

OFFICE OF DEFECTS &
INVESTIGATIONS

2014 SEP - 8 P 4: 42

September 4, 2014



HYUNDAI
NEW THINKING.
NEW POSSIBILITIES.

Mr. Scott Yon
Chief, Vehicle Integrity Division
Office of Defects Investigation
National Highway Traffic Safety Administration
1200 New Jersey Avenue, SE
Washington, D.C. 20590

RE: NVS-212eer, EA14-002

Dear Mr. Yon:

This letter provides supplemental information in response to your July 25, 2014 Peer Information Request ("Peer IR"). The Peer IR requested information from Hyundai¹ (as defined in the Peer IR). Responses for Requests Nos. 1, 2, 3, 4, 5, 6, and 7 were previously provided with a letter dated August 21, 2014.. NHTSA granted an extension until September 5, 2014 to provide a response to Request No. 8 to the Peer IR. This letter includes Hyundai's responses to Request No. 8, and an amended response to Request 7.

Although Hyundai believes that the definition of "document" in the Peer IR is overly broad and objectionable, Hyundai searched in good faith for materials responsive to each request in the time frame provided.

Request 7.

For each model, model year and panoramic sunroof system design manufactured on the subject peer vehicles, identify the part number, supplier name and a complete street address, contact name, and telephone number.

Response to Request 7.

Refer to file "EA14-002 Amended Response to Request 7.pdf" for requested information.

¹ The Peer IR defines "Hyundai" as including the Hyundai Motor Company, Hyundai Motor America, Hyundai-Kia Technical Center, and affiliated officers, employees, subsidiaries, agents, and contractors, among others. Hyundai Motor America ("HMA") objects to this overly broad definition of Hyundai. Instead, Hyundai is providing information responsive to this request after a good faith and appropriate search of company records.

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Request 8.

For each panoramic sunroof system utilized in the subject peer vehicles, provide the following information:

- a. Marketing or Common item name;
- b. Movable or Fixed glass panel system;
- c. Single or multiple panel design (state no. of panels);
- d. Type of movable glass panel deployment design (i.e., Slide-in-Roof; Tilted and Slide over roof; Titled, Slide and Stacked (for sectioned design), etc.);
- e. Sunshade type (manual or automatic, 1 or 2-piece);
- f. Location of glass panel(s) (i.e., “over 1st-row occupants”, “over 2nd- row occupants”, etc.);
- g. Size of panel(s) (length x width in centimeters);
- h. Thickness of glass panel(s) (millimeters);
- i. Weight of glass panel(s) (kilograms);
- j. Type of glass used as classified in ANSI/SAE Z26.1 (i.e. laminated, tempered, tempered-laminated, etc.);
- k. Certified to ANSI/SAE Z26.1, Item 3/4 Glazing Material Standard (specify all applicable Table 1 Tests);
- l. Provide any impact test results per ANSI/SAE Z26.1 Test No. 6-14 or per other standards if available;
- m. ANSI/SAE Z26.1 certification marking (i.e. AS1, AS2, etc.) if any;
- n. Explain the reasons for selecting the type, thickness and other relevant aspects of the glass used in the subject component in comparison with other types, thickness, and other relevant aspects of glass, which were considered or which could have been used;
- o. Engineering drawings of the panoramic sunroof system, including a depiction and/or description of how it is assembled in the subject vehicle.

Responses to Request 8.

a.

Model	Marketing Name
Elantra GT (GD)	Panoramic Sunroof
Santa Fe (NC)	Panoramic Sunroof
Santa Fe Sport (AN)	Panoramic Sunroof
Sonata (YF)	Panoramic Sunroof
Tucson (LM)	Panoramic Sunroof

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- b. The terms “Movable” and “Fixed” were not defined in the Peer IR. Hyundai has provided the responses below with the understanding that “Movable” means “able to slide” and “Fixed” means “unable to slide.” Certain front panels listed below can “tilt” when the center panel is moved.

Model	Panel Movable or Fixed?
Elantra GT (GD)	Front: Movable Rear: Fixed
Santa Fe (NC)	Front: Fixed Center: Movable Rear: Fixed
Santa Fe Sport (AN)	Front: Fixed Center: Movable Rear: Fixed
Sonata (YF)	Front: Fixed/Tilt Center: Movable Rear: Fixed
Tucson (LM)	Front: Fixed Center: Movable Rear: Fixed

- c.

Model	Number of panels
Elantra GT (GD)	2
Santa Fe (NC)	3
Santa Fe Sport (AN)	3
Sonata (YF)	3
Tucson (LM)	3

- d.

