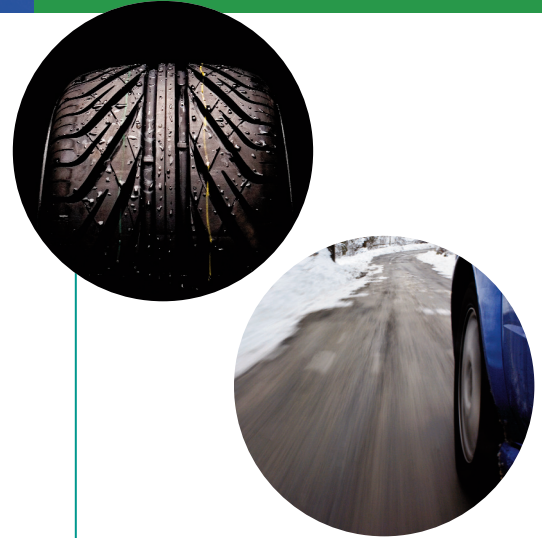


Performance Engineered Silicas for the Tire Industry

For nearly 60 years, rubber compounders have relied on Hi-Sil™ reinforcing silicas to provide superior properties to countless rubber compounds designed for a wide variety of demanding end-use applications, including a number of tire industry firsts. In 1956, *Hi-Sil* silicas were some of the first silica products used as a partial replacement of carbon black in off-the-road tires to obtain reduced chipping and improved tear strength. In the 1970s, *Hi-Sil* silicas were again some of the first silica products to be combined with silane coupling agents to alter the properties of tire tread compounds, providing improved rolling resistance and wet traction.

The legacy of quality, reliability, and technical competence continues today. PPG is dedicated to helping solve customer challenges by providing highly engineered precipitated silicas and world-class technical and customer service, while anticipating the evolving and increasingly sophisticated demands of the tire industry.

Hi-Sil silica products are white synthetic amorphous precipitated silicas engineered specifically for the reinforcement of rubber compounds, including many different tire applications. PPG's portfolio of reinforcing silicas for tire applications covers a wide range of surface area, dispersibility, and reinforcing capability.



Hi-Sil Reinforcing Silicas — Typical Tire Applications

Application	Benefits
Passenger car and truck tread	Improved wet traction and fuel efficiency balancing wear resistance
Off-road tread	Cut, chip, chunk, tear and cut growth resistance
Under tread	Tear resistance
Steel belts	Adhesion, tear strength, inter-ply adhesion, cut growth resistance
Belt edges	Adhesion, tear strength, inter-ply adhesion, cut growth resistance
Carcass plies	Adhesion, tear strength, inter-ply adhesion, cut growth resistance
Bead insulation	Adhesion and stiffness
Black sidewall	Tear and crack resistance, stiffness
White sidewall	Tear, inter-ply adhesion, abrasion resistance

Hi-Sil™ Reinforcing Silicas

TIRE — NORTH AMERICA

Hi-Sil Reinforcing Silicas — Typical Properties

Product	Dispersibility	Reinforcing Capability	CTAB Surface Area (m ² /g)	N ₂ (BET-5) Surface Area (m ² /g)	pH	Residual Salt Type	Physical Form
<i>Hi-Sil EZ 120G</i>	High	Medium	125	125	7.0	Na ₂ SO ₄	Granule
<i>Hi-Sil EZ 160G</i>	High	High	160	160	6.5	Na ₂ SO ₄	Granule
<i>Hi-Sil HDP 320G</i>	High	High	160	160	6.5	Na ₂ SO ₄	Granule
<i>Hi-Sil 190G</i>	High	High	170	195	7.0	Na ₂ SO ₄	Granule
<i>Hi-Sil EZ 200G</i>	High	High	200	300	7.0	Na ₂ SO ₄	Granule
<i>Hi-Sil 210</i>	Classical	Medium	N/A	135	7.0	NaCl	Pellet
<i>Hi-Sil 243LD</i>	Classical	Medium	N/A	135	7.0	NaCl	Granule
<i>Hi-Sil 134G</i>	Classical	High	160	180	6.3	Na ₂ SO ₄	Granule

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, and used within twelve months of the date of manufacture.

Safety and Health Effects

PPG Industries 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 Material 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.

Packaging

Standard packaging includes small bags and Flexible Intermediate Bulk Containers (FIBCs). Bags are unitized for shipping on pallets which are stretch wrapped with clear plastic film. FIBCs are single or double stacked on wood pallets. Please consult with Silica Customer Service or your Silica Sales Representative regarding additional packaging options including custom package sizes and bulk shipments.

Samples

Samples are available upon request from Silica Customer Service.

Product Safety and Regulatory Information

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



PPG Industries

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