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December 4, 2020

Via E-mail and FedEx

James C. Owens
Deputy Administrator
National Highway Traffic Safety Administration
1200 New Jersey Avenue, S.E.
West Building
Washington, D.C. 20590

Re: Petition for Determination of Inconsequential Noncompliance:

Dear Mr. Owens:

On behalf of Sumitomo Rubber Industries, Ltd. (SRI) and Sumitomo Rubber North America Inc. (SRNA), we are submitting the enclosed public version of the Petition for Determination of Inconsequential Noncompliance pursuant to 49 U.S.C. §§ 30118(d) and 30120(h) and 49 C.F.R. §§ 556.1-556.9, for an exemption from the notice and remedy requirements, on the ground that the noncompliance to which this petition relates is inconsequential to motor vehicle safety. The confidential version of the petition is being submitted to the Office of the Chief Counsel with a request for confidential treatment.

Sumitomo Rubber Industries, Ltd. and Sumitomo Rubber North America Inc.
Petition for Determination of Inconsequential Noncompliance
NHTSA No. 20T020

December 4, 2020

Sumitomo Rubber Industries, Ltd. (SRI) and Sumitomo Rubber North America Inc. (SRNA) jointly submit this Petition for Determination of Inconsequential Noncompliance pursuant to the National Traffic and Motor Vehicle Safety Act (Safety Act), 49 U.S.C. §§ 30118(d) and 30120(h) and 49 C.F.R. Part 556, for an exemption from the notice and remedy requirements of 49 U.S.C. §§ 30118 and 30120, on the ground that the noncompliance to which this petition relates is inconsequential to motor vehicle safety.

I. Background

Sumitomo Rubber Industries, Ltd. is a Japanese corporation with its office at 6-9, 3-chome, Wakinohama-cho, Chuo-ku, Kobe 651-0072 Japan. Sumitomo Rubber North America Inc. is a California corporation with its office at 8656 Haven Avenue, Rancho Cucamonga, CA 91730.

On November 4, 2020, SRI determined that a population of 8,275 Sumitomo and Falken truck tires do not comply with Federal Motor Vehicle Safety Standard (FMVSS) No. 119, *New pneumatic tires for motor vehicles with a GVWR of more than 4,536 kilograms (10,000 pounds) and motorcycles*. *See* Exhibit No. 1 (SRI 573 Noncompliance Report) (the report includes the full list of 26 different tire models and sizes covered by this petition). Specifically, the subject tires may have a small visual deformation after completing the endurance test specified in FMVSS 119 S7.2. The presence of this visual deformation following completion of the test may constitute a nonconformity with FMVSS 119 S6.1.2(a), which specifies that "[t]here shall be no visual evidence of tread, sidewall, ply, cord, innerliner, or bead separation, chunking, broken cords, cracking, or open splices." This matter has been assigned NHTSA Recall No. 20T020.

II. Discussion

Under the Safety Act, each FMVSS promulgated by the National Highway Traffic Safety Administration (NHTSA) must be "practicable, meet the need for motor vehicle safety, and be stated in objective terms." 49 U.S.C. § 30111(a). The Safety Act defines "motor vehicle safety" as:

> the performance of a motor vehicle or motor vehicle equipment in a way that protects the public against unreasonable risk of accidents occurring because of the design, construction, or performance of a motor vehicle, and against unreasonable risk of death or injury in an accident, and includes nonoperational safety of a motor vehicle.

49 U.S.C. § 30102(a)(9).

The Safety Act exempts manufacturers from the Safety Act's notice and remedy requirements when NHTSA determines that a noncompliance is inconsequential as it relates to

motor vehicle safety. *See* 49 U.S.C. §§ 30118(d) and 30120(h). Sections 30118(d) and 30120(h) demonstrate Congress's acknowledgement that there are cases where a vehicle or equipment may fail to meet the requirements of a safety standard, yet the impact on motor vehicle safety is so slight that an exemption from the notice and remedy requirements of the Safety Act is justified.

NHTSA has stated that in determining the question of inconsequentiality "the issue to consider is the consequence to an occupant who is exposed to the consequence of that noncompliance." *General Motors, LLC, Denial of Petition for Decision of Inconsequential Noncompliance,* 85 *Fed. Reg.* 71713, 71716 (Nov. 10, 2020); *see also General Motors Corp.; Ruling on Petition for Determination of Inconsequential Noncompliance*, 69 *Fed. Reg.* 19897, 19900 (Apr. 14, 2004) (the relevant consideration in evaluating an inconsequentiality petition is "whether an occupant who is affected by the noncompliance is *likely to be exposed to a significantly greater risk than an occupant in a compliant vehicle*") (emphasis added); *Cosco Inc.; Denial of Application of Inconsequential Noncompliance*, 64 *Fed. Reg.* 29408, 29409 (Jun. 1, 1999). In evaluating the effect on motor vehicle safety, NHTSA looks to the "specific facts before it in a particular petition." *BMW of North America, LLC; Jaguar Land Rover North America, LLC; and Autoliv, Inc.; Decisions of Petitions for Inconsequential Noncompliance*, 84 *Fed. Reg.* 19994, 19997 (May 7, 2019) (citing General Motors, LLC., *Grant of Petition for Decision of Inconsequential Noncompliance,* 81 *Fed. Reg*. 92963 (Dec. 20, 2016)).

-- <u>Regulatory History of the Visual Inspection Criteria</u>

Under FMVSS 119 S6.1.2(a), tires completing the tire endurance test may not have "visual evidence of tread, sidewall, ply, cord, innerliner, or bead separation, chunking, broken cords, cracking, or open splices." The visual inspection requirements were adopted in the original version of FMVSS 119, which carried over a similar requirement from FMVSS 109 applicable to tires intended for passenger vehicles. *See* 38 *Fed. Reg.* 31299, 31301 (Nov. 13, 1973). Although FMVSS 119 does not define "bead separation," FMVSS 109 S3 defines bead separation as "a breakdown of bond between components in the bead." In turn, FMVSS 109 S3 defines "bead" as "the part of the tire made of steel wires, wrapped or reinforced by ply cords, that is shaped to fit the rim." The definition of bead separation and the visual inspection requirement for the endurance test were promulgated by NHTSA in its initial final rule for FMVSS 109. *See* 32 Fed. Reg. 15792, 15792-93 (Nov. 16, 1967) (Initial Final Rule for FMVSS 109).[1]

NHTSA based the performance requirements of FMVSS 109 on SAE Recommended Practice J918b, "*Passenger Car Tire Performance Requirements and Test Procedures*," December 1966. 32 Fed. Reg. 10812 (Jul. 22, 1967) (the 1967 Amended NPRM for FMVSS 109). The Agency adopted the SAE recommended practice without justifying the safety impacts of the provisions or discussing the purpose for the visual inspection requirement. *See id.* In a later amendment to FMVSS 109, NHTSA explained that it considered the visual inspection of these

[1] In its notice of proposed rulemaking (NPRM) for adoption of the initial Federal Motor Vehicle Safety Standards in 1966, NHTSA had proposed requiring that tires completing the endurance test pass a visual inspection. *See* 31 Fed. Reg. 15212, 15216 (Dec. 3, 1966) (proposing a number of safety standards, including FMVSS 109). That proposal read: "After completing the tests specified in S5.1 at the applicable percentages of the rated load selected by the manufacturer, no tire shall have – (a) Tread, ply, cord, or bead separation; (b) Tread chunking; (c) Broken cord; or (d) A cut exceeding five times the length of the original cut made for the test." 31 Fed. Reg. at 15216. The 1966 proposal did not define bead separation, nor did it provide the Agency's purpose for including this requirement.

characteristics "to be evidence of structural weakness which may cause tire failure." *See* 37 *Fed. Reg.* 19381 (Sep. 20, 1972) (1972 NPRM Amending FMVSS 109).

NHTSA's statement in the 1972 NPRM Amending FMVSS 109 did not present any further explanation or evidence to support the notion that these characteristics, standing alone, are evidence of structural weakness that could lead to a tire failure. The brief discussion acknowledges that these visual characteristics *may* indicate a weakness that could result in a tire failure. But this evidence does not, by itself, demonstrate that the tire contains a structural weakness that will cause it to fail or to expose occupants of vehicles equipped with these tires to a consequential safety risk that occupants of a vehicle equipped with fully compliant tires would not face.

-- <u>The Deformation in the Subject Tires Does Not Affect Structural Integrity</u>

As described in its Part 573 noncompliance report, SRI discovered that a population of truck and bus radial tires may be susceptible to developing a visible deformation in a single, small area of the bead near the upper edge of a rim flange. This visual deformation does not indicate a structural weakness in the subject tires, and SRI's test data demonstrates that the deformation is not likely to expose an occupant of a vehicle equipped with such tires to a significantly greater risk than an occupant of a vehicle equipped with a fully compliant tire.

