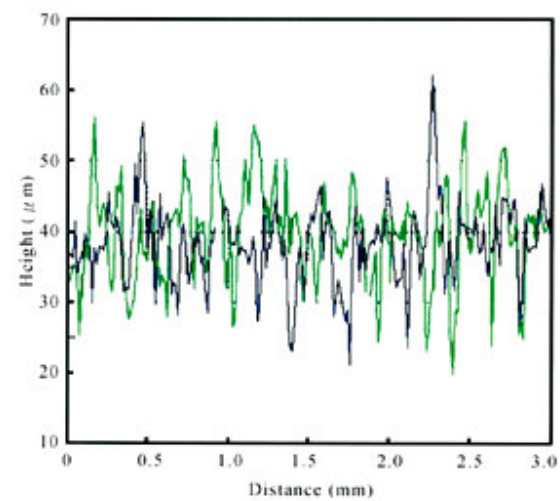
12-Sep-06

YTCHEN WD18.3mm 15.0kV x40

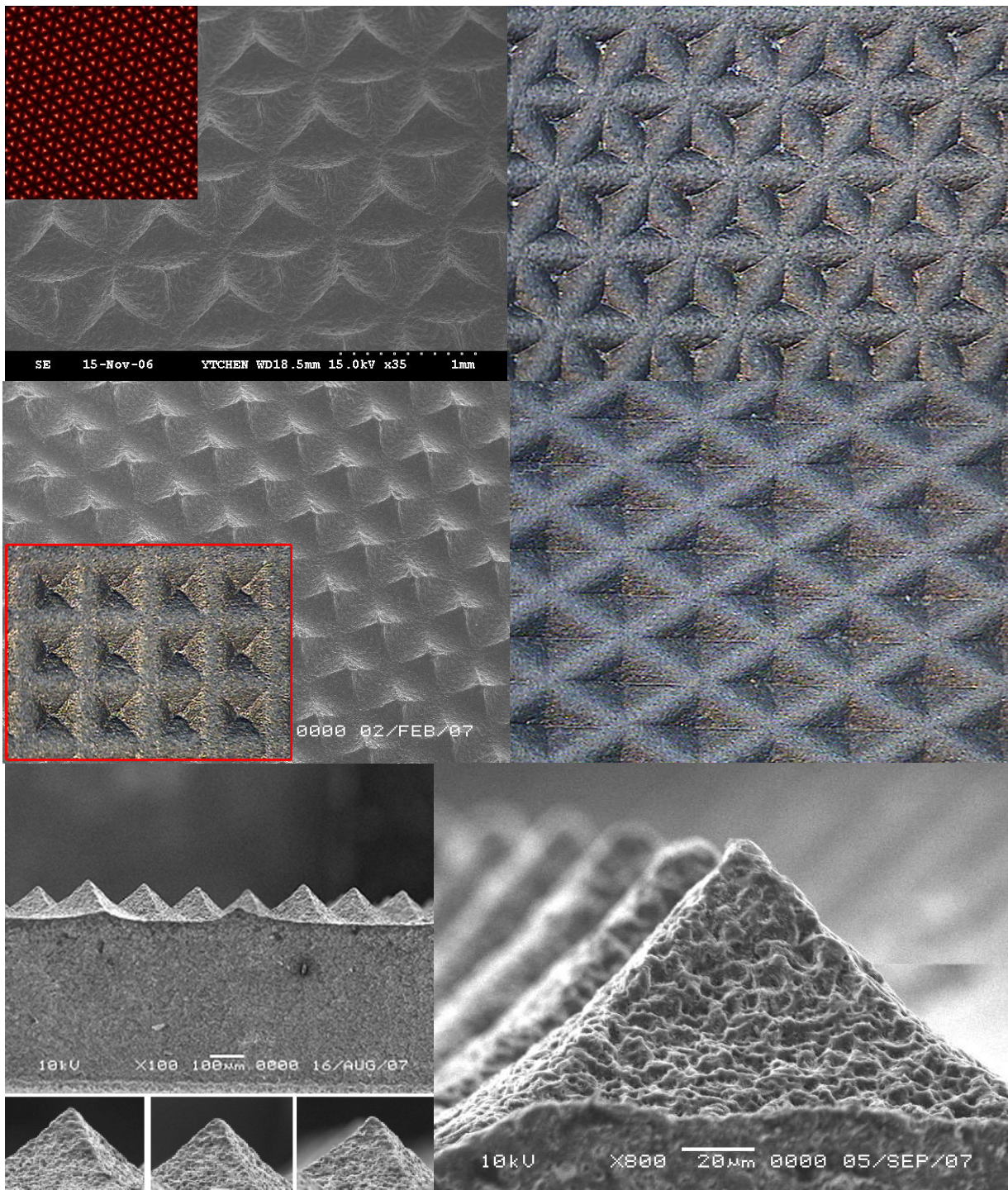
1mm

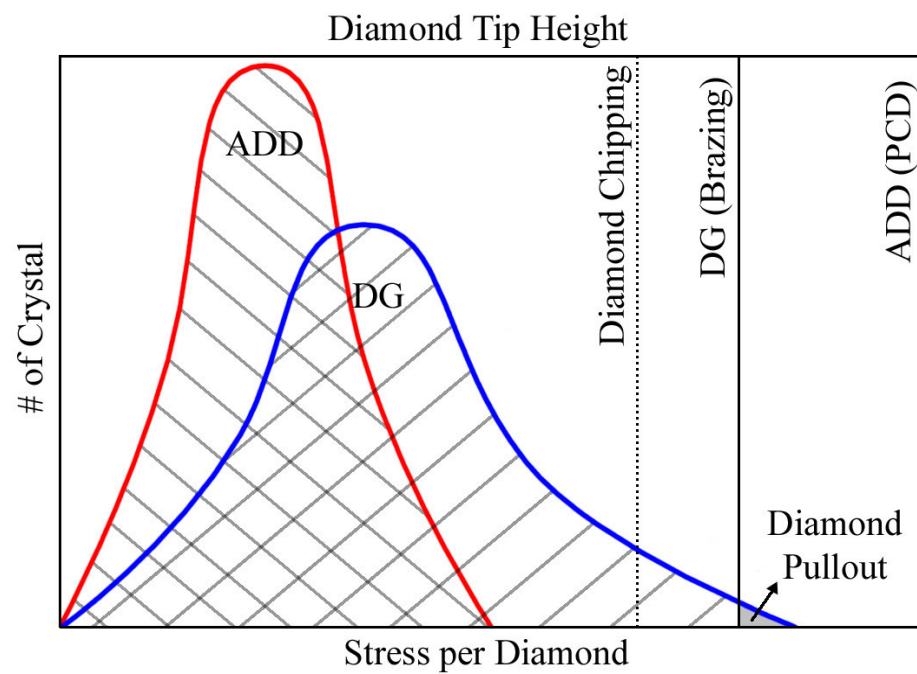
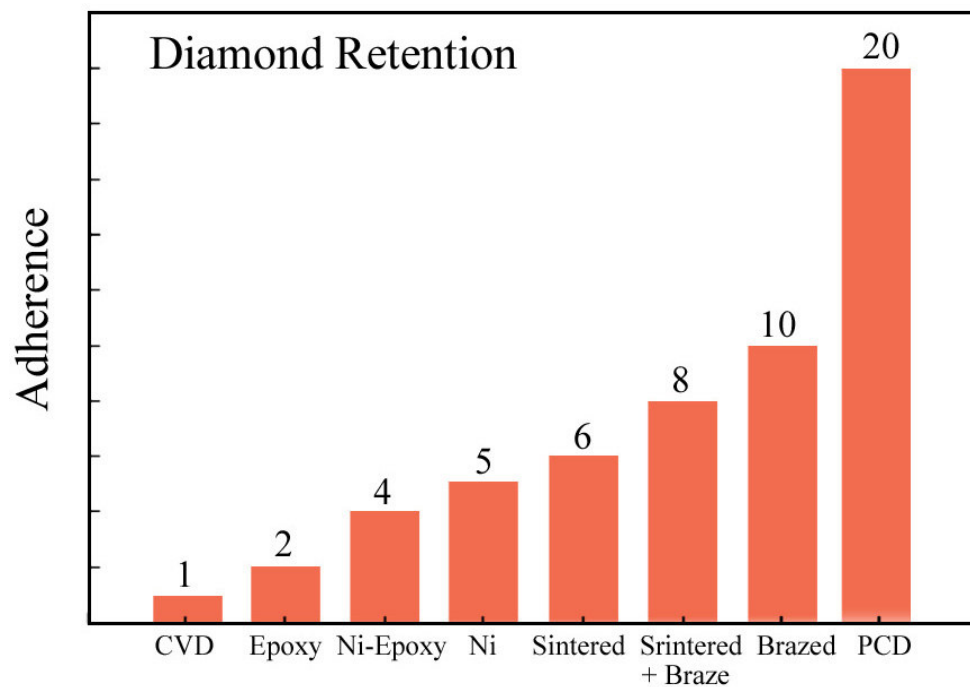


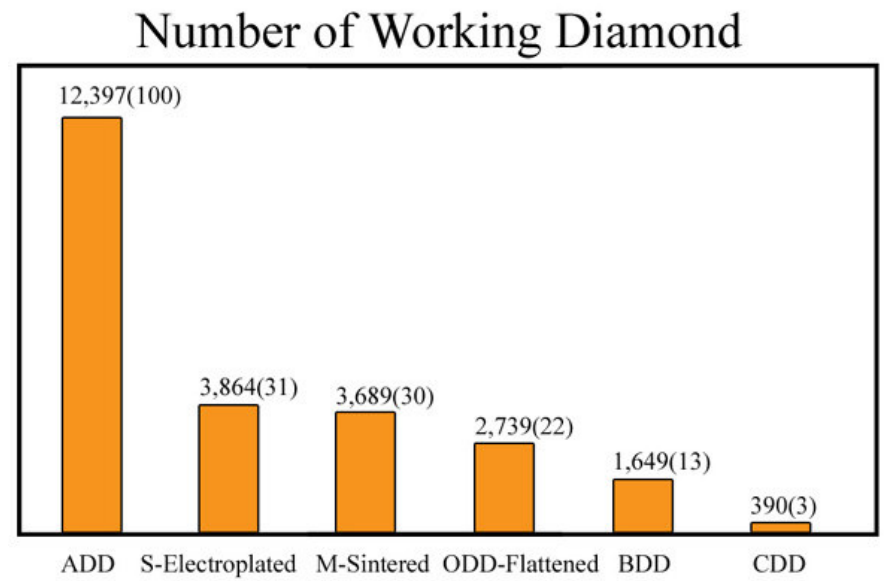
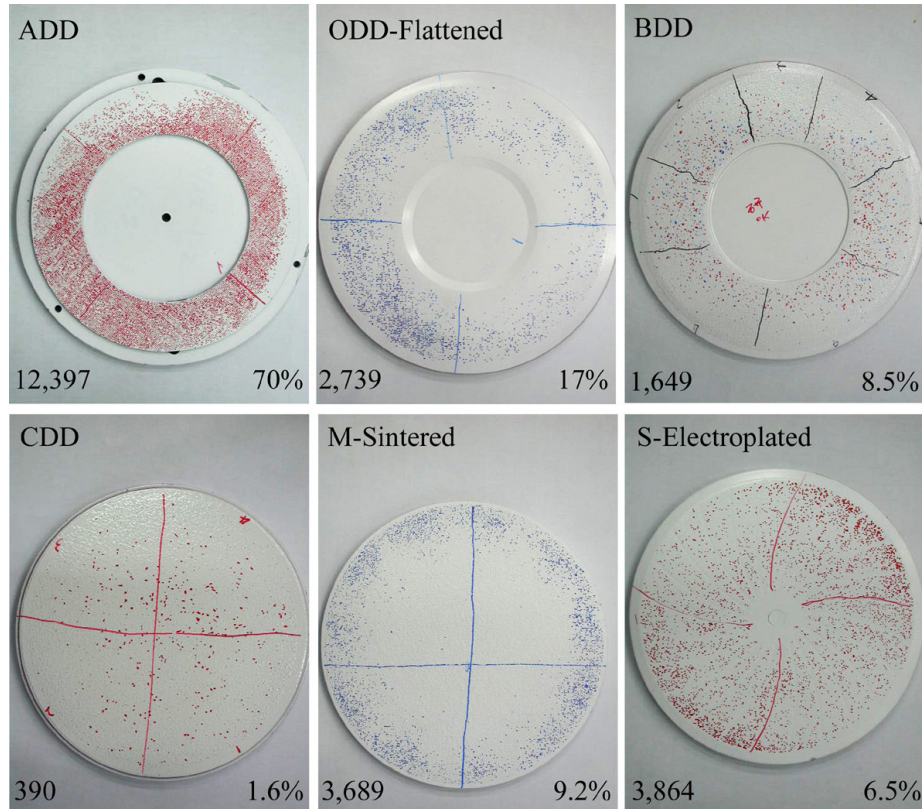
ADD



