

Mechanical and thermal properties of carbon fiber/polypropylene composite filled with nano-clay

Objective. The effect of organoclay on the mechanical and thermal properties of woven carbon fiber (CF)/compatibilized polypropylene (PPc) composites is investigated.

Specimen preparation and instrumentation: Fractured surfaces obtained from fracture toughness tests were examined by scanning electron microscopy (SEM) using JSM7001FD equipment. Prior to SEM observation, **all samples were sputter coated with a thin layer of gold to avoid electrical charging.**

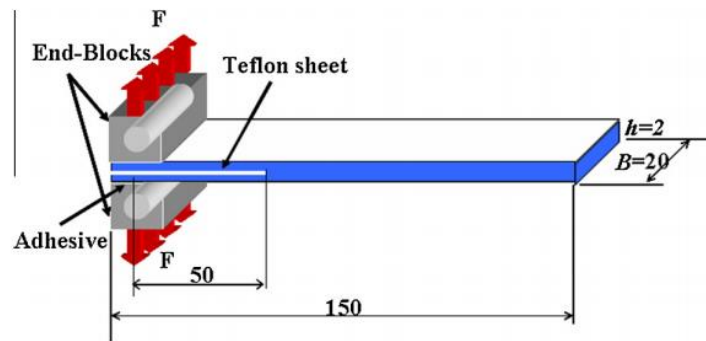


Fig. 2. Geometry of DCB specimen (all dimensions in mm).

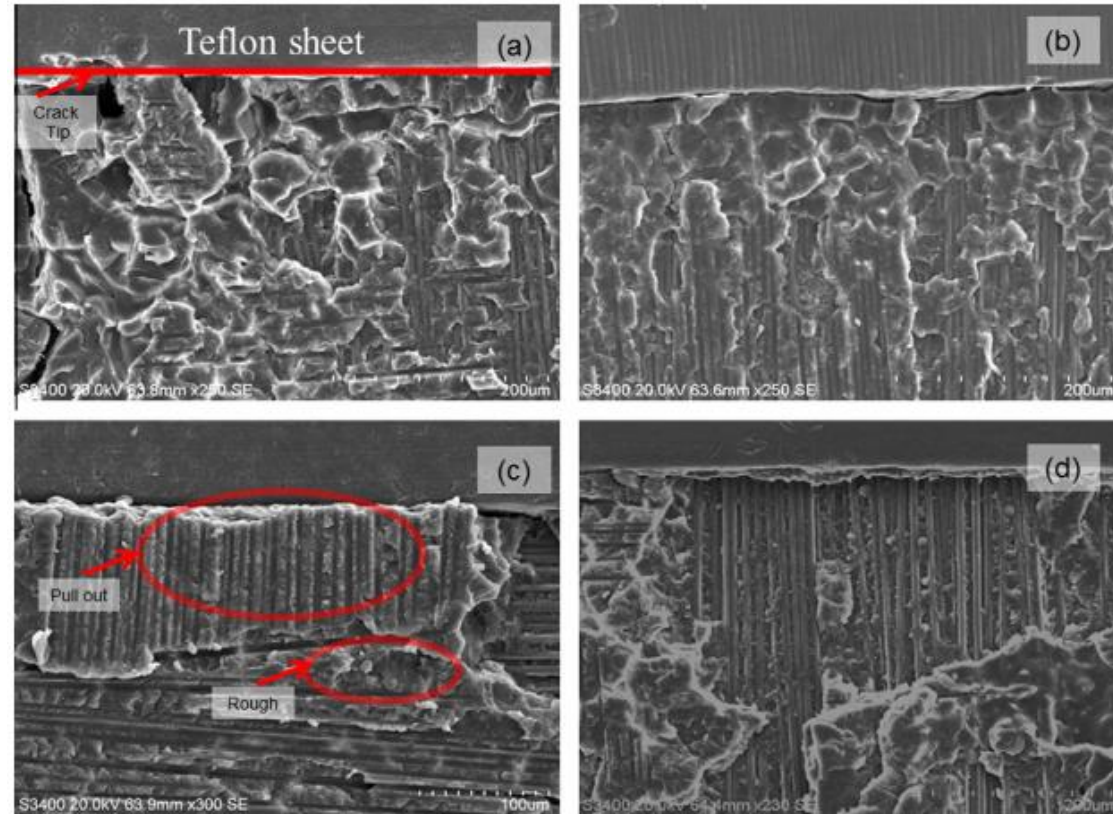


Figure 1. SEM images for CF/PPc composites filled with different ratios of organoclay at fracture surface of fracture toughness testing specimens; (a) unfilled, (b) 1%, (c) 3%, and (d) 5% organoclay

Conclusion: The SEM micrographs indicated relatively *rough areas* were formed confirming a high *delamination resistance*.