

## Guidance Notes for completion of the Technical Assessor's Full Report.

This is not a legal document and is intended only as background information. Any definitions contained within are not to be considered as legal interpretation of any statutory text.

### Scope

This document aims to provide information for engineering assessors wishing to complete the **Assessor's Full Report** required by the National Transport Authority (NTA) certifying various design and construction features of modified vehicles, especially wheelchair accessible vehicles seeking first licensing, whether as part of a new licence or Change of Vehicle application.

The vehicle owner/licence holder is ultimately responsible for compliance with SPSV Regulations. These include rules on vehicle age conditions, which are not within the scope of this document. The relevant legislation is contained within S.I. 33 of 2015.

**It does not apply to the renewal of existing wheelchair accessible vehicle (or other modified vehicle) licences for which the simpler, one page, expert opinion Technical Assessor's Basic Report should be used.**

All modified vehicles entering the fleet require **formal test-led evidence** that passenger car M1 compliance exists. A modified vehicle includes wheelchair accessible vehicles and any vehicle converted from a van, e.g. where seats have been added. This includes the wheelchair anchorages as well as seats and seat belt mountings. **Such tests are, by their nature, destructive and cannot be retrospectively undertaken.**

The legislation provides for some derogation in respect of vehicles on limousine licences where by the unique nature of their design, compliance with the above test data cannot be possible, e.g. older vehicles. Please contact the NTA if in doubt as such matters are dealt with on a case by case basis.

### Other Sources of Information

The governing legislation is contained primarily within the latest SPSV Regulations, available on the NTA's website, [www.nationaltransport.ie](http://www.nationaltransport.ie)

The Initial Suitability Inspection Manual provides details of the inspection process and gives further explanation of the requirements. It too is available on the website above.

For background information on equivalent Type Approval standards and test methodology please consider the UK Manuals, <https://www.gov.uk/vehicle-approval>

The RSA is responsible for policy development in the area of whole vehicle Type Approval. More details can be found on their website at [www.rsa.ie](http://www.rsa.ie) under "Vehicle Standards".

The NSAI (National Standards Authority of Ireland) is the appointed Approval Authority and will be responsible for issuing all national approvals (IVA or NSSTA) for vehicles in Ireland. To deliver the national approval schemes, the NSAI has established a network of Appointed Test Centres (ATC) to undertake testing for these vehicle approvals and the ATCs will issue test reports for some or all of the technical requirements. For more information on the approval schemes and the routes to certification, please visit the NSAI website [www.nsai.ie](http://www.nsai.ie) and navigate your way through to the Type Approval information.

Please note that currently Type Approval schemes in Ireland apply only to new vehicles.

## Vehicle Categories

A passenger car is category M1, a vehicle designed and constructed for the carriage of passengers with provision for seating for no more than 8 passengers in addition to the driver.

The term "minibus" is usually referring to category M2 vehicles, again for passengers but seating more than 8 and with maximum mass less than 5000kg.

An M3 category vehicle is basically a bus or coach, being a passenger carrying vehicle seating more than 8 passengers and with maximum mass greater than 5000kg.

A light goods vehicle or van is category N1, a vehicle designed and constructed for the carriage of goods with maximum mass less than 3500kg.

## Suitably Qualified Individuals/Competent Persons

The NTA requires that the below are met:

This certification must be completed by a competent person who meets the following minimum requirements:

- Engineering Qualification (Level 7 or higher accredited courses)<sup>1</sup>, **or**
- accreditation with Engineers Ireland as a Chartered or Associate Engineer , **or**
- Member or Incorporated Member of the Institute of Automotive Engineer Assessors;
- a minimum of five years experience of working in a suitable technical environment (preferably Automotive or Engineering Environment);
- access to adequate facilities to carry out a thorough vehicle examination, **and**
- appropriate professional indemnity insurance.

The NTA advises prospective licensees to satisfy themselves that appropriate professional indemnity insurance exists prior to engaging any professional services.