BDD

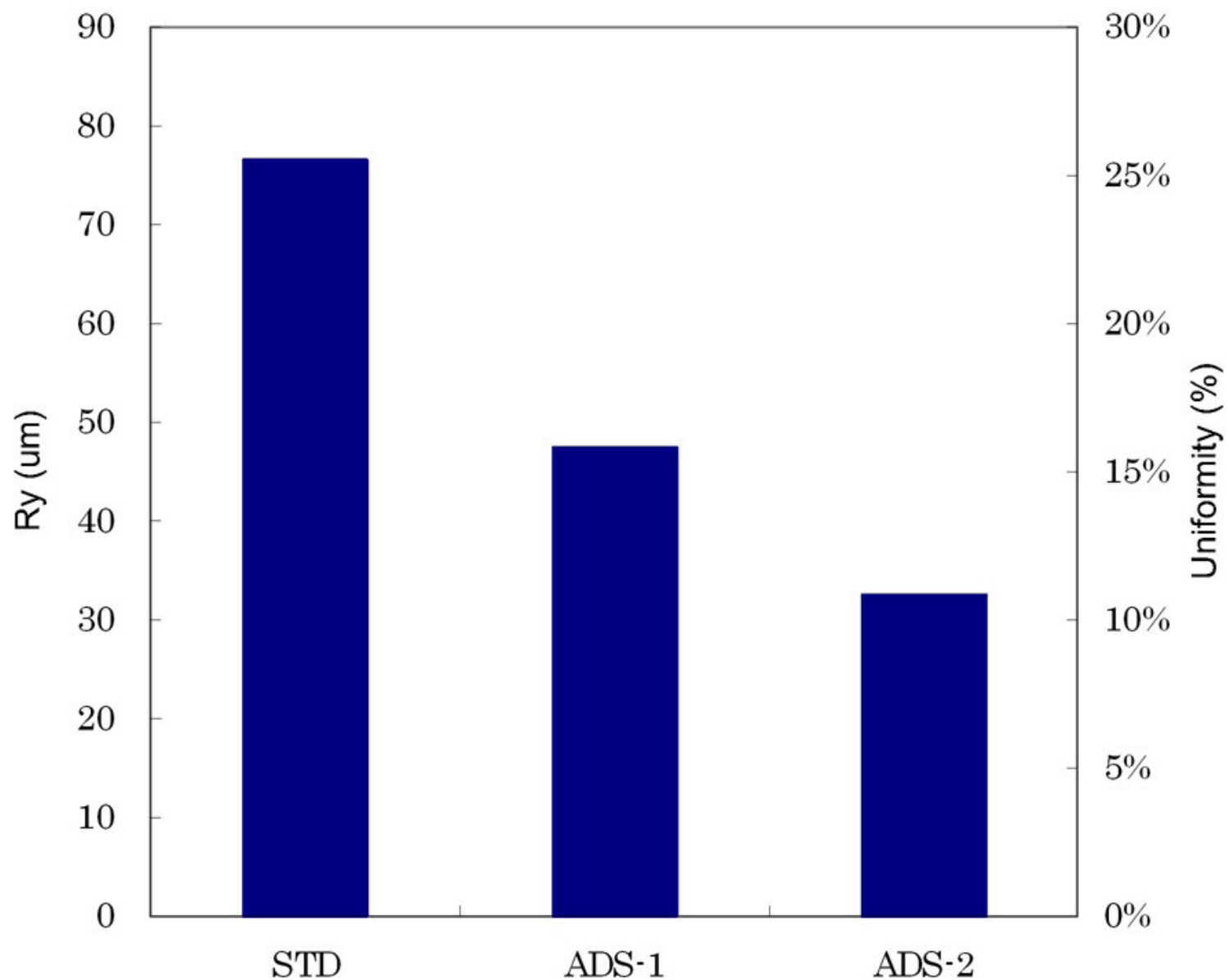






Pad Roughness (60min Conditioning)

Pad Roughness (Ry) after Polishing

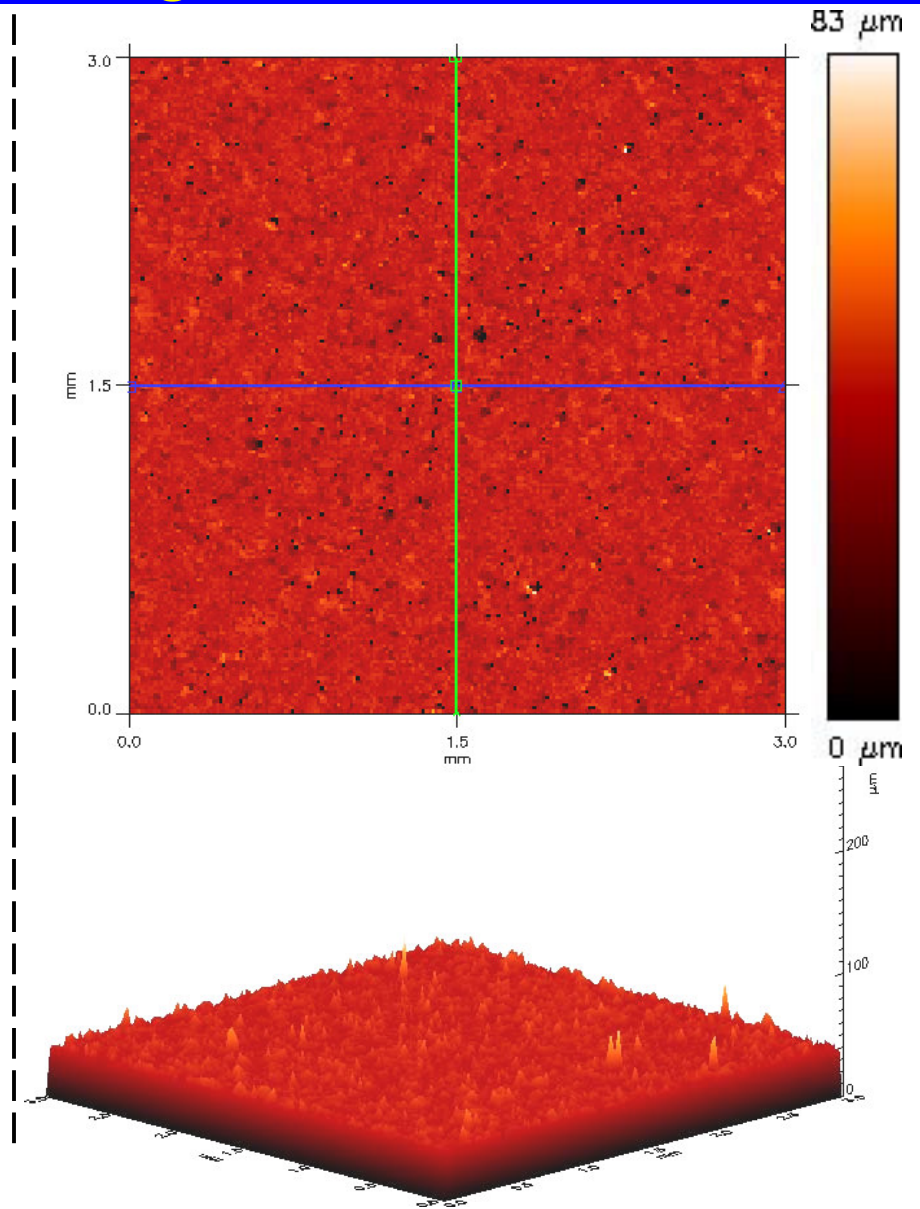
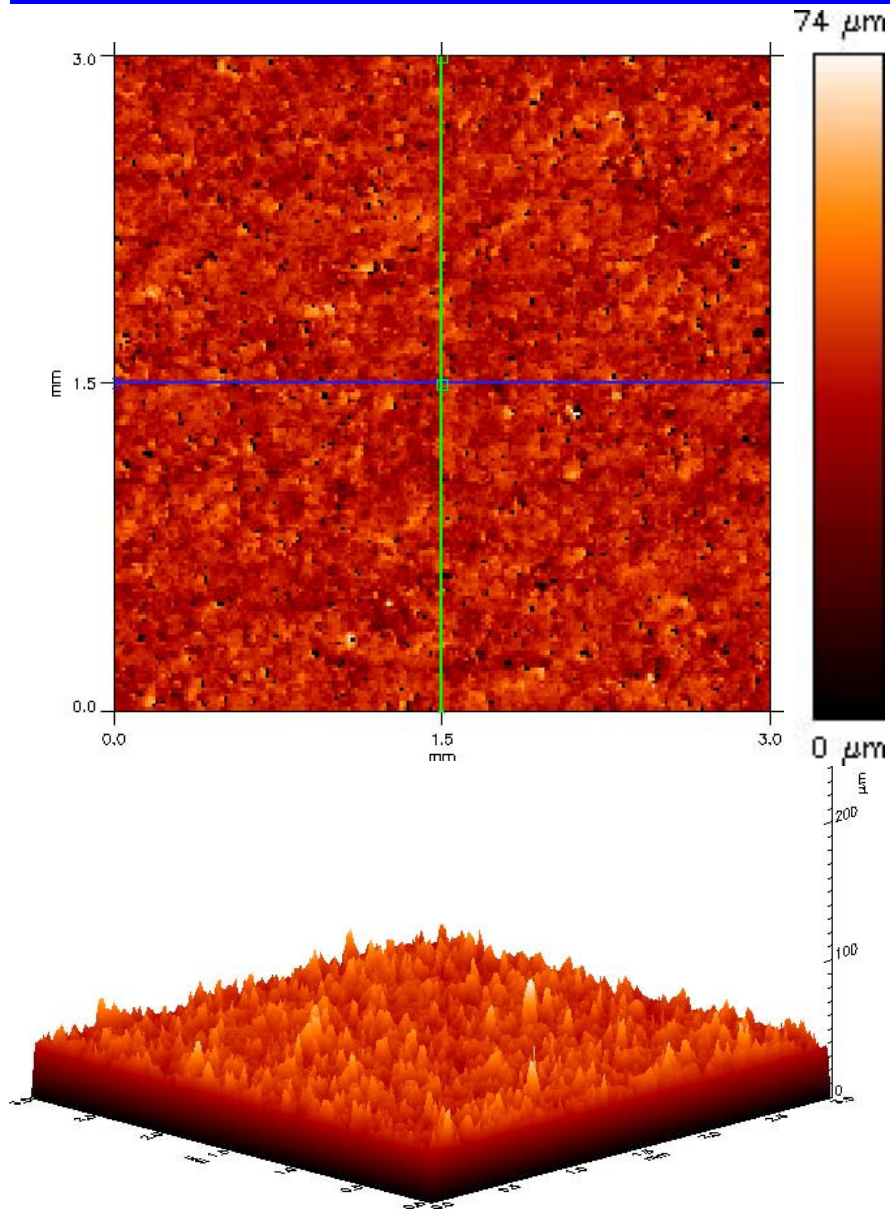


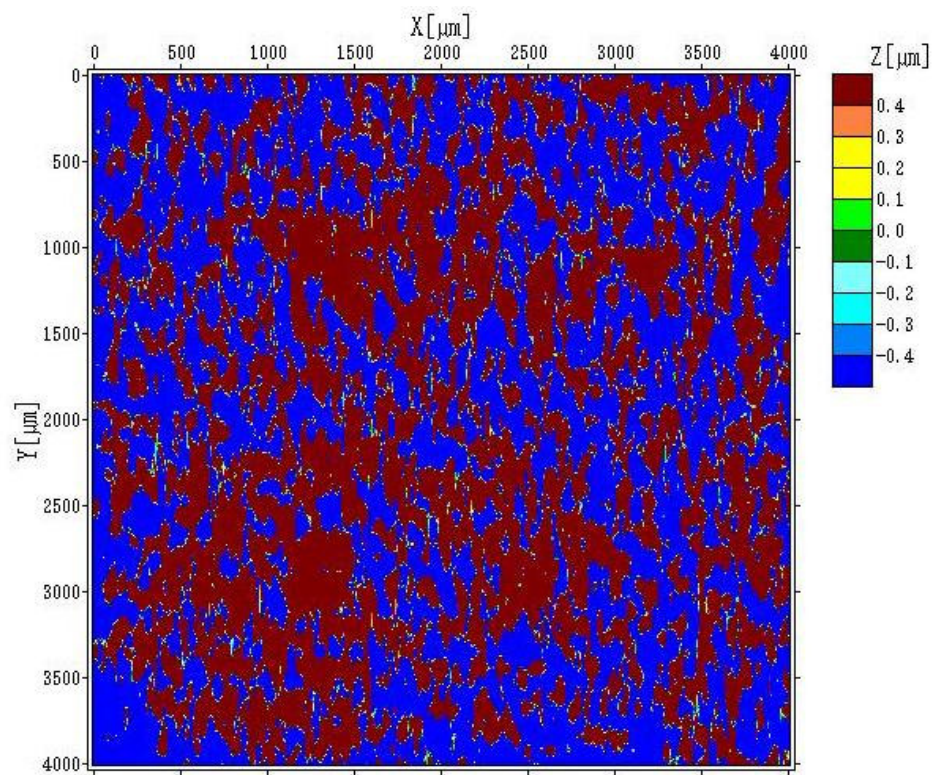
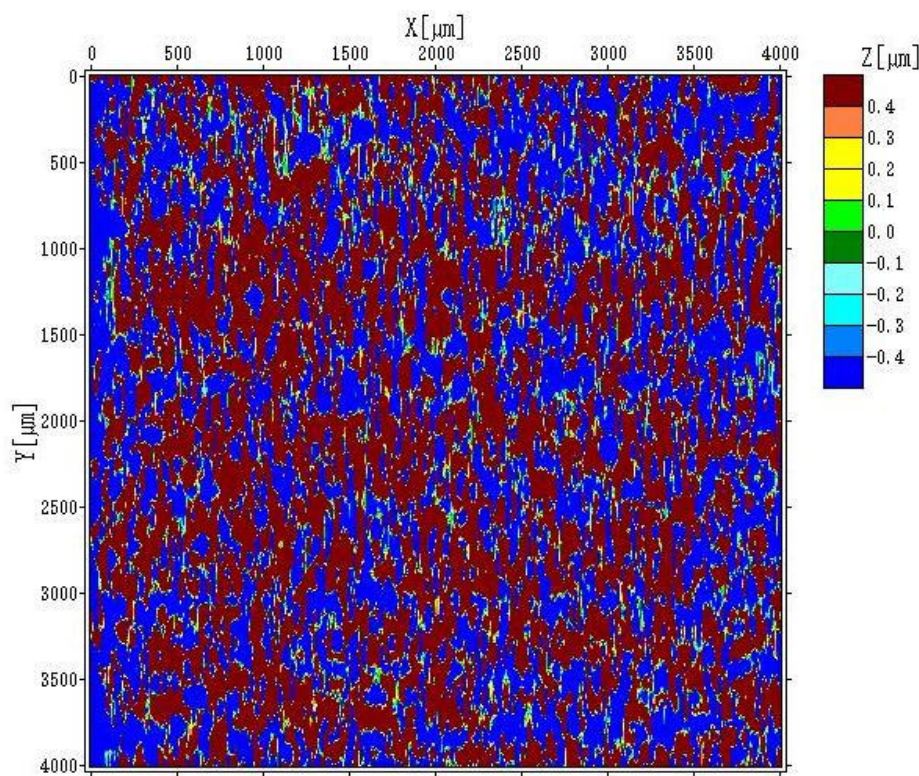
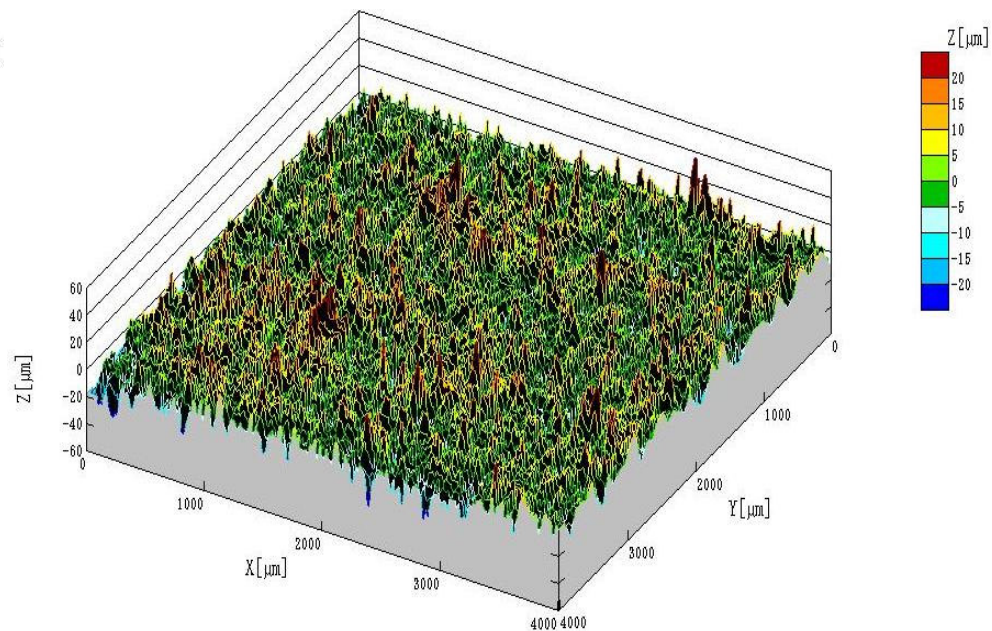
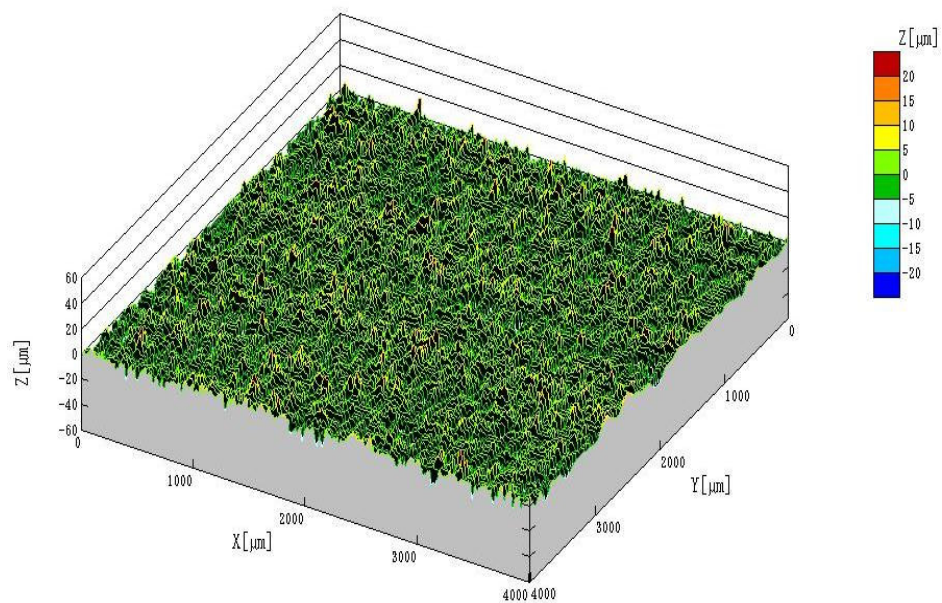
DiaGrid