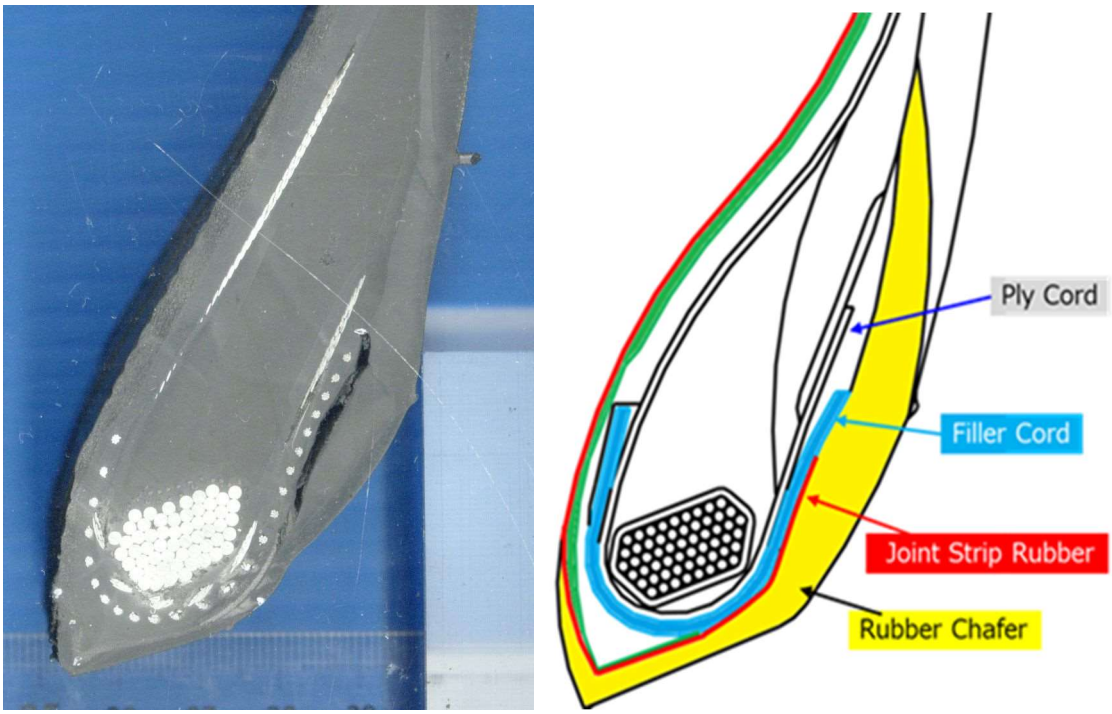
With respect to the structure of the tire, the deformation results from two factors related to the tire's joint tape: misplacement of the joint tape and a change in the tape's composition that altered the rubber's adhesiveness. Because joint tape is not a structural component of the tire, the resulting deformation is not an indication of a structural weakness in these tires. Moreover, the deformation induced by the joint tape does not affect the integrity of the adjacent components.

In manufacturing tires, SRI produces long strips of material that make up the inner liner. The inner liner is the inner-most component of the tire. During the tire-building process, the inner liner ends are joined together with an adhesive material (i.e., joint tape). Other components are then added on top of the inner liner. After all components are added, the built tire undergoes vulcanization (applying heat and pressure for a set period) to fully adhere the components and complete the tire-forming process. The joint tape's purpose is simply to keep the ends of the inner liner together during the tire-building process until the assemblage is vulcanized.

Due to misplacement of the joint tape and a change in the tape's composition, the subject tires may develop a visible deformation in the bead area near the edge of the rim flange. The following is a photograph of a test tire built with the misplaced joint tape following the FMVSS 119 Endurance test:

The deformation is to the left of the white line marked on the tire in the photograph. As the photograph shows, this small deformation appears on the surface of the tire near the rim.

The following photograph shows the same tire, but with a cross-section through the deformation, followed by a diagram to highlight the components:



In this image, the tire's sidewall is on the right-hand side. The tire's bead core (made of several layers of steel cord bundled closely together) is enveloped by a separate layer of steel cords that is depicted by the J-shape of small white dots (also known as the filler cord). The deformation is the separation between the joint strip rubber and the rubber chafer (which serves as the outer layer of the tire). As the photograph demonstrates, the deformation occurs outside the structural components of the tire (*i.e.,* it forms to the right of the filler cord).

The deformation forms due to a lack of adhesion between the joint tape and components in the bead area, which can increase the percentage of butyl rubber content in this area. The increased butyl rubber content makes the material more susceptible to heat expansion and, combined with the lack of adhesion in the joint tape, the small area becomes susceptible to separations. Because the joint tape terminates in the bead area, the deformation will only occur there. The steel filler cords next to this area contain the deformation and prevent it from propagating beyond the area shown in the photographs. SRI's testing demonstrates that this deformation does not indicate, and will not subsequently cause, a structural weakness that could lead to a tire failure or rapid air loss.

SRI conducted a series of three tests to confirm the structural integrity of the subject tires. In one test (Test 1), SRI tested a tire returned by a Japanese customer due to the appearance of a

deformation near the bead.[2] The returned tire was a Dunlop 275/80R22.5 SP680 that the customer used for an unknown number of miles. For this test, SRI inflated the tire to 100% of the JATMA-recommended inflation pressure for its maximum load (900 kPa or approximately 130 psi) and loaded the tire to 100% of its maximum load carrying capacity (3450 kg). SRI ran the tire on a test drum at 80 km/h for 1,250 hours (approximately 100,000 km or just over 62,000 miles). The deformation near the bead did not expand (it measured 40 mm before the test and 40 mm after the test) or cause air loss, and the tire did not otherwise fail during the testing. *See* Exhibit No. 2 (SRI Test Summaries).

For the second test (Test 2), SRI manufactured a test tire using intentionally misplaced joint tape composed of the same material as the tires listed in the noncompliance report.[3] Test 2 seeks to take the tire to failure while it is underinflated (at 67% of the recommended inflation pressure) and overloaded (at 120% of the tire's maximum load carrying capacity). As of the filing of this petition, the tire has completed three of the four test phases. In Phase One, SRI ran the tire on the test drum at 50 km/h for 520 hours. In Phase Two, SRI increased the speed to 60 km/h and ran the tire for 285 hours. In Phase Three, SRI increased the speed to 65 km/h and ran the tire for 190 hours. The tire developed a deformation as expected. Despite being underinflated and overloaded, the tire deformation did not cause air loss or otherwise cause the tire to fail. *See* Exhibit No. 2. SRI is currently conducting Phase Four of the Test 2, which is running the tire at 70 km/h. As of December 3, 2020 the tire had run approximately 57,365 km (approximately 35,645 miles). SRI is running the tire to failure and will provide NHTSA with the results in a supplement to this petition.

In a third test (Test 3), SRI manufactured two tires (Dunlop 295/80R22.5 SP128A) with intentionally misplaced joint tape to test the tires in three severely overloaded conditions.[4] In Phase One, the tires were inflated to [redacted] kPa (approximately [redacted] psi), loaded to [redacted]% of the maximum load carrying capacity, and run on a test drum at 20 km/h (approximately 12 mph) for [redacted] hours. In Phase Two, the tires were inflated to [redacted] kPa (approximately [redacted] psi), loaded to [redacted]% of the maximum load capacity, and run on a test drum at 20 km/h for [redacted] hours. In Phase Three, the tires were inflated to 1050 kPa (approximately 152 psi), loaded to 300% of the load carrying capacity, and run on a test drum at 20km/h for 108 hours. In total, the tires ran [redacted] hours, covering [redacted] km (approximately [redacted] miles) in severely overload conditions that are unlikely to be replicated in real world use. During the testing, the tires developed deformations, as expected, near the bead in the area where the misplaced joint tape was applied. In the most extreme condition (loaded to 300% of the tire's maximum load carrying capacity), the tires also developed a surface crack in the area of the misplaced joint tape. But even in these unrealistically severe conditions, the tire did not develop air leaks or otherwise structurally fail. *See* Exhibit No. 2.

[2] The Japanese-market tire returned by the customer contained the same manufacturing defect – misplaced joint tape that was composed of the same material as the tires covered by the noncompliance report.

[3] SRI manufactured the test tire based on a Japanese-market tire model and size. The test tire replicates the misplaced joint tape and is representative of the subject tires for purposes of evaluating the joint tape/deformation issue.

[4] The test tires used in Test 3 are based upon a Japanese-market model and size, but are representative of the subject tires for purposes of this evaluation.

In addition to these three tests, SRI also manufactured four test tires (two for each)[5] with misplaced joint tape to conduct the endurance tests in FMVSS 119 and UNECE R54.[6] In both tests, the tires developed deformations, but otherwise met the substantive performance requirements. *See* Exhibit No. 3 (FMVSS 119 Endurance Test) and Exhibit No. 4 (UNECE R54 Endurance Test). A summary of the three internal tests and the FMVSS 119 and UNECE R54 tests are provided in Exhibit No. 5 (Table Summarizing Testing).

III. Conclusion

SRI's testing demonstrates that the deformations that may form due to the misplaced joint tape are not indicative of a structural weakness and will not cause air loss. Because the tires maintain their structural integrity and air pressure, SRI believes that the deformations are inconsequential to motor vehicle safety. The tires otherwise meet all of the labeling and performance requirements of FMVSS 119. Moreover, SRI is not aware of any tire failures, air loss, crashes or injuries related to this issue.

Accordingly, SRI respectfully requests that NHTSA exempt SRI and SRNA from the notice and remedy requirements of the Safety Act.

Respectfully submitted,

Sumitomo Rubber Industries, Ltd. and
Sumitomo Rubber North America Inc.

Encl. (Exhibit Nos. 1 through 5)

[5] These test tires were also based on Japanese-market tires, but are representative of the subject tires for purposes of this evaluation.

[6] SRI notes that the UNECE R54 endurance test requirements do not include bead separation as part of the failure criteria for visual inspections. R54 paragraph 6.2.2 states: "A tyre which, after undergoing the endurance test, does not exhibit any tread separation, ply separation, cord separation, chunking or broken cords shall be deemed to have passed the test." SRI believes that by not including bead separation in this criteria, UNECE R54 supports the position that visual evidence of bead separation by itself does not indicate a consequential risk to motor vehicle safety.

