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MINERAL FILLERS
-CLAYS-
WATER-WASHED

POLYFIL®

PRODUCT DESCRIPTION:

Polyfil aluminum silicates or kaolin clays are high quality, very clean, water-washed non-black fillers used in elastomeric systems. They function as semi-reinforcers or extenders. The water-washing process produces clays with less variability in pH, particle size, brightness and 325 mesh sieve residue. This uniform consistency allows for smoother extrudates, less sticking to hot metal surfaces, higher tensile and tear resistance and other benefits in rubber articles. Also, this process virtually eliminates all crystalline silica producing environmentally superior clays compared to the air-floated varieties with less health hazards related to airborne dust issues. Fine particle, high brightness, delaminated and calcined grades are available. Hydrous grade Polyfil clays have a specific gravity of 2.60, 1.5% moisture content and 0.005% 325-mesh sieve residue. Calcined and fine particle grades have a specific gravity of 2.63, 0.7% moisture content and 0.001% 325-mesh sieve residue typical.

TYPICAL PROPERTIES:

	<i>Standard Grades</i>				<i>Fine Particle</i>		<i>Calcined Grades</i>		
Grades: POLYFIL	DL*	F/FB	X/XB	35	HG-90	70	80	90	
Brightness, % reflectance	88	88	87	82	91	91	92.5	93	
pH, (28% solids)	7.0	6.8	6.8	6.8	8.0	5.5	5.5	5.5	
Med. Particle Size, μ	1.0	0.6	0.7	4.0	0.2	1.4	1.4	0.7	
Surface Area, m ² /g	13	15	14	9	22	8	8	15	

*delaminated

APPLICATIONS:

Clays are used as low cost non-black reinforcing, stiffening or extending fillers in natural and synthetic rubbers. All the Polyfil grade clays are considered hard clays which give good reinforcement unless they are calcined (calcining reduces reinforcement properties). Typical loadings are from 20 phr to 200 phr. Due to their manufacturing process; these clays have closely controlled parameters not obtainable with air-floated clays. This fact leads to rubber articles with improved color quality, more consistent and improved tear, tensile and abrasion resistance, all with enhanced processing. Calcined clays are heavily used in wire and cable compounds, due to its low water absorption and stable color. Fine particle clays are used to increase physical properties and color quality. Delaminated clays improve barrier and extrusion properties and can replace talc in many applications. Chemically treated clays are also available under the trade names Nucap® and Nulok®. Also available from Akrochem are economically priced air-floated refined hard and soft clays.

Polyfil, Nucap and Nulok are registered trade names of KaMin LLC
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