

# Northstar Elastomers

## Norst® Polymers & Tirecycle™ Rubbers

### Technical Data Sheet

Product Name: Tirecycle™ TC 1302 - Tirecycle™

Classification: Proprietary 100% solids Adhesive Rubber

Applications: *Tirecycle™* (treated rubber crumb) is added to SBR, NR, EPDM or other rubber compounds. The basic formulation uses #34 to infinity mesh crumb. We can formulate it with 60/80 mesh crumb, 15/20 mesh, or other mesh sizes.

Products: Tires - car, truck, forklift  
Shoe soles  
Hose - garden, etc  
Mats, Grommets, Polypropylene molds

Typical Usage: Add *Tirecycle™* to SBR, NR, EPDM or Polypropylene compounds, generally at ratio of 30-50% *Tirecycle™*, as a *direct replacement for that portion of the compounds*. *Tirecycle™* portion may be up to 75-100% for some uses.

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, like those used for compression mold-transfer or injection molding are best when body fed into cavity.

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

Packaging: Bagged in 45 lb low-melt bags in corrugated boxes, or  
Sized for your Banbury batch  
Available in 2,000 lb bags for bulk use

Benefits with Tirecycle™:

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  
Cure time 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 Tirecycle™:

Viscosity increase  
Green strength decrease  
Elongation decrease  
Smoothness and tack decrease with higher percentages  
Scorch time slight decrease (depends on compound)

Mixing:

*Tirecycle™* can be mixed with your compound in your Banbury. The required order of loading is to add compound then *Tirecycle™*. Over 300° F can damage the crumb.

EPDM requires NorthStar Elastomers test your compound with our TC 1302 EPDM for proper ratios. We will need your desired tensiles, duro and modulus.

*KEEP OUT OF REACH OF CHILDREN  
FOR PROFESSIONAL OR INDUSTRIAL USE ONLY  
USE ONLY WITH APPROVED EQUIPMENT*

NOTICE TO PURCHASER: NO WARRANTIES, EXPRESS OR IMPLIED, ARE MADE INCLUDING MERCHANTABILITY AND/OR FITNESS FOR A PARTICULAR PURPOSE. EXCEPT FOR PERSONAL INJURY RESULTING FROM USE OF THE PRODUCT AS DIRECTED, NORTHSTAR ELASTOMERS, LLC, SHALL NOT BE LIABLE IN TORT OR CONTRACT FOR ANY LOSS OR DAMAGE. UNDER NO CIRCUMSTANCES SHALL NORTHSTAR ELASTOMERS, LLC, BE LIABLE FOR ANY LOSS OR DAMAGE ARISING FROM THE PURCHASE, USE, OR INABILITY TO USE THIS PRODUCT, OR FOR ANY SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES. THE USER MAY SEND A SAMPLE OF PRODUCT TO NORTHSTAR ELASTOMERS, LLC, FOR TESTING. IF SUCH TESTING PROVES A PRODUCT DEFECTIVE, THE USER'S SOLE AND EXCLUSIVE REMEDY IS EITHER REIMBURSEMENT OF THE PURCHASE PRICE OF THE PRODUCT OR REPLACEMENT OF THE CONTAINER OF PRODUCT. NO FABRICATOR, INSTALLER, DEALER, AGENT OR EMPLOYEE OF NORTHSTAR ELASTOMERS, LLC, HAS THE AUTHORITY TO MODIFY THE OBLIGATIONS OR LIMITATIONS OF THIS WARRANTY.

This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state; therefore, some of the limitations stated above may not apply to you. It is to your benefit to save your documentation upon purchase of a product. The information and suggestions for use contained herein are believed to be accurate, but are not to be construed as warranties. User shall determine the suitability of the product for his or her intended use and shall assume all risk associated therewith.