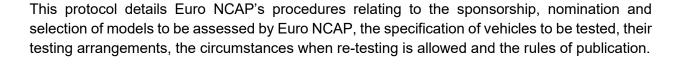


# Vehicle Selection, Specification, Testing and Retesting Protocol



# **PREFACE**



DISCLAIMER: Euro NCAP has taken all reasonable care to ensure that the information published in this protocol is accurate and reflects the technical decisions taken by the organisation. In the unlikely event that this protocol contains a typographical error or any other inaccuracy, Euro NCAP reserves the right to make corrections and determine the assessment and subsequent result of the affected requirement(s).

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#### **DEFINITIONS**

**Manufacturer** - is the company which produces cars. The Manufacturer may sell cars of different Makes (brands).

**Make** - is the brand name under which a particular vehicle is marketed. It is not necessarily the name of the Manufacturer

**Model** - is the primary name under which the vehicle is marketed.

**Model Range** - All the variants (i.e. all body styles, engine and equipment grades) available across Europe under a common model name or designation made up by Make & Model.

**Variant** - A unique combination of body type, engine and drive train that makes use of most or all of the test results of the tested Variant, but may require additional or supporting in-house data.

**Partner** - is a **Model** which is structurally similar enough to make use of most of the Crash Protection test resultsof another **Model**. A Partner will have its own assessment, comprising the results of some tests read across from another Model and some performed on the Partner.

**Corporate Twin** – is a **Model** which differs with regard to make (brand) and model name but is otherwise identical to the originally-tested Model in all regards, including the fitment of safety equipment and interior parts and trim. Corporate Twins may differ only with regard to minor styling differences such as headlamp and grille shape.

**Reassessment** - A new assessment by Euro NCAP of a Model which has previously been rated but has undergone a significant safety update. The reassessed rating is based on all requirements applicable at the time of reassessment. Depending on the changes made to the vehicle, it may not be necessary to repeat all aspects of the assessment. The results of a reassessment are published alongside the original rating.

**Retest** - A repeat of one or more parts of a vehicle's assessment which replaces the original result. The original invalid result is considered invalid and not published by Euro NCAP.

**Rating Validity** – the period when the vehicle rating is valid, see the Application of Star Rating protocol.

EAA – Euro NCAP Application Area as defined in TB G 001

#### 1 MODEL NOMINATION AND SPONSORSHIP

Vehicle models can be nominated for inclusion in Euro NCAP's assessment programme by a Euro NCAP Member, a vehicle manufacturer or a third party.

Any vehicle model currently on sale or about to be launched in the EAA can be nominated. No consideration is given to the (expected) sales volume or the method of type-approval (whole vehicle, low volume, etc.).

Vehicles that already have a valid rating cannot be nominated, except in case of a re-assessment sponsored by the vehicle manufacturer.

Based on the model release date, the date set by the manufacturer at which a new vehicle is first being on sale and offered to consumers in any part of EAA, Euro NCAP will confirm the relevant Assessment Year for the vehicle model.

See the 'Euro NCAP Application of Star Ratings' protocol for more information about suspension and possible annulment of ratings if cars are rated but not sold within a certain period after the publication of the star rating.

#### 1.1 Model nomination

When a member has nominated a vehicle model, the manufacturer can advise Euro NCAP that this vehicle model is soon to be replaced by a newer version. If so, the manufacturer may request that the updated model be tested. If this is expected to delay publication to a later publication year, the request will only be accepted if the manufacturer agrees to take over sponsorship of the vehicle.

Where the manufacturer has nominated, or has taken over sponsorship of a new vehicle or an updated vehicle which is not yet made available to consumers at the time of nomination, the publication date of the Euro NCAP result must not be later than 6 months after customers first receive their cars. If a model remains unrated 6 months after the first cars are registered, a Euro NCAP member may assume sponsorship.

Where a third party (for example an organisation which has interest to nominate a vehicle or vehicle type which is of particular relevance to its activities) wishes to nominate the testing of a vehicle model already nominated by a manufacturer or Member, the manufacturer or Member will have the first right.

