

MULTIBASE™ HMB-1903 Masterbatch

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

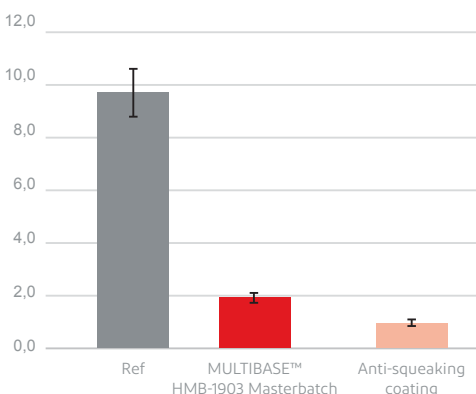
Noise reduction is a pressing issue for the automotive industry. Ultra-quiet electric vehicles make interior noise, vibration and harshness (NVH) more obvious. Autonomous cars – which promise to transform the cabin into a haven for relaxation and entertainment – demand a tranquil interior environment.

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 Dupont solves these issues. MULTIBASE™ 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, MULTIBASE™ 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.

MULTIBASE™ 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.



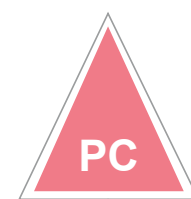
RPN

Risk priority number (RPN) results show MULTIBASE™ 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.

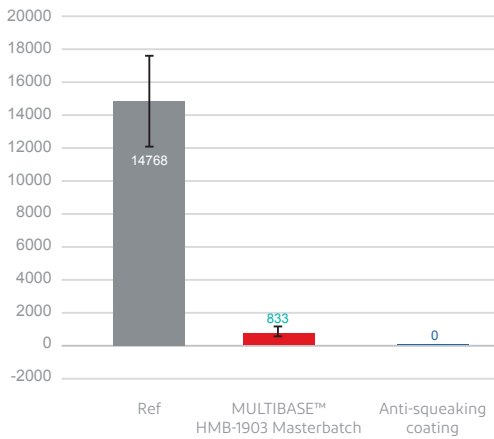


Features

- 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



POLYCARBONATES



Impulse

Results of an impulse test show the number of stop-start instances occurring during squeak testing. MULTIBASE™ HMB-1903 had far fewer instances than the pure PC/ABS.

Benefits

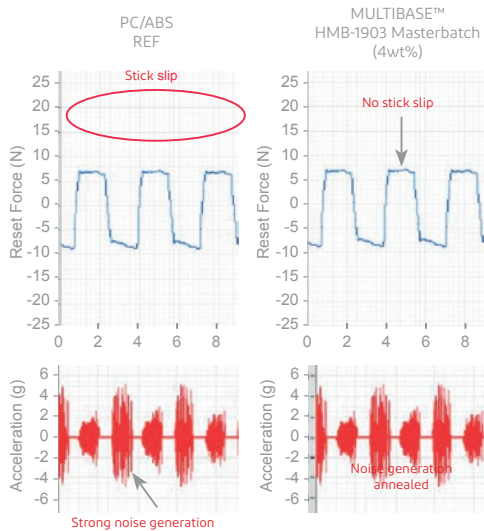
- Minimizes intrusive noise and vibration
- Provides stable COF over the part's useful life
- Optimizes design freedom by enabling complex geometries
- Streamlines production by avoiding secondary operations
- Improves costs control with low loadings

Target Applications

- 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



Noise suppression

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

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.

NO WARRANTY - PLEASE READ CAREFULLY

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