

Application Profile: High Temperature Bonding System that Prevents the Propagation of Flames

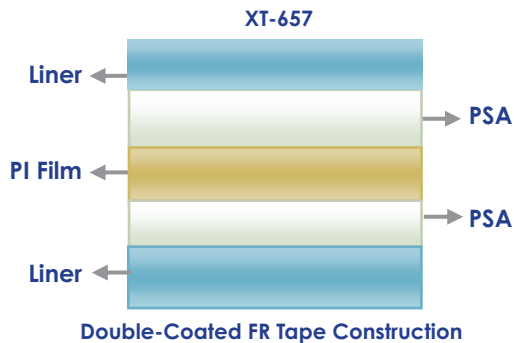
Overview:

Polyonics double-coated flame retardant tapes are ideal for bonding materials that will be exposed to extremely high temperatures and harsh manufacturing environments including where the propagation of fire needs to be prevented. The tapes offer additional stiffness compared to transfer adhesives that, when combined with liners, allows die-cutting and auto-application.

The double-coated REACH and RoHS tapes are resistant to those chemicals typically found in electronics manufacturing and remain dimensionally stable at elevated temperatures. In addition, they provide excellent electrical properties, including dielectric strength, which provide electrical insulation and isolation. Polyonics double-coated flame retardant tapes offer exceptional bond strength and provide thin, conformal bond lines to increase the overall integrity of joints.



Double-Coated Polyimide Tapes



Construction:

The diagram (at left) shows the XT-657 double-coated flame retardant (FR) composite construction. A high temperature (<150°C) flame retardant acrylic pressure sensitive adhesive (PSA) is laminated to both sides of a 1 mil polyimide film. A variety of liners are available that add additional stiffness to help to suit most die cutting processes.

Technology:

The flame retardant tapes use FlameGard™ technology to effectively control the burning process (chart at right). The tapes include resins and additives that are dimensionally stable plus don't generate significant amounts of flammable gasses. In addition, the tapes create a char layer that acts as a heat shield slowing the rate of thermal oxidation and reducing thermal degradation to help prevent to the propagation of fire.