#### 1.2 Sponsorship commitment

By nominating a model, the party accepts sponsorship and agrees to the costs related to the tests, assessment and publication of the result.

Once the formal agreement to sponsor the vehicle is made, it cannot be cancelled. A sponsor may withdraw sponsorship for a model. In this case the Euro NCAP Secretariat may invoice for all costs incurred to that point (for example, time spent in preparatory meetings etc) and may pass on any cancellation fees imposed by the test laboratory or other parties.

# 1.3 Shared Sponsorship

The Secretariat may negotiate a 'shared' sponsorship model, whereby some parts of the assessment are funded by the vehicle manufacturer and other parts are funded by a Euro NCAP member. In such cases, consideration will be given to the requirements of both/all sponsoring parties in terms, for example, of the choice of test laboratory and timing. In all other regards, the same conditions apply as for Member -sponsored vehicles.

#### 2 SPECIFICATION OF TEST VEHICLES

Even though different vehicle variants may offer different levels of protection, it is not always possible for Euro NCAP to rate all variants of a vehicle model available in the EAA individually. The star rating is intended to cover the most popular variant(s) and represent the Standard Safety Equipment at the same time. For this reason, the test variant of the model is derived from manufacturers' data that includes model range availability and safety equipment fitted in the EAA. The choice of test variant is independent from the sponsorship model. This section covers vehicle test specification for base rating and optional dual rating.

# 2.1 The Model Range

To determine the vehicles required for testing, the vehicle manufacturer will be asked to identify ALL variants in a model range, even though some of the variants may not be available at the time of assessment.

Variant Name	Body Style	Engine	Drive Train
1.5 eTSI	5 door SUV	1.5l petrol TSI mild hybrid	4x2
1.5 eHybrid	5 door SUV	1.5l TSI petrol plug in hybrid	4x2
2.0 TDI	5 door SUV	2.0l TDI diesel	4x2
2.0 TDI 4motion	5 door SUV	2.0l TDI diesel	4x4
2.0 TFSI 4motion	5 door SUV	2.0l TFSI petrol	4x4

# 2.2 Safety Equipment

The vehicle manufacturer must indicate on the Euro NCAP Operations DashBoard those rating elements relevant to the car's safety equipment, regardless of expected performance.

At a later stage, the manufacturer must also identify all items of safety equipment available in the model range and state whether they are standard on all variants or optional on some. Based on this information, Euro NCAP confirms which tests will be performed as part of the assessment.

#### 2.2.1 Standard Safety Equipment

For the base rating, only the rating elements where the safety equipment is fitted as standard on the whole model range within the EAA will be taken into account. Euro NCAP may exempt certain variants designed for specialist purposes other than road transportation of passengers, where the fitting of such safety equipment cannot be expected. For example, this might include low sales volume variants specially produced for motor sport or other special purposes. It does not include high-performance variants of a passenger car model range.

It should be noted that in some of the Euro NCAP rating elements, optional equipment will be taken into account in the safety assessment for the base rating, e.g. optional third row seats. Details are given in the individual protocols and technical bulletins.

Delete options are not allowed. An item of safety equipment offered with a delete option anywhere in the EAA will be considered not to be standard equipment. Safety equipment which is offered on a paid subscription basis, is also not considered 'standard' and not included in the assessment. Subscriptions on safety equipment should be offered for free during the rating validity and for at least 6 years for any vehicle registration during the rating validity, whichever comes later.

#### 2.2.2 Optional Safety Pack

When a manufacturer expects a base rating of three or four stars, it becomes eligible for Dual Rating, to show the benefit of an optional safety pack. The Dual Rating must result in a higher star rating, e.g. a 3-star base rating with a 5-star dual rating. Regardless of the sponsor of the base safety rating, all activities required to establish the Dual Rating will be paid for by the manufacturer. A request for a dual star rating can only be made by the manufacturer and must be made before test vehicle selection.

