

July 29, 2021

Administrator
National Highway Traffic Safety Administration
1200 New Jersey Avenue, S.E.
Washington D.C. 20590

Re: Petition for Exemption from Notification and Remedy Provisions of Motor Vehicle Safety Act for Inconsequential Noncompliance with FMVSS No. 205, Glazing Materials.

Daimler Trucks North America (DTNA) has determined that certain vehicle chassis were manufactured with windshields containing a Tintex Plus light material with a glass thickness that results in a minor deviation from the requirement of FMVSS 205. The material does not fully comply with the requirements of FMVSS 205 Section 5.1, Glazing Materials Conformance to ANSI/SAE Z26.1 standard for luminous transmittance. Nonetheless, the noncompliance is inconsequential to motor vehicle safety, and falls squarely within the range that the National Highway Traffic Safety Administration (NHTSA) has granted inconsequentiality determinations in the past. Therefore, DTNA hereby petitions NHTSA for a similar exemption from the notice and remedy requirements of the Motor Vehicle Safety Act, pursuant to 49 U.S.C. §§ 30118(d) and 30120(h), and 49 C.F.R. part 556, because DTNA believes that the noncompliance is inconsequential to motor vehicle safety. Cristales Inastillables de México, S.A. de C.V., supplier of the windshields, supports this petition as a cosigner.

Attached are copies of DTNA's Defect Information Report that was filed with NHTSA on June 30, 2021. In addition, DTNA provides the following information in accordance with 49 C.F.R. § 556.4(b)(3):

- Full name and address of applicant: Daimler Trucks North America LLC, 4747 N. Channel Avenue, Portland, OR 97217-7699
- Nature of organization: Limited Liability Company
- State or country under laws of which DTNA is organized: Delaware, USA

Background

FMVSS 205 specifies requirements for glazing materials for use in motor vehicles and motor vehicle equipment. FMVSS 205 Section 5.1 requires that glazing materials for use in motor vehicles must conform to ANSI/SAE Z26.1-1996 (incorporated by reference, see § 571.5), unless this standard provides otherwise. SAE Recommended Practice J673 (1993) (incorporated by reference, see § 571.5) is referenced in ANSI/SAE Z26.1-1996.

Approximately 68,658 USA-domiciled buses, medium & heavy duty vehicles including Freightliner Cascadia, Western Star 47X, 49X, and 57X (“Subject Vehicles”) built from June 25, 2020 to June 22, 2021 may contain a windshield with a Tintex Plus light material. The Tintex Plus light material, when installed on a windshield of the thickness used by DTNA in the aforementioned vehicles, has a transmittance measured between 67.35 to 68.01 percent, while the SAE Recommended Practice has a requirement of 70 percent. Nevertheless, the configuration of the heavy-duty vehicles within the Subject Vehicles have such features as windshield angles that make effective visibility much higher than other vehicles with similar transmittance—thus putting DTNA’s Subject Vehicles well within the prior precedents to which NHTSA has granted inconsequentiality.

Potential Impact on Safety

DTNA believes that this noncompliance is inconsequential to motor vehicle safety, as the variance of the transmittance level from that required is minimal.

The Standard

Standard No. 205, which incorporates by reference, the American National Standards Institute’s (ANSI) “Safety Code for Safety Glazing Materials for Glazing Motor Vehicles Operating on Land Highways” Z-26.1-1977, January 26, 1977, as supplemented by Z26.1a, July 3, 1980 (ANS Z26.1), specifies that glazing materials used in windshields and in windows to the immediate right and left of the driver of trucks and buses shall have a luminous transmittance of not less than 70 percent of the light, at normal incidence, when measured in accordance with “Light Transmittance, Test 2” of ANSI Z-26.1-1980. It specifies that all windows of an automobile shall generally have a luminous transmittance of not less than 70 percent, although NHTSA deems certain ones with lower values to be safe and compliant as well (specifically bullet-resistant windows having a minimum allowance of 60 percent).

