



POLARITE™ 102A IN POLYCHLOROPRENE

Polarite 102A is produced by treating calcined clay with an aminosilane coupling agent; the silane develops chemical bonds between filler and rubber during many crosslinking reactions. The amino-functionality is highly reactive towards peroxide and metal oxide crosslinked rubbers, such as polychloroprene, hypalon and halobutyls. Reactivity towards conventional sulphur crosslinking systems is limited but benefits such as reduced permanent set are clear advantages.

The physical properties of a polychloroprene rubber produced from the formulation shown indicates some of the benefits of using an aminosilane-treated calcined clay. Compared with untreated calcined clay the physical properties after vulcanisation are significantly changed. Tensile strength, modulus, tear strength and compression set all show much improved values.

Polarite 102A, being based on a calcined clay, also has the sought-after properties of this material. It has a low moisture content with low water absorption, it has good colour and exceptional processing properties, giving very little mill sticking, with good dimensional stability during calendaring and extrusion.

TABLE 1

Formulation	
Neoprene W	100
Stearic acid	1
Permanax OD	2
Zinc oxide	5
Maglite DE	4
Filler	130
Process oil	5
70% ETU dispersion	1.3

PROPERTIES

	PoleStar 200R	Polarite 102A
Tensile strength (MPa)	7.3	12.4
Modulus at 100% (MPa)	5.0	10.7
Elongation at break (%)	460	170
Hardness (IRHD)	83	84
Tear strength (N)	63	89
DIN abrasion loss (mm ³)	480	325
Compression set (%)	25.0	15.8

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