EXHIBIT NO. 1

safercar.gov
U.S. Department of Transportation

Sumitomo Rubber Industries, Ltd.

Tire Report

NHTSA ID: 20T020 Transaction ID: 20-004090-25255-11 (Amendment 1)

Required fields indicated with *

Manufacturer: Sumitomo Rubber Industries, Ltd.

6-9,3-Chome,
Kobe 00 651-0072

Nick Englund Outside Counsel for
202-295-4792,

This is a Safety Defect Report. Filing a petition pursuant to 49 CFR 556

Tire Information

Sumitomo ST900 11R24.5 16PR

* **Tire Brand:** Sumitomo
* **Tire Line:** ST900
* **Tire Size:** 11R24.5 16PR

Production Dates Begin: 03/01/2020
End: 03/07/2020

Descriptive Information:
The recall population for this tire line and size is 88. The population is based upon production and shipping records.

Tire Identification Number (TIN)

* Plant ID code:	* Size code:	Optional code:	* Beg. Date Code:	* End. Date Code:	
4F	6XAW	0920	0920		U2

Falken RI151S 315/80R22.5 156/150L

* **Tire Brand:** Falken
* **Tire Line:** RI151S
* **Tire Size:** 315/80R22.5 156/150L

Production Dates Begin: 05/24/2020
End: 05/30/2020

Descriptive Information:
The recall population for this tire line and size is 140. The population is based upon production and shipping records.

Tire Identification Number (TIN)

* Plant ID code:	* Size code:	Optional code:	* Beg. Date Code:	* End. Date Code:	
4D	8XYW	2120	2120		V4

Sumitomo ST528 11R22.5 16PR

* **Tire Brand:** Sumitomo
* **Tire Line:** ST528
* **Tire Size:** 11R22.5 16PR

Production Dates Begin: 03/15/2020
End: 04/25/2020

Descriptive Information:
The recall population for this tire line and size is 381. The population is based upon production and shipping records.

Tire Identification Number (TIN)

* Plant ID code:	* Size code:	Optional code:	* Beg. Date Code:	* End. Date Code:	
3T	6XJW	1120	1120		U2
U2	3T	6XJW	1520	1620	

Sumitomo ST710SE 11R22.5 144/142L

* **Tire Brand:** Sumitomo
* **Tire Line:** ST710SE
* **Tire Size:** 11R22.5 144/142L

Descriptive Information:
The recall population for this tire line and size is 201. The population is based upon production and shipping records

Production Dates Begin: 03/08/2020
End: 03/21/2020

Tire Identification Number (TIN)

* Plant ID code:	* Size code:	Optional code:	* Beg. Date Code:	* End. Date Code:	U2
3T	5X8W	1020	1120		

Sumitomo ST710SE 285/75R24.5 144/141L

*** Tire Brand:** Sumitomo
*** Tire Line:** ST710SE
*** Tire Size:** 285/75R24.5 144/141L

Descriptive Information:
The recall population for this tire line and size is 160. The population is based upon production and shipping records

Production Dates Begin: 02/23/2020
End: 03/14/2020

Tire Identification Number (TIN)

* Plant ID code:	* Size code:	Optional code:	* Beg. Date Code:	* End. Date Code:	U2
BP	5X8W	0820	0820		
U2	BP	5X8W	1020	1020	

Sumitomo ST710SE 11R24.5 146/143L

*** Tire Brand:** Sumitomo
*** Tire Line:** ST710SE
*** Tire Size:** 11R24.5 146/143L

Descriptive Information:
The recall population for this tire line and size is 81. The population is based upon production and shipping records

Production Dates Begin: 01/26/2020
End: 02/08/2020

Tire Identification Number (TIN)

* Plant ID code:	* Size code:	Optional code:	* Beg. Date Code:	* End. Date Code:	U2
4F	5X8W	0420	0520		

Sumitomo ST778+SE 285/75R24.5 144/141L

*** Tire Brand:** Sumitomo
*** Tire Line:** ST778+SE
*** Tire Size:** 285/75R24.5 144/141L

Descriptive Information:
The recall population for this tire line and size is 118. The population is based upon production and shipping records.

Production Dates Begin: 01/26/2020
End: 02/29/2020

Tire Identification Number (TIN)

* Plant ID code:	* Size code:	Optional code:	* Beg. Date Code:	* End. Date Code:	U2
BP	5X1W	0420	0420		
U2	BP	5X1W	0820	0820	

Sumitomo ST778+SE 11R24.5 149/146L

*** Tire Brand:** Sumitomo
*** Tire Line:** ST778+SE
*** Tire Size:** 11R24.5 149/146L

Descriptive Information:
The recall population for this tire line and size is 221. The population is based upon production and shipping records

Production Dates Begin: 01/26/2020
End: 02/08/2020

Tire Identification Number (TIN)

* Plant ID code:	* Size code:	Optional code:	* Beg. Date Code:	* End. Date Code:	U2
4F	6X1W	0420	0520		

Sumitomo ST709SE 285/75R24.5 144/141L

* **Tire Brand:** Sumitomo
* **Tire Line:** ST709SE
* **Tire Size:** 285/75R24.5 144/141L

Production Dates Begin: 01/26/2020
End: 02/01/2020

Descriptive Information:
The recall population for this tire line and size is 27. The population is based upon production and shipping records.

Tire Identification Number (TIN)

* Plant ID code:	* Size code:	Optional code:	* Beg. Date Code:	* End. Date Code:	U2
BP	5X8W	420	420		

Sumitomo ST709SE 11R24.5 149/146L

* **Tire Brand:** Sumitomo
* **Tire Line:** ST709SE
* **Tire Size:** 11R24.5 149/146L

Production Dates Begin: 02/09/2020
End: 02/15/2020

Descriptive Information:
The recall population for this tire line and size is 440. The population is based upon production and shipping records.

Tire Identification Number (TIN)

* Plant ID code:	* Size code:	Optional code:	* Beg. Date Code:	* End. Date Code:	U2
4F	6X8W	0620	0620		

Sumitomo ST908N 11R22.5 146/144L

* **Tire Brand:** Sumitomo
* **Tire Line:** ST908N
* **Tire Size:** 11R22.5 146/144L

Production Dates Begin: 04/05/2020
End: 04/11/2020

Descriptive Information:
The recall population for this tire line and size is 68. The population is based upon production and shipping records.

Tire Identification Number (TIN)

* Plant ID code:	* Size code:	Optional code:	* Beg. Date Code:	* End. Date Code:	U2
3T	6X3W	1420	1420		

Sumitomo ST788SE 11R22.5 146/143L

* **Tire Brand:** Sumitomo
* **Tire Line:** ST788SE
* **Tire Size:** 11R22.5 146/143L

Production Dates Begin: 02/16/2020
End: 03/14/2020

Descriptive Information:
The recall population for this tire line and size is 1,067. The population is based upon production and shipping records.

Tire Identification Number (TIN)

* Plant ID code:	* Size code:	Optional code:	* Beg. Date Code:	* End. Date Code:	U2
3T	6XFW	0720	1020		

Sumitomo ST788SE 11R24.5 149/146L

* **Tire Brand:** Sumitomo
* **Tire Line:** ST788SE
* **Tire Size:** 11R24.5 149/146L

Production Dates Begin: 01/26/2020
End: 03/28/2020

Descriptive Information:
The recall population for this tire line and size is 437. The population is based upon production and shipping records

Tire Identification Number (TIN)

* Plant ID code:	* Size code:	Optional code:	* Beg. Date Code:	* End. Date Code:	U2
4F	6XFW	0420	0620		
U2	4F	6XFW	1120	1220	

Sumitomo ST788SE 285/75R24.5 147/144L

* **Tire Brand:** Sumitomo
* **Tire Line:** ST788SE
* **Tire Size:** 285/75R24.5 147/144L

Production Dates Begin: 02/23/2020
End: 03/14/2020

Descriptive Information:
The recall population for this tire line and size is 386. The population is based upon production and shipping records.

Tire Identification Number (TIN)

* Plant ID code:	* Size code:	Optional code:	* Beg. Date Code:	* End. Date Code:	U2
BP	6XFW	0820	0820		
U2	BP	6XFW	1020	1020	

Sumitomo ST719SE 11R22.5 146/143L

* **Tire Brand:** Sumitomo
* **Tire Line:** ST719SE
* **Tire Size:** 11R22.5 146/143L

Production Dates Begin: 02/09/2020
End: 03/14/2020

Descriptive Information:
The recall population for this tire line and size is 1446. The population is based upon production and shipping records.

Tire Identification Number (TIN)

* Plant ID code:	* Size code:	Optional code:	* Beg. Date Code:	* End. Date Code:	U2
3T	6X3W	0620	1020		

Sumitomo ST719SE 11R24.5 149/146L

* **Tire Brand:** Sumitomo
* **Tire Line:** ST719SE
* **Tire Size:** 11R24.5 149/146L

Production Dates Begin: 02/09/2020
End: 03/28/2020

Descriptive Information:
The recall population for this tire line and size is 529. The population is based upon production and shipping records.