The purpose of FMVSS No. 205 is to ensure a necessary degree of transparency in motor vehicle windows for driver visibility.

Transmittance Lower than the Standard Is Not a Safety Risk

NHTSA, in its March 1991 “Report to Congress on Tinting of Motor Vehicle Windows,” concluded that the light transmittance of windows of the then new passenger cars and vans that complied with Standard No. 205 did not present an unreasonable risk of accident occurrence. The study assessed the addition of tinting to new passenger vehicles that, absent the tint, had a light transmittance between 75-80 percent in the vertical and between 68-72 percent as installed at a certain rake angle. The report noted that, as of the early 1990’s, “most current production cars have a line of sight light transmittance of at least 63 percent” and several with large rake angles and low perpendicular measured light transmittance measure at only 55 percent. Rear windows of the time were noted to be as low as 51 percent.

The study, although retaining the standards, noted that it was “extensive tinting” that could reduce the ability of detection of objects and risk leading to an increase in accident. In a study reported

by TUV Rheinland in the publication (page 20), researchers found that “[t]he low contrast targets were not seen 100% of the time by either group of subjects, but the normally sighted group performed equally well in seeing them through windshields of 89, 76, and 58% transmittance.” It was not until the researchers assessed low contrast targets with a 40% transmittance windshield where the visibility was “much reduced.”

Moreover, the safety impact has been assessed in other areas and even under ANSI Z26, 60% light transmittance windshield constructions are allowed for certain applications (5.31.3 Bullet-resistant glazings).

Performance of the Subject Windshields

The windshields in question perform far closer to the standard and not in the zone where visibility would be “much reduced” as seen in the TUV study.

Windshield light transmittance, as experienced by a vehicle driver, is a function the windshield construction and installation angle. Essentially:

$$\text{Transmission} = 1 - (\text{Absorption} + \text{Reflection})$$

The current truck windshields in question, as produced, provide higher light transmittance than typical passenger vehicle windshield (darker options and lower installation angles are used commonly). As an example, the standard light transmittance for this nonconforming windshield construction is:

Truck WS (3.2/2.3mm TPLL at 28°): 66.2% with a 67.35% at normal to the surface (per FMVSS 205 measurement)

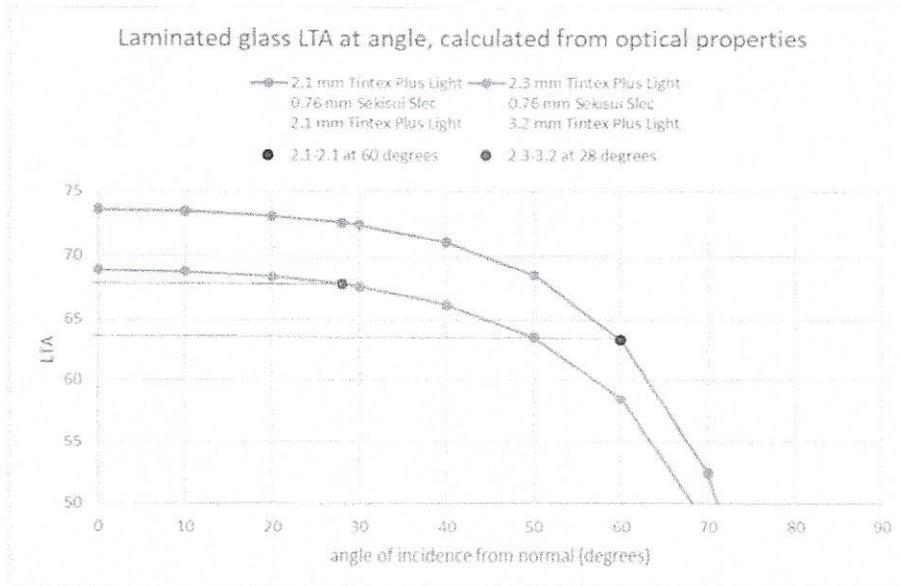
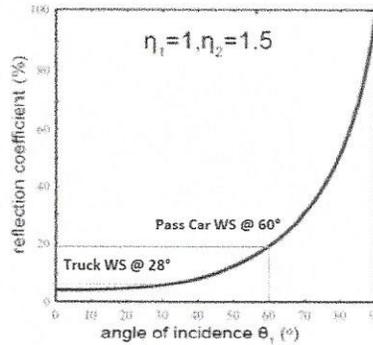
In contrast, a typical modern passenger car is:

Typical Pass Car WS (2.1/2.1mm TPLL at 60°): 63.3% with a 73.6% at normal to the surface

The measurements obtained from nonconforming samples ranged from 67.35-68.01 percent, and are thereby only nominally outside of the specification, but perform in a manner exceeding the typical modern passenger vehicle with a window at a standard rake angle.

Standard Vehicle Windshield

- 2.1mm Tintex Plus Light / 0.76 mm Sekisui SLEC PVB / 2.1mm Tintex plus light
- Incident angle of 60 degrees from normal
- LTA to at installed angle = 63.31%



Therefore, the visibility through DTNA's Subject Vehicles' windshields is as good or better than the visibility through windshields of other vehicles that comply with NHTSA's FMVSS 205.

Additional Factors and the Impact on Vehicle Safety

The risk of safety is also reduced based on the frequency of replacement for heavy truck windshields and their standard usage. Data demonstrates that a typical heavy truck windshield application yields a 6-9 month lifetime before replacement. Therefore, the length of time for any particular windshield to be on the road is limited. The replacement windshield glass has been manufactured with the transmittance error corrected.

NHTSA Precedents

Summary of Precedent

DTNA notes that NHTSA has previously granted petitions for decisions of inconsequential noncompliance for similar glazing issues. See Docket No. NHTSA-95-11, 60 Fed. Reg. 31345 (Jun. 14, 1995) (grant of petition for Ford Motor Company); and Docket No. NHTSA-98-3558, 63 Fed. Reg. 10964 (Mar. 5, 1998) (grant of petition for Fleetwood Enterprises, Inc. in part). In both of these instances, the vehicles at issue had windows with luminous transmittance of less than 70 percent of light and also lower than the transmittance in DTNA's Subject Vehicles. In fact, light transmittance as low as 63 percent was deemed sufficient to provide the necessary driver visibility. NHTSA precedent has rejected petitions in the instance of a double pane that reduced light transmittance when the number was reduced to 41 percent for raising potential concerns regarding vehicle safety, but such a low transmittance is not comparable to the range at issue with DTNA's Subject Vehicles.

Ford, Docket No. NHTSA-95-11, 60 Fed. Reg. 31345 (Jun. 14, 1995)

According to the grant, the Ford petition was successful in demonstrating that there is only a small effect upon seeing distance of a decline in light transmittance from 65 to 60 percent. Ford also cited a NHTSA report to Congress that the rake angle of certain windshields reduces the effective transmittance of light to 63 percent in some automobiles and to 55 percent in a particular minivan. (Ford's application involved 8,250 1995 Lincoln Continental passenger cars whose front door windows had a luminous transmittance of approximately 68 percent.) The application was granted (60 Fed. Reg. 31345) on June 14, 1995.

Fleetwood, Docket No. NHTSA-98-3558, 63 Fed. Reg. 10964 (Mar. 5, 1998)

From July 1995 to January 1997, Fleetwood manufactured 1,438 Flair brand motor homes with front side windows that possessed a luminous transmittance of 62 percent. Fleetwood also manufactured, in the same timeframe, 188 Bounder brand motor homes and 733 Discovery brand motor homes with double panes of the same glazing that reported a luminous transmittance of 41 percent.

Fleetwood turned to a Ford Motor Company petition dated February 6, 1995 where a 5 percent reduction in light transmission (from 65% to 60%) resulted in a change of only 1-2% seeing distance during nighttime driving and de minimis to no change during daytime and dusk driving. The petition further supported the proposition that a reduction of seeing distance of 1% would have no practical or perceivable effect on driver visibility.

