



QPAC® 25 & QPAC® 40 Product Overview Poly(alkylene carbonates) are synthesized through the polymerization of carbon dioxide and epoxides. The products of their combustion are carbon dioxide and water vapor, which are non-toxic, non-flammable, and environmentally safe. They burn cleanly in any environment, oxidizing or inert. They are colorless, amorphous thermoplastic polymers with low glass transition temperatures.

QPAC® is ideally suited for use as binders in brazing pastes and solutions. HERE'S WHY:

- > QPAC® is compatible with a variety of filler metals.
- > QPAC®'s viscosities and molecular weights can be custom-tailored for specific solution or paste requirements.
- > Both grades of QPAC® are naturally "tacky" and their degrees of plasticity can be adjusted as necessary.
- > Decomposition is complete through three phases: solid, liquid, and vapor.
- > Upon decomposition, QPAC® leaves very low ash residue with the complete burn-out of carbon.
- > QPAC® decomposes completely between 250°C - 300°C, which can be as much as 100°C below the decomposition temperatures of other binders.

OTHER QPAC® BINDER APPLICATIONS

- > Diamond Powder Bonding
- > High Energy Capacitors
- > Air Bag Inflator Propellants
- > Thick Film Inks
- > Die Attach Adhesives
- > Ceramic Fiber Processing

PROPERTIES OF QPAC® FORMULATIONS:

QPAC® 25 - PEC - poly(ethylene carbonate)

Density	1.42
Chemical formula	$[\text{CH}_2\text{CH}_2\text{OCO}_2]_n$ or $\text{C}_3\text{H}_4\text{O}_3$
Tensile strength	500 - 1,500 psi
Solubility	Methylene chloride, Chloroform, and 1,2-Dichloroethane
Tg	25°C

QPAC® 40 - PPC - poly(propylene carbonate)

Density	1.26
Chemical formula	$[\text{CH}_3\text{CHCH}_2\text{OCO}_2]_n$ or $\text{C}_4\text{H}_6\text{O}_3$
Tensile strength	5,000 - 6,000 psi
Solubility	Methylene chloride, MEK, Acetone & Propylene carbonate
Tg	40°C