Tire Identification Number (TIN)

* Plant ID code:	* Size code:	Optional code:	* Beg. Date Code:	* End. Date Code:	U2
4F	6X3W	0620	0720		
U2	4F	6X3W	1120	1220	

Sumitomo ST719SE 285/75R24.5 147/144L

* **Tire Brand:** Sumitomo
* **Tire Line:** ST719SE
* **Tire Size:** 285/75R24.5 147/144L

Production Dates Begin: 03/08/2020
End: 03/14/2020

Descriptive Information:
The recall population for this tire line and size is 56. The population is based upon production and shipping records.

Tire Identification Number (TIN)

* Plant ID code:	* Size code:	Optional code:	* Beg. Date Code:	* End. Date Code:	U2
BP	6X3W	1020	1020		

Sumitomo ST948SE 285/75R24.5 144/141L

* **Tire Brand:** Sumitomo

Descriptive Information:

* **Tire Line:** ST948SE
* **Tire Size:** 285/75R24.5 144/141L

Production Dates Begin: 01/26/2020
End: 02/29/2020

The recall population for this tire line and size is 269. The population is based upon production and shipping records.

Tire Identification Number (TIN)

* Plant ID code:	* Size code:	Optional code:	* Beg. Date Code:	* End. Date Code:	U2
BP	5XBW	0420	0420		
U2	BP	5XBW	0820	0820	

Sumitomo ST948SE 11R24.5 149/146L

* **Tire Brand:** Sumitomo
* **Tire Line:** ST948SE
* **Tire Size:** 11R24.5 149/146L

Production Dates Begin: 02/02/2020
End: 02/08/2020

Descriptive Information:
The recall population for this tire line and size is 232. The population is based upon production and shipping records.

Tire Identification Number (TIN)

* Plant ID code:	* Size code:	Optional code:	* Beg. Date Code:	* End. Date Code:	U2
4F	6XBW	0520	0520		

Sumitomo ST938 11R24.5 149/146L

* **Tire Brand:** Sumitomo
* **Tire Line:** ST938
* **Tire Size:** 11R24.5 149/146L

Production Dates Begin: 05/31/2020
End: 06/02/2020

Descriptive Information:
The recall population for this tire line and size is 520. The population is based upon production and shipping records.

Tire Identification Number (TIN)

* Plant ID code:	* Size code:	Optional code:	* Beg. Date Code:	* End. Date Code:	V4
4F	6XTW	2220	2220		

Falken GI388 11R24.5 149/146K

* **Tire Brand:** Falken
* **Tire Line:** GI388
* **Tire Size:** 11R24.5 149/146K

Production Dates Begin: 03/01/2020
End: 04/04/2020

Descriptive Information:
The recall population for this tire line and size is 184. The population is based upon production and shipping records

Tire Identification Number (TIN)

* Plant ID code:	* Size code:	Optional code:	* Beg. Date Code:	* End. Date Code:	U2
4F	6XTW	0920	0920		
U2	4F	6XTW	1320	1320	

Falken RI150EC 11R22.5 146/143L

* **Tire Brand:** Falken
* **Tire Line:** RI150EC
* **Tire Size:** 11R22.5 146/143L

Production Dates Begin: 05/17/2020
End: 05/23/2020

Descriptive Information:
The recall population for this tire line and size is 222. The population is based upon production and shipping records

Tire Identification Number (TIN)

* Plant ID code:	* Size code:	Optional code:	* Beg. Date Code:	* End. Date Code:	U2
3T	6X3W	2020	2020		

Falken RI130EC 11R22.5 146/143L

* **Tire Brand:** Falken
* **Tire Line:** RI130EC
* **Tire Size:** 11R22.5 146/143L

Production Dates Begin: 02/16/2020
End: 04/25/2020

Descriptive Information:
The recall population for this tire line and size is 438. The population is based upon production and shipping records.

Tire Identification Number (TIN)

* Plant ID code:	* Size code:	Optional code:	* Beg. Date Code:	* End. Date Code:	U2
3T	6XFW	0720	0720		
U2	3T	6XFW	1020	1020	
U2	3T	6XFW	1420	1620	

Falken RI130EC 11R24.5 149/146L

* **Tire Brand:** Falken
* **Tire Line:** RI130EC
* **Tire Size:** 11R24.5 149/146L

Production Dates Begin: 03/22/2020
End: 03/28/2020

Descriptive Information:
The recall population for this tire line and size is 26. The population is based upon production and shipping records.

Tire Identification Number (TIN)

* Plant ID code:	* Size code:	Optional code:	* Beg. Date Code:	* End. Date Code:	U2
4F	6XFW	1220	1220		

Falken RI130EC 285/75R24.5 147/144L

* **Tire Brand:** Falken
* **Tire Line:** RI130EC
* **Tire Size:** 285/75R24.5 147/144L

Production Dates Begin: 01/26/2020
End: 02/01/2020

Descriptive Information:
The recall population for this tire line and size is 54. The population is based upon production and shipping records.

Tire Identification Number (TIN)

* Plant ID code:	* Size code:	Optional code:	* Beg. Date Code:	* End. Date Code:	U2
BP	6XFW	0420	0420		

Sumitomo ST528 11R24.5 16PR

* **Tire Brand:** Sumitomo
* **Tire Line:** ST528
* **Tire Size:** 11R24.5 16PR

Production Dates Begin: 02/09/2020
End: 03/07/2020

Descriptive Information:
The recall population for this tire line and size is 484. The population is based upon production and shipping records.

Tire Identification Number (TIN)

* Plant ID code:	* Size code:	Optional code:	* Beg. Date Code:	* End. Date Code:	U2
4F	6XJW	0620	0620		
U2	4F	6XJW	0820	0920	

Number potentially involved: 8275 **Estimated percentage of involved with defect:** 2%

Defect / Noncompliance Description

For this Defect/Noncompliance:

*** Describe the defect or noncompliance:**
Subject tires that complete the endurance test in FMVSS 119 S7.2 are susceptible to developing visible deformation in a single, small area of the bead (near the upper edge of a rim flange). This deformation may violate FMVSS 119 S6.1.2(a).

If a noncompliance, provide the applicable FMVSS:
119 - New pneumatic tires- other than passenger cars

If applicable, provide any further FMVSS affected:

Describe the cause:
Joint-tape rubber used to join the two ends of the inner liner may have been misplaced during the tire-building process. Additionally, due to a change in the joint-tape composition, the rubber's adhesiveness was altered. As a result, the joint-tape rubber in the subject tires may protrude beyond the designated area for the joint-tape rubber.

*** Describe the safety risk:**
SRI believes this noncompliance is inconsequential to motor vehicle safety and intends to submit an inconsequentiality petition in accordance with 49 CFR Part 556.

Identify any warning which can precede or occur:
A deformation will be visible on the sidewall near the bead.

This Recall affects all vehicles.

If applicable, identify the manufacturer of the defective or noncompliant component. If the manufacturer of the component is unknown, provide the information for the company that supplied the subject component.

Component manufacturer

Company Information

Company Name:
Country:
Address 1:
Address 2:
City:
State:
Zip/Postal Code:

Company Contact Information

First Name:
Last Name:
Position:
Email:
Phone:

Involved Components

If the defect or noncompliance involves a specific component(s), identify that component(s) below.

Purchaser Information

Chronology of Defect / Noncompliance Determination

Provide the chronology of events leading up to the defect decision or test data for the noncompliance decision.:
Please see the attached document for SRI's Chronology.

Identify the Remedy

Describe the defect/noncompliance remedy program, including the manufacturer's plan for reimbursement.
SRI intends to submit a petition for determination of inconsequential noncompliance in accordance with 49 CFR Part 556.

Describe what distinguishes the remedy component from the recalled component.
SRI intends to submit a petition for determination of inconsequential noncompliance in accordance with 49 CFR Part 556.

Identify and describe how and when the recall condition was corrected in production.
The coexistence of the factors ended at the Shirakawa plant on June 2, 2020 and at the Miyazaki plant on June 9, 2020. Accordingly, tires manufactured on and after June 3, 2020 at the Shirakawa plant do not contain the defect and tires manufactured on and after June 10, 2020 at the Miyazaki plant do not contain the defect.

Identify the Recall Schedule

Describe the recall schedule for notifications.:
SRI intends to submit a petition for determination of inconsequential noncompliance in accordance with 49 CFR Part 556.

Planned Dealer Notification Begin Date:
Planned Dealer Notification End Date:
Planned Owner Notification Begin Date:
Planned Owner Notification End Date:

Manufacturer's identification code for this recall (if applicable):

Please be reminded that owner notification letters must be mailed no more than 60 days from submission of this report.

Manufacturer Comments to NHTSA Staff

SRI estimates that the total affected population is likely less than 2% for the total population identified. 11/17/2020: Changed "Sumitomo ST 788 + SE 285/75 R 24.5 144/141 L" to "Sumitomo ST 778 + SE 285/75 R 24.5 144/141 L" Changed "Sumitomo ST 719 SE 11 R 22.5 146/142 L" to "Sumitomo ST 719 SE 11 R 22.5 146/143 L"

Document Upload

There are 1 documents associated with this report.

EXHIBIT NO. 2

1 Safety Confirmation

Test 1. Continuously run market-returned tire on the drum machine to test growth of bulge

- Tyre : 275/80R22.5 SP680 1 tire
- Test Condition: 100% load of tire capacity, 900kPa air pressure, <Normal Condition>

Result : No growth of bulge
Ref.: No air leak occurred.

