2026 - 2028

PROTOCOL
POST CRASH
RESCUE & EXTRICATION

ANCAP
SAFETY

v1.0
May 2025

ANCAP
SAFETY

PREFACE

During test preparation, vehicle manufacturers are encouraged to liaise with ANCAP and to observe the way the vehicle is set up for testing. Where a vehicle manufacturer feels that a particular aspect should be altered, they should raise this with the ANCAP assessor present at the test, or in writing to the ANCAP Chief Executive Officer if no assessor is present. ANCAP will consider the matter and at their sole discretion give direction to the test facility.

Vehicle manufacturers warrant not to, whether directly or indirectly, interfere with testing and are forbidden from making changes to any aspect that may influence the test, including but not limited to dummy positioning, vehicle setting, laboratory environment etc.

Illustrations in this protocol are reproduced from Euro NCAP publications, and therefore show Euro NCAP markings on left-hand-drive vehicles. Where relevant, the layouts depicted should be adapted to right-hand-drive application.

VERSION

VERSION	PUBLISHED	DETAILS
1.0	May 2025	First ANCAP version of protocol

DISCLAIMER

ANCAP has taken all reasonable care to ensure that the information published in this protocol is accurate and reflects the current technical decisions taken by the organisation. In the event this protocol contains an error or inaccuracy, ANCAP reserves the right to make corrections and determine the assessment and subsequent result of the affected requirement(s).

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SCORING

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Rescue information	**40**
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Extrication	**35**
Energy management	20
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1 RESCUE INFORMATION

Rescue information	Total points 40
Rescue sheets	**35**
Emergency response guide	**5**

1.1 Rescue sheets and emergency response guide

The Rescue Sheet and Emergency Response Guide (ERG) in English must be submitted at the time of delivery of the vehicles. They shall be provided for the model variant being rated by ANCAP as well as other variants covered by the rating.

Where commercial licences and/or exclusive publishing rights exist, these must not infringe on the rights of ANCAP and its members to make Rescue Sheets & ERGs available at no cost to the general public.

The content of all Rescue Sheets and ERGs must be correct. The vehicle manufacturer is permitted to make modifications and corrections before publication, as long as all material issued by the company is updated as well. Guidance on how to create an ISO complaint Rescue Sheet is provided in Euro NCAP Technical Bulletin PC 101-1.

Rescue sheet requirements
Meet ISO 17840 Part 1 format which details the required layout, order of information and pictograms to be used.
Must be provided in PDF format with filenames in accordance with PC 101-3, with the vehicle picture as provided in the rescue sheet supplied separately.
Several variants could be covered by the same rescue sheet as defined in PC 101-1. (OEM should aim to minimise the total number of rescue sheets per car model).
Should not exceed four A4 sized pages when printed.
A Rescue Sheet compliant with the above must be available for all other models, this includes:
Models not rated by ANCAP that are in production.
Car models with a start of sale 2020 onwards (rescue data have to comply with 2020 protocol)
2023 onwards Facelifts of car models first sold before 2020 (rescue data sheets have to comply with 2023 protocol)
Generally, a new rescue sheet for a facelift is only necessary if there are relevant changes with regard to information for rescue services.

Rescue sheet requirements
A list must be provided by the OEM that clearly shows the current available models in production and available in Australia and/or New Zealand at the time of assessment.

ERG requirements
Be provided in PDF format with filenames shall be in accordance with PC 101-3.
Be supplied in English language following ISO 17840 Part 3.
One unique ERG covering all the cars from the same brand is acceptable. It is possible for the OEM to produce just one ERG covering all models for a brand or one ERG for each model range, that is at the discretion of the OEM. In Chapter 0 of the ERG, the scope of the document should be mentioned. It must also be clear which car models and energy types the ERG applies to.

2 POST CRASH INTERVENTION

Post crash intervention	Max Total points 25
eCall – TO BE CONFIRMED BY ANCAP	**20**
Multi-collision braking & hazard lights	**5**
Advanced MCB	4
Automatic activation of hazard warning lights	1

2.1 eCall

eCall functionality and scoring will be confirmed by ANCAP on completion of consultation with stakeholders.

