PPG Silica Products

Agilon® 400
Performance Silica

INDUSTRIAL RUBBER

Designed to improve the performance and the processing of various polymer formulations, Agilon® 400 performance silica offers improved abrasion resistance and heat aging properties as well as reduces viscosity when compared to carbon black and non-treated silicas. *Agilon* 400 silica eliminates the need for a silane coupling agent, thus increasing manufacturing efficiency. *Agilon* 400 performance silica also reduces compound porosity and volatile organic compound (VOC) emissions that are inherent with the use of silane coupling agents, for a more environmentally-responsible manufacturing process.

Benefits

- Improved heat resistance for extended fatigue life
- Provides good abrasion resistance when replacing carbon black
- Enables high temperature mixing without increasing viscosity or causing premature vulcanization
- Increases production efficiencies by eliminating the silica/silane mixing step
- Reduces viscosity for improved extrusion throughput
- Reduces VOC emissions for a more environmentally-responsible manufacturing process
- Increases crack growth resistance
- Eliminated handling liquid silane
- Reduces compound porosity

Typical Properties

	Agilon 400 Silica	*Agilon* 400G Silica
CTAB Surface Area, m^2/g	140	140
pH	6.5	6.5
SH, Wt. %	0.5	0.5
Carbon, Wt. %	4.0	4.0
Skeletal Density	2.02 gcm^3	2.02 gcm^3
Bulk Density	~15 lbs/ft^3	~24 lbs/ft^3
Physical Form	Powder	Micro-granule

AGILON Performance Silicas by PPG

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Product Safety and Regulatory Information

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

Samples

Samples are available per request from customer service.

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.

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.

Black Conveyor Belt Cover (NR/BR - 60 Durometer)*

Performance Properties	*Agilon* 400 Silica	*Agilon* 400 Silica
Processing		
MS @ 121°C, T5, m.m	19.5	16.9
ML (1+4) @ 100°C, MU	42.4	50.2
MDR 2000 @ 157°C, 1° arc		
Ts2, m.m	1.8	1.6
TC90, m.m	3.2	2.7
Original Tensile		
Tensile strength, MPa	25.1	26.1
Elongation to break, %	645	533
300% Modulus, MPA	6.8	12.2
Tensile, Oven Aged 70 hrs @ 110°C		
Tensile strength, MPa	12.9	12.1
Elongation to break, %	297	198
200% Modulus, MPA	7.6	9.2
Abrasion Resistance, DIN, loss mm3	128	133
DeMattia Flex Crack Growth, 100K cycles, mm	5.5	18.0

FORMULA: SMR CV60 - 80, BR 1208 - 20, ZMTI - 1.1, N-330 carbon black - 50, *Agilon* 400G silica - 40 + 10 CB, sulfonated petroleum oil blend - 2, aromatic oil - 15, 6PPD - 2.5, ZnO - 3, RM sulfur - 2.5, MBS - 1.4, TMTD - 0.2

Mercapto-silane is typically used in sulfur cured silica filled compounds to improve processing, increase abrasion resistance, reduce heat build-up, and lower compression set. Replacing most or all of carbon black with *Agilon* 400 performance silica in NR to make a colored compound will increase scorch safety at processing and curing steps, and improve heat aging and crack growth resistance.

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Bringing innovation to the surface.™

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