

Studies of Interfacial Fracture Analysis

Prof. Triveni Ram

Dr. Babban Prasad Choudhary

We study understanding the Fracture behaviour of adhesively bounded. Joints is important from two points of view. It is essential to be able to predict the onset and propagation of Fracture for engineering design purposes.

Adhesive bonds for structural purposes are typically formed through heating the adherends together with the interspersed adhesive layer under moderate pressure from a temperature above the glass transition of the polymer to the use temperature (substantially) below the latter. It is thus inevitable that, depending on the processing conditions, residual stresses are generated to varying degrees. During use these residual stresses act in addition to those induced by the loading so that the final load carrying ability of the bonded joint may be materially impaired. In fact, it is believed that in many cases the apparent bond weakness observed in laboratory tests is primarily the result of residual stresses rather than an intrinsically weak chemical/mechanical interface connection.