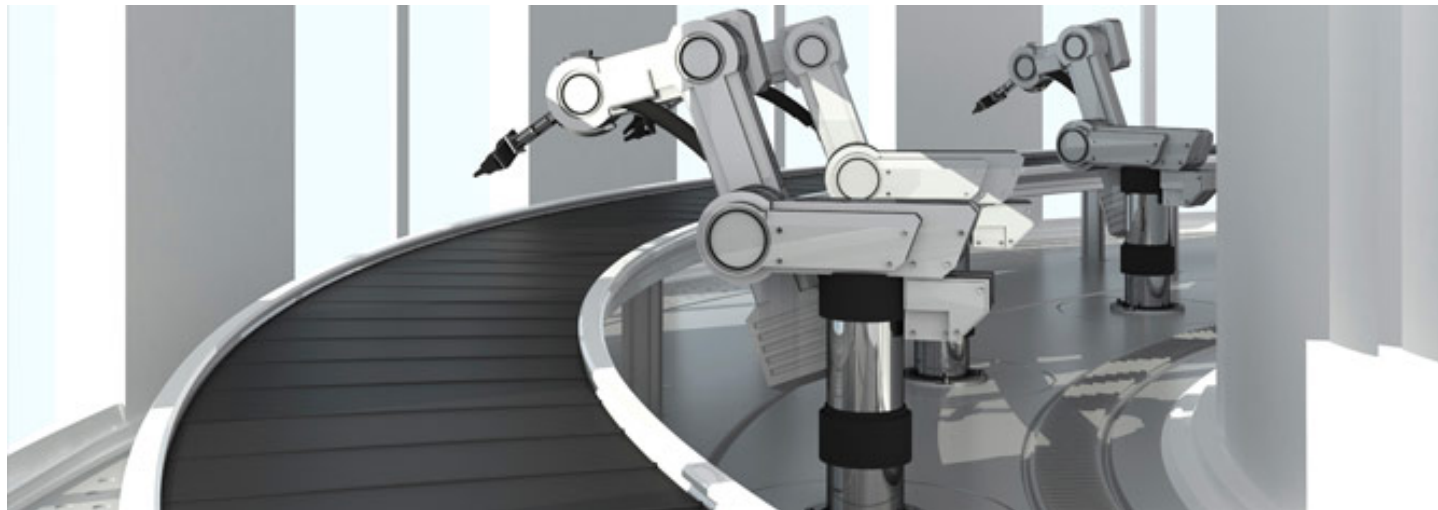


In order to provide complete functionality, this web site needs your explicit consent to store browser cookies. If you don't allow cookies, you may not be able to use certain features of the web site including but not limited to: log in, buy products, see personalized content, switch between site cultures. It is recommended that you allow all cookies. For further information on how to manage or remove cookies visit www.allaboutcookies.org.

Rubber

INDUSTRIAL RUBBER



PPG Precipitated Silica for Industrial Rubber Applications

PPG introduced precipitated silica as an alternative reinforcing filler for carbon black in tires in the 1930s. Since that time, the development of PPG's reinforcing silica products has been inextricably bound to on-going advancements in global rubber compounding and manufacturing.

Today, PPG produces reinforcing synthetic amorphous precipitated silica products in powder, pellet, granular and micro-granular form for use in rubber manufacturing.

Formulated in a variety of particle sizes and surface areas, these highly specialized products are engineered to increase the strength and durability of rubber for countless applications ranging from engine mounts, belts and hoses in automobiles, to wire and cable coatings, conveyor belts, printer rolls, syringe toppers, gaskets, seals, roofing systems, rubber gym floors and more.

AGILON[®], CIPTANE[™], HI-SIL[®] and SILENE[™] Silica Products

PPG offers a full a range of industry-leading silica products. Together, they are designed to provide manufacturers with optimized processing characteristics – such as faster cure rates, easier mixing, better flow, or more flexible extrusion and color compounding capabilities – while imparting specific properties to finished high-performance rubber products, including:

- Increased stiffness and reinforcing strength
- Enhanced resistance to heat build-up and abrasion
- Better tear and tensile strength
- Improved color retention and/or translucence
- Superior chip and chunk resistance

Recommended Products and Typical Properties for Industrial Rubber Applications

Silica Product	N ₂ (BET-5) Surface Area(m ² /g)	pH	Residual Salt Type	Physical Form	Reinforcement
Silene 732D	33	8.5	Na ₂ SO ₄	Powder	Semi-Reinforcing