*Bulge measurements - Before test: 40mm → After test: 40mm

Test 2. Durability test under to guarantee the bead durability until the end of tyre life

- Tyre : 275/80R22.5 SP680 1 tire
- Test Condition: 120% load of tire capacity, low air pressure <Severe Condition : Low air pressure>

During Test (Continue Running at 57,365 k, as of December 3, 2020)

Test 3. Bead durability test to guarantee the bead durability until the end of tyre life

- Tyre : 295/80R22.5 SP128A 2 tires
- Test Condition: [redacted]-300% load of tire capacity, [redacted]-200kPa higher air pressure than regulation

<Severe Condition : Over loading>

*Refer attached background of test method development

Result : Completed the full distance [redacted]
Ref.: Bulge developed and cracking appaired on the bead area in last phase, but no air leak occurred.

EXHIBIT NO. 3

1 FMVSS 119 Endurance Test

SRI made two test tires with misplaced joint tape and conducted endurance tests under FMVSS 119 test condition

【FMVSS 119 Endurance Test Report】

Test Tires: 295/80R22.5 153/150J SP128A
Judge item : FMVSS119 Standard

<Test Condition>

- Inner Pressure 900 kPa
- Speed 48 km/h
- Rim 8.25 x 22.5
- Room temperature 35±3 ℃
- Test date 2020/09/28
- Drum diameter 67.23 inch
- DOT No U24C1X7W3720

<Test Result>

Step	1st	2nd	3rd
Load(kN)	23.63	30.07	36.16
I.P. (kPa)	900	900	900
Room Temperture(℃)	38	38	38
Time(hrs)	7	16	24
47hrs complete the full distance Exhibiting 40mm length of bulge on bead area(Non DOT side) *2 tires are same result			

Looseness between "joint strip rubber" and "rubber chafer"

Appearance after endurance test

- Completed full distance but exhibiting separation between 2 rubbers.
- Air leakage did not occur until test end.

EXHIBIT NO. 4

1 UNECE R54 Endurance Test

SRI made two test tires with misplaced joint tape and conducted endurance test under UNECE R54 test condition

【UNECE R54 Endurance Test Report】

Test Tires: 275/80R22.5 151/148J SP680
Judge item : UNECE R54 Standard

<Test Condition>

- Inner Pressure 900 kPa
- Speed 48 km/h
- Rim 8.25 x 22.5
- Room temperature 25±5 ℃
- Test date 2020/10/23
- Drum diameter 67.23 inch
- DOT No U26N1X7W4020

<Test Result>

Step	1st	2nd	3rd
Load(kN)	22.33	28.42	34.18
I.P. (kPa)	900	900	900
Room Temperature(℃)	25.0	25.0	25.0
Time(hrs)	7	16	24
47hrs complete the full distance. Exhibiting 50mm length of bulge on bead area(Non DOT side) *2 tires are same result			

Looseness between "joint strip rubber" and "rubber chafer"

Appearance after endurance test

- Completed full distance but exhibiting separation between 2 rubbers.
- Air leakage did not occur until test end.

EXHIBIT NO. 5

Test Description	Step	Room Temp. (℃)	Air Pressure (%)	Load (%)	Speed (km/h)	Running Time (Hrs)		Running Distance (km)	Deformation	Air Leak or Structural Failure
FMVSS 119 Endurance	1st	35	100	66	48	7	47	2,256	Bulge developed	No air leak or structural damage
	2nd	35	100	84	48	16				
	3rd	35	100	101	48	27				
UNECE R54 Endurance	1st	25	100	66	48	7	47	2,256	Bulge developed	No air leak or structural damage
	2nd	25	100	84	48	16				
	3rd	25	100	101	48	27				
Test 1 <Normal Condition>	-	25	100	100	80	1,250	1,250	100,000	Bulge present at test outset	No air leak or structural damage
Test 2 <Severe Condition : Low air pressure>	1st	25	67	120	50	520	995+ Running	57,365	Bulge developed	Preliminary results: No air leak or structural damage
	2nd	25	67	120	60	285				
	3rd	25	67	120	65	190				
	4th	25	67	120	70	Running				
Test 3 <Severe Condition : Over Loading>	1st	25			20				Bulge developed, cracking in third phase	No air leak or structural damage
	2nd	25			20					
	3rd	25	124	300	20	108				

UNECE R54 ≦ FMVSS 119 (Higher Temperature) < Test 1 (*Higher Speed*) << *Test 2 (Lower Air Pressure)* < *Test 3 (Over Loading)*

← *Less Severe* More Severe →

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April 8, 2021

Via E-mail and FedEx

James C. Owens
Deputy Administrator
National Highway Traffic Safety Administration
1200 New Jersey Avenue, S.E.
West Building
Washington, D.C. 20590

Re: Supplemental Submission in Support of Petition for Determination of Inconsequential Noncompliance – NHTSA No. 20T020

Dear Mr. Owens:

On behalf of Sumitomo Rubber Industries, Ltd. and Sumitomo Rubber North America Inc. (jointly referred to as SRI), we are submitting the enclosed supplemental submission in support of SRI's Petition for Determination of Inconsequential Noncompliance pursuant to 49 U.S.C. §§ 30118(d) and 30120(h) and 49 C.F.R. §§ 556.1-556.9. The enclosed supplements SRI's December 4, 2020 Petition for Determination of Inconsequential Noncompliance related to the recall NHTSA No. 20T020.

We appreciate your consideration of the petition and this supplemental submission. Please contact me with any questions.

Sincerely,

Christopher H. Grigorian

CHG:krb
Enclosures

cc: Otto Matheke (NHTSA OVSC)
Claudia Covell (NHTSA OVSC)
Abraham Diaz (NHTSA OCVSC)
Robert Sullivan (Wilson Elser)

Sumitomo Rubber Industries, Ltd. and Sumitomo Rubber North America Inc.
Supplemental Submission in Support of Petition for
Determination of Inconsequential Noncompliance
NHTSA No. 20T020

April 8, 2021

On December 4, 2020, Sumitomo Rubber Industries, Ltd. (SRI) and Sumitomo Rubber North America Inc. (SRNA) (hereinafter referred to jointly as SRI) submitted a Petition for Determination of Inconsequential Noncompliance pursuant to 49 C.F.R. Part 556, for an exemption from the notice and remedy requirements of 49 U.S.C. §§ 30118 and 30120.

The noncompliance related to a visual deformation that could form in the tire's bead area after completing the endurance test specified in FMVSS 119 S7.2. The presence of this deformation following completion of the test may constitute a nonconformity with FMVSS 119 S6.1.2(a), which specifies that the tire may not exhibit visual evidence of bead separation.

SRI submitted its petition on the basis that the visual deformation, which resulted from misplacement of joint tape used in the manufacturing process, did not result in structural weakness or otherwise affect the safety-related performance of the subject tires. To support the petition, SRI submitted test information related to three sets of tests that demonstrate the misplaced joint tape would not result in a consequential risk to motor vehicle safety. *See* SRI Petition re: NHTSA No. 20T020 at pp. 5 - 6. At the time of the December 4th petition, Test Two had not been completed. This supplemental submission provides the final results of SRI's Test Two.

As detailed in the petition, for Test Two SRI manufactured a test tire using intentionally misplaced joint tape to recreate the condition that resulted in the noncompliance. SRI inflated the tire to 67% of the recommended inflation pressure and overloaded the tire to 120% of its maximum load carrying capacity. During Phase One of Test Two, SRI ran the tire on the test drum at 50 km/h for 532 hours.[1] During Phase Two, SRI increased the speed to 60 km/h and ran the tire for 276 hours.[2] During Phase Three, SRI increased the speed to 65 km/h and ran the tire for 190 hours.[3] During Phase Four, SRI increased the tire speed to 70 km/h. As explained in the petition, Phase Four had not been completed at the time of the petition. SRI has now completed Phase Four, as well as an additional phase, Phase Five, that increased the speed to 80 km/h. The full results of Test Two are shown in the following table:

[1] Exhibit No. 5 of the petition stated the running time for Phase One as 520 hours. This supplement corrects the running time to 532 hours.

[2] Exhibit No. 5 of the petition stated the running time for Phase Two as 285 hours. This supplement corrects the running time to 276 hours.

[3] Exhibit No. 5 of the petition accurately stated the running time for Phase Three as 190 hours.

Test Two: Durability test to evaluate bead durability until the end of tire life
Tire: 275/80R22.5 SP680
Test Condition: 120% load of tire capacity, low air pressure

Test Description	Phase	Room Temp. (°C)	Air Pressure (%)	Load (%)	Speed (km/h)	Running Time (Hrs)		Running Distance (km)	Deformation	Result
Test Two (Severe Condition; Low air pressure)	1st	25	67	120	50	532	1,145	66,060	• Bulge developed due to misplaced joint tape, • Cracking due to excessive pressure on bead	No air leak or structural damage
	2nd	25	60	120	60	276				
	3rd	25	56	120	65	190				
	4th	25	53	120	70	121				
	5th	25	50	120	80	26				
Test Two - Supplement (Severe Condition; Low air pressure)	1st	25	67	120	80	240	240	19,164	Bulge developed	No air leak or structural damage

As the table shows, during Phase Four, SRI ran the tire for 121 hours. Following the conclusion of Phase Four, SRI added Phase Five, increasing the speed to 80 km/h and loading the tire to 120% of the tire's maximum load carrying capacity. SRI ran Phase Five for 26 hours before ending the test.[4]

Test Two was initiated with an inflation pressure of 67% of the recommended pressure, and the pressure was not adjusted during the five phases of the test. While SRI did observe a decline in air pressure during the five phases of the test, this was attributable to the natural pressure loss that would be expected to occur with an ordinary (fully compliant) tire;[5] it was not associated with the bulge in the bead (the noncompliance condition) or cracking that developed on the bulge due to the excessive strain applied to the bead area as a result of the pressure loss. More importantly, the tire exhibited no rapid air loss or other structural failure.

