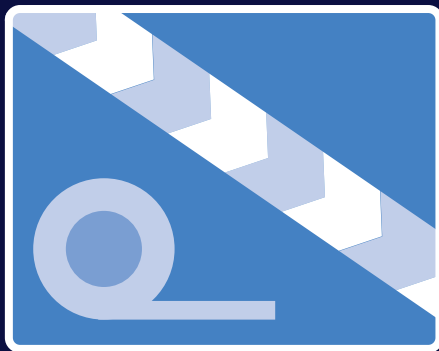
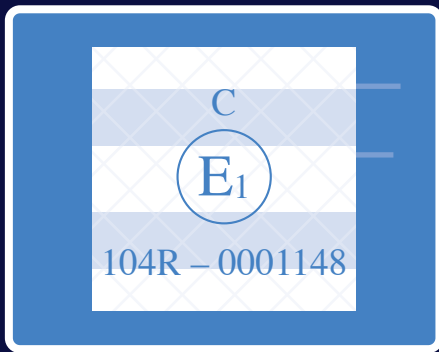


Conspicuity marking requirements on goods vehicles

Logistics UK Compliance Guide

Edition 5 • December 2022



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Logistics UK compliance guide to Conspicuity marking requirements on goods vehicles

Edition 5 • December 2022

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Logistics UK compliance guides are produced once legislative changes have been published and new requirements and responsibilities are known. Compliance guides are intended to provide clear guidance to members on what to do and how to comply.

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Introduction

On 4 January 2010, amendments to the Road Vehicles Lighting Regulations 1989 (RVLR) entered into force implementing European legislation on the fitment of conspicuity markings to large goods vehicles (LGV). These markings effectively illuminate the outline of a vehicle at night by reflection from the headlights of vehicles following behind. Department for Transport (DfT) research estimates the potential to prevent 76 killed and serious injury accidents per year if all goods vehicles were fitted with conspicuity markings. The amendments to the Road Vehicles Lighting Regulations 1989 required all new goods vehicles with a maximum authorised mass (MAM) exceeding

7.5t and new trailers with a MAM exceeding 3.5t to be fitted with conspicuity markings if they were first used (or manufactured in the case of trailers) on or after 10 July 2011.

This guide provides details of the legislation regarding conspicuity markings and guidance on how to comply with the marking requirements including examples of various vehicle body types and designs. It has been produced for information purposes and is not intended to be a substitute for the full legislative details contained in UN ECE Regulations or the Road Vehicles Lighting Regulations 1989.

Background

Prior to the amendments which came into force on 4 January 2010, the Road Vehicles Lighting Regulations 1989 required certain motor vehicles with a MAM exceeding 7.5t to be fitted with retro-reflective rear marker plates approved to the European Regulation, UNECE Regulation 70.00. (The latest version of this regulation is known as Regulation 70.01.) These plates are re fitted in addition to rear lights and reflectors and are intended to make the vehicle more conspicuous to other drivers so they are aware of the presence of a large, potentially slow moving vehicle.

Conspicuity markings are vertical and horizontal lines of retro-reflective material which emphasise the length and

shape of the vehicle and also warn other drivers of their presence. UNECE Regulation 104 (R104) provides a technical specification for these conspicuity markings and their use on vehicles in the UK was optional under the Road Vehicles Lighting Regulations (RVLR) before 10 July 2011.

UNECE Regulation 48 (R48) is a European regulation that sets out harmonised installation requirements for vehicle lights and reflectors. It is broadly equivalent to the RVLR and the UK cannot refuse registration of vehicles approved to this regulation on the grounds of their lighting. R48 mandates R104 specification conspicuity markings on certain new LGVs and trailers.

