

# 450°F SUPER FLEXIBLE EPOXY

## So Flexible You Can Tie it in a Knot

### 450°F - Duralco™ 4538

Now, unlike ever before, there is a solution for applications requiring the ultimate in thermal shock and vibration resistance, sound absorption and excellent adhesion to dissimilar substrates.

Duralco 4538 offers the flexibility of silicones and the chemical stability of epoxies.

This completely variable system can be tailored to meet any application requirement just by varying the mix ratio of resin to hardener resulting in the exact degree of flexibility required for any application.

It's easy to use. Just dispense resin and hardener, mix to a uniform color and apply.

Adheres to most plastics, metals, ceramics, glass, rubber and even Teflon™ (treated).

Cures at room temp. for use from -100°F to +450°F and will not soften or gum up at high temperatures.

Duralco 4538 offers excellent chemical resistance and high bond and peel strength.

It is ideal for all electric and electronics applications and can be used with most common chemicals and solvents.

#### Users Report:

**Bonds:** Zytel™ 101, Victrex™, Poly-Phenylsulfone, Nylon, Poly-Carbonates, Phenolics and other difficult materials. Successfully bonds a Teflon™ housing to a Ceramic Bushing, Ceramic magnets to a plastics holder.

**Thermal Shock Resistance:** Withstands repeated thermal cycling from -100°F to +300°F.

**Seals:** Bonded and sealed a 4 inch diameter glass sight port to a brass housing for use from -100°F to +300°F.

**Encapsulates:** Stress free potting of delicate electronic assemblies for severe thermal shock environments.

**High Peel Strength:** Adheres to Teflon™ (treated) and other hard to bond plastics.

Duralco 4538's convenient room temperature cure and superior high temperature performance makes it easy to use in any prototype or production application.

### Adjusting the Flexibility

Just pick the degree of flexibility desired.

Then select the resin to hardener ratio from the table.

Use formulation "B"

For most applications.

Use formulation "C" or "D"

For severe thermal shock, vibration or bonding of dissimilar materials that require additional flexibility.

Use formulation "A"

For applications where additional rigidity is required.



So Flexible You Can Tie it in a Knot  
Great for Stress Free Bonding & Encapsulating

Duralco™	Units	4538
<b>Maximum Temp</b>	<b>°F</b>	<b>450</b>
Components	Color	2-Tan
Viscosity	cps	10,000
Hardness Variable	Shore 'A'	60-80
Tensile Strength	psi	6,000
Thermal Conductivity	BTU in/°F hr. ft <sup>2</sup>	7
Thermal Expansion	10 <sup>-5</sup> /°C	N/A
Dielectric Strength	volts/mil.	450
Volume Resistivity	ohm-cm	10 <sup>14</sup>
Elongation	%	12-100
Thermal Stability	% 1000 hr @ 200°C	0.5
Shrinkage	% max.	0.8
Moisture Absorption	30 Days %	0.5
Mix Ratio	R / H	100/120
Cure	Hr. @ Room Temp.	16 - 24
	@ 250°F (min.)	60

Formulation	A	B	C	D
Flexibility	Rigid	Flexible	Soft	Softest
Resin (by wt.)	100	100	100	100
Hardener (by wt.)	80	120	200	300
Physical Properties	A	B	C	D
Hardness (Shore A)	100	60	40	30
Tensile Strength (psi)	8000	6000	2500	1200
Elongation (%)	4	8	20	80
Tg (°F)	53.8	48.2	41.4	32.9

Duralco 4538-1... Pint Kits . . . . . 450°F

Duralco 4538-2... Gallon Kits . . . . . 450°F

#### Pre-Measured Kits

**Each Unit Contains:** 1 jar of resin, 1 syringe of hardener and 1 mixing stick. (see page 19 for details)

EE 4538-10 . . . . . 10 Epox-Eez 10 gm units/box

EE 4538-25 . . . . . 10 Epox-Eez 25 gm units/box

For Epox-Eez Twin Pack Cartridges see page 18.

*Quantity Prices and Custom Formulations,  
Available on Request*