

# KNCAP

## – Post-Crash Rescue and Extrication Safety –

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# 01 Background

- As vehicle systems become electronic, ensuring rapid occupant evacuation during EV fires and other severe crashes is critical.

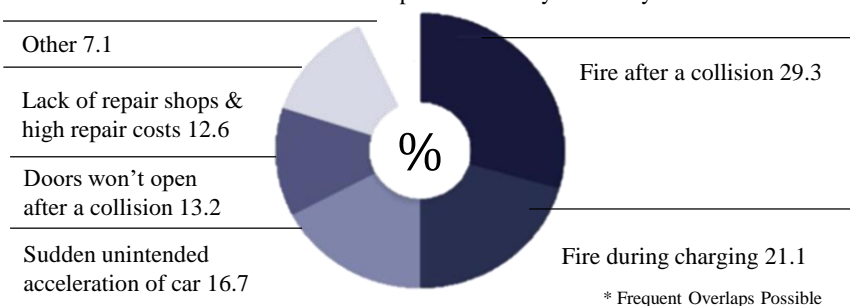


“Police analyzed that the driver is believed to have failed to escape from the car.” (October 10, 2024)

Source : <https://www.mk.co.kr/en/business/11138353>

## Concerns When Driving an Electric Vehicle

Online survey; Subject: visitors to the Special Safety Inspection Service Center;  
Source: Korea Transportation Safety Authority



Source : <https://www.yna.co.kr/view/MYH20231203001800641>

**The Post-Crash Rescue and Extrication Safety evaluation has started in 2025**

# 02 2025 KNCAP Overall rating



Category	Crash Safety		VRU Safety		Safety Assist	
Full Width Frontal Impact	22		VRU Impact	50	AEB Car-to-Car	40
MPDB Frontal Impact	16		AEB Pedestrian	40	LKAS	20
AeMDB Side Impact	14		AEB Cyclist	10	BSD	2
Pole Side Impact	13				RCCA (Rear Cross Collision Avoidance)	10
Far Side Impact	6				ISA	10
Child Protection					ESF	15
MPDB Frontal Impact	6				PMAPS (Pedal Misapplication)	3
MDB Side Impact	4				* V2X (additional)	1
Whiplash	6					
SBR	3					
Advanced Airbag	1					
Crash Compatibility	4					
e-Call	2					
Event Data Recorder	3					
Post-crash Rescue & Extraction	-6					

max. total points (1)  
normalized score (2)  
weighting

100 (-6) points  
actual points / (1)  
50%

100 points  
actual points / (1)  
20%

100 points  
actual points / (1)  
30%

**Star rating per category: Minimum normalized scores (2) for the respective star rating**

- ★★★★★
- ★★★★
- ★★★
- ★★
- ★

≥85.1%  
≥79.1%  
≥73.1%  
≥67.1%  
≤67.0%

≥70.1%  
≥60.1%  
≥50.1%  
≥40.1%  
≤ 40.0%

≥70.1%  
≥60.1%  
≥50.1%  
≥40.1%  
≤ 40.0%



# 03 Post-Crash Rescue and Extrication Safety

## Extrication

Door opening – Post-crash, voltage drop (Inside)	-2.0
Seat belt buckle unlatching	-0.5

Max. -2 points

## Rescue

Door opening – Post-crash, voltage drop(Outside)	-1.5
Electric door handle deployability – Post-crash	-1.0
Door opening – Post-crash	-3.0

Max. -4 points

**Total. -6 points**

# 03 Post-Crash Rescue and Extrication Safety



## ■ Post-Crash Rescue and Extrication Safety(Extrication)

### 1. Door opening – Post-crash, voltage drop (Inside) (-2.0)

- Even when the door lock mechanism is engaged and the battery is cut off, the vehicle must allow occupants to exit from the inside.
- Emergency opening devices must not be installed in concealed locations, such as beneath interior parts, covers, or below armrests.



Source : TESLA Model X Owner's Manual

### 2. Seat belt buckle unlatching(-0.5)

- Measurement of seat belt buckle unlatch force after the crash test
  - FW/MPDB test : 60N
  - Side/Pole Side : 100N



Source : taken by KATRI

# 03 Post-Crash Rescue and Extrication Safety

## ■ Post-Crash Rescue and Extrication Safety(Rescue)

### 1. Door opening – Post-crash, voltage drop (Outside) (-1.5)

- Exterior door opening under battery cut-off.



Source : taken by KATRI

### 2. Electric door handle deployability – Post-crash (-1.0)

- Check if Electric door handle deploy properly after the crash test.



Source : taken by KATRI

### 3. Door opening – post-crash (-3.0)

- Check the door lock/unlock (Side&pole side is only check the non-struck side)
- Check the door opening (Side&pole side is only check the non-struck side)
  - Opening force : less than 750N
  - At least 45° for hinged doors
  - At least 500 mm for sliding doors
- Check the roll over



Source : taken by KATRI



# 04 Results of Pre-assessment

Assessment criteria Vehicle	Door opening (Inside)	Seat belt buckle unlatching	Door opening (Outside)	Electric door handle deployability	Door opening (Post-crash)
Vehicle A	O	O	O	X	O
Vehicle B	O	O	O	O	O
Vehicle C	O	O	O	O	O
Vehicle D	O	O	O	O	O
Vehicle E	X	O	X	X	O
Vehicle F	O	O	O	O	O
Vehicle G	O	O	O	O	O

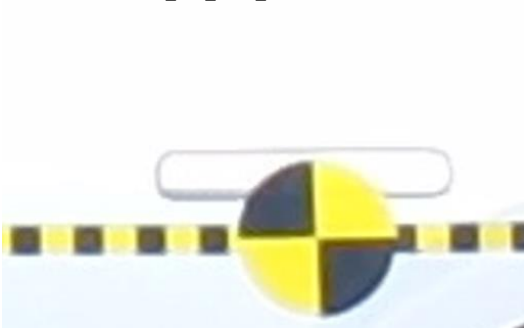


# 04 Results of Pre-assessment

## Electric door handle deployability

No handles pop up after the crash

handles pop up after the crash



Source : taken by KATRI



Source : taken by KATRI

## Door opening – Post-crash, voltage drop (Inside)

The emergency exit device is hidden behind a cover



Source : taken by KATRI



Source : taken by KATRI

## Door opening – Post-crash, voltage drop

Voltage drop — the door does not open



Source : taken by KATRI

Source : taken by KATRI



Door opening device when battery is connected

Door opening device when battery is cut off

**Thank you**  
for your listening **감/사/합/니/다**