2.2 Advanced Multi-Collision Braking

The OEM must provide a dossier detailing how the Multi Collision Braking (MCB) system functions. The dossier must contain the following.

MCB dossier requirements
Results of the non-destructive MCB test detailing: CAN data for the MCB trigger signal, vehicle velocity and brake light illumination. Video covering the full sequence of the brake light illumination.
Results of OEM frontal impact crash test detailing: CAN data for the MCB trigger signal, vehicle velocity and brake light illumination. Video covering the full sequence of the brake light illumination. Status of the brake system after MCB intervention – brakes released or not?
The MCB system must be described in the user manual of the tested vehicle. An OEM-specific name for the MCB technology is acceptable. It must not be possible to deactivate the MCB system.

Non-destructive MCB test
The vehicle shall be driven in a straight line, on a dry surface, at a speed of 15km/h ±1km/h.
The MCB trigger signal is simulated on the vehicle network using test and development equipment of the OEM.
If declared necessary by the OEM, the acceleration pedal shall be disengaged immediately prior to simulation of the MCB trigger signal.
The brake pedal must not be engaged by the driver or other means during the entirety of the test. (Video of footwell area or CAN needed).
The test shall be performed by the OEM with series or pre-production vehicles.
The vehicle must exceed a minimum deceleration of 3m/s² with brake lights illuminated. (Video of brake lights illuminated needed).

Full scale frontal crash test
The OEM must choose a full scale Frontal crash test where the MCB will be activated. The exact test condition (overlap, obstacle, impact speed) is left to the OEM provided that the test would result in a post crash forward movement of the vehicle under testing VUT if the MCB would not have been triggered. For this reason, any full width test is NOT acceptable.
Video recording of the test at a ¾ angle from the rear on driver side to show the brakes lights are illuminated.

2.2.1 Automatic activation of hazard lights

After ALL of the official ANCAP full scale crash tests, the hazard warning lights must illuminate automatically. Where a vehicle suffers front or rear end damage in the real world it is understood that the lights may no longer operate. In the ANCAP crash tests, the following is required:

Full scale crash tests	
MPDB and FW tests	At least rear hazard lights illuminating.
AE-MDB and pole tests	At least non-struck side hazard lights illuminating

The hazard warning lights must operate in ALL tests to qualify for rewards, no partial rewards are given.

3 EXTRICATION

Extrication		Total points 35
Energy management		**20**
Energy isolation		11
Compliance with UN Regulation requirements		3
Efficiency and safety of HV energy:		8
Automatic deactivation	5 pts	
First manual deactivation	2 pts	
Second manual deactivation	1 pt	
Thermal propagation (max score is 9 points, cumulative)		**max 9**
No thermal propagation (90 min of lead time following UN Regulation no. 100-03 will be considered as no thermal propagation)		3
Fulfilment of UN Regulation no. 100-03 with leadtime more than 40 min		3
Fulfilment of UN Regulation no. 100-03 with leadtime more than 20 min		3
TR (Thermal Runaway) detection communication inside the vehicle, displayed after crash, visible for rescuers, with description in RS.		2
TR detection communication to the car owner (Phone App) during charging		1
TR detection communication for the people around the car (audio or visual) during charging		1
Occupant Extrication		**15**
Seat belt buckle unlatching		1
Door opening – interior, post low voltage drop		3
Door opening – exterior, post crash		4
Door opening – exterior, post crash, post low voltage drop		2
Tailgate opening		2
Submergence – window opening		3
– Rescue tool / Emergency device		1

Scores for submergence are cumulative up to a maximum of 3 points.

3.1 Energy management

3.1.1 Energy isolation

3.1.1.1 Fire and Explosion compliance with UN Regulation requirements

Fire and Explosion requirements, as defined in UN regulations, will be applied to all vehicles (EV and ICE).

3.1.1.2 Electric and hybrid vehicle compliance with UN Regulation requirements

The ANCAP crash tests will be used to confirm the vehicle meets the requirements of the UN regulation tests regarding electrical safety. Electric and hybrid vehicle must be fully compliant with the latest applicable versions of UN R94, R95, R135 and R137 towards electrical safety after the ANCAP crash test.

