

Temprotex™ Coatings and Understanding Thermal Situations

TPR², in conjunction with Professional racing, has identified and defined possible thermal conditions seen within race vehicles during normal and extenuating circumstances. We have created a terminology list to help teams understand, identify and thus be able to address possible problem areas when they arise. This document attempts to explain how TPR² coating will react, what the visible signs of those reactions, and what level of protection is occurring at the specific normal and extenuating circumstances. This information relates only to TPR² proprietary coatings and is NOT applicable to other FR nor insulating coatings which, in some cases, could actually promote fire.

KEY PERFORMANCE TERMINOLOGY AND PERFORMANCE DESCRIPTIONS:

What it means to be (terms used for TPR² Temprotex™ race coatings)

Heat Insulating

A) At Continuous Performance Temperatures (metal up to 250f ongoing): TPR² Coating will keep IMPAXX™ foam below 200f and keep MFT™ and thermosets from reaching softening temps. Coating will maintain its adhesion, water resistance and fire extinguishing characteristics.

B) At 'Runaway' Heat Conditions (250f-400f): TPR² Coating will insulate substrate during spikes of heat over 250f. The coating will sacrificially insulate but will blister with continuous runaway temperatures. With sustained runaway temperatures, the MFT™ will eventually delaminate upon itself. Blistered coating is a sign that temperatures are consistently above NASCAR expectations and should be addressed. Thermoset plastics (CF,Fiberglass), could darken and deform possibly.

C) At Catastrophic Heat Events (400+f): TPR² Coating will support short heat bursts into the catastrophic range when applied to IMPAXX™, MFT™ and Thermoset plastics. Any catastrophic heat seen for more than 5-10 minutes will melt the IMPAXX™ or MFT™. 800+f temps could generate enough calories of heat to combust under the coating. Temprotex™ coating helps extinguish combusting molten plastic, foam and thermosets, and significantly reduce smoke generation.

Fire barrier

A) At Continuous Performance Temperatures (metal to 250f ongoing), at 'Runaway' Heat Conditions (250f-400f), or at Catastrophic Heat Events (400+f): Coating will keep a flame from both MFT™, thermosets and IMPAXX™ to standards set forth in UL 94. The coating's protective performance has passed UL 94's highest flame retardant rating(V0) over MFT™ and IMPAXX™ in test recreations. Any fire exposure would be classified as catastrophic and all components should be replaced.

Non Flammable

A) At Continuous Performance Temperatures (metal to 250f ongoing), at 'Runaway' Heat Conditions (250f-400f), or at Catastrophic Heat Events (400+f): - Coatings will not combust nor support combustion.

Fire extinguishing

A) At Continuous Performance Temperatures (metal to 250f ongoing), at 'Runaway' Heat Conditions (250f-400f), or at Catastrophic Heat Events (400+f):

- When splashed with flaming liquids, even at elevated temperatures, the coating will consume copious amounts of heat energy. It will bring and maintain fuel source below flash point and delay the heat from wicking to the substrate.

Zero VOC:

- The coating contains No Volatile Organic Compounds that could adversely affect the environment.