Amendments to the UK Road Vehicles Lighting Regulations 1989 (RVLR)

The Department for Transport introduced the amendments to the Road Vehicles Lighting Regulations 1989 which entered into force on 4 January 2010, detailing the requirements for conspicuity markings including optionally-fitted markings. The amendments aligned RVLR with UNECE Regulation 48.03 and required conspicuity marking material to be fitted to new heavy

goods vehicles and their trailers from 10 July 2011. Rear marker plates which have been mandatory on certain vehicles and trailers for some time in the UK were intended to serve the same function as conspicuity marking material so DfT made the decision not to mandate both.

Optionally-fitted conspicuity markings

The amendments allowed vehicles to be fitted with optional conspicuity markings but where fitted optionally to vehicles first used (or manufactured in the case of trailers) on or after 10 July 2011 they are required to conform to the relevant ECE Regulation 48 requirements. If compliant conspicuity markings are optionally-fitted to vehicles, then there is no requirement to fit rear marker plates to vehicles. However, the optional use of rear marker plates in addition to conspicuity markings continues to be permitted.

The RVLR were also updated to require rear marker plates, when fitted optionally from the mandatory conspicuity marking implementation date of 10 July 2011, to comply with the latest technical specifications set out in UN ECE Regulation 70.01. This aligned with the latest requirements in UN ECE Regulation 48.

Application

Mandatory conspicuity marking legislation detailed in the UK RVLR applies to the following classes:

- Goods vehicles with a MAM exceeding 7.5t first used on or after 10 July 2011.
- Trailers with a MAM exceeding 3.5t manufactured on or after 10 July 2011.

Exemptions

- A vehicle which is not a goods vehicle.
- Goods vehicles not exceeding 7.5t MAM.
- Trailers not exceeding 3.5t MAM.
- An incomplete vehicle which is proceeding to a works for completion or to a place where it is to be stored or displayed for sale.
- Tractor units.
- Vehicles/trailers with overall width not exceeding 2.1 metres do not require rear markings.
- Vehicles/trailers with overall length not exceeding 6 metres do not require side markings.

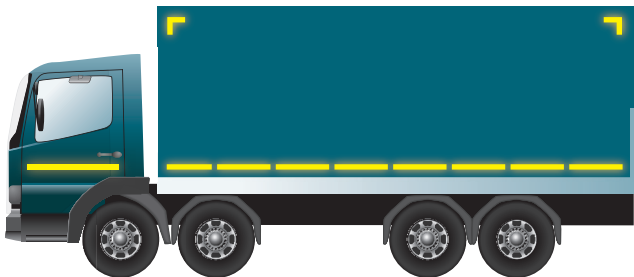
Marking requirements

Conspicuity marking legislation requires a full contour marking on the vehicle's rear, ie horizontal and vertical markings to outline the shape of the vehicle, and partial contour markings on the side. Partial contour markings consist of a horizontal line showing the length of the vehicle and 'tick' marks showing the upper corners of the vehicle. However, where the shape, structure, design or operational requirements make it impossible to install the mandatory contour marking, a line marking is acceptable.

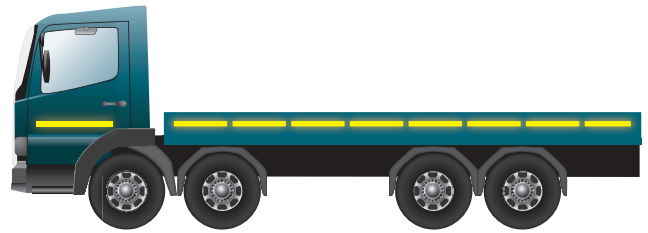
Basic layout



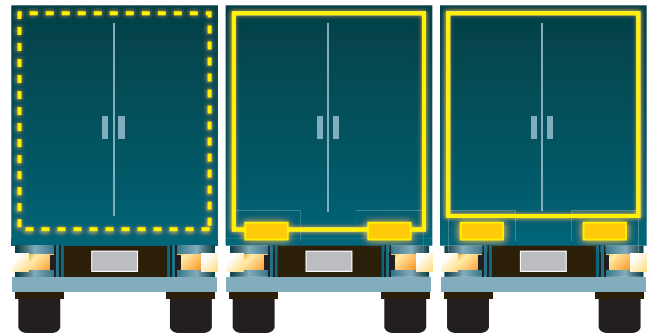
Tractor units are exempt from requirements.



