



Low-Friction Coatings

1 Scope

This specification describes five different low-friction coating materials and their performance on various plastic combinations known for creating Noise, Vibration and Harshness (NVH) issues.

1.1 Material Description. The low-friction coatings qualified to this specification shall be listed by type with recommended applications for controlling squeak and itch conditions.

1.2 Symbols. Not applicable.

1.3 Applicability. Applications where two substrates rub against one another to create undesirable noise.

1.4 Type Performance.

1.4.1 Type 1. A sprayable coating which yields excellent non-friction properties over a wide variety of substrate combinations. The Type I coatings maintain a greasy, semi-liquid state which can transfer to clothing and should only be used in areas of the vehicle where no contact with passengers is possible.

1.4.2 Type 2. A translucent, water-based coating which can be sprayed or brushed and is recommended over a wide variety of substrate combinations.

1.4.3 Type 3. A clear, solvent-based coating which can be sprayed or brushed on and is recommended over a wide variety of substrate combinations.

1.4.4 Type 4. A milky, water-based coating which can be sprayed or brushed on and can only be recommended for a few substrate combinations.

1.4.5 Type 5. A milky, water-based coating which can be sprayed or brushed on and can only be recommended for a few substrate combinations.

2 References

Note: Only the latest approved standards are applicable unless otherwise specified.

2.1 External Standards/Specifications.

None

2.2 GM Standards/Specifications.

GMW3059

GMW14270

GMW16321

GMW3221

GMW14444

GMW16853

3 Requirements

3.1 Requirements on Test Specimens. Reference GMW3221. A study utilizing GMW16321 was completed to determine which coating works best on each of the substrate combinations. Table 1 shows the recommended anti-friction coatings to use for all of the listed substrate combinations tested for noise abatement.

Table 1: Recommended Anti-Friction Coatings

Substrate Combinations	Best	2 nd Best	3 rd Best
Ex PP - Elpo Stl	Type 3	Type 4	Type 2
Ex P-styrene - Elpo Stl	Type 3	Type 5	Type 4
PU Foam - Elpo Stl	Type 4	Type 3	Type 1
Solid PE - Elpo Stl	Type 1	Type 4	Type 5
Solid PP - Elpo Stl	Type 3	Type 1	N/A
ABS+PC - ABS	Type 2	Type 3	Type 1
ABS+PC - ABS+PC	Type 2	Type 1	Type 3
ABS+PC - Ex PP	Type 3	Type 1	Type 2
ABS+PC - Leather	Type 1	Type 2	Type 3
ABS+PC - Nylon	Type 1	Type 2	Type 3
ABS+PC - PC	Type 1	Type 2	Type 3
ABS+PC - P-styrene	Type 1	Type 2	Type 4
ABS+PC - PVC	Type 3	Type 2	Type 1
ABS - ABS	Type 2	Type 1	Type 3
ABS - Ex PP	Type 1	Type 2	Type 3
ABS - Leather	Type 1	Type 3	Type 5
ABS - Nylon	Type 1	Type 2	Type 3
ABS - PC	Type 5	Type 2	Type 3
ABS - P-styrene	Type 1	Type 2	Type 5
ABS - PVC	Type 1	Type 3	Type 2
Ex PP – Ex PP	Type 3	Type 1	Type 2
Ex PP - Leather	Type 2	Type 1	Type 3
Ex PP - Nylon	Type 3	Type 1	Type 2
Ex PP - P-styrene	Type 4	Type 1	Type 2
Ex PP - PVC	Type 3	Type 1	Type 2
Leather - Leather	Type 3	Type 1	Type 2
Leather - Nylon	Type 1	Type 2	Type 4
Nylon - Nylon	Type 3	Type 1	Type 2
PC - P-styrene	Type 1	Type 3	Type 2
PC - Ex PP	Type 3	Type 1	Type 2
PC - Leather	Type 1	Type 2	Type 3
PC - Nylon	Type 3	Type 1	Type 2
PC - PC	Type 2	Type 1	Type 4
PC - PVC	Type 1	Type 2	Type 3
P-Styrene - Leather	Type 1	Type 2	Type 3
P-Styrene - Nylon	Type 1	Type 3	Type 4
P-Styrene - P-Styrene	Type 5	Type 4	Type 1

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