

# Northstar Elastomers

Norst® Polymers & Tirecycle™ Rubbers

## TECHNICAL DATA SHEET

**Product Name:** Tirecycle™ Treatment K

**Classification:** Proprietary Rubber Adhesive of 100% solids

**Applications:** Treat rubber crumb for compatibility with SBR, NR and EPDM rubber compounds. The base formula is designed for use with #34 to infinity mesh crumb. Works with tire crumb and other recycled rubbers.

**Typical Usage:** Apply Treatment K at ratio of 5 lbs to 95 lbs of crumb.

Treated crumb is then added to SBR, NR, EPDM compounds, generally at ratio of 30-50% treated crumb, *as a direct replacement for that portion of the compounds*. Ratio may be up to 75-100% for some uses.

If 15/20 mesh crumb is being used, Treatment K may need to be increased to 5.5 lbs to 94.5 lbs crumb. If crumb is contaminated with high portion of fabric, ratio may need to be modified further.

If 60 mesh crumb is being used, ratio may drop to 4.5lbs to 95.5lbs crumb, to maintain tensile and duro for end product requirement.

**Compatible Host Compounds:**

Black color  
Durometer from 65-75  
NR, SBR or EPDM base, blends can be very good  
Compounds that need or are able to process at higher viscosity levels

**Color:** Black. Other colors may be available for some compounds.

**Packaging:** Bagged in low-melt bags sized for your batch size.

**Benefits with Treatment K Treated Crumb:**

- Lower cost
- Allows crumb to be part of the compound rather than just filler (which generally is a small percentage)
- Improve pavement adhesion and mileage in tires
- Hysteresis (Tan Delta) decrease
- Cure time decrease
- Die swell decrease
- Viscosity increase
- Resilience increase
- Modulus increase
- Compression set decreases at room temperature (other temps should be tested)
- When using high percentages of crumb, the physical size of one lb of rubber compound is greater than without crumb.
- May recycle your waste rubber in Tirecycle™ for re-use

**Drawbacks with Treatment K Treated Crumb:**

- Some benefits may be detriments in certain uses
- Green strength decrease
- Elongation decrease
- Smoothness and tack decrease with higher percentages
- Scorch time slight decrease (depends on compound)

**Mixing:**

Treatment K is best distributed with the action of Banbury mixers.

Treatment K can be premixed with the crumb or mixed with the compound and crumb in your Banbury. The required order of loading is to add compound, crumb and then Treatment K. Over 300° F can damage the crumb and Treatment K.

If you provide 5 lbs of your compound, we will do the testing for the proper amount of Treatment K.

EPDM requires NorthStar Elastomers to test your compound with Treatment K for proper ratios. We will need your desired tensiles, duro and modulus.

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USE ONLY WITH APPROVED EQUIPMENT***

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