A marking is required on a rigid vehicle cab area which must reach within 600mm of the front of the vehicle.



Line marking

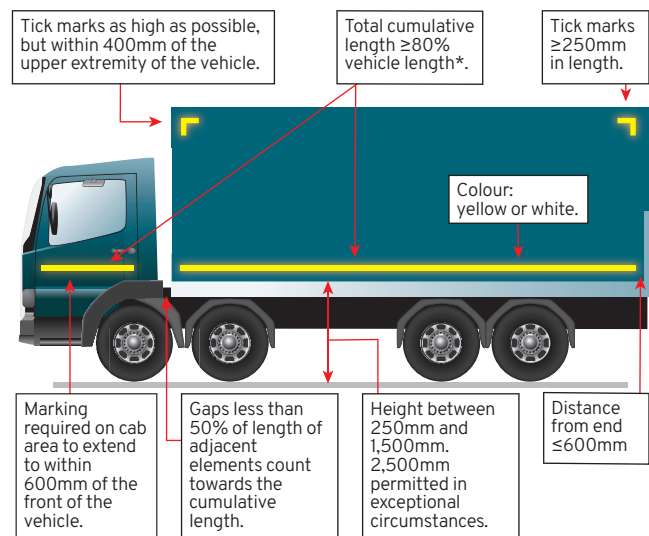


Rear markings Rear marker plates are optional, but can contribute to rear contour marking if approved to UNECE Reg 70.01.

The use of partial or full contour marking is permitted in place of mandatory line markings, and full contour marking may be applied in place of mandatory partial contour marking.

Side markings in detail

The side markings are required to extend to within 600mm of each end of the vehicle, and cover 80% of the whole vehicle length (the vehicle length excludes the cab, however the cab area must be marked to comply with the requirement to extend to within 600mm of the front of the vehicle). The lower markings must be between 250mm and 1,500mm from ground (up to 2,500mm is acceptable if 1,500mm is not possible). Upper markings must be within 400mm of the top of the vehicle.

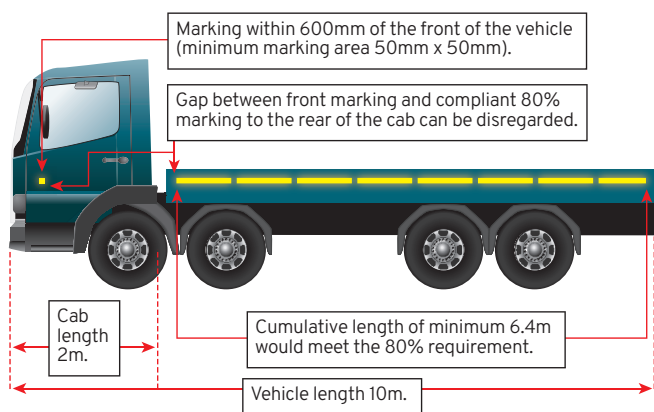


*Vehicle length excludes the cab, however the cab area must be marked to comply with the requirement to extend to within 600mm of the front of the vehicle

The 80% side marking requirement explained

The requirement for the side markings to cover 80% of the whole vehicle length excludes the length of the cab in the measurement. However, due to the requirement for a marking to extend to within 600mm of the front of the vehicle, the cab area will require a minimum marking.

Where side markings on a rigid vehicle meet the 80% requirement of the vehicle length measured from the rear of the cab to the rear of the vehicle, the cab area also requires a marking to extend within 600mm of the front of the vehicle with a minimum marking size of 50mm high by 50mm wide. Where this requirement is met any gaps between the cab markings and compliant markings to the rear of the cab on the vehicle body area can be disregarded.



