# PPG HI-SIL® 233-D Reinforcing Silica



INDUSTRIAL RUBBER

PPG HI-SIL<sup>®</sup> 223-D silica is a synthetic, white, amorphous silicon dioxide powder used in black and non-black rubber compounds as a moderately high reinforcing filler.

Typical Properties – <i>Hi-Sil</i> 233-D silica						
	Surface Area, BET-5	pН	Na <sub>2</sub> SO <sub>4</sub> , wt. %	Physical Form		
Hi-Sil 233-D silica	150 m²/g	6.9	2 Max	Easy dispersing powder		

#### **Registration Numbers**

231-545-4 CAS No. 7631-86-9 CAS No. 112926-00-8 European EINECS TSCA Chemical Substance Inventory (SiO<sub>2</sub>) Synthetic Precipitated Amorphous Silica

#### **Mechanical Rubber Goods**

*Hi-Sil* 233-D silica provides similar rubber properties to those obtained with commerical precipitated silica in the nitrogen BET-5 surface area range of 150m<sup>2</sup>/g. Rubber properties obtained by using *Hi-Sil* 233-D silica are similar to *Hi-Sil* 233 silica from the U.S. Both products are used in white or colored rubber applications where tensile strength, tear resistance, and abrasion resistance are critical to final product performance. Superior heat age resistance and tear strength are added benefits when used with carbon black (example: N-347, N-358).

In footwear, *Hi-Sil* 233-D silica allows for good transparency and color for translucent soling and is used to reinforce a wide range of heel and sole compounds.

Other reinforced rubber applications in which *Hi-Sil* 233-D silica is used are mats, wire and cable coverings, specialty gloves and sporting equipment grips.



## **Potential Applications**

Conveyor Belts Wire and Cable Coatings Hoses Engine Mounts Seals and Gaskets Sporting Goods Footwear



## **Product Safety and Regulatory Information**

For the latest product safety and regulatory information, please reference the Product Safety Sheets at www.ppgsilica.com.

#### Storage

To ensure product integrity, PPG recommends that our silica products be stored under dry, clean conditions, protected against exposure to direct sunlight and other substances. We recommend that products that are stored more than one year from date of manufacture be retested for moisture content. There is no shelf life limit when stretch-wrapped palletized units or bags are kept under the above stated conditions.

# Safety and Health Effects

PPG recommends that, before use, anyone using or handling this product thoroughly read and understand the information and precautions on the label, as well as in other product safety publications such as the Safety Data Sheet. Any health hazard and safety information contained herein should be passed on to your customers or employees, as the case may be. The products mentioned herein can be hazardous if not used properly. Like all potentially hazardous materials, this product must be kept out of the reach of children.

## Samples and Service

Our technical service specialists are available to answer your questions about the use, handling and storage of Hi-Sil 233-D silica.

## **Rubber Processing Recommendations**

For all product forms, it is recommended that the silica be added as early as possible in the mixing schedule. Ideally, the silica should be added at the same time as the polymer(s) and before the addition of process oil to allow time for silica incorporation into the polymer(s). For high loadings of silica powders, split additions are recommended, i.e. first addition with the polymer(s) and the second with the process oil.

Split oil additions are recommended to maintain a high viscosity as increased shear aids in silica dispersion. Granules and pellets tend to need slightly more mixing time to disperse than powders.

# Packaging

	Net Weight	Bag Construction	Pallet Quantity and Weight
Hi-Sil 233 silica	20 kg (44 lbs)	Paper bags	Palletized in a 10X3 pattern with 30 bags per pallet (600 Kg or 1,322 pounds)

Pallets containing paper and polyethylene bags are stretch wrapped in plastic film to protect again moisture pick up an shifting during transporting and storage. Please consult customer service or your sales representative regarding additional packaging options, including custom package sizes and bulk shipments.

Visit www.ppgsilica.com for more information.



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