## Purpose

The characteristics of adaptations to make a vehicle accessible or to seat more passengers are quite specialised although most such vehicle conversions follow a similar format. The vast majority of vehicles are what would technically be termed multi-stage builds: there is a base vehicle which must have passed a number of legislated safety standards in its own right which is then converted or modified for its special purpose of being able to safely board and carry a person seated in their wheelchair. Not all the base vehicle characteristics are retained as original after the conversion, hence the need for a check on the converted vehicle.

Neither the licensing inspector nor the NCT vehicle inspectors are appropriate persons to assess the design characteristics of the modified vehicle. Certain aspects of the conversion may be retained from an approved base vehicle, other aspects are best judged through the Type Approval system and others may be more specialised, hence the need for the Assessor's Report.

## Background to Type Approval

Varying degrees of certification for converted vehicles have been in use over the years. For many the requirements related to the vehicle categories defined by VRT regulations. Some included reference to the various Construction, Equipment and Use Regulations.

Type Approval was introduced into Ireland in April 2009 and will eventually apply to all road vehicles at first registration. NSAI are the appointed Approval Authority for Ireland.

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<sup>1</sup> See Engineers Ireland, Accredited Courses

Type Approval is a system whereby a manufacturer submits the vehicle/components for testing to an authorised test facility in accordance with (mainly) EC Directives and if the vehicle or parts pass the tests then such parts, in the format as tested, are then issued Approvals and approval numbers that appear on those parts.

An easy example is automotive window glass or tyres where the approval (e or E) mark is readily identifiable. Any change to the vehicle or component that affects the approval compliance means fresh testing and updated approvals with revision numbers. The system is taken very seriously and stringently monitored.

The main areas covered by Type Approval are the obvious safety items as well those with environmental significance.

There are effectively 3 levels:

- EC Whole Vehicle Type Approval (ECWVTA). For mass manufactures selling across more than one Member State. No quantity limits. Requires the manufacturer to prove they have a build quality control system in place (called Conformity of Production or CoP). Such vehicles have an overall Type Approval number; each vehicle has a Certificate of Conformity quoting that number and compliance with the various individual Directives (test standards). Recognised in any Member State without question or further testing for the purposes of registration.
- Low Volume or Small Series Approvals. A National system with quantity restrictions per year. Still requires the manufacturer to demonstrate CoP. Less onerous/expensive than ECWVTA, technically valid only in the issuing Member State, Ireland, NI and UK generally have a mutual recognition agreement. Similar to ECWTA a (simplified and National Ministers) Certificate of Conformity is issued for each vehicle.
- Individual Vehicle Approval (IVA), formerly known as Single Vehicle Approval (SVA). A National system but as each vehicle is inspected there is no manufacturer CoP requirement. An individual Approval certificate is issued. The least onerous route.

It is important to note that the above are "whole vehicle" approvals and all vehicles of course comprise a number of sub systems or components. Generally these also have approval requirements. For example there will be a whole vehicle emissions test but also some individual components, especially those with potential spare parts supply, e.g. catalysts, may have their own component level approvals. Change the catalyst and new approvals for both the component and the whole vehicle are required.

### **Limitations**

Of note it is only recently that certain specific wheelchair elements have been include in the Type Approval regime. Until the 2007/46 Directive (Recast Framework Directive) the seat belt test requirements did not include those for a wheelchair occupant. Therefore the NTA, as part of the licensing conditions, includes a requirement for documentary evidence (test reports) for the wheelchair and wheelchair occupant restraints and anchorages. A vehicle that has been fully approved as a "wheelchair accessible vehicle" under 2007/46/EC will have passed the required structural tests. The dimensions still require checking.

### **Relevance of Type Approval for Licensing**

Type Approval for wheelchair accessible vehicles is being phased in. The NTA is keen to adopt a similar "concept" of test led proof for modified/converted vehicles but appreciates this is quite new to many people. The vehicle convertor will have to provide information to the Assessor, test reports, possibly drawings, part numbers, component supplier approvals or declarations etc.

The primary requirement of the NTA, prior to licensing, is evidence the vehicle complies, in final converted form, with the main passenger car (M1) requirements. In addition there are additional test reports required for certain accessible equipment, see Limitations above.