Following the conclusion of Phase Five, SRI conducted a supplemental test ("Test Two – Supplement" in the table above) with another tire manufactured with intentionally misplaced joint tape, inflated to 67% of the recommended inflation pressure, loaded to 120% of the tire's maximum load carrying capacity, and run at 80 km/h. The tire completed 240 hours (19,164 km)

[4] SRI ended the test to prevent a fire because a burning smell was detected in the test room due to the friction between the rubber and the wire in the belt.

[5] As the agency is aware, when a tire is run, it grows in size due to centrifugal force. At the same time, the internal pressure increases due to heat generated while it is run. As heat generation and dimensional growth is maxing out, oxygen permeates through the inner liner and is vented from the tire, causing the internal pressure to drop.

before SRI ended the test.[6] A deformation formed in the bead in the area of the misplaced joint tape as expected, but the deformation did not crack on the bead, and there was no loss of pressure or structural failure.

* * *

The foregoing test results provide further support for SRI's position that the deformation and "bead separation" caused by the misplaced joint tape is not indicative of a structural weakness and, therefore, that the noncompliance is inconsequential to motor vehicle safety.

Respectfully submitted,

Sumitomo Rubber Industries, Ltd. and
Sumitomo Rubber North America Inc.

[6] Similar to the primary test, SRI ended Test Two – Supplement after detecting a burning smell due to the friction between the rubber and the wire in the belt.

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July 9, 2021

Via Email and FedEx

Dr. Steven Cliff
Acting Administrator
National Highway Traffic Safety Administration
1200 New Jersey Avenue, S.E.
West Building
Washington, D.C. 20590

Re: Second Supplemental Submission in Support of Petition for Determination of Inconsequential Noncompliance – NHTSA No. 20T020

Dear Dr. Cliff:

On behalf of Sumitomo Rubber Industries, Ltd. and Sumitomo Rubber North America Inc. (jointly referred to as SRI), we are submitting the enclosed second supplemental submission in support of SRI's Petition for Determination of Inconsequential Noncompliance pursuant to 49 U.S.C. §§ 30118(d) and 30120(h) and 49 C.F.R. §§ 556.1-556.9. The enclosed supplements SRI's December 4, 2020 Petition for Determination of Inconsequential Noncompliance and the April 9, 2021 Supplemental Submission in Support of Petition for Determination of Inconsequential Noncompliance both related to the recall NHTSA No. 20T020.

We appreciate your consideration of the petition and this supplemental submission. Please contact me with any questions.

Sincerely,

Christopher H. Grigorian

CHG:krb
Enclosures

cc: Otto Matheke (NHTSA OVSC)
Claudia Covell (NHTSA OVSC)
Abraham Diaz (NHTSA OCVSC)
Robert Sullivan (Wilson Elser)

Sumitomo Rubber Industries, Ltd. and Sumitomo Rubber North America Inc.
Second Supplemental Submission in Support of Petition for
Determination of Inconsequential Noncompliance
NHTSA No. 20T020

July 8, 2021

On December 4, 2020, Sumitomo Rubber Industries, Ltd. and Sumitomo Rubber North America Inc. (hereinafter referred to jointly as SRI) submitted a Petition for Determination of Inconsequential Noncompliance pursuant to 49 C.F.R. Part 556, for an exemption from the notice and remedy requirements of 49 U.S.C. §§ 30118 and 30120. On April 8, 2021, SRI submitted supplemental testing data to support its December 4, 2020 petition. SRI has conducted additional supplemental tests of additional tires sizes that further support its view that the noncompliance is inconsequential to motor vehicle safety.

Briefly, the noncompliance related to a visual deformation that could form in the tire's bead area after completing the endurance test specified in FMVSS 119 S7.2. The presence of this deformation following completion of the test may constitute a nonconformity with FMVSS 119 S6.1.2(a), which specifies that the tire may not exhibit visual evidence of bead separation.

SRI submitted its petition on the basis that the visual deformation, which resulted from misplacement of joint tape used in the manufacturing process, did not result in structural weakness or otherwise affect the performance of the subject tires. SRI supported this position with results from tests of increasing levels of severity. *See* SRI Petition RE: NHTSA No. 20T020 at pp. 5 - 6. Due to the length of one of the tests, some phases of the test had not been completed at the time of the December 4th petition. *See id.* On April 8, 2021, SRI submitted the completed test results along with data from an additional supplemental test.

SRI now submits further supplemental testing to support its petition. The further testing involves two phases in which SRI ran five separate tire sizes on the test drum – each representing an additional tire size in the noncompliant population. For all of the test tires, SRI intentionally manufactured test tires with misplaced joint tape to recreate the condition that resulted in the noncompliance.

In the first phase of this supplemental test, SRI inflated the tires to 100% of the recommended inflation pressure and loaded the tires to 100% of its maximum load carrying capacity. SRI ran each tire at 80 km/h for 1,250 continuous hours. All five tires developed bulges in the area near the misplaced joint tape as expected. None of the tires developed air leaks or structural damage. The tire sizes and summary of the results appear in the following table:

Supplemental Test, Phase One: Durability under normal loading conditions
Test Condition: 100% load of tire capacity, recommended inflation pressure

Test Description	Room Temp. (°C)	Air Pressure (%)	Load (%)	Speed (km/h)	Running Time (Hrs)	Running Distance (km)	Deformation	Result
11R24.5 149/146L ST788SE	25	100	100	80	1,250	100,000	Bulge developed	No air leak or structural damage
285/75R24.5 147/144L RI130EC	25	100	100	80	1,250	100,000	Bulge developed	No air leak or structural damage
11R22.5 146/143L RI130EC	25	100	100	80	1,250	100,000	Bulge developed	No air leak or structural damage
315/80R22.5 156/150L RI151S[1]	25	100	100	80	1,250	100,000	Bulge developed	No air leak or structural damage
11R24.5 149/146L ST938[2]	25	100	100	80	1,250	100,000	Bulge developed	No air leak or structural damage

In the second phase of this supplemental test, starting with new tires, SRI inflated the tires to 67% of the recommended inflation pressure. SRI loaded three of the test tires[3] to 120% of its maximum load carrying capacity. For the two remaining tires, SRI loaded the tires to 100% of its maximum load carrying capacity.[4]

SRI ran each of the test tires at 80 km/h under these severe loading conditions. SRI halted each test after it detected a burning smell due to the friction between the rubber and the wire in the belt. All five tires developed bulges in the area near the misplaced joint tape as expected. None of the tires developed air leak or structural damage. The tire sizes and summary of the results appear in the following table:

[1] Because the 315/80R22.5 156/150L RI151S is not a fuel efficient tire, it is relatively more prone to heat when run continuously on a test drum, which does not represent real-world conditions. SRI buffed 4 mm into the tread to mitigate some of this heat susceptibility. For reference, tread wear of 8 mm represents approximately 100,000 km of usage. Because the test intended to evaluate structural strength and not heat susceptibility, the 4 mm adjustment is unlikely to materially impact the evaluation.
[2] The 11R24.5 149/146L ST938 tires are intended for dual use on the drive axle. Accordingly, SRI used loading information based on the 146 load index.
[3] The 11R24.5 149/146L ST788SE, 285/75R24.5 147/144L RI130EC, and 11R22.5 146/143L RI130EC.
[4] The 315/80R22.5 156/150L RI151S tire is bus tire and the 11R24.5 149/146L ST938 is a drive axle tire for dual use. Neither tire would likely be overloaded in real world use.

Supplemental Test, Phase Two: Durability under severe loading conditions
Test Condition: 67% recommended inflation pressure

Test Description	Room Temp. (°C)	Air Pressure (%)	Load (%)	Speed (km/h)	Running Time (Hrs)	Running Distance (km)	Deformation	Result
11R24.5 149/146L ST788SE	25	67	120	80	806	64,493	Bulge developed	No air leak or structural damage
285/75R24.5 147/144L RI130EC	25	67	120	80	283	22,609	Bulge developed	No air leak or structural damage
11R22.5 146/143L RI130EC	25	67	120	80	453	36,210	Bulge developed	No air leak or structural damage
315/80R22.5 156/150L RI151S[5]	25	67	100	80	743	59,390	Bulge developed	No air leak or structural damage
11R24.5 149/146L ST938[6]	25	67	100	80	1,114	89,171	Bulge developed	No air leak or structural damage

Consistent with previous test data, the tires did not develop air leaks or show signs of other structural damage. These results further support that the deformation and "bead separation" caused by the misplaced joint tape is not indicative of a structural weakness.