To be eligible for a dual rating, the optional items of safety equipment must be combined in a 'Safety Pack'. The 'Safety Pack' must:

- Contain technologies relevant only to the areas of Safe Driving and/or Crash Avoidance. Technologies related to Crash Protection and Post-Crash Safety are not allowed.
- Include at least Adaptive Cruise Control, when available and not already offered as standard, for 2026-2027 and at least an Assisted Driving system, when available and not already offered as standard, from 2028 onwards.
- Be available, at least as an option, on all variants in the model range, independent of engine, transmission, body style or trim-level (grade) and separately from any other option offered by the manufacturer, for all countries of the EAA.
- Removal of (rating relevant) content form the Safety Pack is not allowed unless this safety equipment becomes standard equipment.

The safety pack may also include other items of equipment, not relevant to Euro NCAP's rating, which the manufacturer sees fit to include in the safety pack for marketing or other purposes.

#### 2.2.2.1 Installation Rates

To be eligible for a dual rating, the manufacturer must commit to ensuring that, on average, at least 50 percent of the cars sold during the validity of the star rating will be equipped with the Safety Pack.

The manufacturer must submit annual updates on the fitment rate of the Safety Pack. Where it appears that the 50 percent requirement will not be fulfilled, the manufacturer must propose a corrective action plan to increase fitment.

Failure to submit annual updates of the fitment rate will lead to the suspension of the dual rating, which will be communicated on the Euro NCAP's website stating that the manufacturer is not meeting its commitment to promote and sell the Safety Pack.

Failure to fulfil the 50 percent average fitment rate over the validity of the rating will result in the manufacturer being precluded from applying for any future dual ratings.

### 2.2.2.2 Communication requirements

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The marketing material must clearly show the base rating and cannot show the dual rating in isolation, apart from EAA countries where the Safety Pack is standard across the Model Range, within any of the following:

- Marketing material, like brochures or advertisement
- Price lists
- Configurators, should indicate the actual rating as configured
- Vehicles displayed at dealerships or car shows

#### 2.3 Test Variant

Regarding all non-safety related features and equipment of the vehicle, the test variant will be based on the best-selling variant in the EAA. However, if the exact specification of the best-selling variant is not readily available or cannot be acquired, Euro NCAP may test a variant with non-safety equipment other than the best-seller.

The best-selling variant will be identified from the information supplied by the manufacturer or sales data. Where Euro NCAP chooses to test a particular, less common, variant such as "opentop" or "estate vehicle," the choice will be restricted to the best-selling variant of that type. Manufacturers can also sponsor such tests, provided that the vehicle model has already been rated without this constraint.

Where the best-selling variant is fitted with optional safety equipment, the choice of variant will be adjusted to ensure that the test variant only includes standard safety equipment.

The rating will be based on the testing of one variant only. Euro NCAP will not perform different tests on different variants during the official assessment, even if those other variants might be considered 'worst-case' for particular test scenarios. The 'Euro NCAP Application of Star Ratings' protocol describes how the rating can also apply to other variants.

Euro NCAP will be responsible for randomly choosing the drive layout for all vehicle models to be tested, where applicable.

#### 2.3.1 Safe Driving

When an assisted driving system is available as an option within the Model Range, one of the test vehicles must be provided with the option in order to confirm that the requirements for driver engagement are fulfilled.

#### 2.3.2 Crash Protection

For rear impact (whiplash), front row seats will be tested separately from the vehicle. The default choice of seat will be the one fitted as a driver's seat to the test variant. Another seat type may be tested if there is reason to believe it offers a significantly poorer level of whiplash protection. In any case, Euro NCAP may ask for evidence that other seats provide a similar level of protection.

#### 2.3.3 Optional Safety Equipment

The variant tested for the optional dual rating shall be the same as identified for the base rating. This includes engine, transmission, body style and hand of drive.

#### 3 VEHICLE SELECTION AND STATUS OF TEST VEHICLE

To ensure that the rating remains credible at all times, it is essential that all vehicles selected for testing are exactly the same as those vehicles offered for sale to consumers. Ideally this means that test vehicles are taken from a dealer, a distribution centre or the production line. However, this often conflicts with the manufacturer's time-line where ratings must be available at model release date or shortly thereafter, and small adjustments to production are made during ramp up of production. The following provides guidance on these matters.

