

# Part 573 Safety Recall Report

# 18V-273

**Manufacturer Name :** Mercedes-Benz USA, LLC.

**Submission Date :** JUL 31, 2018

**NHTSA Recall No. :** 18V-273

**Manufacturer Recall No. :** 2018060010



## Manufacturer Information :

**Manufacturer Name :** Mercedes-Benz USA, LLC.

**Address :** 13470 International Parkway

Jacksonville FL 32218

**Company phone :** 1-877-496-3691

## Population :

**Number of potentially involved :** 42,781

**Estimated percentage with defect :** 100 %

## Vehicle Information :

**Vehicle 1 :** 2008-2009 Mercedes-Benz smart fortwo coupe

**Vehicle Type :** LIGHT VEHICLES

**Body Style :** 2-DOOR

**Power Train :** GAS

**Descriptive Information :** WME EJ31 451.331 29253 vehicles.

The recall population was determined through production records.

**Production Dates :** SEP 20, 2007 - NOV 02, 2009

**VIN Range 1 : Begin :**

NR

**End :** NR

Not sequential

**Vehicle 2 :** 2008-2009 Mercedes-Benz smart fortwo cabrio

**Vehicle Type :** LIGHT VEHICLES

**Body Style :** 2-DOOR

**Power Train :** GAS

**Descriptive Information :** WME EK31 451.431 13528 vehicles.

The recall population was determined through production records.

**Production Dates :** SEP 20, 2007 - NOV 02, 2009

**VIN Range 1 : Begin :**

NR

**End :** NR

Not sequential

## Description of Defect :

**Description of the Defect :** Daimler AG, the manufacturer of Mercedes-Benz vehicles, has determined that on Model Year 2008-2009 US-specification smart fortwo vehicles (451 platform), the rear insulation mat within the engine compartment might deform, deteriorate, loosen and over time, subsequently be able to contact hot components of the exhaust system.

**FMVSS 1 :** NR

FMVSS 2 : NR

Description of the Safety Risk : This could lead to an ignition of the insulation mat and possible fire in the engine compartment.

Description of the Cause : The US-specification exhaust system has an external catalytic converter packaged close to the insulation mat, where temperatures in the vicinity of the insulation mat reach high values compared to ECE-models using the same mat. Over time, these temperatures can lead to a change in the insulation mat's material characteristics and ultimately allow the material to deform. Depending on the magnitude and the specific location of the deformation, the insulation mat could contact hot components of the exhaust system and ignite.

Identification of Any Warning that can Occur : The customer will not receive an advance warning due to the nature of the failure mechanism.

## Supplier Identification :

### Component Manufacturer

Name : NR

Address : NR

NR

Country : NR

## Chronology :

As part of NHTSA PE16-016 and EA17-003 Daimler AG (DAG) and MBUSA initiated internal investigations and set up a task force to respond to NHTSA's questions and conduct technical analyses, including vehicle inspections, to identify potential defects in the subject smart fortwo vehicles.

As part of its continued internal analysis following the opening of EA17-003, DAG obtained an undamaged, US-specification model year 2008 smart fortwo exemplar vehicle in September 2017, in order to gather additional information on possible root causes for the alleged engine compartment fire incidents. The vehicle was then shipped to Germany for a teardown inspection, including engine removal.

Inspections of this vehicle by multiple technical groups commenced in October 2017. These inspections focused on potential fluid sources, various seals, and the resonator box, as well as other potentially relevant components. The inspections also showed a sagging of certain portions of the rear insulation mat in the exemplar vehicle.

In November 2017, DAG conducted wind tunnel tests to carry out a flow analysis of the engine compartment in order to determine if the temperatures of any components on the exemplar vehicle would differ from those measured during vehicle development testing. A potential influence of the sagging insulation mat was also analyzed in the process. The tests did not reveal any increased temperatures nor did they show any negative influence of the sagging insulation mat on the air flow inside the engine compartment. Despite these results, the analysis team decided to further analyze potential influences of the sagging mat.

A thorough material analysis of the insulation mat from the exemplar vehicle was conducted in December 2017, indicating that material properties in certain areas of the mat could change over time due to various

factors including heat load. This could then lead to sagging and to reduced thermal resistance. In January 2018, thermal testing was con

## Description of Remedy :

Description of Remedy Program :	As a precaution, an authorized Mercedes-Benz dealer will replace the rear insulation mat on the affected vehicles.
How Remedy Component Differs from Recalled Component :	Optimized insulation mat with increased heat resistance and material durability characteristics.
Identify How/When Recall Condition was Corrected in Production :	An insulation mat with higher temperature resistance was introduced for ECE vehicles due to a modified exhaust system design with higher maximum temperatures on the catalytic converter. This change was also implemented for US-models as part of the harmonization process at the start of model year 2010.

## Recall Schedule :

Description of Recall Schedule :	Dealers were notified of the pending voluntary recall campaign in May, 2018. A copy of all communications was provided when available. Owners were notified in June 2018, and again approximately one week after recall launch to the dealer in July 2018.
Planned Dealer Notification Date :	MAY 11, 2018 - JUL 20, 2018
Planned Owner Notification Date :	JUN 26, 2018 - JUL 30, 2018

\* NR - Not Reported