Gap requirements to meet 80% cumulative length

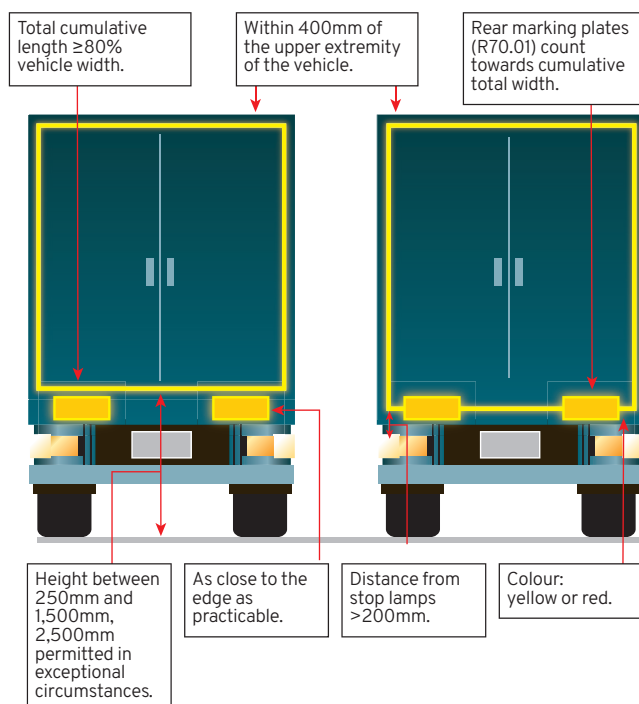
The diagram below gives examples of the 80% coverage requirement on a vehicle with an overall length (excluding the cab) of 10 metres. The diagram illustrates that if a continuous strip of marking material 8 metres long (80% of the total vehicle length) is applied to the vehicle, it would not meet legislation requirements as it would not extend to within 600mm of each end of the vehicle. Therefore a longer marking would be required, or the marking could be fitted with gaps as shown.

Vehicle length 10m			Compliant
8m			✗ (dist to edge >0.6m)
8.8m			✓
4m	4m		✓
3.52m	3.52m		✓
3m	3m		✗ (gap too wide)
2.2m	2.2m	2.2m	✓

Rear markings in detail

The rear markings are required to be as close as practicable to the edge of the vehicle and cover 80% of the vehicle total width. The marking must be at least 200mm from any mandatory stop lamp. The lower line must be between 250mm and 1,500mm

from ground (up to 2,500mm acceptable if 1,500mm is not possible), and the upper line must be within 400mm of the top of the vehicle.



Note: If a vehicle has rear marker plates fitted which comply with UN ECE Regulation 70.01 these can be counted as contributing to the rear contour marking. Marker plates approved to UNECE Regulation 70.00 do not count towards the conspicuity marking.

Other technical requirements

- The orientation of the markings must be as close as possible to vertical and horizontal; if this is not possible the markings must follow as close as possible the contour of the outer shape of the vehicle.
- Breaks in the markings are permitted and will be considered to be continuous if gaps in the markings are less than 50% of shortest adjacent elements length.

In cases where the manufacturer can prove to the satisfaction of the type approval authority that it is impossible to comply with a gap of 50% or less, the gap between adjacent elements may be larger than 50%, but must be as short as possible up to a maximum of one metre.



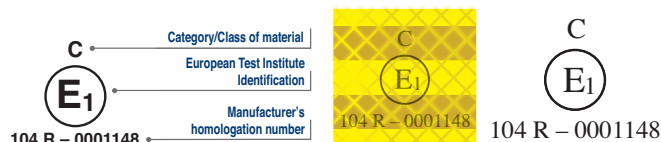
Derogations

There is a derogation contained within UN ECE Regulation 48 where the shape, structure, design or operational requirements make it impossible to install the mandatory contour markings which allows less than 80% to be marked. This allows the

manufacturer to comply as far as possible, provided they can demonstrate to the type approval authority that full compliance is not possible.

