

Long term scratch resistant additives for automotive polypropylene talc compounds

Improved Quality, Feel and Appearance in Automotive Interiors

As the use of plastics increases in automotive interiors, aesthetics and long-term performance of those polymers have become important concerns. Consumers expect car interiors to maintain their look and feel throughout the ownership of their cars — whether they are matte and textured surfaces or glossy, piano-black finishes.

DuPont silicone masterbatches MULTIBASE™ MB50-001, MULTIBASE™ MB50-001G2 and MULTIBASE™ HMB-0221 additives help improve long-lasting anti-scratch properties of automotive interiors, by offering improvements in:

- Quality
- Aging
- Touch and feel aesthetics
- Reduced dust buildup
- Design
- Virtual aesthetics

These improved qualities can be used in a variety of interior surfaces, such as:

- Door panels
- Center consoles
- Third pillars
- Dashboards
- Instrument panels

Unique Compounding Improves Long-Term Performance

MULTIBASE™ MB50-001G2 and MULTIBASE™ HMB-0221 are new generation additives with enhanced performances in terms of scratch performance compared to MULTIBASE™ MB50-001 or competitive technologies.

These formulations have an enhanced compatibility with the polypropylene matrix — resulting in lower phase segregation on the final surface. This means the additive stays on the surface of the final plastic part with no migration or exudation, maintaining performance over time and over external conditions such as UV and temperature.

Long-Lasting, High-Efficiency Scratch Resistance

As an illustration of the importance of scratch resistance, Volkswagen has developed a specific quantitative measurement to evaluate scratch resistance¹. Using this testing method, the new generation anti-scratch additives MULTIBASE™ HMB-0221 and MULTIBASE™ MB50-001G2 additives demonstrate high scratch resistance, meeting the target of ΔL under 1.5 with less than 1.5% weight.



Features

- Pelletized concentrate
- Contains ultra-high-molecular-weight siloxane polymer
- Density: 0.9 g/cm³

Benefits

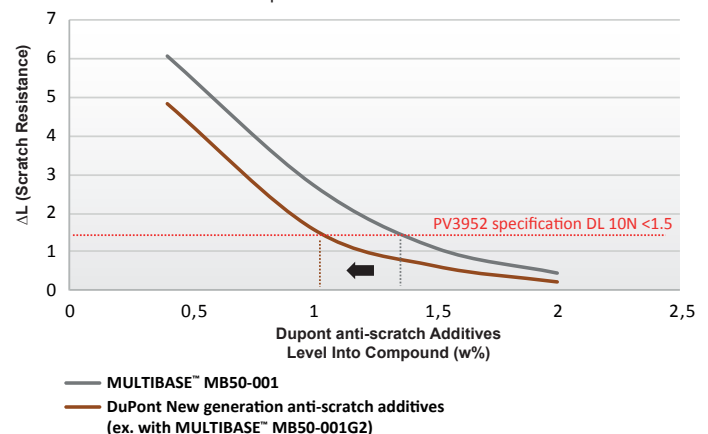
- Strongly improves scratch resistance
- Does not exudate
- Improves UV resistance
- Ages without surface changes



Scratch Resistance Performance

Scratch Resistance Following PV3952 VW Norm:

Fine-Grained PP Copolymer 20% Talc Molded Plates vs. Amount of Dupont anti-scratch additives



¹VW Method PV3952

Improved UV Aging

Silicones are taking a greater role in high-performance buildings around the world, largely because of their heat and UV resistance. Those qualities are important in automotive interiors as well. Traditional solutions used in polypropylene talc compounds typically develop some degree of stickiness or tackiness after just a few months of UV exposure. DuPont anti-scratch additives provide high UV stability compared to competitive materials.

UV Aging Performance



*Plastic film applied on the plaques to show stickiness

FIELD TEST CONDITIONS	
Compound	Black polypropylene copolymer with 20% talc, impact modified, UV stabilized
Test	Kalahari-type test protocol, 60° C, 0% humidity, UV lamp (0.6W/m ²) 700 hours
Evaluation	Exudation — appearance of oil-like surface layer, tackiness/stickiness

Improved Processing and Performance

DuPont silicone masterbatch Additives serve as both an anti-scratch surface agent and a processing aid. This offers controlled and consistent products as well as a tailor-made morphology.

Extend Properties, Enhance Processing, Reinforce Materials.

Combining an industry-leading portfolio of silicone-based additives and masterbatches -plus deep experience in serving the industries that use them -we can help you capture greater efficiencies in production while delivering more performance, durability and quality to your end-users.

To learn more about our wide range of plastics, visit www.dupont.com/multibase and contact us if you have any questions.

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