The petition was granted in part and denied in part. NHTSA found that a value of 62 percent transmittance (the Flair models) was inconsequential to safety based upon the fact that the rake angle alone reduces light transmission to below 70 percent in some vehicles and to 63 percent in some passenger cars without creating a noncompliance in FMVSS No. 205.

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The petition was denied, however, for the Discovery and Bounder motor homes possessing a double pane glass that reduced the transmittance to 41 percent, a number closer to results deemed significant in the TUV Rheinland study showing a sufficiently significant difference in visibility and therefore potentially impacting vehicle safety.

Conclusion

DTNA respectfully submits that, in light of regulatory agency's grants for comparable inconsequentiality petitions, the light transmittance of 67.35-68.01 percent, found in the subject vehicles, would achieve no detectable diminished safety as compared to achieving the 70 percent standard as it would exceed the lower 60 percent range approved in previous petitions and in certain vehicles currently allowed under CMVSS 205, and it does not reflect the performance of the 41 percent system which was determined by the Agency to risk vehicle safety. DTNA submits that 67.35-68.01 percent is fully sufficient to provide a safe level of visibility for drivers.

For all of the foregoing reasons, the noncompliance in the Subject Vehicles is inconsequential to motor vehicle safety.

Please contact me if you have any questions.

Sincerely yours,

[Signature] 
[Name] LARISSA STOFFELS.
[Position] EXEC. MGR., VEHICLE SAFETY.
Daimler Trucks North America LLC

[Signature] 
[Name] Salvador Mirano
[Position] Chief Operating Officer
Cristales Inastillables de México, S.A. de C.V.

Part 573 Safety Recall Report

21V-498

Manufacturer Name : Daimler Trucks North America, LLC**Submission Date :** JUN 30, 2021**NHTSA Recall No. :** 21V-498**Manufacturer Recall No. :** FL-894**Manufacturer Information :****Population :**

Manufacturer Name : Daimler Trucks North America, LLC

Number of potentially involved : 68,658

Address : 4747 N. Channel Avenue

Estimated percentage with defect : 20 %

Portland OR 97217-3849

Company phone : 800-745-8000

Vehicle Information :

Vehicle 1 : 2020-2022 Freightliner Cascadia

Vehicle Type :

Body Style :

Power Train : NR

Descriptive Information : Certain chassis manufactured between the identified manufacturing dates may contain a windshield with a Tintex Plus light material.

Production Dates : JUN 25, 2020 - JUN 22, 2021

VIN Range 1 : Begin :

NR

End : NR

 Not sequential

Vehicle 2 : 2021-2022 Western Star 47X

Vehicle Type : BUSES, MEDIUM & HEAVY VEHICLES

Body Style :

Power Train : NR

Descriptive Information : Certain chassis manufactured between the identified manufacturing dates may contain a windshield with a Tintex Plus light material.

Production Dates : JUL 08, 2020 - MAY 27, 2021

VIN Range 1 : Begin :

NR

End : NR

 Not sequential

Vehicle 3 : 2021-2022 Western Star 49X

Vehicle Type : BUSES, MEDIUM & HEAVY VEHICLES

Body Style :

Power Train : NR

Descriptive Information : Certain chassis manufactured between the identified manufacturing dates may contain a windshield with a Tintex Plus light material.

Production Dates : JUN 25, 2020 - JUN 22, 2021

VIN Range 1 : Begin :

NR

End : NR

 Not sequential

Vehicle 4 : 2021-2021 Western Star 57X

Vehicle Type : BUSES, MEDIUM & HEAVY VEHICLES

Body Style :

Power Train : NR

Descriptive Information : Certain chassis manufactured between the identified manufacturing dates may contain a windshield with a Tintex Plus light material.

