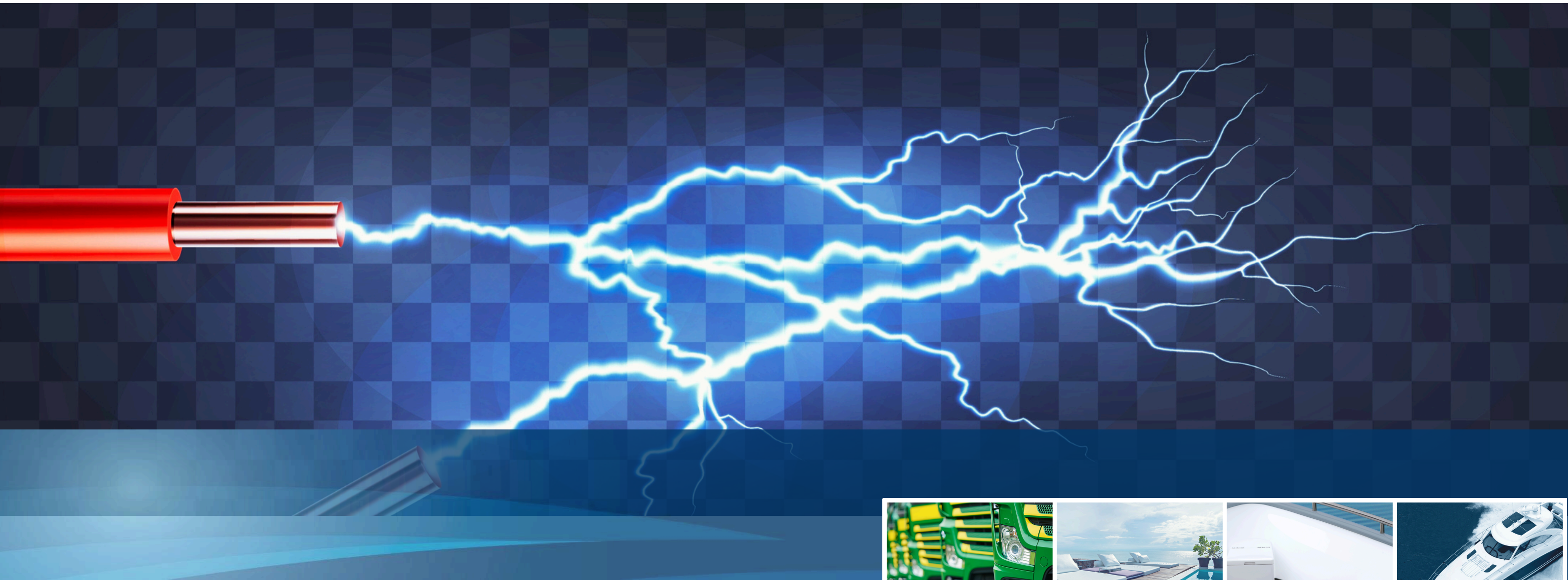


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ULTRATEC™ 606 RED ANTI-STATIC VINYL ESTER TOOLING GELCOAT



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Ultratec™ 606 RED: Anti-Static Vinyl Ester Tooling Gelcoat

Eliminating static electric charge build up on mould surfaces to minimise fire and explosion hazards in the workshop

Ultratec® 606 Red is a high performance tooling gelcoat based on an Epoxy-Novolac vinyl ester resin, which also provides excellent heat resistance and maximum resistance to chemicals and solvents.

Ultratec® 606 Red incorporates Nano-Technology to provide antistatic properties in the cured Gelcoat finish. The typical surface resistivity measurements for the properly cured gelcoat surface are generally in the range of 10^6 to 3×10^8 Ω /square which is the defined range for Static Dissipative coatings, making this product suitable as an anti-static Tooling Gelcoat for reduced fire and explosion hazard risks in the workshop.

Ultratec® 606 Red provides a lasting high gloss finish which will stand up to a large number of moulding/demoulding cycles between each waxing and polishing operation provided the tooling gelcoat is properly cured. Minimum application temperature during cure should be 18°C. These gelcoats have been formulated for spray application.

Even though the gelcoat provides anti-static electrical properties, it is still recommended to ground the mould while demoulding.

Product Characteristics - Electrical Properties

Traditional Tooling Gelcoat	New Anti-Static Tooling Gelcoat
Unable to conduct electrical charge (with a resistance of $>10^{12}$ Ω). Static electrical charge build up at cured Gelcoat surface.	Able to carry electrical charge with a resistance between 10^6 to 3×10^8 Ω . No Static electrical charge build up at cured Gelcoat surface.
Generates static charge while component separates (demoulding)	No static discharge while demoulding when earthed properly
Discharge on human, electrical devices, or flammable materials. Fire - explosion hazard potential in workshop.	Reduces the risk of static shock, prevents damage of electrical devices, and eliminate fire & explosion hazard due to discharge.

Key Product Benefits

- Safer working environment with no electrical discharge during demoulding when appropriately earthed
- Less dust on the mould
- Improves tool quality
- Less force needed for demoulding
- Clean manufacturing process without carbon black powder

Recommended Catalyst

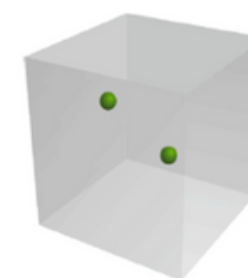
This gelcoat requires the use of Norox CHM50 catalyst, which practically eliminates gassing/foaming often associated with MEKP cured vinyl ester systems. Curox CP-50EAA is also suitable.

How do SWCNT (Single Walled Carbon Nanotubes/Graphene Nanotubes) work?

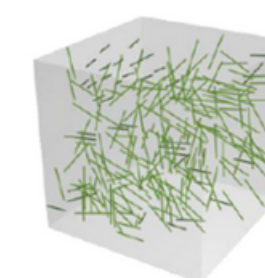
Concentration of carbon particles at 0.1wt%

When embedded into a material's matrix, well-dispersed graphene nanotubes create a 3D reinforced and conductive network that provides a new set of properties and has minimal impact on the other key properties of final product.

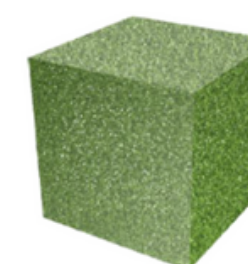
Graphene nanotubes can be described as a one-atom-thick graphene sheet rolled in a tube more than 5 μ m long. This material is commonly called single wall carbon nanotubes. This molecular sheet extends throughout the gelcoat matrix to provide very effective electrical conductivity properties.



Carbon Black



Carbon Fibre



SWCNT

Typical Liquid Resin Properties @ 25°C – Ultratec 606 Red Tooling Gelcoat

Properties	Typical Values	Test Details
Viscosity: Brookfield RVF sp 4/4 rpm	11000 - 13000 cP	Brookfield RVF sp 4/4 rpm
Cone & Plate - 23°C	280 - 310 cP	
Geltime (minutes)	8 - 12	2% v/w Norox CHM50

Typical values: Based on materials tested in our laboratories, but varies from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot or as specification items

Typical Mechanical Properties in Cured State – Ultratec 606 Red Tooling Gelcoat

(Fully Postcured Casting)

Properties	Typical Values	Test Details
Hardness	35 - 45	Barcol (GYZ934-1) EN59
Heat Deflection Temperature °C (HDT)	110 - 120	ISO 75-1 : 2020
Surface Resistivity	10^6 - 3×10^8 Ω	SRM100 Surface Resistivity Meter (Bondline)