

Protection, Protectants and dry rot:

There are two main degrading agents that attack tires, plastic and vinyl—ultraviolet (UV) light and ozone. Both of these attack the long hydrocarbon chains of the rubber, trim, and vinyl skin by breaking these bonds, shortening the molecules with a resulting loss of elasticity and other properties.

Tire manufacturers add two primary sacrificial protectants to the rubber. To protect against UV, manufacturers add carbon black. This is why tires and trim are most always black. The carbon black will turn white or gray as it absorbs the UV and protects the rubber. This is the basis of rubber and plastic parts turning gray as they age. To protect against ozone, tire manufacturers add a wax-based sacrificial protectant. The ozone attacks the wax and depletes it. As the tire rolls, additional wax is forced to the surface of the tire. This oxidized wax will appear brown on tire surface. This is referred to as blooming. This blooming refreshes the surface wax protectant. A tire that has not been flexed will have the wax depleted by the ozone and thus begin to degrade and suffer dry rot. Silicone and oil, which are the main ingredients in most all of the advertised protectants, actually dissolves the wax and is the cause of premature tire sidewall cracking and failure. Nationally advertised protectants, both silicone and oil based, also contain formaldehyde and/or other harsh petroleum

surfactants. Some tire manufacturers may not honor their warranties on damages if use of such protectant products are detected.

Surfactants are compounds that lower the surface tension (or interfacial tension) between two liquids or between a liquid and a solid. Surfactants may act as detergents, wetting agents, emulsifiers, foaming agents, and dispersants.

Vinyl surfaces have a protective skin and just as plastic surfaces it is depleted from off-gassing. Silicone and oil based protectants may also dissolve the essential oils in the skin, hastening the premature formation of cracks in the vinyl. Silicone also has a electrostatic attraction which attract dirt and dust particles. A quality protectant should contain a strong UV protectant to bolster the efforts of the carbon black and not contain surfactants that remain active after applied, “ wet or greasy “.

Renew Protect supplies co-polymer essential feeding elements that restore the original composition of the surface. Renew Protect also creates a dry-seal ozone and UV block via zinc and titanium oxides. This technology also serves to retard the “blooming” and “off-gassing” process and greatly enhances the retention of protective elements within the surface. Renew Protect Blak also contains carbon black and is ideal for the restoration of

faded black surfaces and of their protective properties. Renew Protect is silicone and oil-free.

Dorus Rudisill

Product Development

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