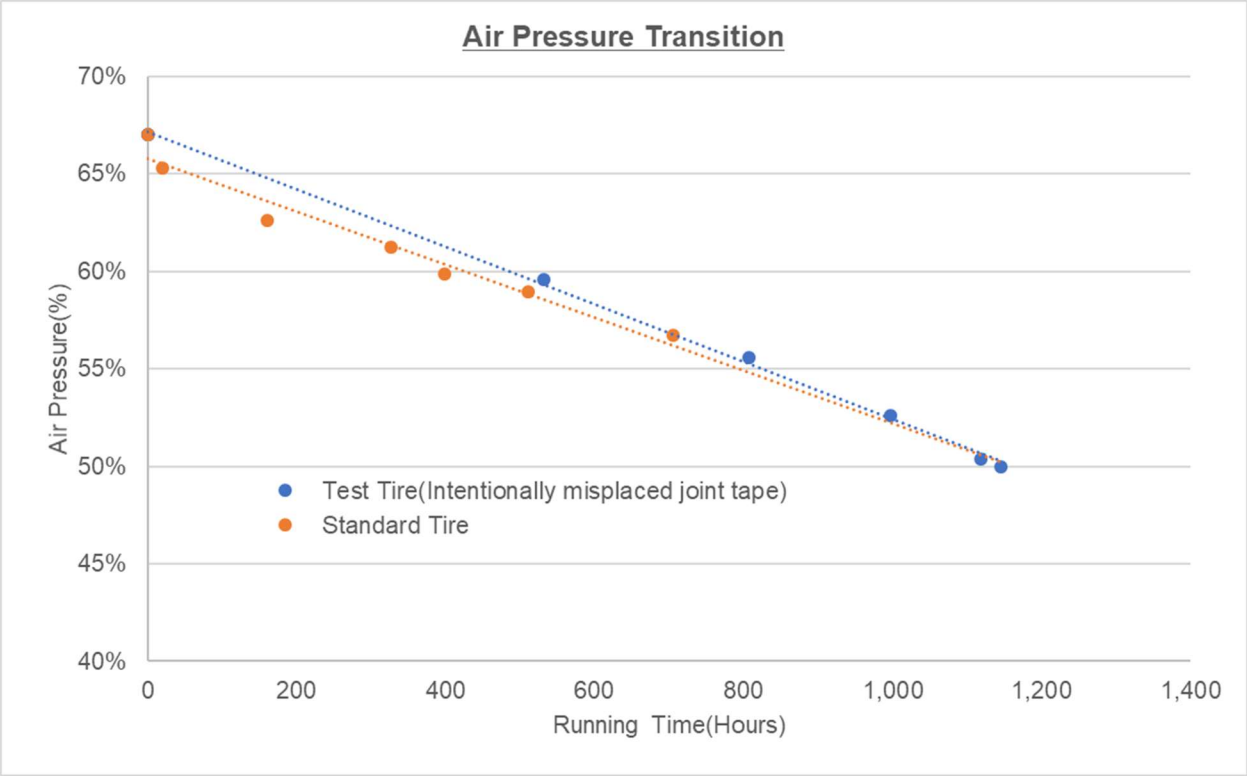
Moreover, in the April 8, 2021 supplement to the petition, SRI noted that during previous testing it did observe a decline in air pressure during the five phases of that supplemental test. *See* April 8, 2021 Supplemental Submission to SRI Petition RE: NHTSA No. 20T020 at p. 2. SRI concluded, however, that this loss of pressure was consistent with "the natural pressure loss that would be expected to occur with an ordinary (fully compliant) tire." *Id.*

Following the April 8, 2021 submission, SRI tested a tire with *correctly* placed joint tape (standard tire) to support its conclusion regarding the natural pressure loss of the test tire. The standard tire was a 275/80R22.5 SP680 tire loaded to 120% of load carrying capacity, inflated to 67% of the recommended inflation pressure, and run at 50 km/h for 532 hours in the first phase and at 60 km/h for 276 hours in the second phase the same way Test Two on page 2 of the April 8, 2021 supplemental submission was conducted. Likewise, SRI intended to run the standard tire at 65 km/h for 190 hours in the third phase. But SRI halted the test of the standard tire at 850 cumulative hours (*i.e.*, at 42 hours after the third phase started) after detecting a burning smell due

[5] As explained in footnote 1, SRI buffed 4 mm of tread from this tire to mitigate excessive heat accumulation.
[6] As explained in footnote 2, SRI used the 146 load index for this tire.

to the friction between the rubber and the wire in the belt.[7] SRI measured the inflation pressure under the same condition as Test Two on page 2 of the April 8, 2021 supplemental submission.

The following graph represents the loss of inflation pressure in the standard tire with *correctly* placed joint tape compared with the same tire size with *intentionally* misplaced joint tape.



Each tire lost air pressure at similar rates over the phases of the test. These results corroborate SRI's conclusions that the loss of inflation pressure was not the result of misplaced joint tape or bead separation in the tire.

[7] SRI notes that the test tire with intentionally misplaced joint tape used in the five-phase test ran for 1,145 hours before SRI halted the test due to a burning smell.

* * *

The foregoing test results provide further support for SRI's position that the deformation and "bead separation" caused by the misplaced joint tape is not indicative of a structural weakness and, therefore, that the noncompliance is inconsequential to motor vehicle safety.

Respectfully submitted,

Sumitomo Rubber Industries, Ltd. and
Sumitomo Rubber North America Inc.

Part 573 Safety Recall Report 20T-020

Manufacturer Name : Sumitomo Rubber Industries, Ltd.
Submission Date : NOV 12, 2020
NHTSA Recall No. : 20T-020
Manufacturer Recall No. : NR

Manufacturer Information :

Manufacturer Name : Sumitomo Rubber Industries, Ltd.
Address : 6-9,3-Chome, Wakinohama-Cho, Chuo-Ku Kobe 00 651-0072
Company phone : 999

Population :

Number of potentially involved : 8,275
Estimated percentage with defect : 2 %

Tire Information :

Tire Brand 1 : Sumitomo
Tire Line : ST900
Tire Size : 11R24.5 16PR
Descriptive Information : The recall population for this tire line and size is 88. The population is based upon production and shipping records.
Production Dates : MAR 01, 2020 - MAR 07, 2020

TIN (Tire Identification Number)

Plant ID	Size code	Optional Code	Begin M Code	End M Code
U2	4F	6XAW	0920	0920

Tire Brand 2 : Sumitomo
Tire Line : ST528
Tire Size : 11R24.5 16PR
Descriptive Information : The recall population for this tire line and size is 484. The population is based upon production and shipping records.
Production Dates : FEB 09, 2020 - MAR 07, 2020

TIN (Tire Identification Number)

Plant ID	Size code	Optional Code	Begin M Code	End M Code
U2	4F	6XJW	0620	0620
U2	4F	6XJW	0820	0920

Tire Brand 3 : Sumitomo
Tire Line : ST528
Tire Size : 11R22.5 16PR
Descriptive Information : The recall population for this tire line and size is 381. The population is based upon production and shipping records.
Production Dates : MAR 15, 2020 - APR 25, 2020

TIN (Tire Identification Number)

Plant ID	Size code	Optional Code	Begin M Code	End M Code
U2	3T	6XJW	1120	1120
U2	3T	6XJW	1520	1620

Tire Brand 4 : Sumitomo
Tire Line : ST710SE
Tire Size : 11R22.5 144/142L
Descriptive Information : The recall population for this tire line and size is 201. The population is based upon production and shipping records
Production Dates : MAR 08, 2020 - MAR 21, 2020

TIN (Tire Identification Number)

Plant ID	Size code	Optional Code	Begin M Code	End M Code
U2	3T	5X8W	1020	1120

Tire Brand 5 : Sumitomo
Tire Line : ST710SE
Tire Size : 285/75R24.5 144/141L
Descriptive Information : The recall population for this tire line and size is 160. The population is based upon production and shipping records
Production Dates : FEB 23, 2020 - MAR 14, 2020

TIN (Tire Identification Number)

Plant ID	Size code	Optional Code	Begin M Code	End M Code
U2	BP	5X8W	0820	0820
U2	BP	5X8W	1020	1020

Tire Brand 6 : Sumitomo
Tire Line : ST710SE
Tire Size : 11R24.5 146/143L
Descriptive Information : The recall population for this tire line and size is 81. The population is based upon production and shipping records
Production Dates : JAN 26, 2020 - FEB 08, 2020

TIN (Tire Identification Number)

Plant ID	Size code	Optional Code	Begin M Code	End M Code
U2	4F	5X8W	0420	0520

Tire Brand 7 : Sumitomo
Tire Line : ST788+SE
Tire Size : 285/75R24.5 144/141L
Descriptive Information : The recall population for this tire line and size is 118. The population is based upon production and shipping records.
Production Dates : JAN 26, 2020 - FEB 29, 2020

TIN (Tire Identification Number)

Plant ID	Size code	Optional Code	Begin M Code	End M Code
U2	BP	5X1W	0420	0420
U2	BP	5X1W	0820	0820

Tire Brand 8 : Sumitomo
Tire Line : ST709SE
Tire Size : 285/75R24.5 144/141L
Descriptive Information : The recall population for this tire line and size is 27. The population is based upon production and shipping records.
Production Dates : JAN 26, 2020 - FEB 01, 2020

TIN (Tire Identification Number)

Plant ID	Size code	Optional Code	Begin M Code	End M Code
U2	BP	5X8W	420	420

Tire Brand 9 : Sumitomo
Tire Line : ST709SE
Tire Size : 11R24.5 149/146L
Descriptive Information : The recall population for this tire line and size is 440. The population is based upon production and shipping records.
Production Dates : FEB 09, 2020 - FEB 15, 2020

TIN (Tire Identification Number)

Plant ID	Size code	Optional Code	Begin M Code	End M Code
U2	4F	6X8W	0620	0620

Tire Brand 10 : Sumitomo
Tire Line : ST778+SE
Tire Size : 11R24.5 149/146L
Descriptive Information : The recall population for this tire line and size is 221. The population is based upon production and shipping records
Production Dates : JAN 26, 2020 - FEB 08, 2020

