

The summary report of the Tech Seminar for the Radiant Warmer

● History

- The Republic of Korea introduced two informal documents in the 124th GRSG Session(October 2022).
 - GRSG-124-04 : Proposal to amend UN/ECE Regulation No. 122 (Heating Systems)
 - GRSG-124-05 : The introduction of the Radiant Warmer's technical importance and advantage for EV
- There were requests for the technical demonstration to help understanding the Radiant Warmer from some CPs.
- The Republic of Korea planned the Tech Seminar and informed all CP members through the GRSG Secretariat.

● Purpose

- Introducing the Radiant Warmer which is being developed by several component makers around the world
- Discussion of the predictable safety aspects of the Radiant Warmer
- Discussion of future plans for how to deal with the proposal of R.122

● Date and Venue

- Date : March 8, 2023
- Venue : Frankfurt, Germany (The Squire : <https://www.thesquire.com>)



● Main Activity

Participant		Demonstration	Presentation
Government, etc.	GERMANY	-	-
	NETHERLAND	-	-
	SOUTH KOREA (Gov./Univ.)	-	○
Vehicle Manufacturer	HYUNDAI (Korea)	○	-
	ISUZU (Turkey)	-	-
Component Manufacturer	SEOYON E-HWA (Korea)	○	-
	GENTHERM (Korea/Germany)	○	○
	VALEO (Korea/France)	○	○
	CLEPA (Japan Denso)	○	○

● Discussion point

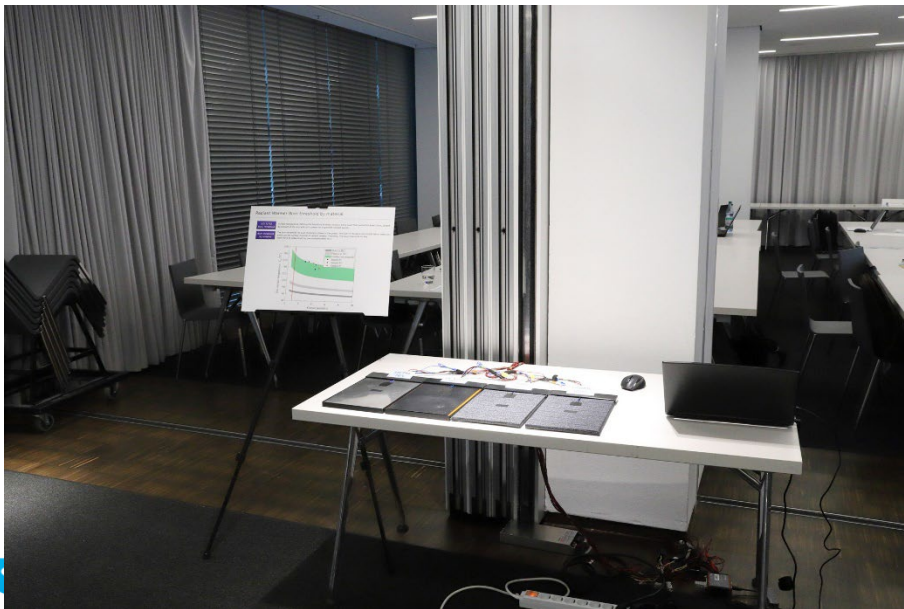
- The Radiant Warmer is generally covered by the various textile materials and the surface temperature exceeds 80°C that is legal limitation. However it is to maximize the efficiency of the Radiant Warmer.
 - The surface temperature of the radiant warmer currently being considered is approximately 90°C to 130°C.
- Because of this fact, the proposal of R.122 was introduced in the last GRSG session(2022. Oct.).
- According to the results of a study conducted separately, we confirmed that the surface temperature of a cloth material at an equivalent level to 70°C, which is the legal limit temperature of the metal surface, is around 160°C.
- On the other hand, another safety concern is expected that the radiant heat warmer may be easily contacted by the occupant.
- In conclusion, R.122 needs to be revised in consideration of new aspects of safety measures.

● Safety measures under consideration (Examples)

- Detection and Temperature control
- Step-by-step temperature drop by operating time
- Auto stop after a certain period of time
- Temperature setting function by location by occupants, etc.

● Future plan (suggested proposal)

- Based on the discussion points and safety measures,
the new informal document will be submitted by Republic of Korea in coming GRSG session (March, 2023)





Thank you for your attention