Production Dates : AUG 20, 2020 - OCT 01, 2020

VIN Range 1 : Begin :

NR

End : NR

Not sequential

Description of Noncompliance :

Description of the Noncompliance : As determined by the supplier, certain chassis manufactured between the identified manufacturing dates may contain a windshield containing a Tintex Plus light material. The material may not meet the requirements of Federal Motor Vehicle Safety Standard (FMVSS) 205 S5.1 glazing materials conformance to ANSI/SAE Z26.1 standard for luminous transmittance.

FMVSS 1 : 205 - Glazing materials

FMVSS 2 : NR

Description of the Safety Risk : As set forth above, the supplier has determined a non-compliance with FMVSS 205

Description of the Cause : NR

Identification of Any Warning that can Occur : NR

Involved Components :

Component Name 1 : Windshield Glass

Component Description : Glass-WSHLD, 1PC Roped

Component Part Number : 18-67040-006

Component Name 2 : Windshield Glass

Component Description : Glass-WSHLD, 1PC Roped, MPC2 LHD

Component Part Number : A18-71102-001

Supplier Identification :**Component Manufacturer**

Name : Vitro Automotive Glass
Address : 323 North Shore Drive 6th floor
Pittsburgh Pennsylvania 15212
Country : United States

Chronology :

In or about May 2021, DTNA received field complaints relating rain sensor calibration concerns. Further inquiry identified that the calibration concerns were related to a material change made by the windshield supplier.

In or about late May 2021, the supplier notified DTNA that the windshield material was changed and the measurement tool for transmittance was recalibrated for containment action. Further, with the recalibration of the tool, the supplier notified DTNA of transmittance concerns relating to the original change in material.

In or about June 2021, DTNA began an investigation to better understand the analysis performed by the supplier, and review the requirements of FMVSS 205 and a potential non-compliance (if any) and identify the potential field exposure in such an event.

On or about June 29, 2021, the supplier notified DTNA that the supplier had determined a non-compliance with FMVSS 205, and was in the process of filing a non-compliance recall with NHTSA pursuant to 49 C.F.R Part 573, and further advised that the supplier intended to seek a determination of inconsequential non-compliance.

On June 30, 2021, DTNA likewise determined that a non-compliance existed, and is now filing this non-compliance recall with NHTSA pursuant to 49 C.F.R. Part 573. DTNA believes that this noncompliance is inconsequential as it relates to motor vehicle safety, as the transmittance level difference required is minimal and prior precedent in 1995 and 1998 on granting inconsequentiality for glass with light transmittance as low as 63 percent.

Description of Remedy :

Description of Remedy Program : DTNA intends to petition the agency pursuant to 49 CFR 556 for exemption from the notice and remedy provisions of the safety act on the grounds this noncompliance is nonconsequential as it relates to motor vehicle safety. DTNA believes that this noncompliance is inconsequential as it relates to motor vehicle safety because, among other reasons, the transmittance level difference required is minimal and prior precedent in 1995 and 1998 on granting inconsequentiality for glass with light transmittance as low as 63 percent.

How Remedy Component Differs from Recalled Component : NR

Identify How/When Recall Condition was Corrected in Production : NR

Recall Schedule :

Description of Recall Schedule : DTNA intends to petition the agency pursuant to 49 CFR 556 for exemption from the notice and remedy provisions of the Safety Act on the grounds this noncompliance is inconsequential as it relates to motor vehicle safety. DTNA believes that this noncompliance is inconsequential as it relates to motor vehicle safety because, among other reasons, the transmittance level difference required is minimal and prior precedent in 1995 and 1998 on granting inconsequentiality for glass with light transmittance as low as 63 percent.

Planned Dealer Notification Date : NR - NR

Planned Owner Notification Date : NR - NR

* NR - Not Reported

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21V-498

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Portland OR 97217-3849

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Population :

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Body Style :

Power Train : NR

Descriptive Information : Certain chassis manufactured between the identified manufacturing dates may contain a windshield with a Tintex Plus light material.