TIN (Tire Identification Number)

Plant ID	Size code	Optional Code	Begin M Code	End M Code
U2	4F	6X1W	0420	0520

Tire Brand 11 : Sumitomo
Tire Line : ST788SE
Tire Size : 285/75R24.5 147/144L
Descriptive Information : The recall population for this tire line and size is 386. The population is based upon production and shipping records.
Production Dates : FEB 23, 2020 - MAR 14, 2020

TIN (Tire Identification Number)

Plant ID	Size code	Optional Code	Begin M Code	End M Code
U2	BP	6XFW	0820	0820
U2	BP	6XFW	1020	1020

Tire Brand 12 : Sumitomo
Tire Line : ST948SE
Tire Size : 11R24.5 149/146L
Descriptive Information : The recall population for this tire line and size is 232. The population is based upon production and shipping records.
Production Dates : FEB 02, 2020 - FEB 08, 2020

TIN (Tire Identification Number)

Plant ID	Size code	Optional Code	Begin M Code	End M Code
U2	4F	6XBW	0520	0520

Tire Brand 13 : Sumitomo
Tire Line : ST908N
Tire Size : 11R22.5 146/144L
Descriptive Information : The recall population for this tire line and size is 68. The population is based upon production and shipping records.
Production Dates : APR 05, 2020 - APR 11, 2020

TIN (Tire Identification Number)

Plant ID	Size code	Optional Code	Begin M Code	End M Code
U2	3T	6X3W	1420	1420

Tire Brand 14 : Sumitomo
Tire Line : ST788SE
Tire Size : 11R22.5 146/143L
Descriptive Information : The recall population for this tire line and size is 1,067. The population is based upon production and shipping records.
Production Dates : FEB 16, 2020 - MAR 14, 2020

TIN (Tire Identification Number)

Plant ID	Size code	Optional Code	Begin M Code	End M Code
U2	3T	6XFW	0720	1020

Tire Brand 15 : Sumitomo
Tire Line : ST788SE
Tire Size : 11R24.5 149/146L
Descriptive Information : The recall population for this tire line and size is 437. The population is based upon production and shipping records
Production Dates : JAN 26, 2020 - MAR 28, 2020

TIN (Tire Identification Number)

Plant ID	Size code	Optional Code	Begin M Code	End M Code
U2	4F	6XFW	0420	0620
U2	4F	6XFW	1120	1220

Tire Brand 16 : Sumitomo
Tire Line : ST719SE
Tire Size : 11R22.5 146/142L
Descriptive Information : The recall population for this tire line and size is 1446. The population is based upon production and shipping records.
Production Dates : FEB 09, 2020 - MAR 14, 2020

TIN (Tire Identification Number)

Plant ID	Size code	Optional Code	Begin M Code	End M Code
U2	3T	6X3W	0620	1020

Tire Brand 17 : Sumitomo
Tire Line : ST719SE
Tire Size : 11R24.5 149/146L
Descriptive Information : The recall population for this tire line and size is 529. The population is based upon production and shipping records.
Production Dates : FEB 09, 2020 - MAR 28, 2020

TIN (Tire Identification Number)

Plant ID	Size code	Optional Code	Begin M Code	End M Code
U2	4F	6X3W	0620	0720
U2	4F	6X3W	1120	1220

Tire Brand 18 : Sumitomo
Tire Line : ST719SE
Tire Size : 285/75R24.5 147/144L
Descriptive Information : The recall population for this tire line and size is 56. The population is based upon production and shipping records.
Production Dates : MAR 08, 2020 - MAR 14, 2020

TIN (Tire Identification Number)

Plant ID	Size code	Optional Code	Begin M Code	End M Code
U2	BP	6X3W	1020	1020

Tire Brand 19 : Sumitomo
Tire Line : ST948SE
Tire Size : 285/75R24.5 144/141L
Descriptive Information : The recall population for this tire line and size is 269. The population is based upon production and shipping records.
Production Dates : JAN 26, 2020 - FEB 29, 2020

TIN (Tire Identification Number)

Plant ID	Size code	Optional Code	Begin M Code	End M Code
U2	BP	5XBW	0420	0420
U2	BP	5XBW	0820	0820

Tire Brand 20 : Sumitomo
Tire Line : ST938
Tire Size : 11R24.5 149/146L
Descriptive Information : The recall population for this tire line and size is 520. The population is based upon production and shipping records.
Production Dates : MAY 31, 2020 - JUN 02, 2020

TIN (Tire Identification Number)

Plant ID	Size code	Optional Code	Begin M Code	End M Code
V4	4F	6XTW	2220	2220

Tire Brand 21 : Falken
Tire Line : RI130EC
Tire Size : 11R22.5 146/143L
Descriptive Information : The recall population for this tire line and size is 438. The population is based upon production and shipping records.
Production Dates : FEB 16, 2020 - APR 25, 2020

TIN (Tire Identification Number)

Plant ID	Size code	Optional Code	Begin M Code	End M Code
U2	3T	6XFW	0720	0720
U2	3T	6XFW	1020	1020
U2	3T	6XFW	1420	1620

Tire Brand 22 : Falken
Tire Line : RI130EC
Tire Size : 11R24.5 149/146L
Descriptive Information : The recall population for this tire line and size is 26. The population is based upon production and shipping records.
Production Dates : MAR 22, 2020 - MAR 28, 2020

TIN (Tire Identification Number)

Plant ID	Size code	Optional Code	Begin M Code	End M Code
U2	4F	6XFW	1220	1220

Tire Brand 23 : Falken
Tire Line : GI388
Tire Size : 11R24.5 149/146K
Descriptive Information : The recall population for this tire line and size is 184. The population is based upon production and shipping records
Production Dates : MAR 01, 2020 - APR 04, 2020

TIN (Tire Identification Number)

Plant ID	Size code	Optional Code	Begin M Code	End M Code
U2	4F	6XTW	0920	0920
U2	4F	6XTW	1320	1320

Tire Brand 24 : Falken
Tire Line : RI150EC
Tire Size : 11R22.5 146/143L
Descriptive Information : The recall population for this tire line and size is 222. The population is based upon production and shipping records
Production Dates : MAY 17, 2020 - MAY 23, 2020

TIN (Tire Identification Number)

Plant ID	Size code	Optional Code	Begin M Code	End M Code
U2	3T	6X3W	2020	2020

Tire Brand 25 : Falken
Tire Line : RI130EC
Tire Size : 285/75R24.5 147/144L
Descriptive Information : The recall population for this tire line and size is 54. The population is based upon production and shipping records.
Production Dates : JAN 26, 2020 - FEB 01, 2020

TIN (Tire Identification Number)

Plant ID	Size code	Optional Code	Begin M Code	End M Code
U2	BP	6XFW	0420	0420

Tire Brand 26 : Falken
Tire Line : RI151S
Tire Size : 315/80R22.5 156/150L
Descriptive Information : The recall population for this tire line and size is 140. The population is based upon production and shipping records.
Production Dates : MAY 24, 2020 - MAY 30, 2020

TIN (Tire Identification Number)

Plant ID	Size code	Optional Code	Begin M Code	End M Code
V4	4D	8XYW	2120	2120

Description of Defect :

Description of the Defect : Subject tires that complete the endurance test in FMVSS 119 S7.2 are susceptible to developing visible deformation in a single, small area of the bead (near the upper edge of a rim flange). This deformation may violate FMVSS 119 S6.1.2(a).
FMVSS 1 : 119 - New pneumatic tires- other than passenger cars

FMVSS 2 :	NR
Description of the Safety Risk :	SRI believes this noncompliance is inconsequential to motor vehicle safety and intends to submit an inconsequentiality petition in accordance with 49 CFR Part 556.
Description of the Cause :	Joint-tape rubber used to join the two ends of the inner liner may have been misplaced during the tire-building process. Additionally, due to a change in the joint-tape composition, the rubber's adhesiveness was altered. As a result, the joint-tape rubber in the subject tires may protrude beyond the designated area for the joint-tape rubber.
Identification of Any Warning that can Occur :	A deformation will be visible on the sidewall near the bead.

Involved Components :

Component Name :	NR
Component Description :	NR
Component Part Number :	NR

Supplier Identification :

Component Manufacturer

Name :	NR
Address :	NR
	NR
Country :	NR

Chronology :

Please see the attached document for SRI's Chronology.

Description of Remedy :

Description of Remedy Program :	SRI intends to submit a petition for determination of inconsequential noncompliance in accordance with 49 CFR Part 556.
How Remedy Component Differs from Recalled Component :	SRI intends to submit a petition for determination of inconsequential noncompliance in accordance with 49 CFR Part 556.

Identify How/When Recall Condition was Corrected in Production :	The coexistence of the factors ended at the Shirakawa plant on June 2, 2020 and at the Miyazaki plant on June 9, 2020. Accordingly, tires manufactured on and after June 3, 2020 at the Shirakawa plant do not contain the defect and tires manufactured on and after June 10, 2020 at the Miyazaki plant do not contain the defect.

Recall Schedule :

Description of Recall Schedule :	SRI intends to submit a petition for determination of inconsequential noncompliance in accordance with 49 CFR Part 556.
Planned Dealer Notification Date :	NR - NR
Planned Owner Notification Date :	NR - NR

Purchaser Information :

The following manufacturers purchased this defective/noncompliant equipment for possible use or installation in new motor vehicles or new items of motor vehicle equipment:

Name :	NR
Address :	NR
	NR
Country :	NR
Company Phone :	NR

* NR - Not Reported