

## Product Data

### SANTOWEB D

Treated cellulose fibers

CAS Reg. No.: 65996-61-4

#### FUNCTION

Santoweb D, a treated cellulose fiber product, provides reinforcement for uncured and cured rubber compounds, increases product stiffness and reduces cut growth rate in rubber compounds.

#### MAJOR APPLICATIONS AND PROPERTIES

- Santoweb D can be used for raw edge V-belt base compounds, low pressure hoses, gaskets, diaphragms, and tire bead apex compounds.
- Santoweb D fiber increases stress of elongation and compression of NR, SBR, BR and CR compounds.
- It should be used with a methylene donating chemical for applications in which adhesion of the fiber to the rubber matrix is critical.
- Santoweb D increases green strength, reduces die swell and cold flow.
- Santoweb D discolors because it is black, but does not cause compound staining.
- Santoweb D is regulated for use in articles in contact with food as specified under BgVV XXI, Category 4. Santoweb D is not regulated for use in FDA food contact applications.

#### COMPOUNDING INFORMATION

Santoweb D provides improved green strength with loadings of 1-4 wt.%, increased flexural stress at levels of 5-15 wt.% and very significant fiber reinforcement at 10-20 wt.%. Since Santoweb D contains resorcinol-formaldehyde resin, a methylene receptor, one should use a methylene donor chemical, such as hexa(methoxymethyl)melamine (Resimene 3520), at a 1:25 hexa(methoxymethyl)melamine (Resimene 3520) to Santoweb D ratio to maximize bonding of the fibers to the rubber matrix. To ensure good dispersion of the treated cellulose fiber product add it early in the mix cycle just as you would add any reinforcing material. And when Santoweb D accounts for more than 10% of the compound, reduce the mixer fill factor by 5-10% to ensure good mixing. Add the methylene donor in the end of a single mix cycle or in the second stage of a two stage mix as adding it earlier could cause premature resin cross linking making further processing more difficult. During processing steps, such as calendaring and extruding, fibers become oriented in the direction of flow. Special designed extruder dies can provide control over the direction of the fibers so that parts can have predominantly longitudinal, radial, and/or circumferential orientation as needed for part design. As an example a hose made with fiber oriented in a circumferential direction will expand less when pressurized and have an increased burst strength.

## **HANDLING PRECAUTIONS**

For detailed information on toxicological properties and handling precautions please refer to the current Safety Data Sheet. This information sheet can be downloaded from our web site or requested from the nearest Flexsys office and should be consulted before handling this product.

## **STORAGE RECOMMENDATIONS**

Store Santoweb D in single stacked pallets in a cool, dry, well ventilated area, avoiding exposure of the packaged product to direct sunlight. Double stacking of palletized material and/or exceeding 35°C can result in unusual agglomeration of product. Santoweb D fibers tend to absorb moisture that can be removed by exposure to moderate heat, not to exceed 110°C.

## **PRODUCT INFORMATION**

<b>Santoweb D</b> Product form	<b>fib</b> treated cellulose fibers	
<b><u>PRODUCT SPECIFICATIONS</u></b>		<b><u>Test method</u></b>
Appearance	black fibers	FF97.5
Heat loss (%)	0.75-3.50	FGr97.7
Ash (%) max.	0.6	FGr90.9
Tensile strength in SBR/NR (psi) min.	2200	FF97.11
Young's modulus in SBR/NR (psi) min.	1400	FF97.11
Elongation in SBR/NR (%) max.	31	FF97.11
Dispersion in SBR/NR (bundles/in <sup>2</sup> ) max.	15	FF97.11
<b><u>TYPICAL PROPERTIES</u></b>		
Density at 25°C (kg/m <sup>3</sup> )	1370	
Bulk density (kg/m <sup>3</sup> )	500	

For further information please contact your local Flexsys office or regional Flexsys headquarters:

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