3.1.1.3 ICE vehicle compliance with UN Regulation

Vehicles with combustion engines must fulfil UN fuel leakage requirements in ANCAP full scale crash tests. ICE vehicles will be rewarded by default with all other scores within the EV related energy management requirements.

3.1.1.4 Efficiency and safety of HV energy disabling method

Deactivation and communication.
ANCAP would encourage an easy and fast disabling method - The automatic method should not only disable the propulsion system but also other systems that may affect rescue operations, such as HV system, 48 V electrical system. No specific tools or PPE shall be required to disable the HV system.

Information about how to identify the deactivation in the Rescue Sheet is a pre-requisite.

Automatic Deactivation as the main method as presented in chapter 3 of the rescue sheet. Communication in the vehicle of the HV energy status visible by the 1st responders, e.g. with deployed airbags.
First Manual Deactivation. Information in chapter 3 of the rescue sheet should clearly explain what will be deactivated and not deactivated + marking to identify the part to act upon.
Second Manual deactivation in a different zone of the vehicle. Information in chapter 3 of the rescue sheet should clearly explain what will be deactivated and not deactivated + marking to identify the part to act upon. (2 manual deactivations in the engine compartment would not be accepted)

Prerequisite, manual deactivation - Marking of direct hazard disabling equipment

Markings must be present on the vehicle to identify the disabling equipment with symbols and colours from ISO 17840. The instruction must be present in the Rescue Sheet under Chapter 3 for disabling equipment of high-voltage electricity and / or pressurised or liquified gas.

The markings must contain:

Marking requirements	
Background	As per ISO energy colour
First pictogram	Firefighter helmet. The specific pictogram may be defined by the OEM.
Second pictogram	The ISO pictogram used to identify equipment in the rescue sheet.
Third pictogram	Explanatory symbol is recommended but not mandatory.

Refer to CP 101-1 for detailed requirements regarding the markings.

The markings are recommended for low voltage systems from 24V to 60V, if specific instructions to disable the hazard are shown under Chapter 3 in the Rescue Sheets.

Note: In the case of an L7 vehicle with low voltage propulsion (e.g. 48V batteries) the same requirements for deactivation and marking would apply.

3.1.2 Thermal propagation

Thermal Runaway Management (test following UN R100/03)
No thermal propagation (90 min of lead time following UN R100.03 will be considered as no thermal propagation)
Fulfilment of UN R100.3 with a lead time more than 40 min
Fulfilment of UN R100.3 with a lead time more than 20 min
Thermal runaway detection communication inside the vehicle, displayed after crash, visible for rescuers, with description in Rescue Sheet.
TR detection communication (e.g. pop up message) to the car owner (Phone App*) during charging
TR detection communication for the people around the car (audio or visual) during charging

UN Regulation 100.3: The OEM needs to provide a dossier showing that after starting a thermal runaway, a hazardous situation in passenger compartment will be prevented for a specific time.

Test procedure for communication inside the vehicle displayed after crash:
Check if display /instruments still work which would usually be used for the UN-R 100.3 telltale, after a full scale crash test.

* Where the warning is transmitted with the use of a mobile device, for example via an application, the OEM must provide the necessary application to be used with the vehicle/TR detection system for the assessment. Supporting instructions and any other information must also be provided in the vehicle handbook. ANCAP does not require the OEM to oblige the customer to install/use this

app or to accept the connection of the mobile phone with the car/OEM-offered services. Transmission of these warning messages from vehicle shall be free of charge and available at least for the first six years.

3.2 Occupant extrication

3.2.1 Seat belt buckle unlatching

Any position where the seat belt is used for any of the full scale tests shall be checked post-test, once all of the door opening forces have been measured. This applies to both adult **and** child occupants where the vehicle seatbelt is used to restrain them and/or a CRS in the test.

The seat belt buckle shall completely release under a load of no more than 60N for frontal impact tests and 100N for side impacts.