Production Dates : JUN 25, 2020 - JUN 22, 2021

VIN Range 1 : Begin : NR End : NR Not sequential

Vehicle 2 : 2021-2021 Western Star 57X

Vehicle Type : BUSES, MEDIUM & HEAVY VEHICLES

Body Style :

Power Train : NR

Descriptive Information : Certain chassis manufactured between the identified manufacturing dates may contain a windshield with a Tintex Plus light material.

Production Dates : AUG 20, 2020 - OCT 01, 2020

VIN Range 1 : Begin : NR End : NR Not sequential

Vehicle 3 : 2021-2022 Western Star 49X

Vehicle Type : BUSES, MEDIUM & HEAVY VEHICLES

Body Style :

Power Train : NR

Descriptive Information : Certain chassis manufactured between the identified manufacturing dates may contain a windshield with a Tintex Plus light material.

Production Dates : JUN 25, 2020 - JUN 22, 2021

VIN Range 1 : Begin : NR End : NR Not sequential

Vehicle 4 : 2021-2022 Western Star 47X

Vehicle Type : BUSES, MEDIUM & HEAVY VEHICLES

Body Style :

Power Train : NR

Descriptive Information : Certain chassis manufactured between the identified manufacturing dates may contain a windshield with a Tintex Plus light material.

Production Dates : JUL 08, 2020 - MAY 27, 2021

VIN Range 1 : Begin :

NR

End : NR

Not sequential

Description of Noncompliance :

Description of the Noncompliance : As determined by the supplier, certain chassis manufactured between the identified manufacturing dates may contain a windshield containing a Tintex Plus light material. The material in combination of windshield configuration and thickness may not meet the requirements of Federal Motor Vehicle Safety Standard (FMVSS) 205 S5.1 glazing materials conformance to ANSI/SAE Z26.1 standard for luminous transmittance.

FMVSS 1 : 205 - Glazing materials

FMVSS 2 : NR

Description of the Safety Risk : As set forth above, the supplier has determined a non-compliance with FMVSS 205

Description of the Cause : NR

Identification of Any Warning that can Occur : NR

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Component Description : Glass-WSHLD, 1PC Roped

Component Part Number : 18-67040-006

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On or about June 29, 2021, the supplier notified DTNA that the supplier had determined a non-compliance with FMVSS 205, and was in the process of filing a non-compliance recall with NHTSA pursuant to 49 C.F.R Part 573, and further advised that the supplier intended to seek a determination of inconsequential non-compliance.

On June 30, 2021, DTNA likewise determined that a non-compliance existed, and is now filing this non-compliance recall with NHTSA pursuant to 49 C.F.R. Part 573. DTNA believes that this noncompliance is inconsequential as it relates to motor vehicle safety, as the transmittance level difference required is minimal and prior precedent in 1995 and 1998 on granting inconsequentiality for glass with light transmittance as low as 63 percent.

On July 12, 2021, the supplier informed DTNA was the only affected vehicle manufacturer and, consequently, Vitro will not file an equipment manufacturer's 573 as DTNA has filed a vehicle 573.

July 2021, DTNA petitioned for inconsequentiality based on the subject population having the same or better transmittance than vehicles NHTSA has allowed.

Description of Remedy :

Description of Remedy Program : DTNA intends to petition the agency pursuant to 49 CFR 556 for exemption from the notice and remedy provisions of the safety act on the grounds this noncompliance is nonconsequential as it relates to motor vehicle safety. DTNA believes that this noncompliance is inconsequential as it relates to motor vehicle safety because, among other reasons, the transmittance level difference required is minimal and prior precedent in 1995 and 1998 on granting inconsequentiality for glass with light transmittance as low as 63 percent.

How Remedy Component Differs from Recalled Component : NR

Identify How/When Recall Condition was Corrected in Production : NR

Recall Schedule :

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Planned Dealer Notification Date : NR - NR

Planned Owner Notification Date : NR - NR

* NR - Not Reported