Pad surface finish
after cutting

ADD

14

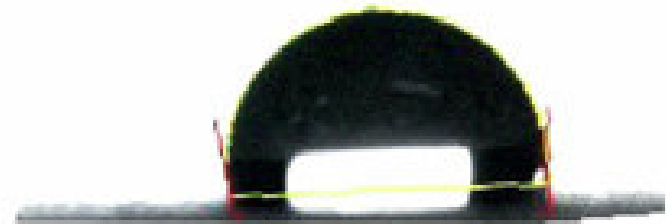




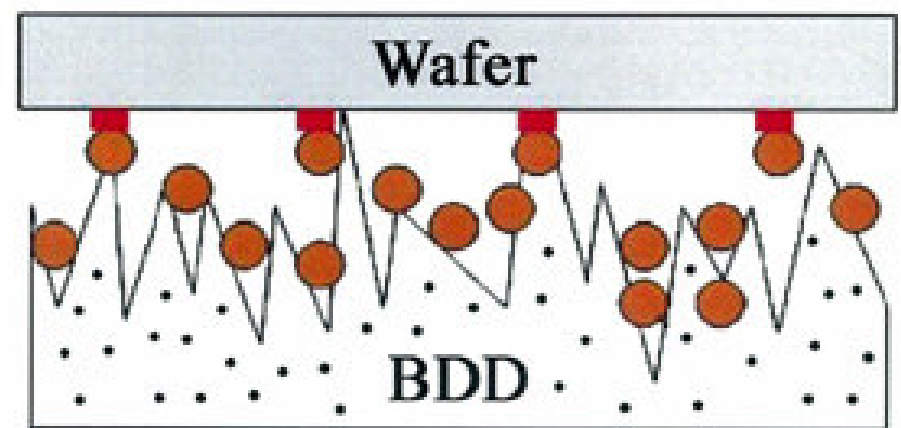
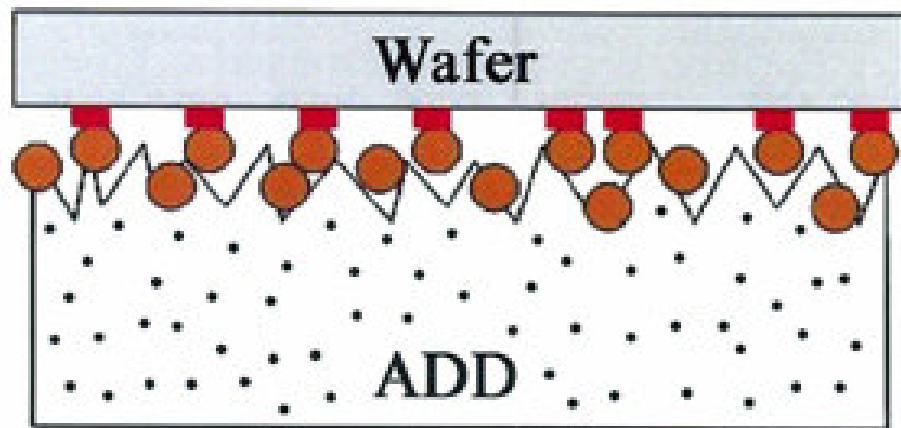
Slurry on Pad Contact Angle

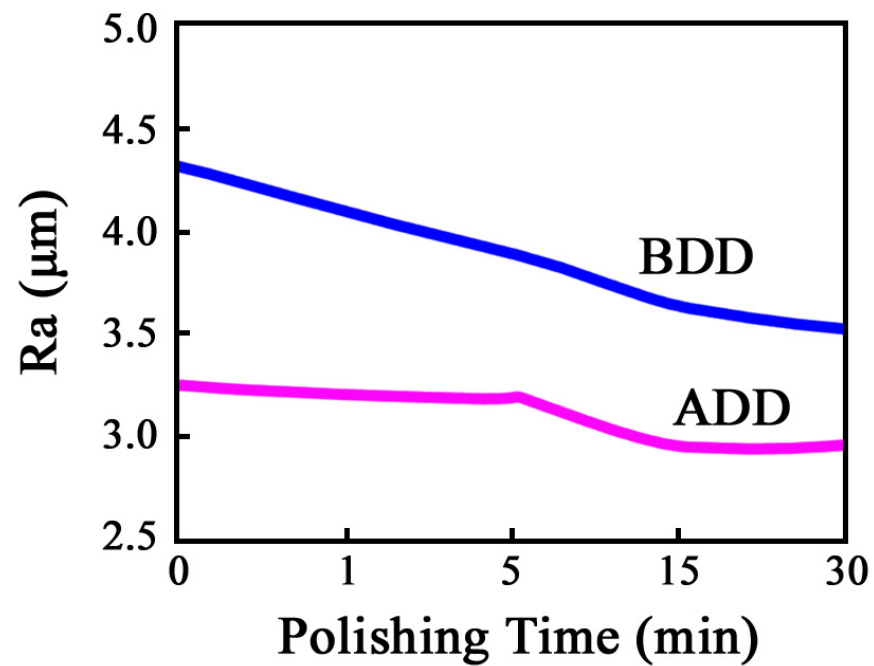
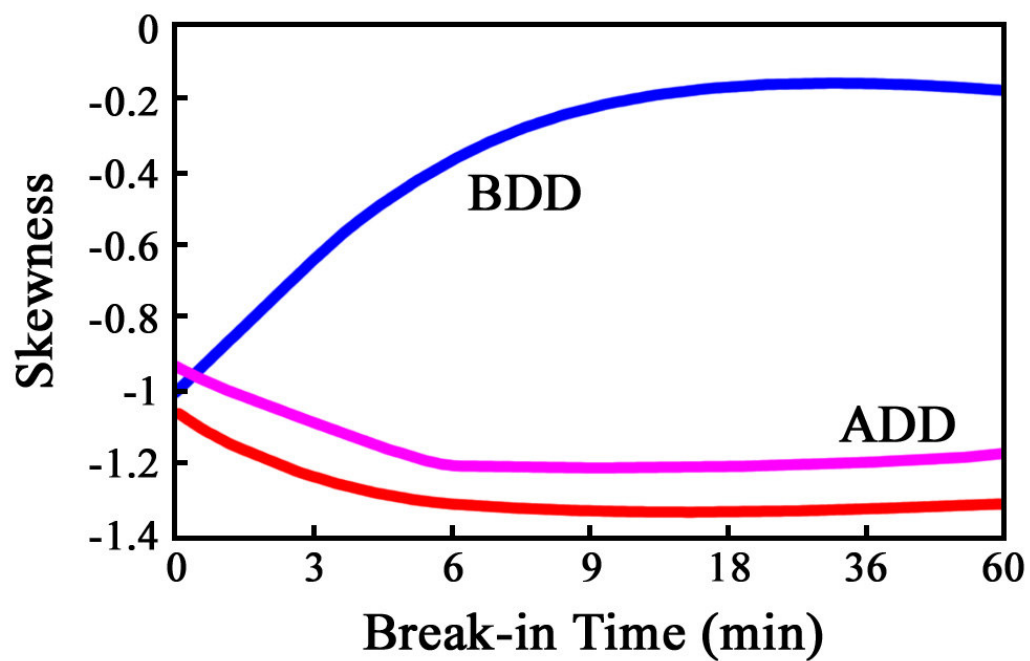
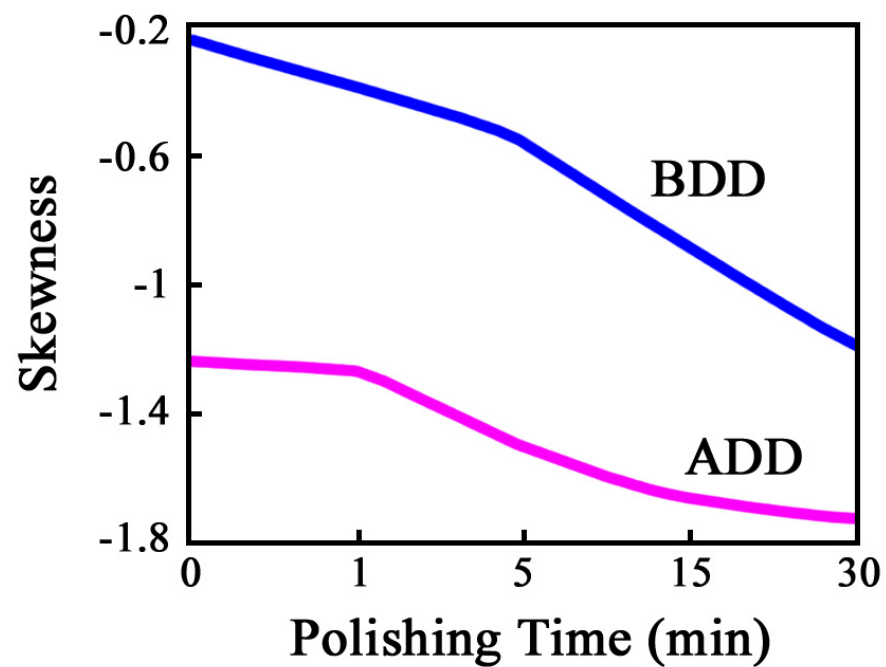
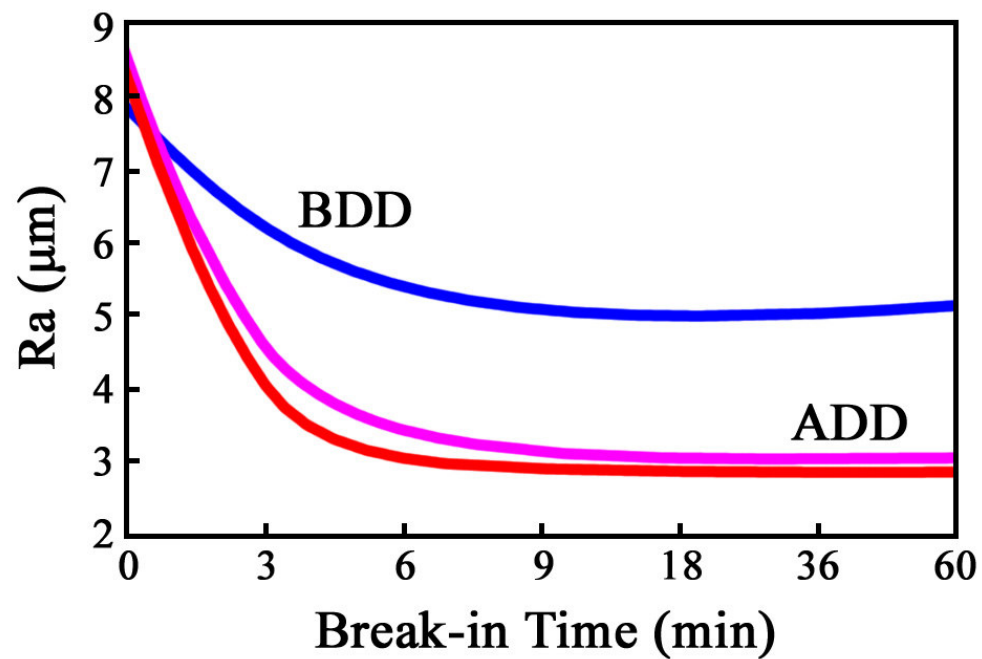