Unbuckling procedure
The load shall be applied directly to the centre point in the direction of the opening movement of the buckle release button. The operator shall hold the buckle with one hand ensuring the application of the force measurement in the correct orientation with the other hand to measure in the axis of the buckle opening movement. The metal probe of the measurement device should only make contact with the button of the belt buckle and not the surrounding material of the buckle body. The application of force shall be conducted slowly and constantly.
The measurement device shall provide load versus time information, with a frequency of at least 200Hz. This will identify potential measurement artefacts of the opening behaviour, which could be derived from a second contact of the buckle release button after release with the buckle housing. In such a case, the maximum value of force before the first quick drop shall be interpreted as the opening force. It is permitted to move the adult dummy, child dummy or CRS in order to access the buckle.
No further steps will be taken to open the buckle or tools allowed to cut the belt, unbolt the buckle from the car etc. The test laboratory shall record the load at which each buckle releases.

3.2.2 Door opening – interior, post low voltage drop

Door opening from inside of non-crashed vehicle with 12V disabled:

Performance requirement: door opening from inside still possible. Functionality of manual override shall be checked with following procedure with vehicle in static condition:

1. Vehicle occupant shall activate central locking to lock all the doors, with child safety lock system in disengaged mode.

2. Disconnect electrical supply either at system level (For example central locking, controller, etc.) or disconnect main battery supply.

Opening of the doors from inside shall be possible using internal controls within 2 minutes.

An easy and obvious method of opening any side door from the interior after the low voltage supply has ceased must be available, see examples below:

Acceptable	Not acceptable
A mechanical handle used as the main door opening method.	A cable loop hidden below the armrest.
The door opening button.	The use of any tools.
A clear and visible secondary controller at the door. Intuitive for the user (not hidden under or by an armrest for example).	A secondary controller at the door not immediately visible to the occupant.

3.2.3 Door opening – exterior, post crash

In the event of an accident, any locked doors must automatically unlock post crash.

Automatic Door Locking (ADL)
If ADL is fitted as standard and by default always ON, then the doors will be locked prior to ALL full-scale tests. The test lab will be informed by the OEM of the procedure to ensure the doors are manually locked for the tests.
If ADL is not fitted as standard, or not by default always ON, but fitted to the test variant then doors will be locked in the frontal MPDB test and the side oblique Pole test. The doors will be left unlocked in the frontal Full Width test and Side Barrier test. If the ADL activates by itself in the Full width frontal test that is not an issue.
For vehicles with no ADL fitted but equipped with manual central locking, this will also be checked after the crash. The doors will be locked in the frontal MPDB test and the side oblique Pole test. The doors will be left unlocked in the frontal Full Width test and Side Barrier test.

If the vehicle is equipped with electric door handles the OEM must inform both the ANCAP Secretariat and the test laboratory if any special action is needed to function correctly in the full scale crash tests. For example, if the engine must be running during the crash tests.

Electric door handles
The door handle shall be in the retracted or vehicle in motion position for the test.
For vehicles with electric door handles they will also have to be assessed for a post low voltage drop according to chapter 3.2.4
For a retracting door handle, it is permitted to perform special actions to the handle to gain access to it. For example, pushing in one corner to pivot it and then hold the handle (if no tools are needed at all). This shall be discussed with ANCAP Secretariat prior to tests and it must be explained in the Rescue Sheet and also in the vehicle handbook.
For the full scale tests, with the exception of the struck side doors in the side impacts, the handles of all side doors must be in the extended/ready to open position immediately after the test. It is assumed that by design, the door handles will extend outwards ready for use when the SRS deploys any airbag, and/or detects a severe impact, or the door handle remains in its retracted position but can be grabbed by the first responder without any tools. The test laboratory personnel will record the status of each door handle post impact.
It is not acceptable to direct the user/owner/rescuer of the vehicle to a cable release for the door in the luggage area, or to have to connect a slave battery to the vehicle in order to extend the door handles. A vehicle equipped with electric or retracting door handles will not be given any special treatment compared to a vehicle with conventional door handles.

The post crash door opening forces are measured after the two frontal impact tests. Only the side doors will be checked, not the boot or tailgate.