## Format

The Assessor's Full Report is really a collection of information that allows the qualified person to judge that the vehicle inspected is in essence the same in design and construction as that for which test data is provided and therefore, with the highest degree of certainty possible, to "read over" those test results and declare the vehicle would comply with the standards, if tested. Some tests are destructive and hence the need for this approach.

This is different to the visual inspection (now called Assessor's Basic Report) that is a simpler affair where the competent person is stating they have seen the vehicle and by visual inspection alone are declaring compliance.

A standard template is available from the NTA or Licensing Centres (Technical Assessor Full Report Template): all must be in this format. The Assessor's Full Report must include copies of the documentary proof (i.e. test data, seat certificates). This may be relaxed where for example a manufacturer has supplied same directly but please be assured that checks may be made as to their authenticity.

Where documentary evidence is required this means independent test data. For example for seat belt anchorages this is an in-vehicle pull test or dynamic deceleration test. These are destructive tests and **cannot** be performed on a vehicle that will be subsequently used.

Where reliance is made by the assessor on a Type Approval number quoted, some proof of "entitlement" to this approval is required, i.e. image of second stage chassis plate with VIN and approval number, copy of original EC Certificate of Conformity or letter from original conversion firm with VIN and relevant approval specifications.

## Section Notes (see Assessor's full Report template for headings)

Where sections of the Technical Assessor's Full Report refer to accessible items and the vehicle in question is not the subject of an accessible licence application simply mark as "N/A".

**Technical Assessor Details** is self explanatory.

**Inspected Vehicle Details:** include previous registration numbers if known (often found in the Vehicle Registration Certificate). Type Approved vehicles will display a Type Approval number on the chassis/VIN plate. Vehicles built and Type approved in stages will also have the second stage manufacturer chassis plate and Approval number.

The number and layout of passenger spaces should be shown. Please indicate if rear facing seats are included.

The total number of seats actually in the vehicle, including the driver's seat **must** match that shown in "S1" on the Vehicle Registration Certificate. The vehicle owner can seek to update the Vehicle Registration Certificate or alternatively amend the vehicle. SPSV licences are limited to a maximum of 9 seats total, i.e. maximum 8 passenger seats. The number of passenger seats with and without a wheelchair in place must be given.

The inspection headings mirror those of the Initial Suitability Inspection Manual. The Compliance requirement column indicates when the item is inspected by the suitability Licensing inspection or when the assessor is to check (e.g. measure and affirm) or when the assessor is to compare the vehicle to test reports or data and ensure that they match. Where test reports are required please attach copies of same. Where components may be marked with approval numbers or test standards please record in the space provided, e.g. seat belt markings.

Where separate documentary evidence (formal test reports or component approval numbers) is required the Documents/Data included column shows "Y". Fill in the Report/approval number.

**Wheelchair Space Dimensions:** assessor to measure as indicated in the Initial Suitability Inspection Manual and affirm dimensional requirements are met.

**Seat Belts:** the intended safety benefits of seat belts are only provided if every element is functional. The load from the occupant is distributed through the belt and buckle, via the bolted anchorages and then ultimately reacted by the vehicle structure. Where seat belts are bolted to the seat or seat frame (rather than to the vehicle structure) then the mounting of the seat into the vehicle becomes of primary importance.

Assessor to record seat belt approval markings, to compare vehicle presented with test report data for the seat and belt anchorages and to be satisfied they are consistent.

