

Northstar Elastomers

Norst® Polymers & Tirecycle™ Rubbers

TECHNICAL DATA SHEET

Product Name: Tirecycle™ TC 1301 – Rubber Treatment

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 TC 1301 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, TC 1301 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 TC 1301 Treated Crumb:

Allows crumb to be part of the compound rather than just filler, which generally is a small percentage.

Cure time decrease

Viscosity increase

Resilience increase

Modulus increase

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 with TC 1301 for re-use.

Drawbacks with TC 1301 Treated Crumb:

Viscosity increase

Green strength decrease

Elongation decrease

Smoothness and tack decrease with higher percentages

Scorch time slight decrease (depends on compound)

Mixing:

TC 1301 is best distributed with the action of Banbury mixers.

TC 1301 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 TC 1301. Over 300° F can damage the crumb and TC 1301.

If you provide 5 lbs of your compound, we will do the testing for the proper amount of TC 1301.

EPDM requires NorthStar Elastomers to test your compound with TC 1301 for proper ratios. We will need your desired tensiles, duro and modulus.

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