

# Thermosets

Polyester BMC Styrene-Free Polyester Phenolic Melamine/Phenolic

## Home and Commercial Kitchen

Plenco Thermoset materials provide a durable, high-gloss finish with industry leading thermal stability, UL flammability, electrical insulation and chemical resistance. This makes them ideal for metal or thermoplastic replacement in hot-zone, electrical device components.

Thermoset chemistry gives our products a surface hardness unmatched by thermoplastics. They will maintain their great looks after years of abuse and repeated cleaning making them perfect for cosmetic surfaces your customers will proudly display.



### Applications

- Plenco 04311** Cookware handles and knobs, utensil handles, coffee urn bases, skillet and slow cooker bases, warmer trim
- Plenco 04349** Burner connectors, terminal blocks, switch housings
- Plenco 06401** Commercial oven door handles, support brackets
- Plenco 08122** Buffet table and electric server trim
- Plenco 08218** Blender housings, appliance housings
- Plenco 08235** Large appliance handles, oven vent trim



### Chemical Resistant

The cross-linked polymer structure of Plenco Thermosets gives them excellent resistance to solvents and harsh cleaning solutions.

Plenco phenolics in particular have proven their durability as the dishwasher resistant material of choice for cookware suppliers world wide.

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## Thermal Stability

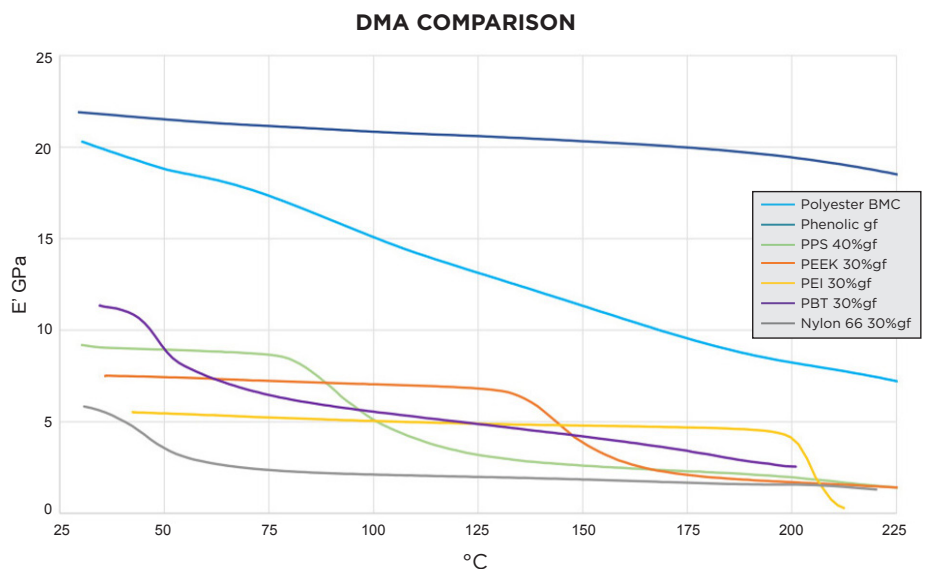


The cross-linked chemical structure of Plenco Thermosets gives them a wider operating temperature range than many, more-costly thermoplastics. From freezer to fire, the right Plenco Thermoset can give you the most consistent, predictable performance from  $-40^{\circ}\text{F}$  to  $+350^{\circ}\text{F}$  or higher.

## $^{\circ}\text{C}$ Scanning DMA T<sub>g</sub> vs. Modulus

The Glass Transition Temperature (T<sub>g</sub>) is where molecular mobility increases dramatically. Below their T<sub>g</sub>, some thermoplastics become brittle. Above their T<sub>g</sub> (shown to the right) they rapidly lose creep resistance and physical properties.

Properly prepared Plenco Thermosets always operate below their T<sub>g</sub>, providing greater property retention at elevated temperatures.



## Low Shrink, Less Sink

High shrink-rate thermoplastics can make designing structural, appearance parts extremely difficult. Sink marks and ghost lines can be nearly impossible to avoid.

Plenco Thermoset materials are exceptionally low-shrink (.001-.010). This helps prevent structural ribs and bosses from showing through on your decorative surfaces, expanding your design options.