Conspicuity marking material requirements

UNECE Regulation 48 requires that the location designated for installing the markings shall allow for marking material at least 60mm in width. The actual width of the marking material is specified in UNECE Regulation 104, which states the width should be 50mm (+10 -0). So provided the vehicle will accept markings of 60mm it is acceptable to fit any marking material approved to Regulation 104. The certification approval process for conspicuity products is done to ensure that they meet requirements for colour, reflectivity and durability set out in Regulation ECE104. The E marking, as shown, is a proof that the product has been tested, certified and meets all the requirements of ECE 104. Without the E-mark, the product is not compliant with the regulation.



Colour of marking material

Rear marking	Red or yellow.
Side marking	Yellow or white.

Note: White reflective markings are not permitted on the rear of vehicles.

Type approval

Vehicles which have EC whole vehicle or lighting type approvals to UN ECE Regulation 48 requirements have been required to be fitted with mandatory conspicuity markings from 10 October 2009. Other mandatory dates applied for conspicuity markings to type approved vehicles under EC Whole Vehicle Type Approval Framework Directive 2007/46/EC.

Vehicles subject to mandatory EC Whole Vehicle Type Approval require the application and conformity of conspicuity marking requirements to be determined between the vehicle/body manufacturer and the type approval authority (in the UK, this is the Vehicle Certification Agency (VCA)) during the approval process. This process ensures that the end users receive a vehicle which is compliant with the conspicuity marking requirements, having been granted a lighting type approval.

However, for vehicles which are not subject to EC Whole Vehicle Type Approval, or do not have lighting approvals to European requirements, the situation is somewhat different. In this case, compliance with conspicuity marking requirements has not required approval prior to the vehicle being registered, and end users need to ensure compliance to the marking requirements. This is where issues of interpretation and subjectivity may result in varying standards being applied, and the possibility of vehicle operators falling foul of enforcement authorities where interpretations may not meet the required standards.

Guidance on applying conspicuity markings to various vehicle and body types

The legal requirement to comply with the fitment of mandatory conspicuity markings is no different to any other mandatory requirement to fit lamps and/or reflectors as laid down in the RVLRL, or European lighting regulations, and as such vehicle design and construction needs to take into account the requirement to incorporate the fitment of conspicuity markings. As there is no requirement to retrofit conspicuity markings to existing vehicles, any redesigning of existing vehicles and/or vehicle bodywork is not required. However, for new vehicles first registered from 10 July 2011, vehicle and body manufacturers may need to make moderate design changes to enable vehicles to be fitted with conspicuity markings which fully comply with the legislative requirements. This may require additional bracketry or outwardly facing mounting surfaces to be built into the vehicle design to accommodate the required markings, as would be the case for any other mandatory lamp or device.

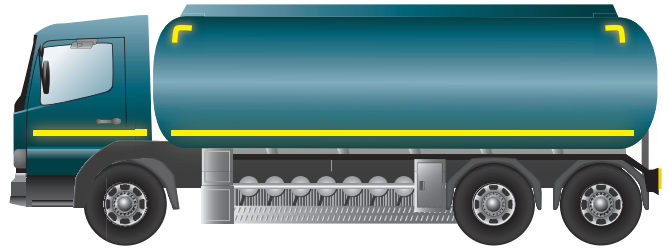
However, it is recognised and acknowledged by European regulators, the Department for Transport and type approval authorities that the fitment of conspicuity markings to various differing vehicle and body types is problematic, particularly where the shape, structure, design or operational requirements make it impossible to install the mandatory contour markings which fully comply with the legislative requirements. As already mentioned, if the shape, structure, design or operational requirements make it impossible to install the mandatory contour marking, then a line marking is acceptable. Also, derogations exist if a manufacturer can prove that it is impossible to comply with the 80% marking requirement.