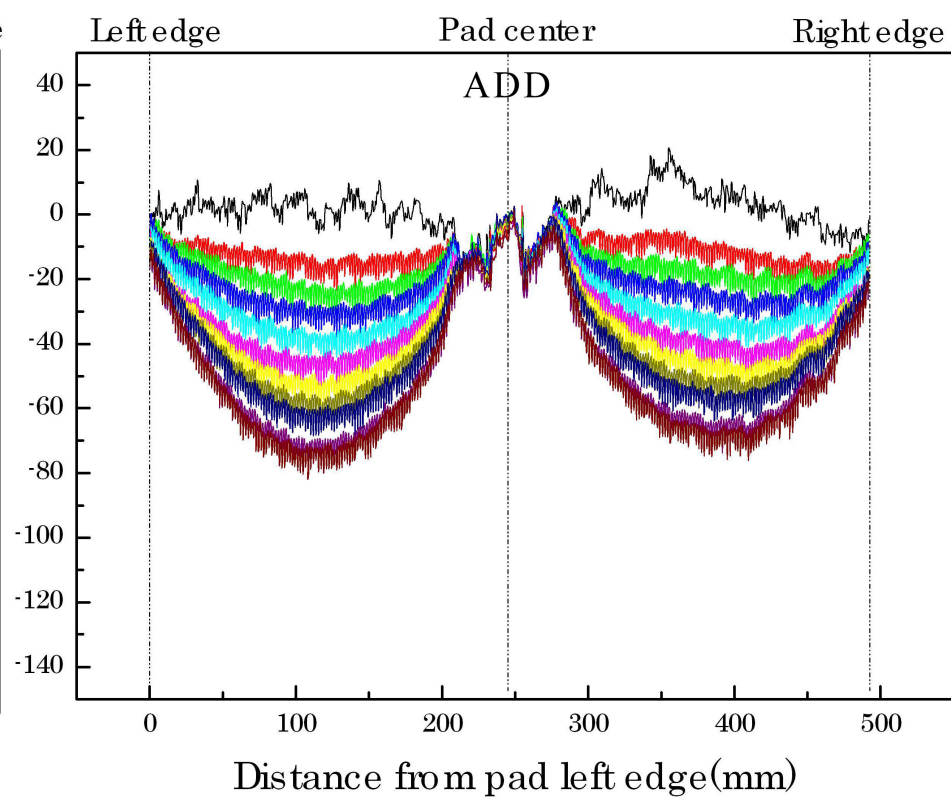
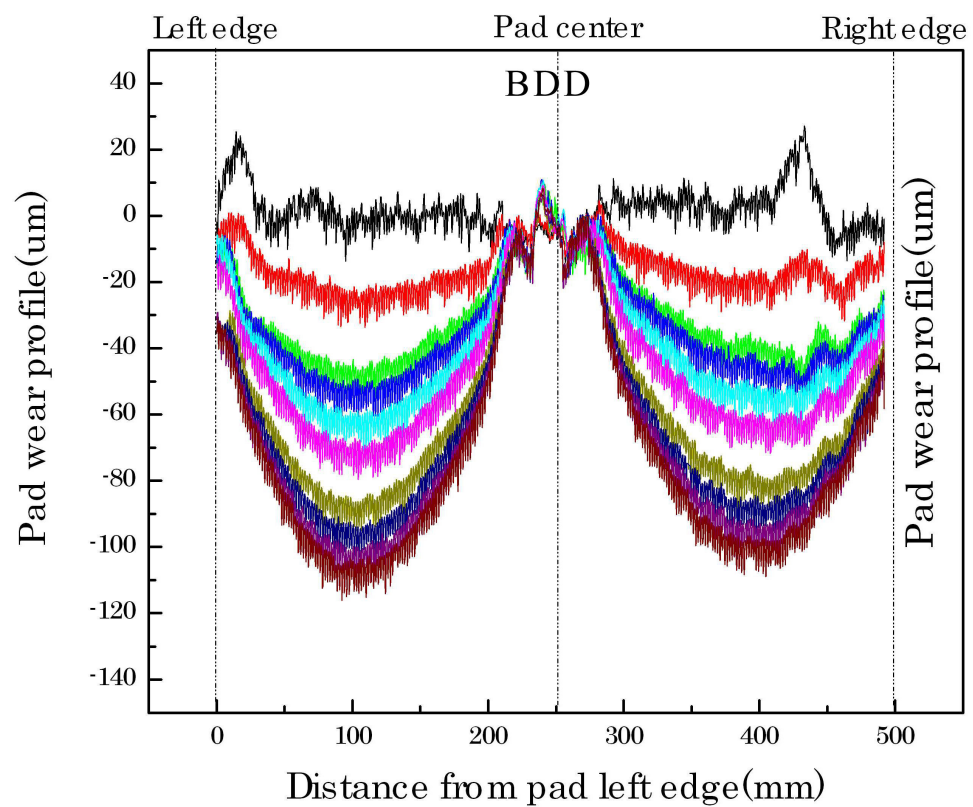
= 65-70 degree

