



DOW CORNING



## DOW CORNING™ HMB-1903 Masterbatch

*Permanent Anti-squeak Performance for PC/ABS without Post-treatment*

### Features

- Excellent anti-squeak performance: RPN<3 (per ASTM 230-206)
- Reduced stick-slip
- Immediate, permanent anti-squeak properties
- Lower coefficient of friction (COF)
- Minimal impact on key PC/ABS mechanical properties (impact, modulus, strength, elongation)
- Effective performance at low loadings (4 wt%)
- Easy-handling, free-flowing pellets

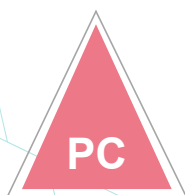
Noise reduction is a pressing issue for the automotive industry. Ultra-quiet electric vehicles make interior noise, vibration and harshness (NVH) more obvious. Autonomous cars – which promise to transform the cabin into a haven for relaxation and entertainment – demand a tranquil interior environment.

Many components used in automotive instrument panels, center consoles and trim are made from polycarbonate/acrylonitrile-butadiene-styrene (PC/ABS) blends. These materials are prone to squeaking, which is caused by friction and vibration when two parts move against each other (stick-slip action). Traditional anti-squeak solutions range from secondary application of felt, coatings or lubricants, to the use of specialized anti-squeak resins. The first option is time-consuming, laborious and impermanent, while the second is expensive.

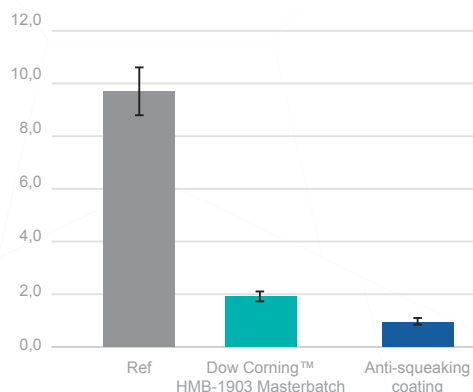
A patented silicone technology from Dow Performance Silicones solves these issues. DOW CORNING™ HMB-1903 Masterbatch delivers excellent – and permanent – anti-squeak performance for PC/ABS parts at cost-effective low loadings. Because the masterbatch is incorporated during compounding or molding, there is no need for post-treatment steps that slow down production. Importantly, DOW CORNING™ HMB-1903 Masterbatch maintains the mechanical properties of the PC/ABS resin – including its signature impact resistance.

This novel technology can benefit automotive OEMs and tiers by expanding design freedom. Complex part designs make it difficult or impossible to achieve full coverage with post-treatments. In contrast, the silicone additive does not require design modifications to optimize its anti-squeak performance.

DOW CORNING™ HMB-1903 Masterbatch is the first in a new family of anti-squeak silicone additives potentially suitable for automotive, transportation, consumer, construction and appliance applications.



POLYCARBONATES



### RPN

Risk priority number (RPN) results show DOW CORNING™ HMB-1903 Masterbatch at 4 wt% achieved a RPN of 2. A RPN below 3 indicates that squeaking is eliminated and presents no long-term risk.

## Advantages

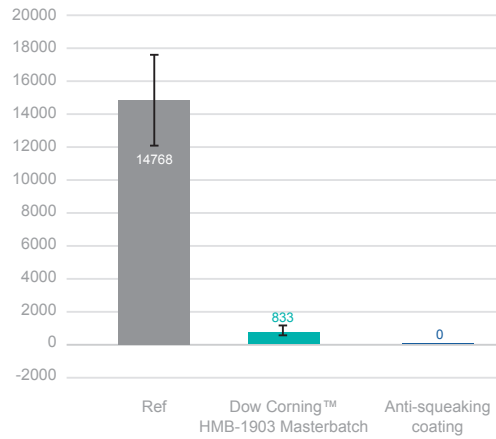
- Minimizes intrusive noise and vibration
- Provides stable COF over the part's useful life
- Optimizes design freedom by enabling complex geometries
- Streamlines production by avoiding secondary operations
- Improves costs control with low loadings

## Target Applications

- Automotive interior parts (trim, instrument panel, console)
- Appliance parts (refrigerator trays and bins, washing machines, dishwashers)
- Construction components (window frames)

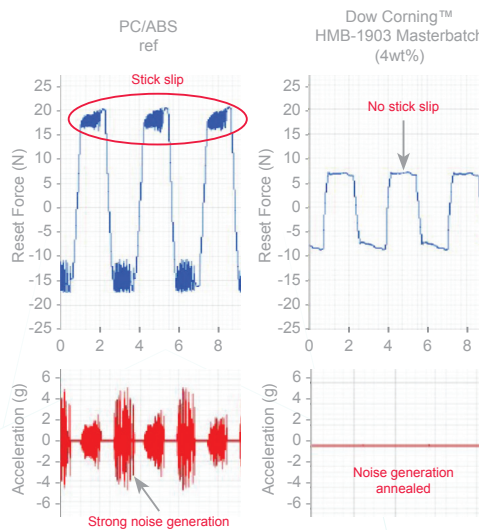
## Target Customers

- PC/ABS suppliers and compounders
- Molders and extruders



## Impulse

Results of an impulse test show the number of stop-start instances occurring during squeak testing. The Dow Performance Silicones masterbatch had far fewer instances than the pure PC/ABS.



## Noise suppression

Graphical depiction of the noise suppression performance of DOW CORNING™ HMB-1903 Masterbatch, resulting from the elimination of the stick-slip phenomenon in PC/ABS.

## Many Solutions. One Source.

As a longtime global leader in developing innovative silicon-based solutions, Dow Performance Silicones offers additives and masterbatches that extend properties, enhance processing and reinforce materials. From fluids to pellets, our products help simplify access to the unique benefits of silicone technology.

To learn more about Dow Performance Silicones' wide range of plastics and composites solutions, visit [consumer.dow.com](http://consumer.dow.com) or go to [consumer.dow.com/contactus](http://consumer.dow.com/contactus) for a contact close to your location.

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