#### 3.1 Status of Test Vehicle

The vehicles tested must be of the same production status as for those offered for sale to consumers at or before the time of publication of the new result. The method of procuring test vehicles of the correct specification will be chosen by Euro NCAP. The vehicles selected for testing must be fully type-approved.

The vehicle manufacturer must submit the type-approval certificate for the vehicle type and provide a Certificate of Conformity for any vehicle selected for testing. No testing will be done until such documentation is received:

- From serial production of European-specification vehicles
- Equipped with the latest software for that model, both for passive safety (e.g. airbag control modules) and active safety (e.g. AEB, lane assistance). The software version displayed to the driver in the infotainment unit will be recorded and shown on Euro NCAP's website
- Capable of being legally sold, new or in the aftermarket, to the general public without modification
- Selected at random

#### 3.1.1 Rear impact (whiplash)

At least two front row seats are required for rear impact testing, which may be procured separately from the vehicle. Where unrealistically high charges or long lead times for the selected test seats are quoted by the manufacturer, Euro NCAP may use seats taken from the vehicles provided for passive or active safety testing. If no whiplash testing is possible, the Whiplash score will be set to zero.

## 3.1.2 Vehicle updates

The manufacturer may advise Euro NCAP that a vehicle scheduled for testing will have certain safety components changed prior to the expected publication date. Where this happens, the updated components may be retrofitted to the test vehicles, provided the following requirements are met:

- The components are installed to the same standard as used in production.
- The components are manufactured using production procedures. Prototype components are not allowed.
- Where the component has to be certified by an approval authority, such certification has been carried out.
- Once a vehicle has been tested, assessment and testing of modified components are subject to the requirements of section 4.2 or 4.3.

#### 3.1.3 Fitment of Non-Production version components

The fitment of prototype components, or any parts not fitted to mainstream production vehicles, is not allowed, whether safety related or not. Where non-production version or prototype components are thought to have been fitted to any of the vehicles tested (e.g. 'sample' or 'prototype' labels are found during inspection, to safety equipment or to any other part of the vehicle), a re-test will be performed and the following will apply:

- Selection using the 20 VIN method will not be allowed for the next two vehicle models of the manufacturer concerned. Selection by other methods will be required (select from dealer stock, plant visit etc.) and will be done no sooner than 1 month after customers first take delivery of cars.
- The star rating will not be published until the results of the re-test test are known. If this delays publication of the rating to the following calendar year, the manufacturer will be required to sponsor any additional or repeat testing that may be needed to generate a valid rating for that following year.

# 4 TESTING, RETESTING AND REASSESSMENT

A vehicle model will be assessed as presented to Euro NCAP, and a valid rating established (notwithstanding section 1.1, where the manufacturer may inform Euro NCAP, **before the start** of testing, of changes which are planned and which might not be incorporated in the vehicles procured). Re-testing and re-assessment, according to the following paragraphs, may be allowed only after a rating has been determined for the car as originally presented.

Before each test, the laboratory must check that vehicles and other components scheduled for testing meet the vehicle test specification. This includes a comparison of the software version visible in the infotainment system against the version declared as the latest by the vehicle manufacturer at the time of test. Testing of vehicles that do not meet the test specification may invalidate the result and lead to retesting at the expense of the laboratory.

Several aspects of Euro NCAP's assessment require manufacturers to submit data, in the form of dossiers, predicted results, technical details for testing etc.

This material should be provided in good time to allow testing to proceed according to the agreed schedule. Euro NCAP's Operations Dashboard automatically sends reminders to manufacturers to provide the required information.

Failure to provide the required information will result in no score for that part of the assessment, in the case of member-sponsored cars. For manufacturer-sponsored vehicles, testing cannot commence and no vehicle rating will be published until the data has been supplied.

All information and data supplied to Euro NCAP will be treated in the strictest confidence and remains the property of the manufacturer. The provided data will only be used to the extent required by the assessment.

Where the manufacturer can demonstrate to Euro NCAP's satisfaction that the same information/data is relevant to more than one vehicle, the same information/data can be used for more than one assessment.