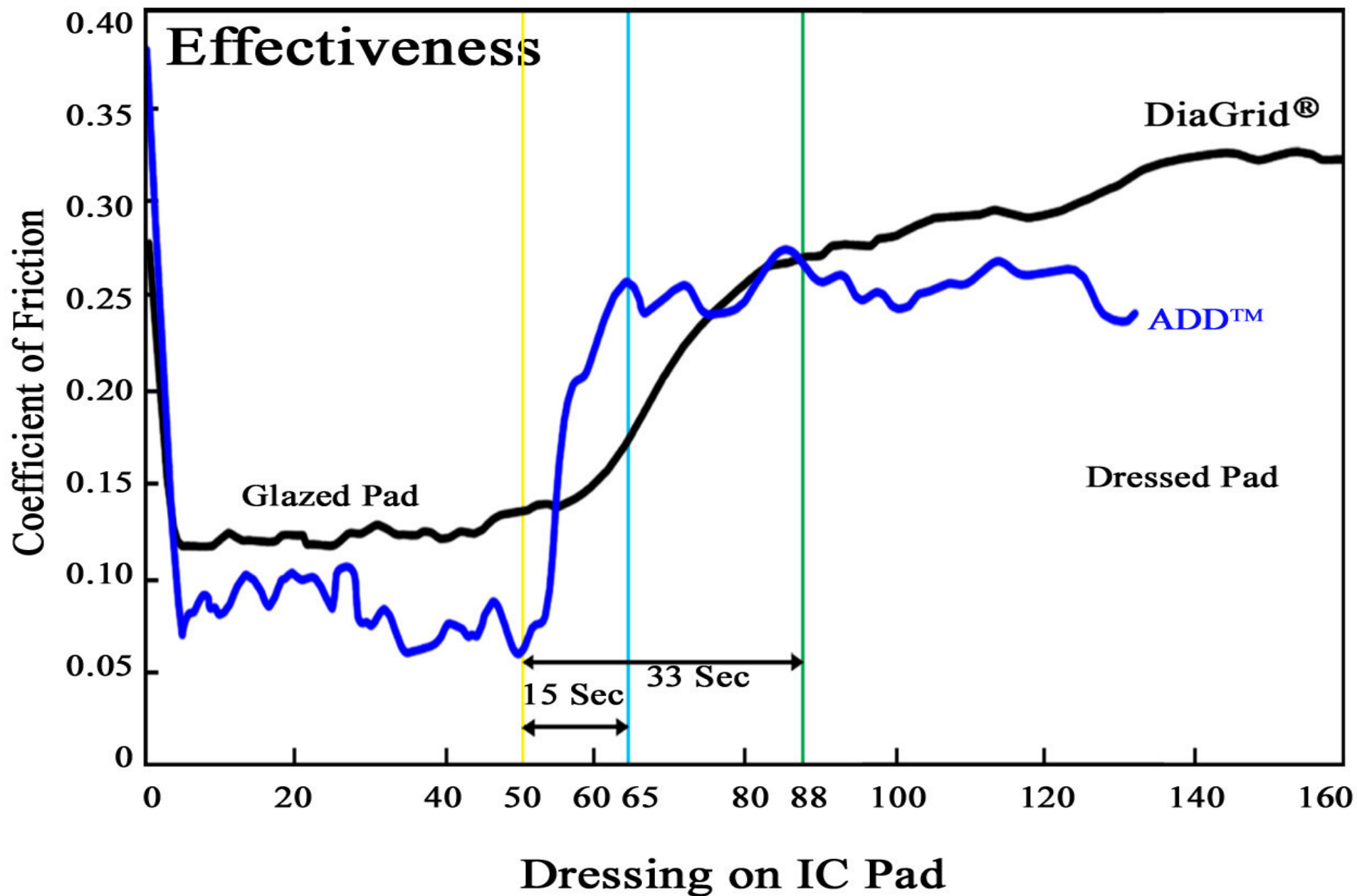


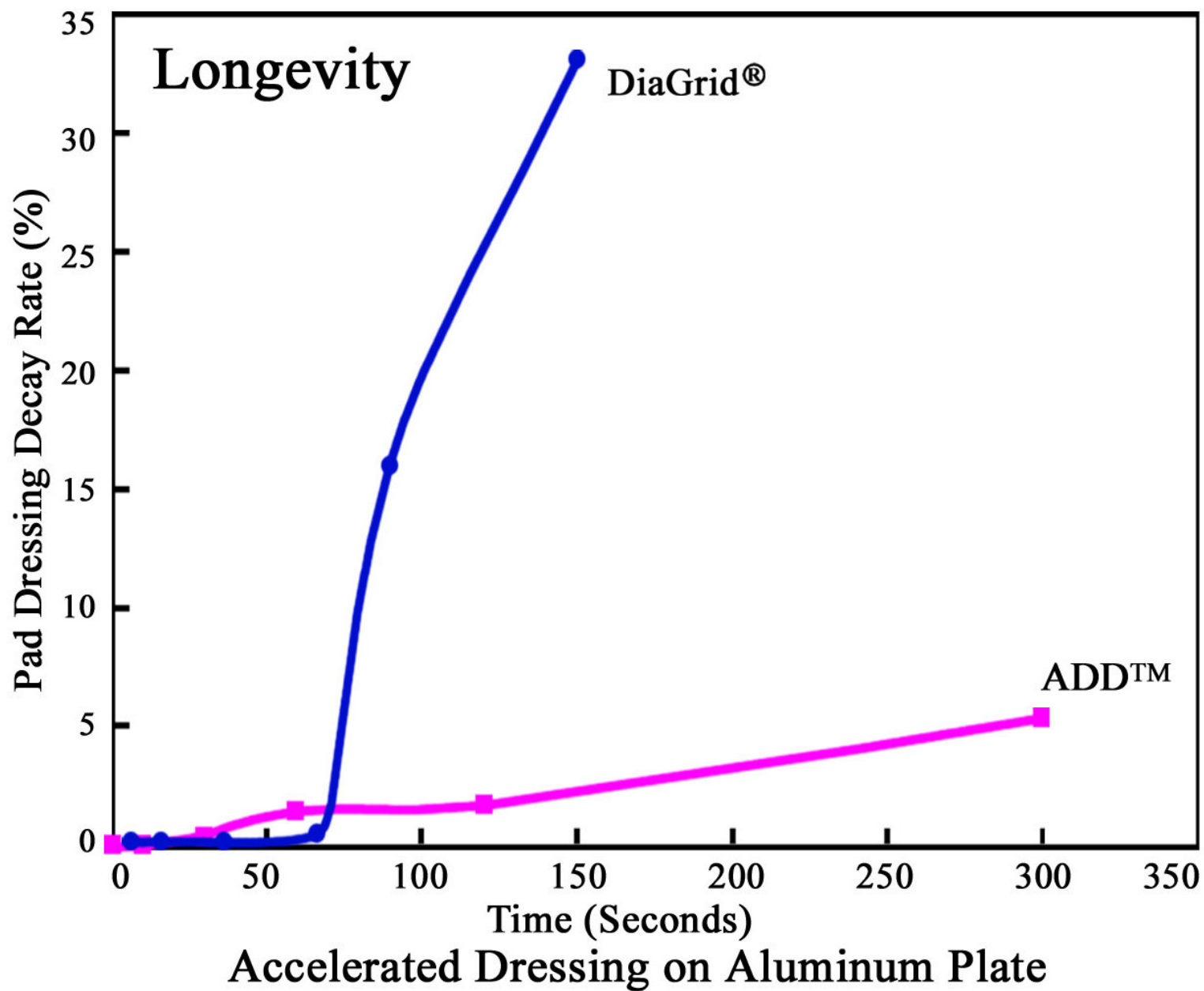
= 90-95 degree

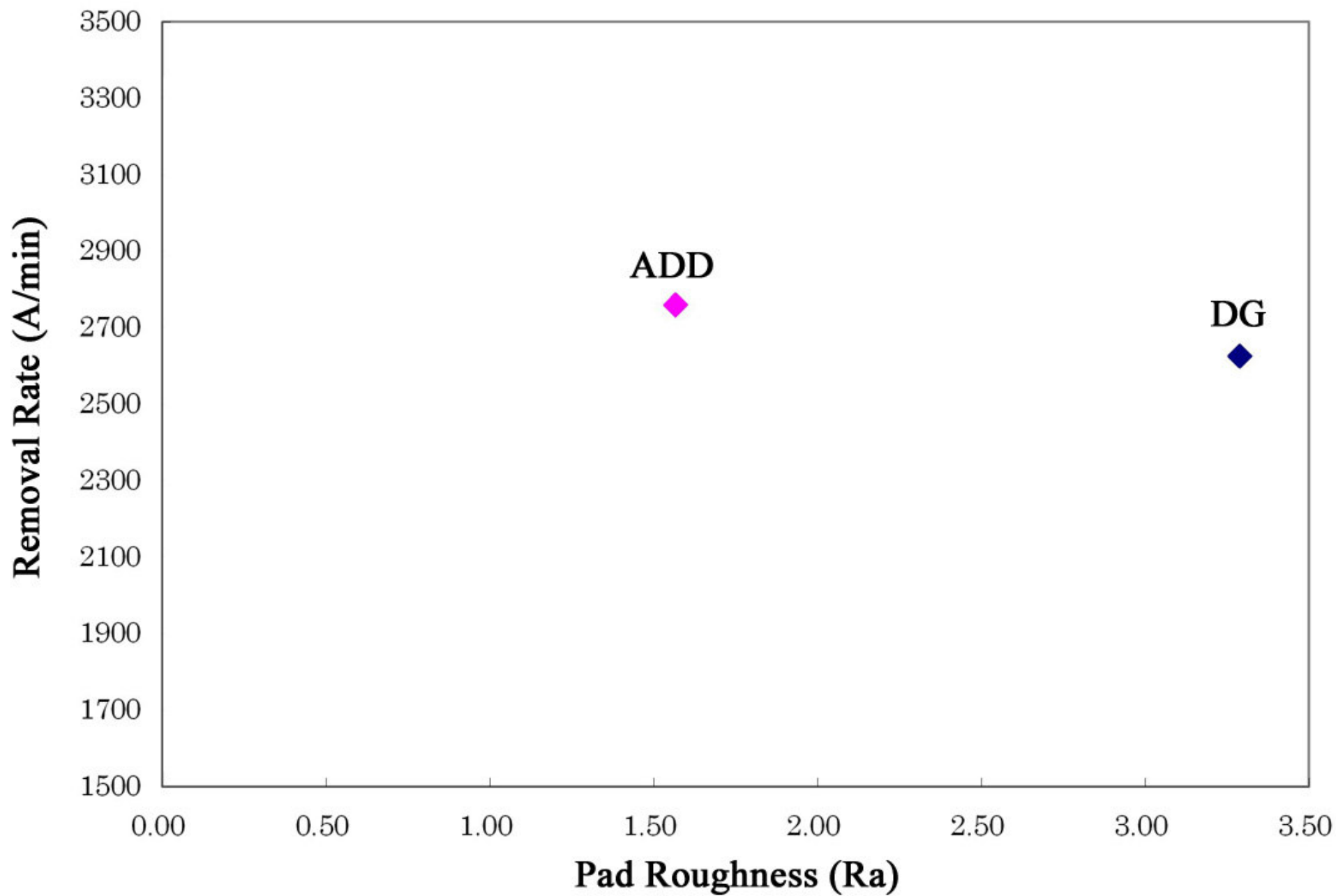


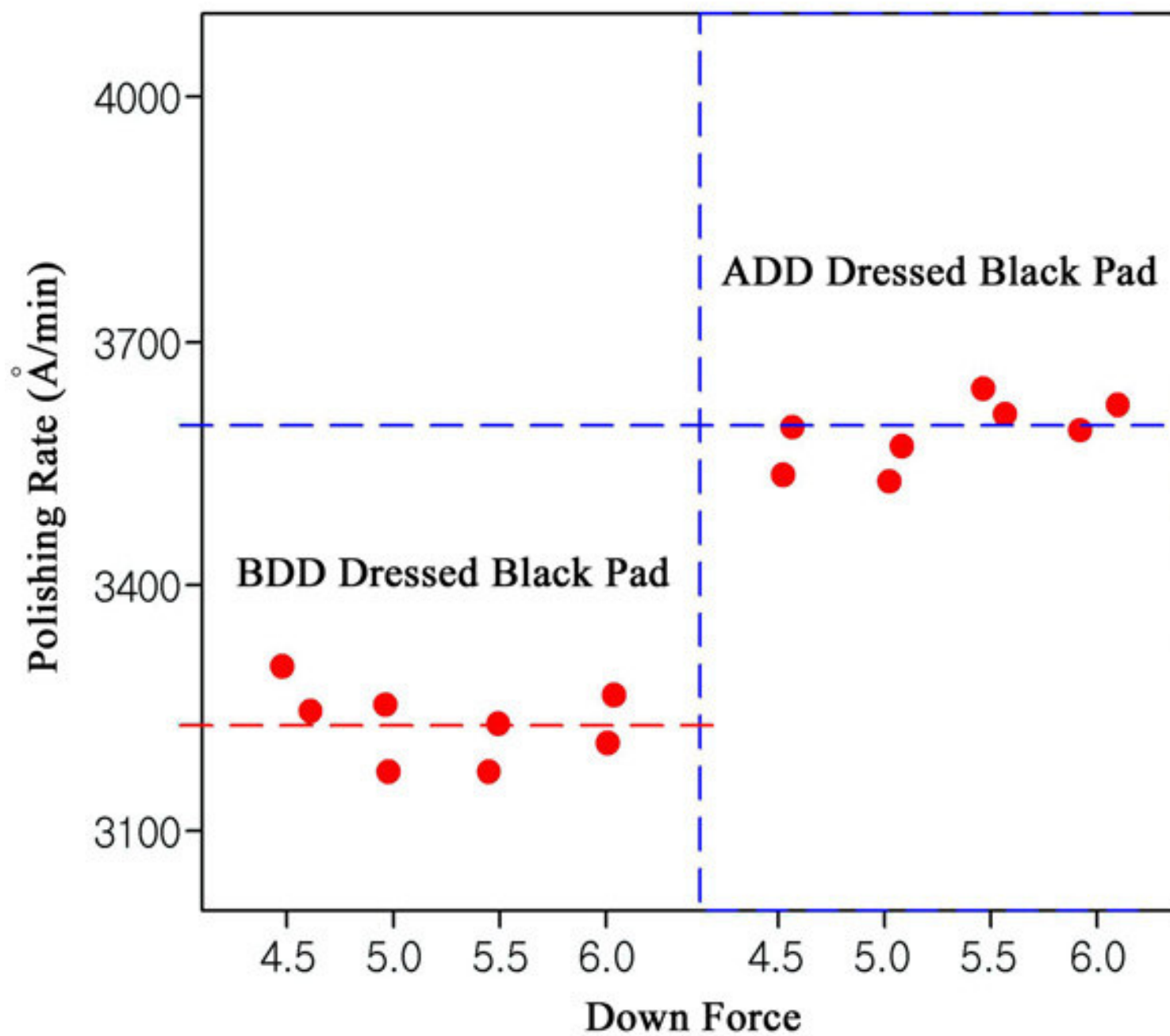


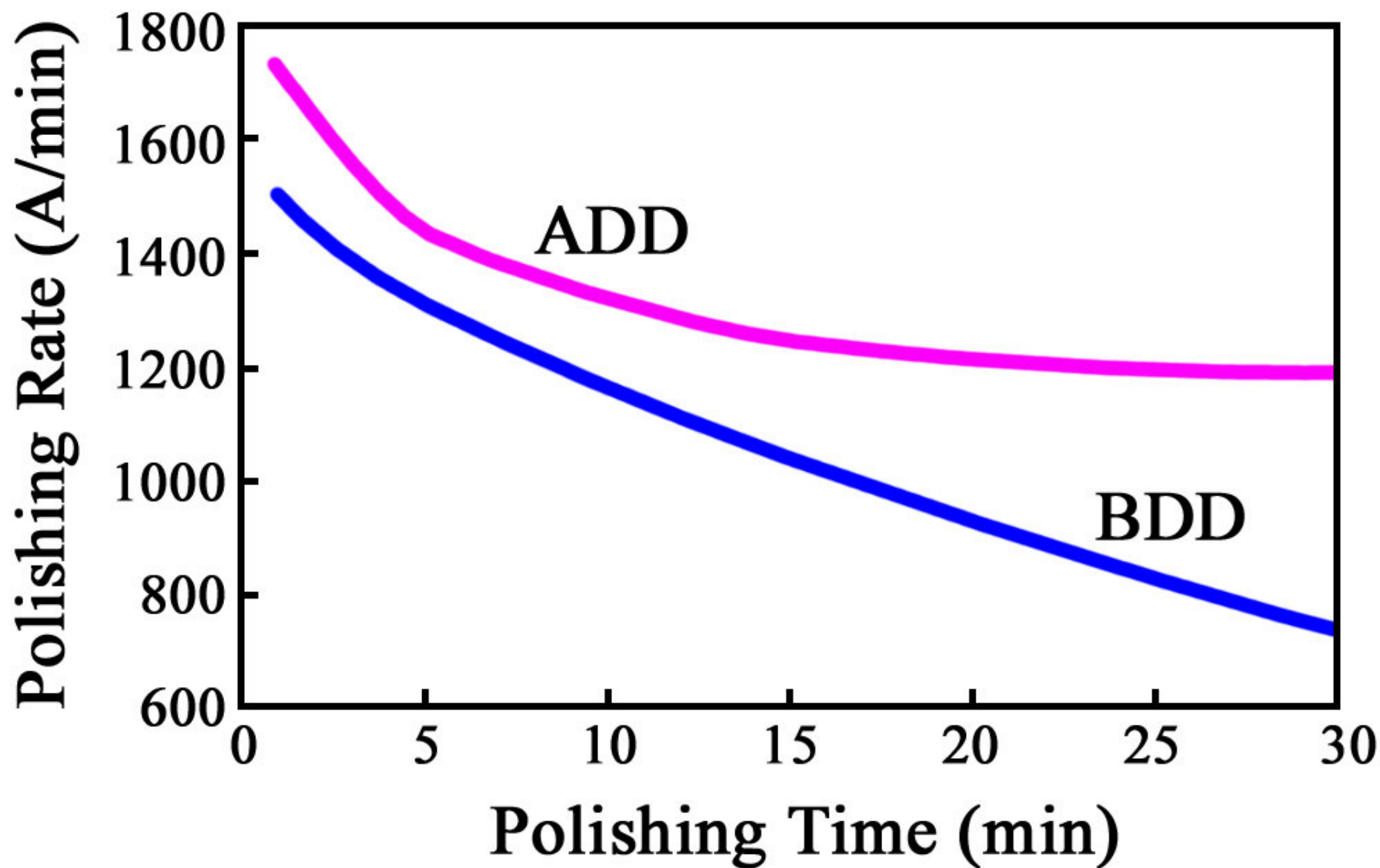


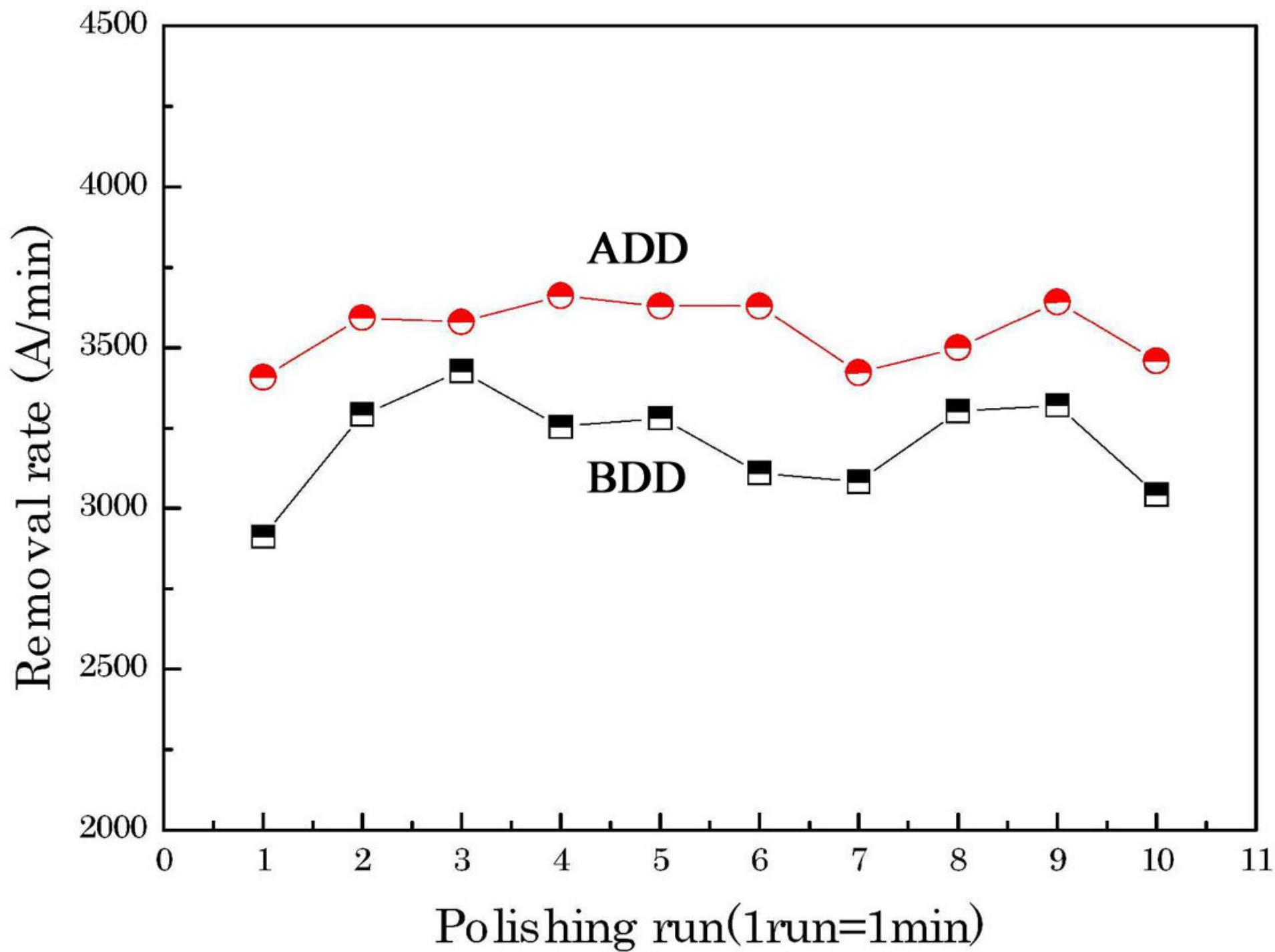