Manual door opening procedure
Using a gauge attached to the door handle, pull the door handle until a maximum force of 750N is reached. The opening force should be applied perpendicular to the door, in a horizontal plane, unless this is not possible.
If the door opens before the 750N level is reached, record the opening force. An open hinged door is defined as a door that is opened to an angle of at least 45° relative to the door hinge axis, allowing enough room for occupant extraction. If the door does not open upon reaching 750N, then use tools to open the door. No points will be given in this case.
For sliding doors, the opening force of [750N]* shall be applied in a direction parallel to the vehicle centreline. The door shall be pulled in this direction once the door unlatching forces have been carried out. An open sliding door is defined as a door that, when opened, presents a minimum opening of at least 500mm compared to the closed position of the door, that would allow the extrication of an occupant. As mentioned previously, the unlatching/unlocking check of the side doors will already have been checked as part of the automatic locking doors section. * The force shown is monitored for sliding doors at present, value may be adjusted depending on test experience.

Door opening – exterior, post crash, post low voltage drop
Additional requirements for electric or retracting door handles after low voltage drop.

It is required that after a crash the doors can be opened from outside even after low voltage drop. This will be checked after the **full width frontal impact test** with the following testing procedure:

1. Perform ANCAP full width crash test and check afterwards the opening of each door where there is a dummy present.
2. After this assessment it is required to disconnect low voltage supply
3. After five minutes open the remaining passenger door (where no dummy is sitting)
4. Assessment criteria
    - Doors shall be unlocked
    - Check the usage of electrical and / or retractable door handle (if any).

(Vehicles with conventional mechanical handles will score 2 points by default).

3.2.4 Tailgate opening

After each of the full scale tests, the tailgate will be checked to ensure it can be opened without the use of tools. These checks will be performed on all types of tailgate handle, electric, manual or otherwise. Tailgate definition: A door which gives rear direct access to the occupants or to any energy disabling equipment as described in the rescue sheet. All other trunk/boot doors automatically receive 2 points.

Tailgate checks
There must be no extra steps required to access an electric tailgate handle or open the tailgate compared to a mechanical handle.
For the tailgate, ANCAP considers solutions from OEM involving opening tailgate from inside the vehicle only if the exterior tailgate handle no longer operates.
Modifications to the tailgate by the crash test laboratory must not influence the function of the tailgate mechanism. For example, a wire or string connected to the latch mechanism.
In the case of an emergency, where tailgate opening is required to enable quick access to data and/or test equipment, results from one of the other crash tests may be used.
The assessment of the tailgate shall be done directly after the crash test or latest together with the door opening test procedure.

3.2.5 Vehicle submergence

Submergence will be assessed either with:

Electric window opening functionality or,

Breakage of side windows and tailgate glass with in-cabin tool

Electric window opening
This shall be performed by the OEM on front seating rows only and to one window, left or right side.
The OEM must provide a dossier showing that electric side windows still function when command is operated for at least 2 minutes in a replication of a vehicle entering water.
The data presented must represent a realistic case and include either submergence of the full vehicle or a component test demonstrating the window opening functionality under water including the power source and other elements such as body control module, motor, switches etc.
The vehicle may be driven or lowered into water. When lowered, T0 is counted from the time at which the lowering straps slacken and the vehicle floats.
For vehicles equipped with an automatic window lowering system, the OEM must provide a dossier showing that electric side windows are automatically lowered within 2 minutes in a replication of a vehicle entering water.

Breakage of windows
In the absence of proof that electric side windows are functional when submerged, the OEM must provide a method by which the occupant can open or break the front row side windows and tailgate to exit the vehicle. (No roof glass or windscreen will be assessed).
The ease of window breakage will be checked by the vehicle inspectors.
Instructions on the presence, location and use of the tool must be detailed in the owner's manual.
The tool must be: Securely fixed to the vehicle interior Within easy reach of both belted front seat occupants Equipped as standard throughout the vehicle model range
The points for manual window breakage are NOT available to vehicles with laminated side or tailgate windows (also if laminated windows are only available as option).