#### 4.1 Testing

#### 4.1.1 Test laboratory

Euro NCAP will be ultimately responsible for choosing the test laboratory for all vehicles. A vehicle will be tested at the laboratory chosen by the sponsor unless there are compelling reasons to do otherwise. However, a Make may not be tested more than three times consecutively at any one laboratory (including co-approved laboratories). This applies to the Make of the vehicles, not to the Manufacturer. After three consecutive tests, the manufacturer must propose a different laboratory for a subsequent test and this must be agreed with Euro NCAP. This rule is applied separately for 'full' test series leading to a new assessment and to 'partial' test series, such as those needed to add a variant to an existing assessment, for example.

Testing may be split between no more than two laboratories. Where two laboratories are used, all Crash Protection testing must be performed at one and all Safe Driving and Crash Avoidance testing at the other. However, the laboratory responsible for active and/or passive safety may outsource some elements of testing to a third approved laboratory, where they are not themselves able to perform those parts of the assessment. Outsourcing is subject to secretariat approval.

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#### 4.2 Retesting

In some cases, a retest may be requested by Euro NCAP or the manufacturer. The funding of the test cost, the replacement vehicle and components depends on the reason for the re-test.

#### 4.2.1 Euro NCAP request for a re-test

Euro NCAP may request a re-test only when a test did not meet the Euro NCAP protocol requirements. Where a test does not meet Euro NCAP Test Protocol requirements it will be repeated unless the failure does not materially affect the rating of the vehicle.

If the failure is the responsibility of the test laboratory, they shall be responsible for carrying out the retest without charge.

Euro NCAP will always request a re-test when non-standard components are found in the test vehicle, at the expense of the manufacturer. Where the manufacturer does not agree to sponsor testing of the standard specification vehicle, its testing may be sponsored by Euro NCAP and the presence of prototype components will be published.

#### 4.2.2 Manufacturer request for a re-test

Modification and re-testing is allowed if an unexpected or undesired vehicle performance problem is identified at a Euro NCAP test. In such cases, the following conditions must be met for a retest to be allowed:

- The test was carried out not later than four months from the time when public customers first take delivery of their vehicles.
- The manufacturer has identified the root cause of the problem and can satisfy Euro NCAP that the proposed modifications will be a robust solution to solve the issue.
- The improvement will be incorporated in the production line within a schedule agreed with Euro NCAP
- For vehicles already produced for or in use in the EAA before the issue occurred, the manufacturer makes provision to update all these vehicles. This can be done by an official recall or by equivalent market action acceptable to Euro NCAP. The recall must be specific to the identified problem and must be initiated by the time the assessment is published.
- The manufacturer funds all work related to the retest.

Where there is a failure, or partial failure, of safety related equipment, Euro NCAP may withhold publication of the test results, pending investigation of the failure.

NOTE: Where structural or restraint modifier is applied in the original test and the car is subsequently re-tested for reasons unrelated to that modifier, the modifier will be applied to the re-tested car even if performance in the re-test would not attract the modifier. For example, a car is penalised for incorrect airbag deployment in a test, but that test needs to be repeated for reasons which could not have caused the poor deployment. In the re-test, there is no incorrect airbag deployment, and the manufacturer does not intend to address the issue. In this case, the original modifier will still be applied.

#### 4.3 Reassessment

A vehicle model which has previously been rated may be reassessed under the following circumstances, when a manufacturer wishes to have the vehicle reassessed within the same protocol period to reflect changes which have been made to the performance of the vehicle. Reassessment within the same protocol period is allowed if:

- The manufacturer can demonstrate that there has been a significant improvement to safety, either through better performance of existing safety equipment/systems or to fitment (e.g. standardisation of previously unavailable or optional equipment)
- The safety improvement is expected to lead to an increase of score of at least 10 percent in at least one of the stages of the Overall Rating; Safe Driving, Crash Avoidance, Crash Protection or Post-Crash Safety

Where, following the reassessment, the score in any of these stages has not increased by at least 10 percent, results of the reassessment will not be reflected on the website, and the original rating and scores will remain extant.

A reassessment in a new protocol period is by definition allowed.