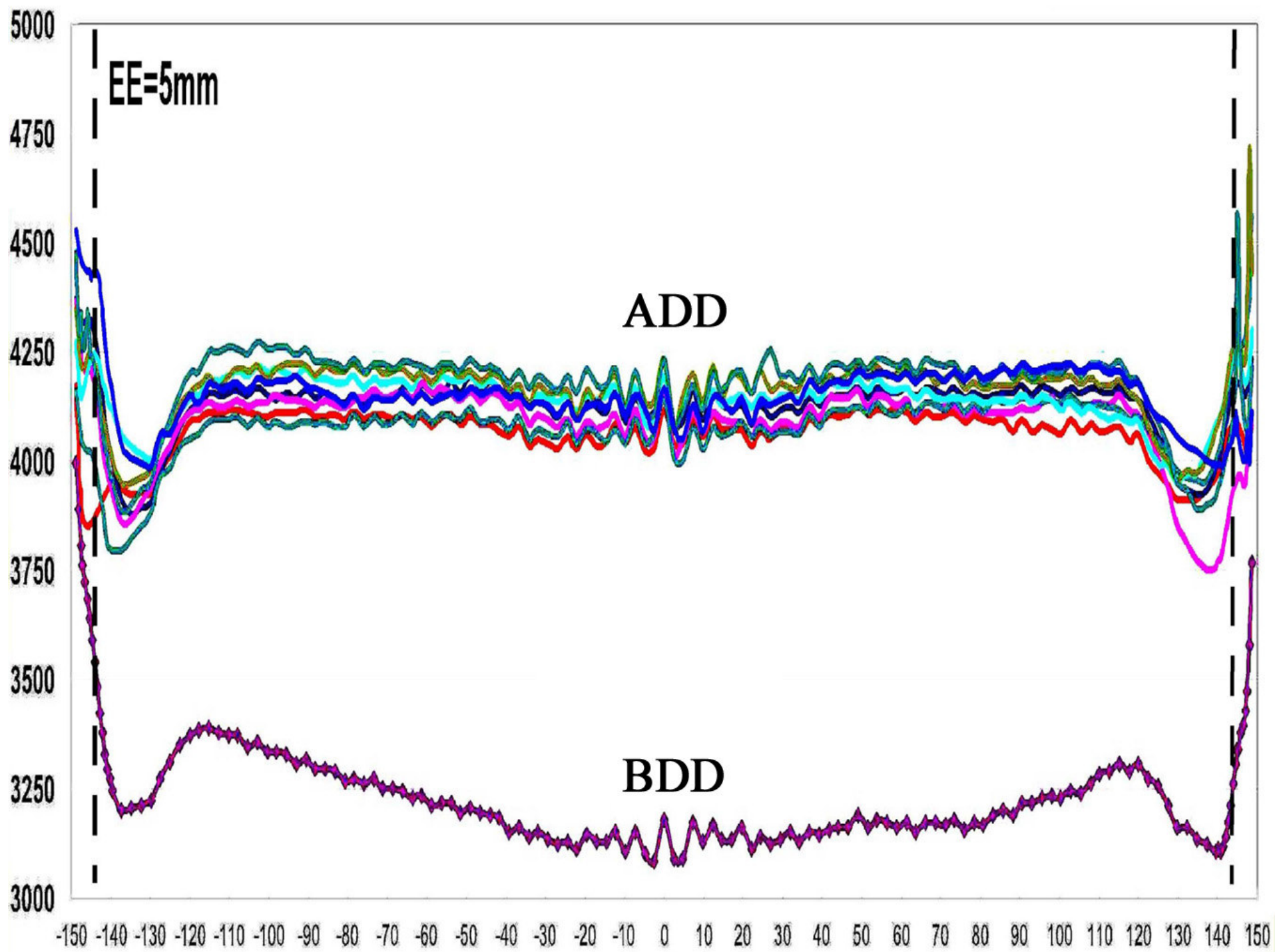


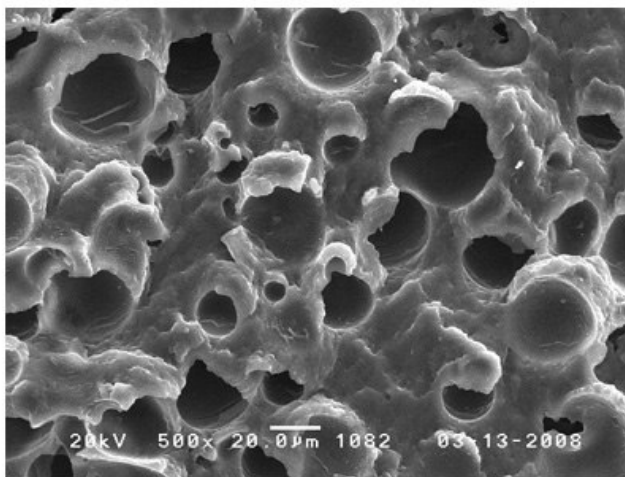
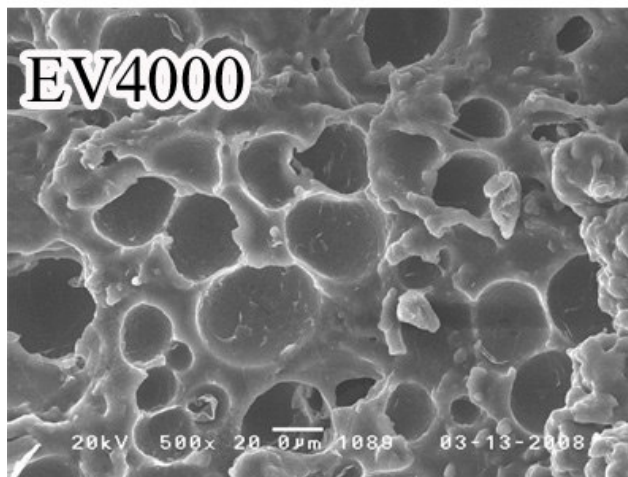
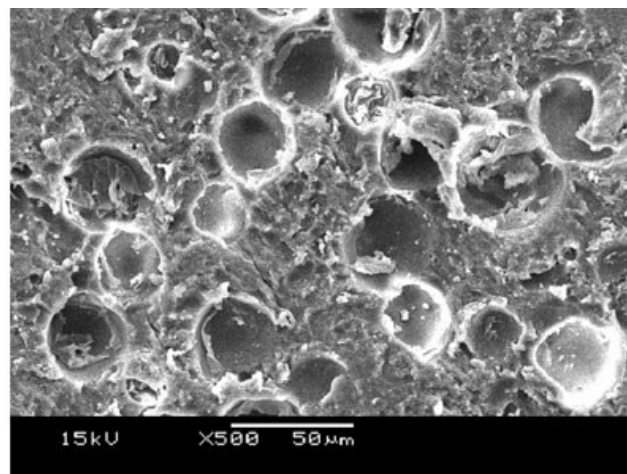
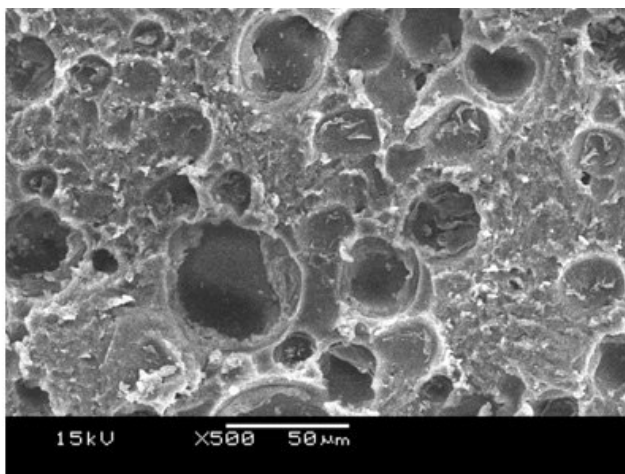
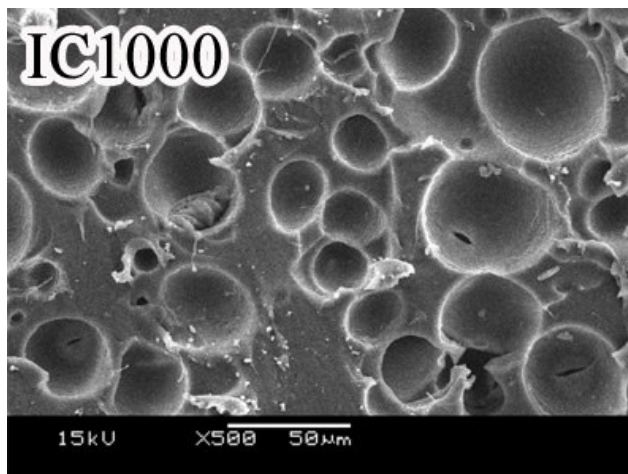










