

## ADHESIVES for POLYURETHANE

***Polyurethane is a thermoplastic, that is, it is one of a variety of materials that have the property of becoming hard and rigid when cured and are moldable when heated. Polyurethane softens or fuses when heated and hardens and become rigid again when cooled without undergoing any appreciable chemical change. A polyurethane is any polymer consisting of a chain of organic units joined by urethane links. Polyurethane is available generally in two forms, Thermoplastic Urethane (TPU) or Thermoplastic (TP). The TPU is a product of BF Goodrich, now Novion, the TP is a Dow Plastics product. PU is widely used in flexible and rigid foams, durable elastomers and high performance adhesives and sealants, fibers, seals, gaskets, condoms, carpet underlayment, and hard plastic parts. Polyurethane products are often called "urethanes". They should not be confused with the specific substance urethane, also known as ethyl carbamate. Polyurethanes are not produced from ethyl carbamate, nor do they contain that substance.***

***Polyurethane products may be altered by chemicals added to them in the manufacturing process, producing differing properties -- they also come in varying thicknesses -- both of which may affect their coefficient of expansion ("COE"). Successful long term bonding of polyurethane to itself and to other substrates, requires careful preparation and matching of the adhesive being used with the differing COEs of the substrates involved. BONDIT™ products are among the few available that can be used to bond polyurethane successfully over long periods of time to substrates with other COE's for harsh environments and long deployment without debonding.***

***Our first recommended product for polyurethane is either our BONDIT™ B-45 or B-482, depending on the grade of TP or TPU and whether it is polyether or polyester.***

***Our recommendation would change if***

***Other recommended products are if***

***Among the other substrates which polyurethanes can be bonded to using BONDIT™ products are: UHMW, Delrin, flouropolymers, rubber, polyethylene, polyolefin, polypropylene, other polyurethanes, silicone, thermoplastics, thermosets, urethane, ceramics, glass, fiberglass, wood, metals, stone, aggregate and concrete.***

***To see our chart showing rankings by property, including elongation, for the various BONDIT™ products click [here](#). Call or email us for advice on for COE ratings and matching BONDIT™ products for your application at (707) 284-8808 or [reltek@reltekllc.com](mailto:reltek@reltekllc.com).***

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