



ABSTRACT

Several approaches are currently being taken to develop procedures for evaluating toughness in polyester material. For material having low toughness like polyester, the plane-strain toughness parameter, K_{IC} , is the one most commonly determined. ASTM E-399 defines K_{IC} as the material-toughness property measured in terms of the stress intensity at which unstable crack propagation begins.

The test covers the determination of the plane-strain fracture toughness, K_{IC} , by test using compact tension specimen. The test results seem that the specimen thickness, B , and the crack length, a , is not exceed $2,5 (K_Q/\sigma_{YS})^2$. It means, the test is not valid K_{IC} test and need more larger the specimen thickness.

The test result seem the stress intensity factor of polyester resins 2252 is $0,932 \text{ MPa } \sqrt{\text{m}}$ and polyester resins 108 is $1,160 \text{ MPa } \sqrt{\text{m}}$. But, for polyester resins justus and polyester resins arindo, the test is not valid K_{IC} test and need more larger the specimen thickness.