

Dow Corning® HMB-0221 Masterbatch

FEATURES & BENEFITS

- Imparts processing improvements and modified surface characteristics
- Improved throughput
- Reduced energy consumption
- Enhanced scratch resistance
- Improved slip properties
- Enhanced stability versus traditional processing aids and lubricants

COMPOSITION

- Free flowing solid pellets

Reaction product of ultra-high molecular weight siloxane with polypropylene homopolymer.

APPLICATIONS

- Additive for polyolefin based systems for surface properties improvement or process lubrication.

TYPICAL PROPERTIES

Specification Writers: These values are not intended for use in preparing specifications. Please contact your local Dow Corning sales office or your Global Dow Corning Connection before writing specifications on this product.

Property	Unit	Result
Appearance		Off-white pellets
Density	%	0.9
Organic Matrix		Polypropylene Homopolymer
Suggested use of level	%	0.2 to 5

DESCRIPTION

Dow Corning® HMB-0221 Masterbatch is a pelletized concentrate containing reaction products of ultra-high molecular weight siloxane polymer reactively dispersed in polypropylene homopolymer (PPH). It is designed to be used as an additive in polyolefin based compounds to impart surface properties such as scratch resistance and machine lubrication during processing.

Liquid siloxane plastic additives have been used for several years as thermoplastic process aids to improve flowability. They are effective in this role although some difficulties have been encountered when incorporating liquids into plastic melts without the use of specialized equipment.

Dow Corning HMB-0221 Masterbatch addresses these problems by delivering silicone in solid form.

HOW TO USE

Dow Corning® HMB Series Masterbatches contain a silicone based product that is compatible with the PP host matrix. For best results, please ensure that a sufficient amount of *Dow Corning* HMB-0221 Masterbatch is added to the virgin polymer host matrix before processing.

Dow Corning HMB-0221 Masterbatch can be used in a single screw extruder or added at the feed hopper during injection molding or extrusion.

**HANDLING PRECAUTIONS
PRODUCT SAFETY
INFORMATION REQUIRED FOR
SAFE USE IS NOT INCLUDED IN
THIS DOCUMENT. BEFORE
HANDLING, READ PRODUCT
AND SAFETY DATA SHEETS
AND CONTAINER LABELS FOR
SAFE USE, PHYSICAL AND
HEALTH HAZARD
INFORMATION. THE SAFETY
DATA SHEET IS AVAILABLE ON**

TYPICAL SCRATCH RESISTANCE PERFORMANCE

Table 1: The material is diluted in a typical polypropylene compound for automotive interior applications at 0.5 to 3 w:w% loading.

PPC	69.9	69.4	68.9	68.4	67.4
Talc	20.0	20.0	20.0	20.0	20.0
Plastomer	7.0	7.0	7.0	7.0	7.0
Stab Process	0.1	0.1	0.1	0.1	0.1
Stab UV	0.15	0.15	0.15	0.15	0.15
Stab UV	0.2	0.2	0.2	0.2	0.2
Stab UV	0.2	0.2	0.2	0.2	0.2
Color MM	2.0	2.0	2.0	2.0	2.0
<i>Dow Corning HMB-0221</i> Masterbatch	0.5	1.0	1.5	2.0	3.0

Figure 1: Variation of scratch resistance (ΔL) as a function of *Dow Corning HMB-0221* Masterbatch level. ΔL is collected using PV 3952 VW D65/10° norm.

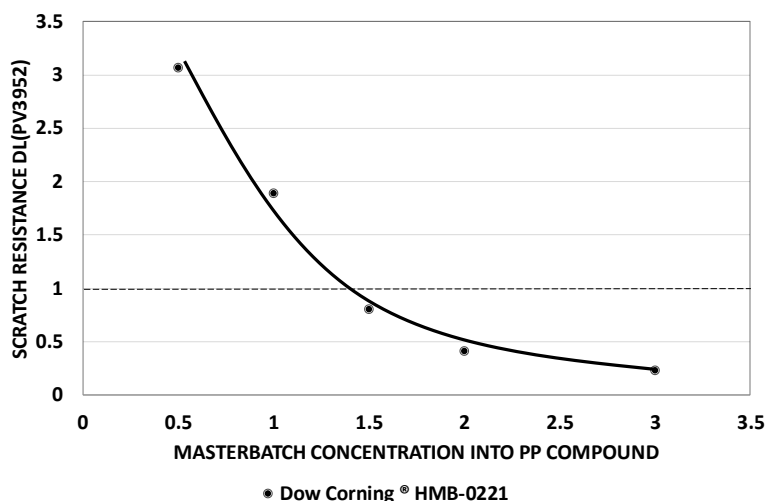


Table 2: Mechanical Properties of the PP compound described in Table 1 and that contain *Dow Corning HMB-0221* Additive.

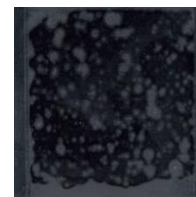
<i>Dow Corning HMB-0221</i> Masterbatch			
Mechanical Properties	Unit	Value	STD
Flexural Modulus +23°C (ISO* 178)	MPa	2240	85
Notched charpy impact +23°C (ISO 180)	kJ/m ²	12	3
Stress at yield point (500 mm/min)	MPa	26	1
Strain at yield point (500 mm/min)	%	5	1
Stress at break (500 mm/min)	MPa	25	1
Strain at break (500 mm/min)	%	34	10

*ISO: International Standardization Organization

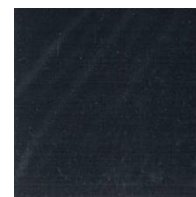
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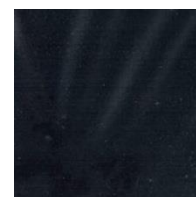
Figure 2: *Dow Corning HMB-0221* Masterbatch shows better UV resistance, no stickiness after 700 h of Karahari test protocol.



Erucamide



Dow Corning HMB-0221
Masterbatch



Reference Compound

USABLE LIFE AND STORAGE

When stored at or below 35°C (95°F) in the original unopened containers *Dow Corning HMB-0221* Masterbatch has a usable life of 48 months from the date of production.

PACKAGING INFORMATION

This product is available in a variety of container sizes. Contact your local Multibase sales representative for information about container sizes available in your area.

LIMITATIONS

This product is neither tested nor represented as suitable for medical or pharmaceutical uses.

HEALTH AND ENVIRONMENTAL INFORMATION

To support customers in their product safety needs, Dow Corning has an extensive Product Stewardship organization and a team of Product Safety and Regulatory Compliance (PS&RC) specialists available in each area.

For further information, please see our website, dowcorning.com or consult your local Dow Corning representative.

LIMITED WARRANTY INFORMATION – PLEASE READ CAREFULLY

The information contained herein is offered in good faith and is believed to be accurate. However, because conditions and methods of use of our products are beyond our control, this information should not be used in substitution for customer's tests to ensure that our products are safe, effective, and fully satisfactory for the intended end use. Suggestions of use shall not be taken as inducements to infringe any patent.

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