Neoprene WRT and WD

Denka Performance Elastomer

TECHNICAL INFORMATION – November 2015

Non-staining crystallization-resistant copolymers of chloroprene and 2,3-dichlora-1,3-butadiene. The two grades differ only in Mooney viscosity.

Typical Polymer Properties

Physical Form	Chips
Color	White to silvery grey
Specific Gravity at 25/4°C, ASTM D7920-66 (1979)	1.23
Mooney Viscosity, ML 1+4 at 212 °F [100 °C]	
WRT	41 - 51
WD	100 - 120
Crystallization Rate	Very Slow
Storage Stability	Excellent. Little or no change in viscosity or scorch charateristics during storage, especially if stored under cool, dry conditions.

* These data are presented to describe Neoprene WD and WRT, and are not intended to serve as specifications.

Processing and Performance Features

- **Superior Low-Temperature Properties**
  Neoprene WRT and WD are designed for use in finished products that must remain flexible for long periods at low temperatures. The excellent crystalization resistance of these types helps counteract the increase in rate of crystalization – induced stiffening that is caused by ester plasticizers. Therefore, higher levels of ester plasticizers can be tolerated for increased resistance to thermal stiffening.

- **Resists Mechanical Breakdown**
  Neoprene WRT and Neoprene WD synthetic rubbers do not decrease in molecular weight during mixing and processing, and cannot be chemically petized. However, some reduction in viscosity may occur under higher shear conditions. The degree of softening is greater for a higher molecular weight polymer such as Neoprene WD.
  Compounds of Neoprene WRT and WD mix faster, develop less heat during mixing, have better mill release andyield extrudates that are more resistant to distortion than do compounds of Neoprene GNA or GRT.

- **Broad Compounding Latitude**
  The availability of two viscosity grades in these crystalization-resistant polymers makes it possible to accommodate considerable variation in filler and plasticizer loading while still maintaining workable compound viscosity. Since cure accelerators must be used with these types to achieve practical cure rates, processing safety and cure rates can be varied to suit processing requirements. Somewhat greater amounts of accelerators are required with Neoprene WRT and WD to achieve cure rate comparables to that of Neoprene W and WHV.

Handling Precautions

Neoprene WRT and WD has no known health hazards. However, it should be handled in accordance with good industrial hygiene pracities. For additional information, read Denka Performance Elastomer LLC reference " Guide for Safety and Handling and FDA Status of Neoprene Solid Polymers", and observed the precautions noted therein.

The compounding ingredients used with Neoprene WRT and WD to prepare finished products may present health hazards in handling and use. Before proceeding with any compounding work, consult and follow label directions and handling precautions from supplies of all ingredients. Read and heed the product labels.

Neoprene can accumulate a static charge during shipping, unloading, conveying, or pouring from the bag. To avoid hazards associated with a static electric discharge, provide adequate grounding of equipment and personnel while handling Neoprene WRT and WD in the vicinity of flammable vapors or dusts. See National Fire Protection Association (NFPA) RP77 "Recommended Practice on Static Electric."

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