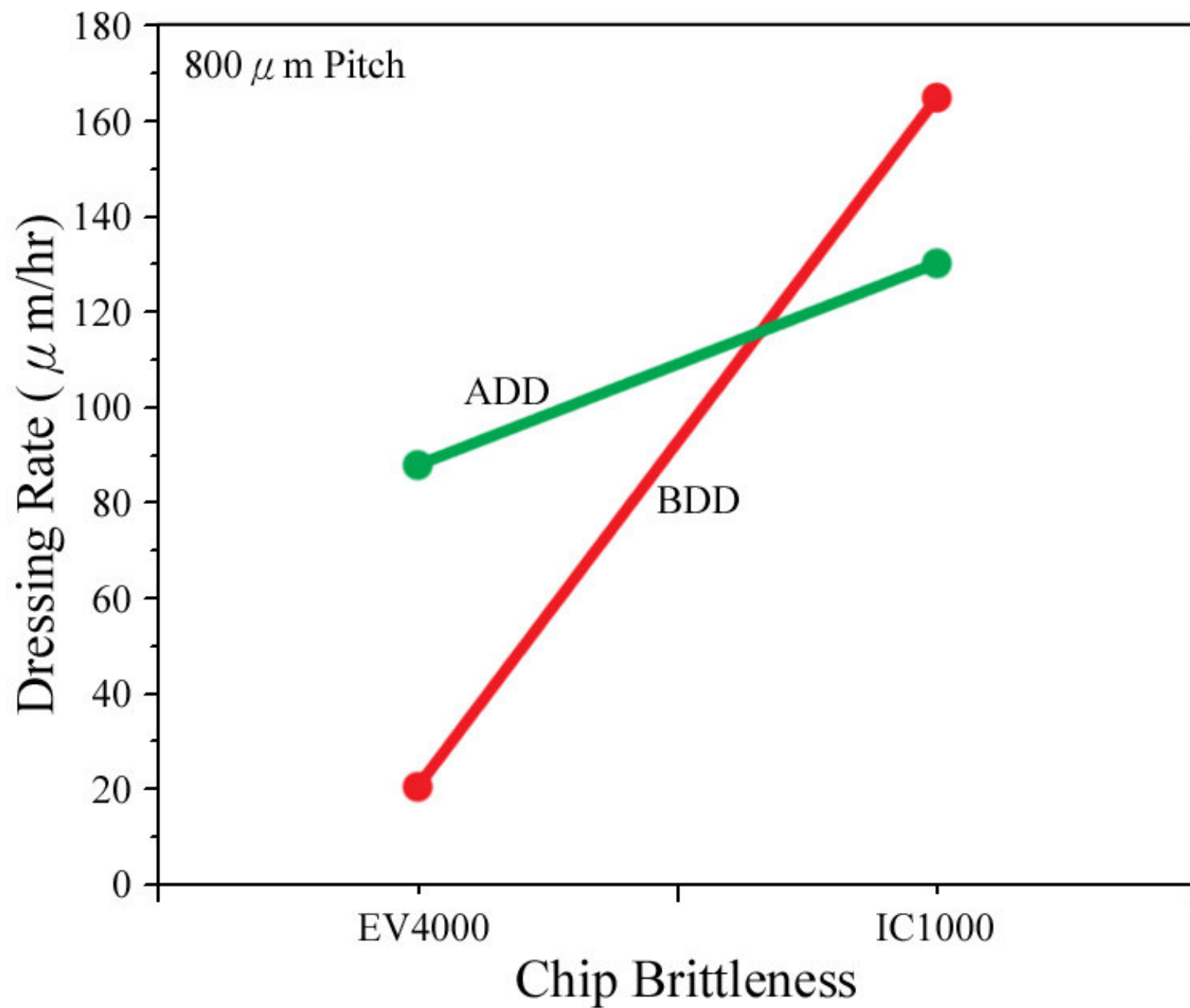


Uncuttable

New

ADD

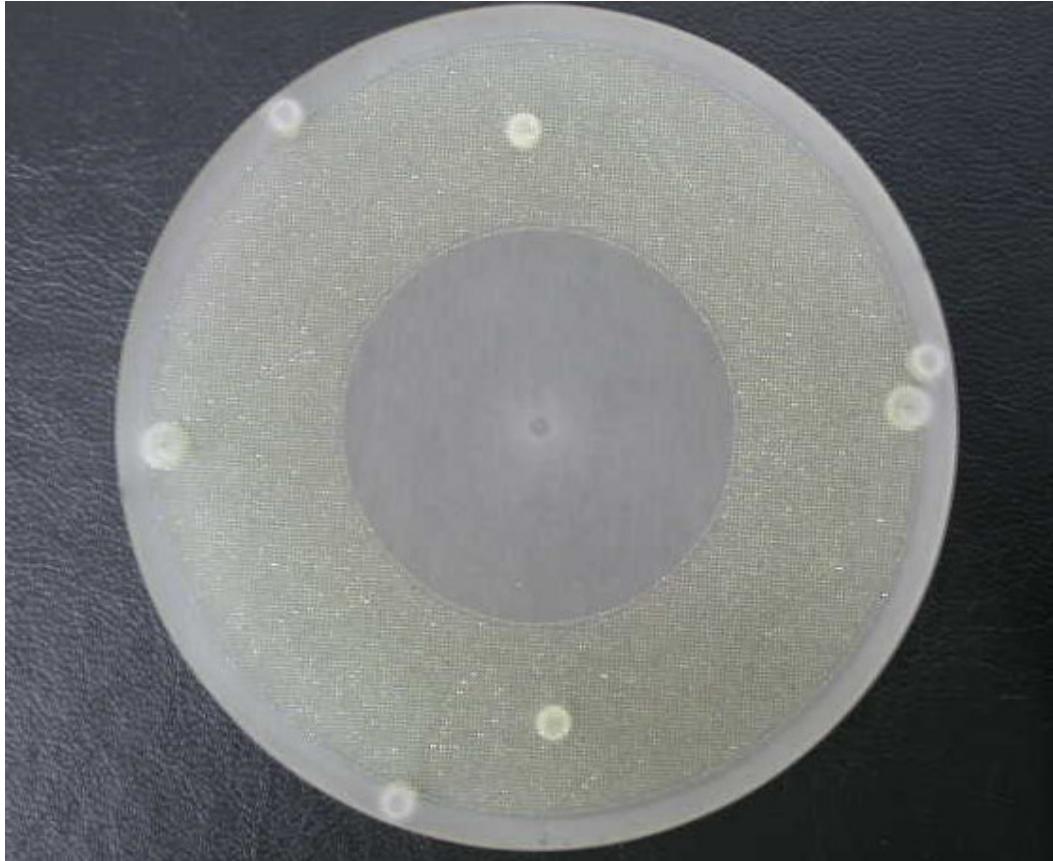
BDD

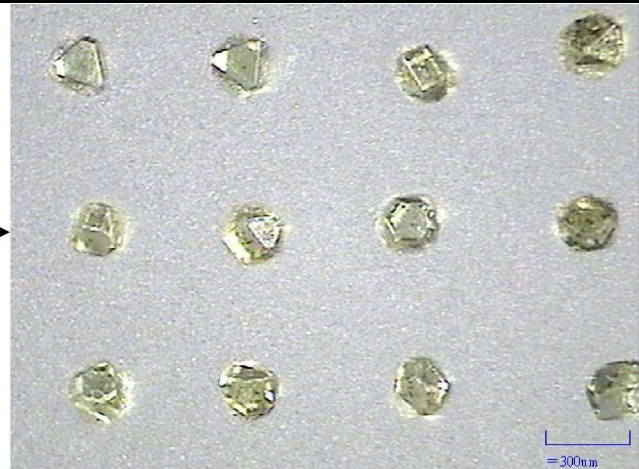
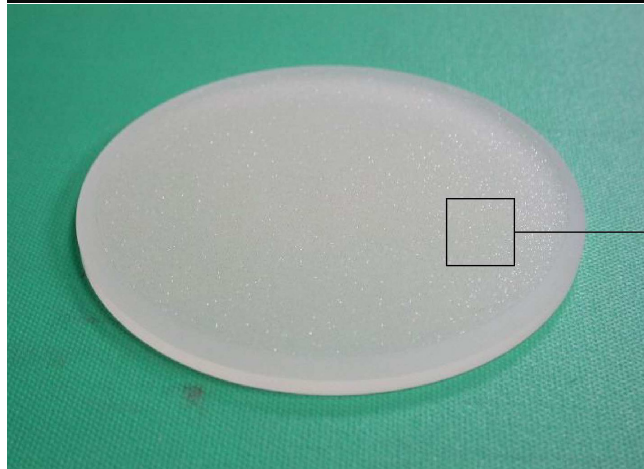


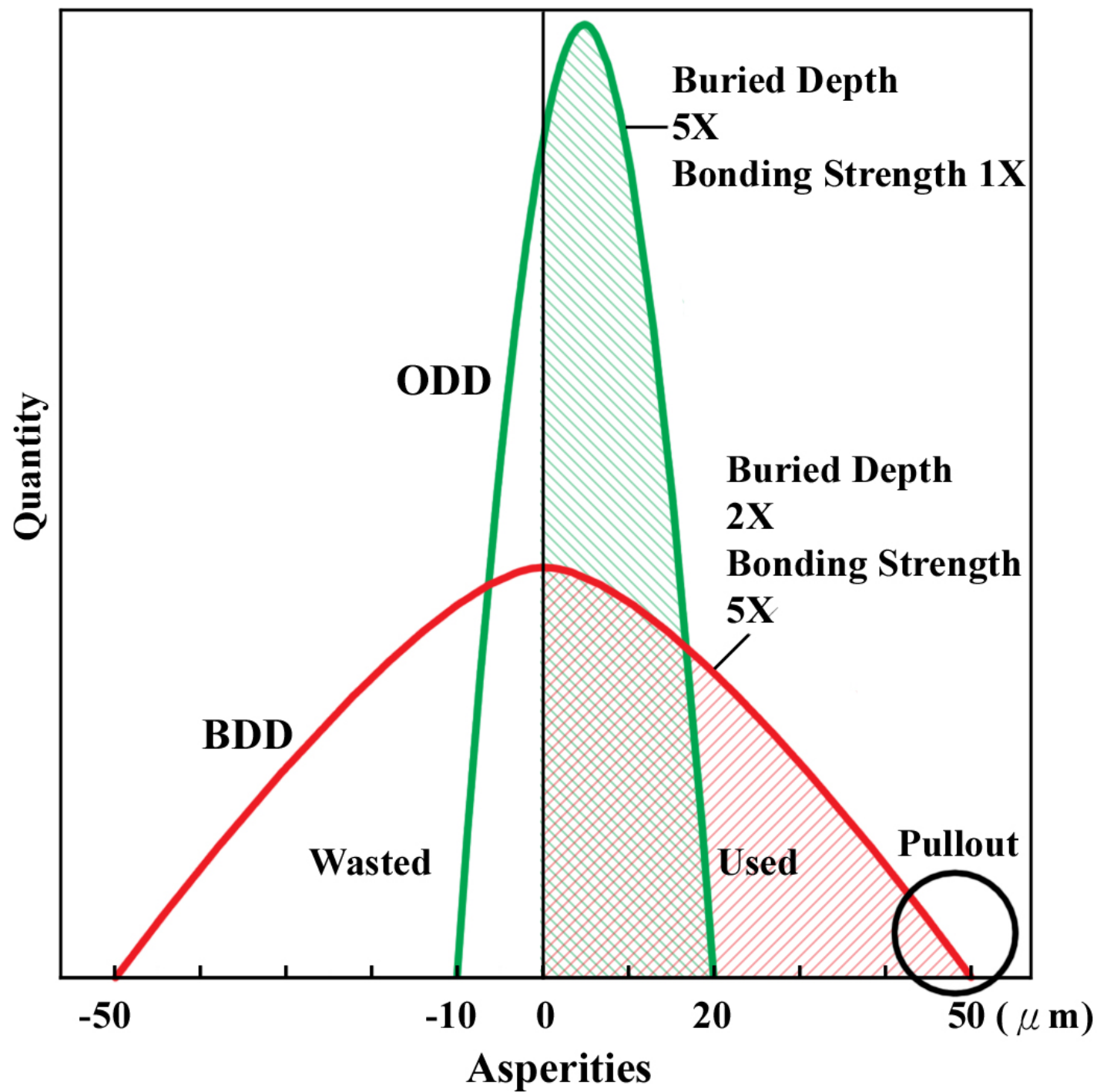


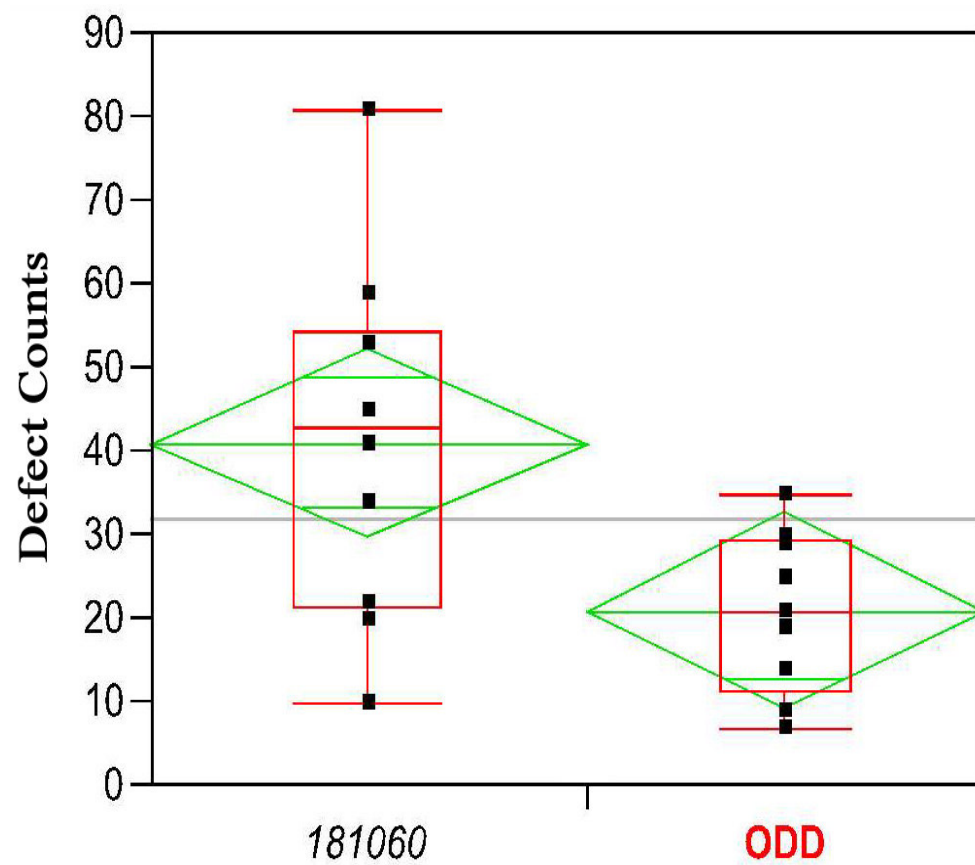
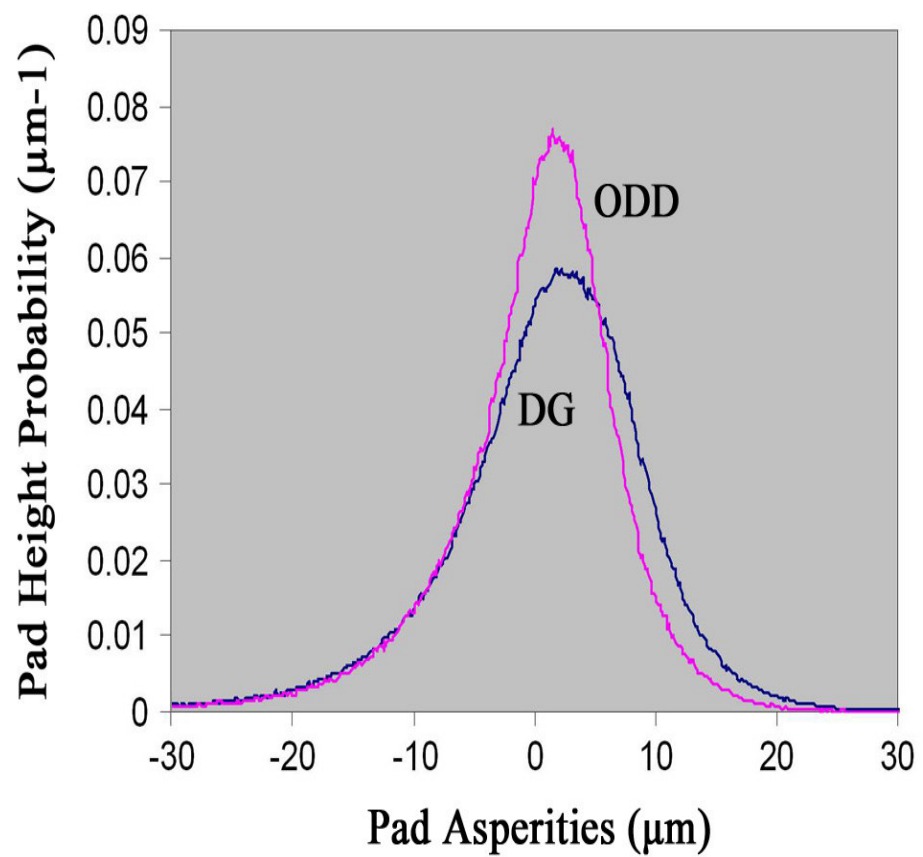
The Organic Diamond Disk (ODD) for Chemical Mechanical Planarization