- The seat belts and buckles, as an assembly, will have approval labels. Record these approval numbers.
- The anchorages to which the belts are bolted require test reports for their strength and compliance with M1 requirements. Aftermarket seats will often have this data at component level, i.e. the strength of the threaded bosses in the seat frame. Such component level results do NOT represent in vehicle performance where the strength of the seat into the floor is not known. Separate in vehicle test data is required for this. A maximum, limiting pedestal height may for example be specified.
- There are seats manufactured, and tested, for a variety of installations, e.g. M1, M2 and M3. The test loads for seats and their belts vary, with the required M1 load being 3 times that of the M3 seat!
- "Crash tested flooring" is one way of kitting out an accessible vehicle and providing the required flat floor, wheelchair and wheelchair occupant restraints and additional able-bodied seating. It requires special consideration as such a system is intended to offer a "universal" solution under controlled conditions.
  - As above such flooring and its components may not be "crash tested" to **M1** levels.
  - As above the components may be tested to the M1 standard but only in certain combinations or configurations, e.g. 3 seats only.
  - The whole vehicle requirement means valid "in vehicle tests". Such flooring systems are usually approved in limited specific vehicle types, e.g. the floor, seating etc. may be approved if installed (correctly) in a Fiat Scudo but those test reports do not apply if installed in a Renault Trafic even if exactly the same parts and fixings in exactly the same place are used.
  - Such component level approvals (the floor, tracking, anchorage mushrooms etc.) are only valid for the in vehicle case where the system has been tested in vehicle and the system fitted in the approved manner by trained installers. The installer needs also to complete their installation certificate. Only then does the chain of proof exist unbroken: only then should an Assessor be convinced by the overall integrity of the installation.
  - There are some vehicles that "share" a common design. The main ones would be the Peugeot Expert, Fiat Scudo and Citroen Dispatch that are essentially the same design. The Nissan Primastar, Renault Trafic and Opel/Vauxhall Vivaro are also common designs.

**Folding & Additional Seats** applies to folding or tip down seats and requires same consideration as above. Note that the rear facing seat test load is quite low compared to the forward facing case.

**Floor or Step Height** (and related sections) covers the requirement for an external step to be fitted to any door intended for passenger boarding (usually the NS rear side door) where that door is bigger than 1150mm in opening height and the floor is more than 230mm above the ground. Steps can be manually operated or automatic. They are not for the wheelchair occupant. Details of the requirements can be found in the Initial Suitability Inspection Manual.

**Boarding Aid** simply requires confirmation that a boarding aid is present.

**Ramp Angle & Stiffness** requires assessors to check the ramp angle by measuring the ramp length and vehicle floor height and comparing to the Table 1 in the Initial Suitability Inspection Manual.

**Detachable Ramp Location & Storage** requires affirmation that the ramp is permanently marked with the vehicle registration number and can be located safely at the accessible door and can be safely stowed when not in use. Where ramps are located on the floor, behind and against the rearmost seats and secured from vertical movement this can be taken as being acceptable. Where ramps are elsewhere stowed a test report of the ability of the fixings to withstand a 20g deceleration should be considered. As noted in the Initial Suitability Inspection innovative solutions may be exempted by prior application. A platform lift may be shown to meet the 20g fixing requirement by calculations of equivalency with regards to its capacity to support the overhung occupied wheelchair.

**Ramp Surface & Markings** requires affirmation that the ramp provides a continuous non slip surface of the required width and is structurally sound. If a power lift is fitted then a service certificate less than 6 months old is required, copy required.

**Wheelchair & Occupant Restraint Systems** requires affirmation that there are suitable systems present to restrain the wheelchair and the user (requires 3 point belt), including affirmation that the systems/anchorages are compatible.

**Wheelchair & Occupant Restraint Anchorages** is similar to Seat Belts and requires formal test reports for the in vehicle anchorages to which the wheelchair and wheelchair occupant restraints are attached. The wheelchair and wheelchair restraint anchorages may be certified to "UK Motability" standards, this is an acceptable requirement. The anchorages for the wheelchair may be outside of the scope of the M1 vehicle approval. The Assessor must satisfy himself that any such test data is indeed representative of the vehicle inspected. This may require measurement and comparison with drawings.

**Restraint Markings** requires the assessor to record the marking and approval/standards from the restraint labels. The wheelchair restraints and occupant restraints should be complete with certification/identification labels; usually sewn in. The labels may indicate compliance with relevant standards or the supplier of these should in turn be able to provide the required certification. Common tests would be ISO 10542 or SAE J2249.

**User Manual** to provide guidance in the operation of the accessible equipment.

**Window Tint (*not applicable to limousine licences*)**: all windows, except those to the rear of passengers (including passengers in wheelchairs), must be "clear", i.e. with at least 70% light transmission. Check the glass approval for the Roman numeral "V" adjacent to the approval: this means the glass is too dark.

**Please contact Neill Anderson in the Technical Department for any additional clarification.**

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