CRAY VALLEY
Resins par excellence

APPLICATION BULLETIN

Ricon® Resins as Coagents

Coagents are used in rubber compounding to improve the efficiency of peroxide cure systems. Typically the use of Ricon® coagents results in improved compression set, improved creep resistance, improved oil swells, and increased modulus. With proper compounding, the increased efficiency gained from Ricon® coagents can be used to reduce the quantity of peroxide in a system while maintaining the same properties. This results in an overall cost reduction of the compound.

Ricon® coagents change only the state of cure and normally do not cause scorchiness. The low polarity of Ricon® coagents give them excellent compatibility with many polymers. This compatibility allows for much higher loadings when you need significant improvement in oil, fuel, and solvent resistance. The additional improvement is a direct result of the greatly increased crosslink density caused by the coagent.

Ricon®'s unique saturated backbone contributes to the heat, chemical and ozone resistance of your compound. Properly compounded with Ricon® coagents a peroxide cured EPDM can be used effectively in downwell oil service. The EPDM compound can outperform fluoroelastomers in downwell cable applications with temperatures exceeding 250 °C.

Coagents are divided into two classifications, type I and type II. The distinction is as follows.

Type I - Increased cure rate and scorch, undergo homopolymerization, may form additional networks in the rubber matrix, acrylates, methacrylates and HVA2 are representative of this type.

Type II - Do not undergo homopolymerization, do not usually increase cure rate; Ricon® Resins are representative of this type.

The relatively low molecular weight of the Ricon® coagents allows it to also perform as a plasticizer and process aid during mixing. More thorough mixing and lower energy consumption are a direct result of using Ricon® products. Being scorch-free coagents, Ricon® coagents should be added at the beginning of the mix cycle. Addition at this point allows the Ricon® coagents to wet out the fillers used and to lower the viscosity. Ricon® resins are polybutadienes and thus have low volatility (VOCs), are non-toxic, possess low Tg's and are stable up to 200 °C. Ricon® coagents can produce the same result as several additives in your compound while still being very safe and user friendly.

Ricon® coagents are available as neat liquids and powder dispersions. Both the liquid and powder forms can be pre-weighed into low-melt compounding bags for mixing convenience.

Ricon® Resins Improve The Following Properties:

Compression Set	Modulus	Fuel Resistance	Heat resistance
Peroxide Efficiency	Hardness	Ozone Resistance	Chemical Resistance
Scorch Protection	Elongation	Oil Resistance	Low Temp. Properties
Mooney Reduction	Processability	Creep Resistance	Moisture Resistance.

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