Model	Type of movable glass panel deployment design
Elantra GT (GD)	Tilted and Slide over roof
Santa Fe (NC)	Tilted and Slide over roof
Santa Fe Sport (AN)	Tilted and Slide over roof
Sonata (YF)	Tilted and Slide over roof
Tucson (LM)	Tilted and Slide over roof

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e.

Model	Sunshade type
Elantra GT (GD)	2 piece automatic
Santa Fe (NC)	1 piece automatic
Santa Fe Sport (AN)	1 piece automatic
Sonata (YF)	2 piece automatic
Tucson (LM)	2 piece automatic

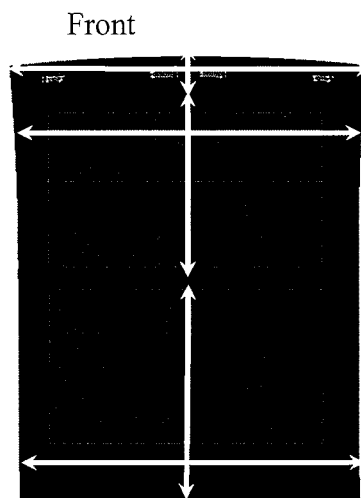
f.

Model	Location of glass panels
Elantra GT (GD)	Over 1st and 2nd row occupants
Santa Fe (NC)	Over 1st and 2nd row occupants
Santa Fe Sport (AN)	Over 1st and 2nd row occupants
Sonata (YF)	Over 1st and 2nd row occupants
Tucson (LM)	Over 1st and 2nd row occupants

g.

Model	Approximate size of panel (length x width in centimeters)*		
	Front	Center	Rear
Elantra GT (GD)	74 x 114	-	82 x 96
Santa Fe (NC)	13 x 103	83 x 102	104 x 96
Santa Fe Sport (AN)	14 x 103	77 x 102	86 x 96
Sonata (YF)	17 x 103	56 x 101	79 x 98
Tucson (LM)	10 x 102	79 x 99	78 x 96

*Refer to illustration below



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Model	Thickness of glass panels in millimeters		
	Front	Center	Rear
Elantra GT (GD)	4mm	-	4mm
Santa Fe (NC)	4mm	4mm	5mm
Santa Fe Sport (AN)	4mm	4mm	4mm
Sonata (YF)	4mm	4mm	4mm
Tucson (LM)	4mm	4mm	4mm

i.

Model	Weight of glass panels in kilograms		
	Front	Center	Rear
Elantra GT (GD)	7.0 kg	-	6.7 kg
Santa Fe (NC)	1.4 kg	8.1 kg	12.5 kg
Santa Fe Sport (AN)	1.42 kg	7.6 kg	8.31 kg
Sonata (YF)	1.69 kg	5.56 kg	7.64 kg
Tucson (LM)	1.05 kg	7.27 kg	7.22 kg

j.

Model	Type of glass used		
	Front	Center	Rear
Elantra GT (GD)	Tempered	-	Tempered
Santa Fe (NC)	Tempered	Tempered	Tempered
Santa Fe Sport (AN)	Tempered	Tempered	Tempered
Sonata (YF)	Tempered	Tempered	Tempered
Tucson (LM)	Tempered	Tempered	Tempered

- k. The glass used in the panoramic sunroofs are certified as “AS3” under ANSI Standard Z26.1. This signifies that the glass complies with Section 4, Item 3 of the ANSI Standard Z26.1. As specified by Item 3, test numbers 6, 7, and 8 are performed. Attachment A contains Hyundai’s ANSI Standard Z26.1 certification tests.

Attachment A has been provided to the Office of Chief Counsel with a request for treatment as Confidential Business Information.

- l. Provided in Attachment B is responsive impact testing documentation. Hyundai’s suppliers conduct periodic testing on the glass used in the sunroofs. Due to the cost and time needed to translate many reports, Hyundai has provided a sampling of test documents in Attachment B. Hyundai represents that the remaining test reports contain similar results to the test results provided in this attachment.

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Attachment B has been provided to the Office of Chief Counsel with a request for treatment as Confidential Business Information.

m.

Model	ANSI/SAE Z26.1 Certification Marking		
	Front	Center	Rear
Elantra GT (GD)	AS3	-	AS3
Santa Fe (NC)	AS3	AS3	AS3
Santa Fe Sport (AN)	AS3	AS3	AS3
Sonata (YF)	AS3	AS3	AS3
Tucson (LM)	AS3	AS3	AS3

n. During the development stages of the panoramic sunroof of the subject peer vehicles, Hyundai considered a variety of factors in evaluating the design on the panoramic sunroof. The most important factor in determining the design of the panoramic sunroof in the subject peer vehicles was the evaluation of optional features in Hyundai's competitor's models. These optional features (including the panoramic sunroof) are studied and benchmarked for incorporation into the model under development. Additionally, established component suppliers are relied on for their expertise in the development of the component. Attachment C illustrates comparative models that were considered and panoramic sunroof properties for each of the subject vehicles. While it is possible that other reasons may have existed in selecting this design, Attachment C represents the most important factor in offering the panoramic sunroof option on the peer subject vehicles.