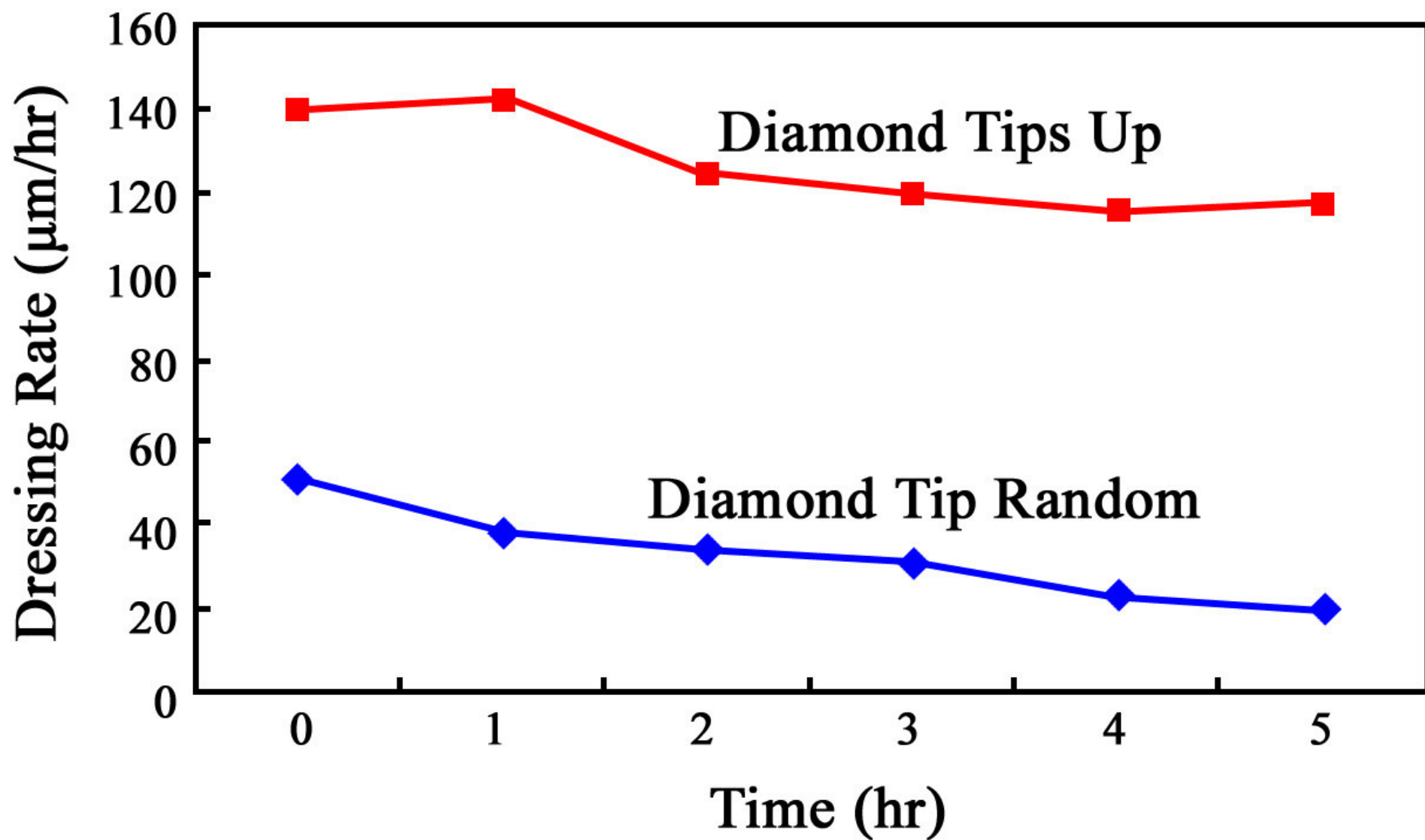
Dr. James Sung
CMPUG Meeting--April 9, 2008

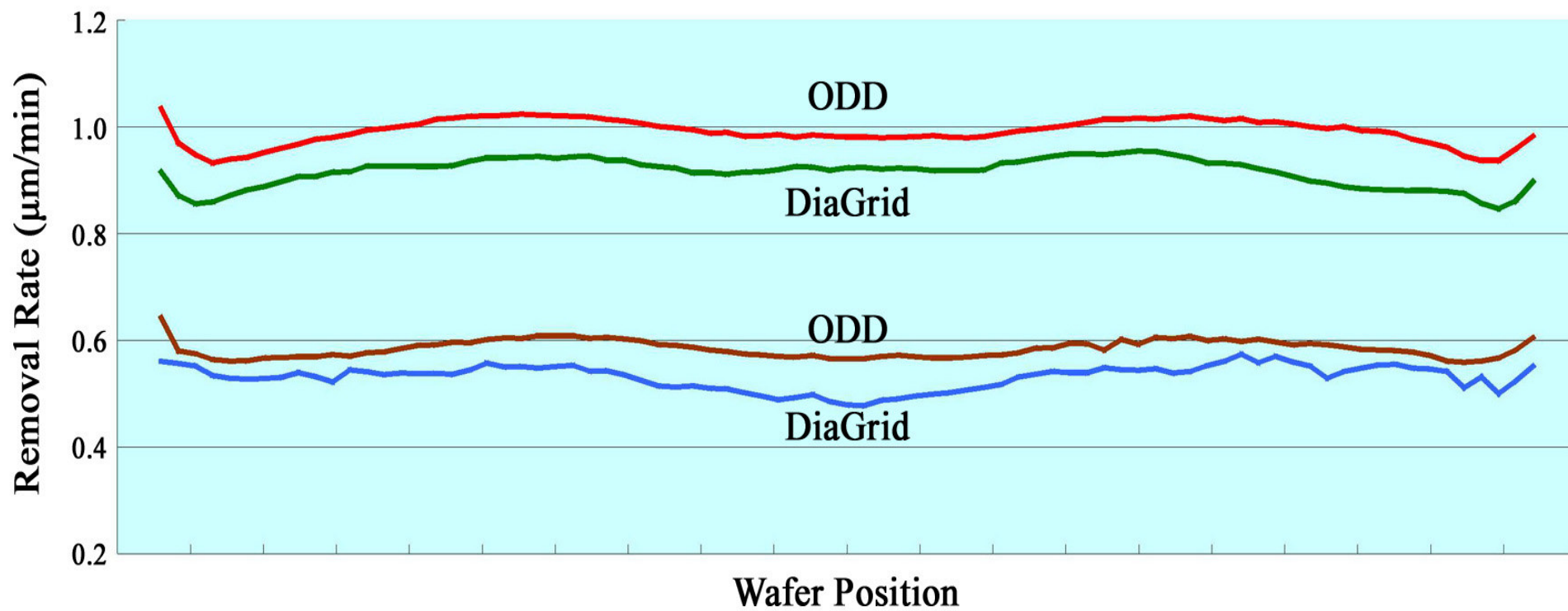


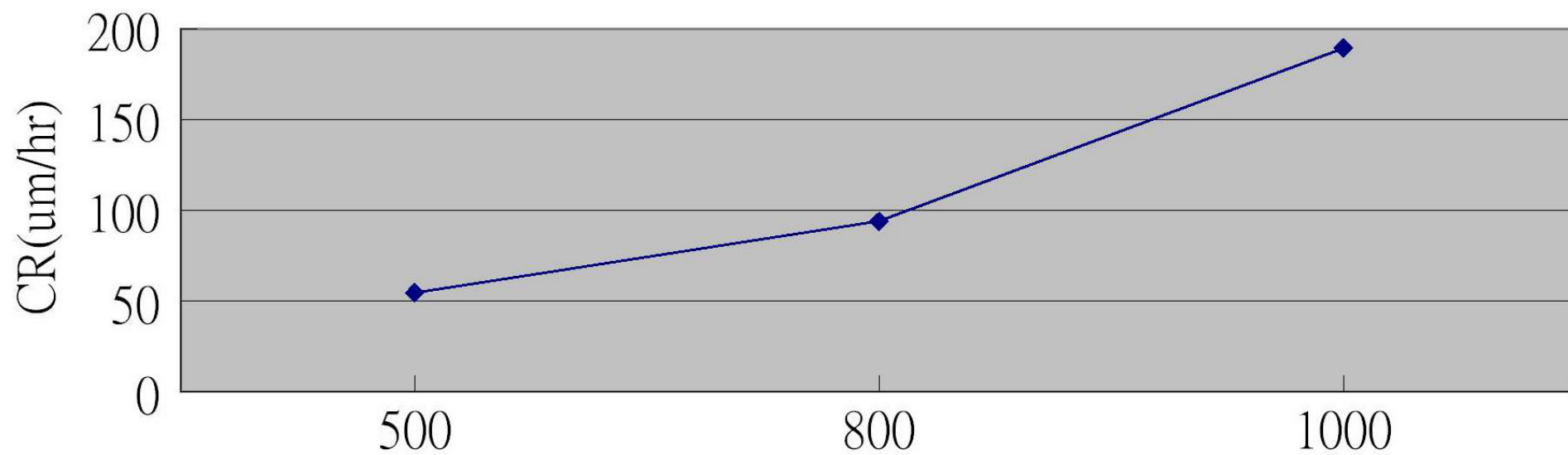


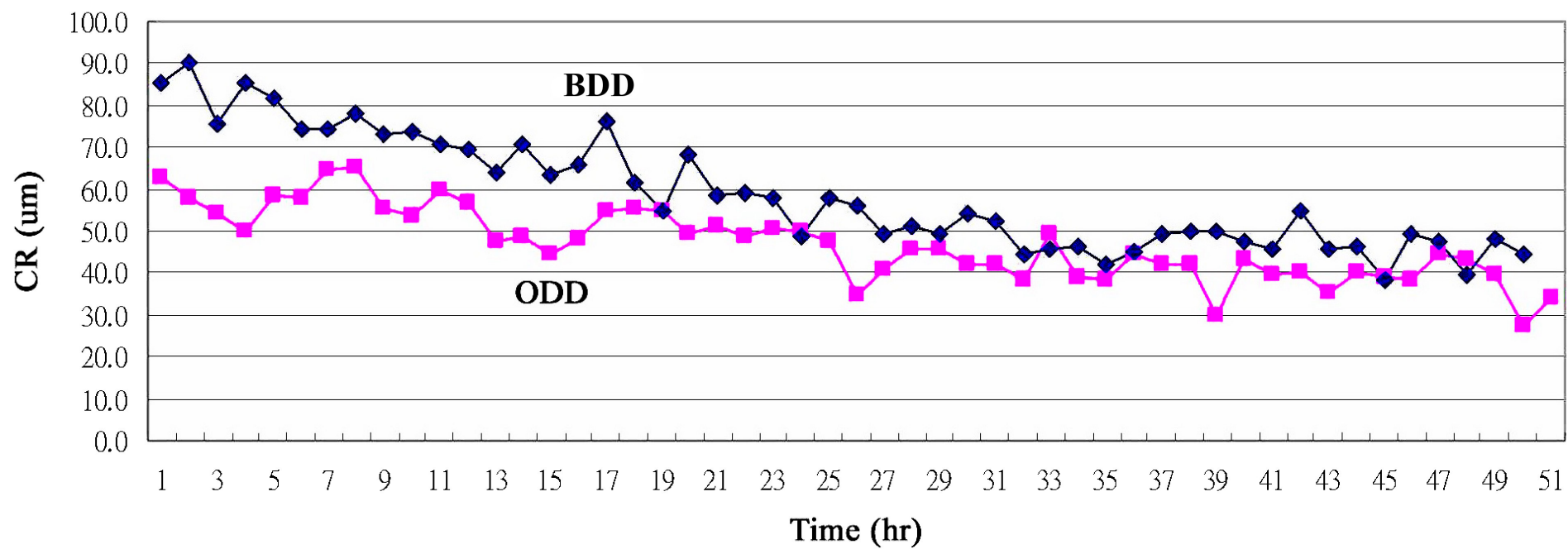




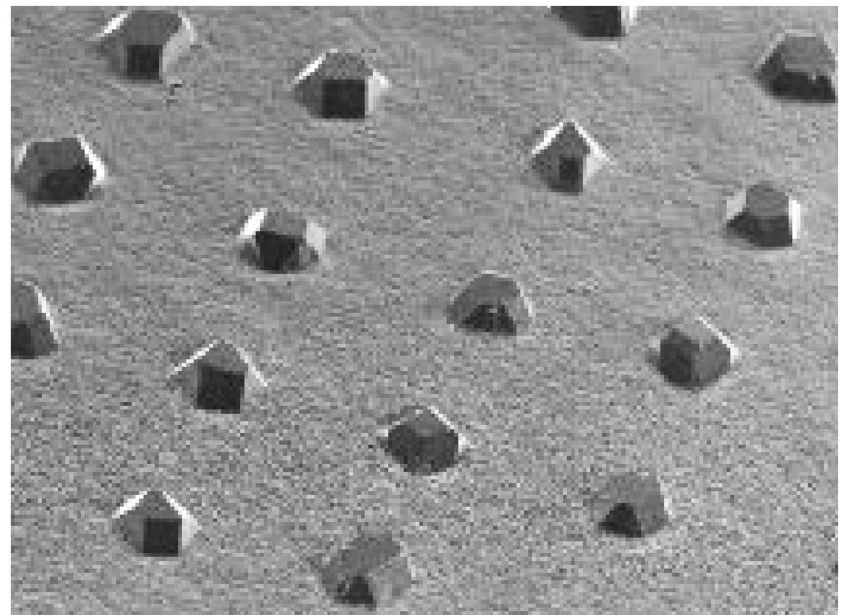
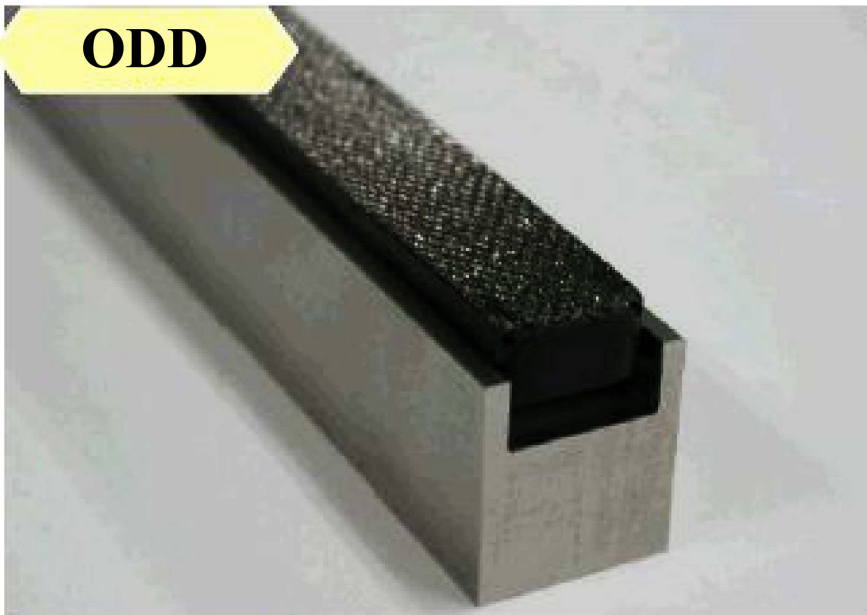








ODD



BDD