Hi-Sil 532EP	55	8	Na ₂ SO ₄	Powder	Semi-Reinforcing
Hi-Sil 315-D	125	7	Na ₂ SO ₄	Powder	Reinforcing
Hi-Sil 315G-D	125	7	Na ₂ SO ₄	Granule	Reinforcing
Hi-Sil 210	135	7	NaCl	Pellet	Reinforcing
Hi-Sil 233	135	7	NaCl	Powder	Reinforcing
Hi-Sil 243LD	135	7	NaCl	Granule	Reinforcing
Hi-Sil 900	135	7	Na ₂ SO ₄	Powder	Reinforcing
Hi-Sil 135	150	7	Na ₂ SO ₄	Powder	Highly-Reinforcing
Hi-Sil EZ160G	160	7	Na ₂ SO ₄	Granule	Highly-Reinforcing
Hi-Sil EZ160G-D	160	7	Na ₂ SO ₄	Granule	Highly-Reinforcing
Hi-Sil HDP-320G	160	7	Na ₂ SO ₄	Granule	Highly-Reinforcing
Hi-Sil 134G	180	7	Na ₂ SO ₄	Granule	Highly-Reinforcing
Hi-Sil 132	180	7	Na ₂ SO ₄	Powder	Highly-Reinforcing
Hi-Sil 190G	195	6.5	Na ₂ SO ₄	Granule	Highly-Reinforcing
Hi-Sil 915	195	7	Low Na ₂ SO ₄	Powder	Highly-Reinforcing
Hi-Sil EZ200G	300	7	Na ₂ SO ₄	Granule	Highly-Reinforcing
Ciptane LP	170	7	Na ₂ SO ₄	Bead	Reinforcing, 2.5% Mercapto- Silane

Agilon Performance Silica Products

Agilon performance silica is a patented material that is engineered to enhance the benefits of traditional precipitated silica by managing heat build-up and improving tensile strength while lowering viscosity at processing temperature.

Based on a proprietary technology platform developed by PPG, *Agilon* performance silica also helps the rubber industry address the productivity and environmental challenges associated with *in-situ* silica/silane mixing. By enabling a simpler, more efficient mixing process, this revolutionary material reduces manufacturing complexity and capital investment by:

- Allowing the use of older mixing technologies
- Increasing mixing throughput
- Reducing energy consumption
- Eliminating almost all alcohol-related VOC emissions resulting from conventional silica/silane mixing

Additional benefits of *Agilon* performance silica include:

- Elimination of porosity-related extrusion inefficiencies
- Extended shelf life for uncured rubber
- Improved coupling in natural rubber applications
- Lower temperature mixing to avoid natural rubber degradation

Agilon Performance Silica

Product	Dispersibility	Reinforcing Capability	CTAB Surface Area (m ² /g)	N ₂ (BET-5) Surface Area (m ² /g)	SH, Weight %	Carbon, Weight %	pH	Residual Salt Type	Physical Form
Agilon 400G	High	High	130	75	0.5	4.0	6.8	Na ₂ SO ₄	Granule
Agilon 454G	High	High	200	140	0.5	4.0	6.8	Na ₂ SO ₄	Granule
Agilon 458G	High	High	200	115	0.5	6.0	6.8	Na ₂ SO ₄	Granule

Ciptane and *Silene* are trademarks and *Agilon* and *Hi-Sil* are registered trademarks of PPG Industries Ohio, Inc

Typical Applications

Automotive engine mounts, belts and hoses

Conveyor belts

Elastic thread

Rubber roofing and pond liners

Gaskets and seals

Rubber covered rolls

Floor tiles and molding

Related Resources

[Hi-Sil, Ciptane and Silene Reinforcing Fillers for Industrial Rubber](#)

[Hi-Sil 134G Technical Data Sheet](#)

[Hi-Sil 190G and Hi-Sil 190G-M Technical Data Sheet](#)

[Hi-Sil 200 Series Technical Data Sheet](#)

[Hi-Sil 233-D & Hi-Sil 233G-D Technical Data Sheet](#)

[Hi-Sil 255C-D & Hi-Sil 255CG-D Technical Data Sheet](#)

[Hi-Sil HDP-320G Technical Data Sheet](#)

[Hi-Sil EZ160G-D Technical Data Sheet](#)

[Hi-Sil 532EP Technical Data Sheet](#)

[Agilon 400 Technical Data Sheet](#)

[Agilon, Ciptane, Hi-Sil and Silene silica in EPDM Overview](#)

CONTACT A SPECIALIST TODAY