Attachment C has been provided to the Office of Chief Counsel with a request for treatment as Confidential Business Information.

o. Refer to Attachment D for the requested information.

Attachment D has been provided to the Office of Chief Counsel with a request for treatment as Confidential Business Information.

Sincerely,



Steve Johnson
Director, Engineering and Design Analysis

Hyundai Motor America

Attachments:

Two CDs, each containing:

EA14-002 Amended Response to Request 7.pdf

Attachment A

Attachment B

Attachment C

Attachment D

EA14-002

HYUNDAI

9-4-2014

Amended Response to Request

7

EA14-002 - Panoramic Sunroof Supplier Information

MODEL (PLATFORM)		GLASS SUPPLIER			SUNROOF GLASS FABRICATOR			ASSEMBLY SUPPLIER
		13MY	14MY		13MY	14MY		13~14MY
Santa Fe Sport (AN) (81600-2W000)	FRT(81610-2W000)	GUARDIAN	GUARDIAN (Jan~Mar `14)	Saint Gobain (April `14. ~)	SEJIN	SEJIN (Jan~Mar `14)	SEKURIT (April `14. ~)	Webasto DongHee ► Contact Person - Ki-Sung Kim - Work phone 070- 7093-6781 - M/P 010-5331-4615
	MOV(81611-2W000)							
	RR(81612-2W000)							
Santa Fe (NC) (81600-B8000)	FRT(81610-B8000)	Saint Gobain			SEKURIT			
	MOV(81611-B8000)							
	RR(81612-B8000)							
Elantra GT (GD) (81600-A5000)	MOV(81630-A5000)	Saint Gobain			SEKURIT			Inalfa Roof Systems Korea Ltd. ► Contact Person - Name : Wang-Jin Ryu - Work phone 031-369-3004 - M/P 010-8719-4390
	RR(81619-A5000)							

EA14-002 - Panoramic Sunroof Supplier Information

MODEL (PLATFORM)		GLASS SUPPLIER			SUNROOF GLASS FABRICATOR			ASSEMBLY SUPPLIER
		11~13MY	14MY		11~13MY	14MY		11~14MY
Sonata (YF) (81600-3Q200)	FRT(81620-3S000)	GUARDIAN			SEJIN(~14. May)			Webasto DongHee ▶ Contact Person - Ki-Sung Kim - Work phone 070- 7093-6781 - M/P 010-5331-4615
	MOV(81630-3S000)	KCC			KAC			
	RR(81616-3S000) (81616-3S010안테나사양)							
Tucson (LM) (81600-2S500)	FRT(81610-2S000)	GUARDIAN	GUARDIAN (Jan~Mar `14)	Saint Gobain (April `14. ~)	SEJIN	SEJIN (Jan~Mar `14)	SEKURIT (April `14. ~)	
	MOV(81611-2S000)	Saint Gobain			SEKURIT			
	RR(81616-2S000)							

EA14-002 – Panoramic Sunroof Supplier Information

Supplier		Address
GLASS SUPPLIER	GUARDIAN	Guardian Industries Corp.1000 Glasshouse Road Jefferson Hills, PA 15025, USA Floreffe Plant
	KCC	1-2, Bondu-ri, Kanam-myun, Yeosu-kun, Kyunggi-do, KOREA
	Saint Gobain	SAINT-GOBAIN GLASS FRANCE, LES MIROIRS 18 AVENUE, D'ALSACE F-92096 LA DEFENSE, CODEX FRANCE
SUNROOF GLASS FABRICATOR	SEJIN	1010, Hyomun-Dong, Buk-Gu, Ulsan, KOREA
	KAC	613, Shinjung-Ri, Jeoneui-Myun, Yunki-Kun, Chungcheongnam-Do, KOREA
	SEKURIT	55 Soryong-dong, Gunsan, Joellabuk-do, 573-400, Korea
ASSEMBLY SUPPLIER	Webasto DongHee	6, Cheoyongsanup-ro, Onsan-eup, Ulju-gun, Ulsan, KOREA
ASSEMBLY SUPPLIER	Inalfa Roof Systems Korea Ltd.	17, Madogonhdan 4-ro, Mado-Myeon, Hwaseong-si, Gyeonggi-do 445-861, Republic of Korea