This section of the guide is aimed at providing guidelines on marking some particular vehicles, which have been agreed with DfT, VCA and Driver and Vehicle Standards Agency (DVSA). However, it must be stressed that due to the vast array of vehicle types and body designs it is not possible to provide specific guidance on every possible vehicle/body configuration.

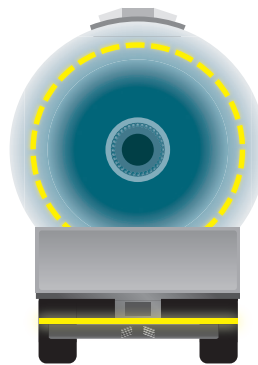
Examples of vehicle and body types where a line marking is deemed acceptable (non-exhaustive list)

- Boat carrier.
- Flat bed.
- Skeletal.
- Concrete mixer.
- Low loader.
- Skip loader.
- Container carrier.
- Rear mounted crane.
- Swap-body.
- Hook lift.
- Refuse collection.
- Vehicle transporter.

Examples of acceptable conspicuity markings



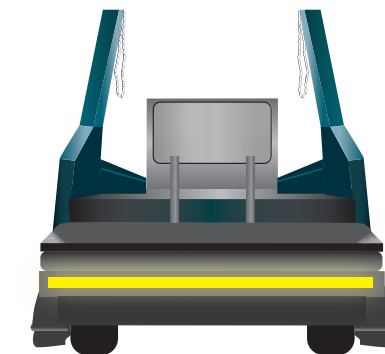
Tanker – side view



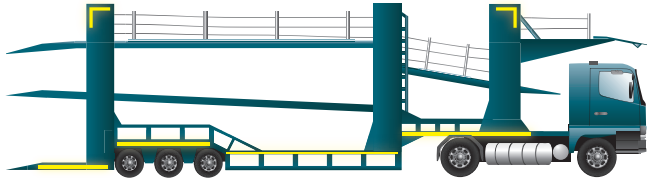
Tanker – rear view



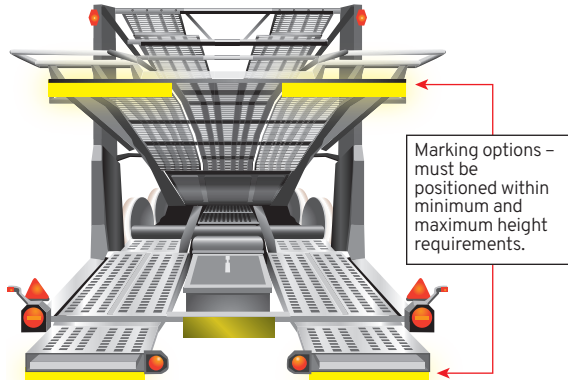
Skip loader – side view



Skip loader – rear view



Car transporter – side view



Marking options – must be positioned within minimum and maximum height requirements.

Rear – line marking acceptable. Must be no lower than 250mm from the ground, maximum 1,500mm (2,500mm if this is not possible).

Car transporter – rear view



Skeletal trailer – side view

Split bogie requires markings on extendable section.



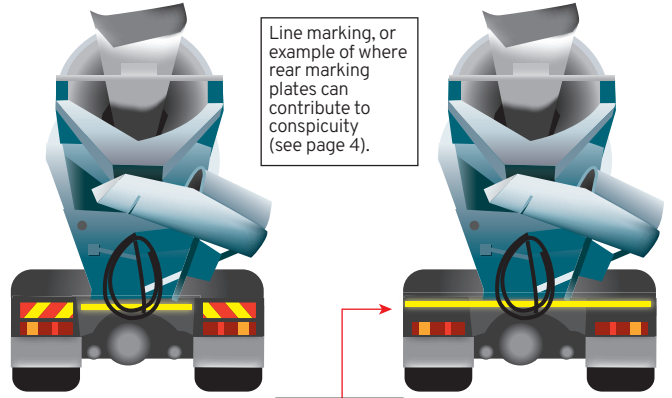
Markings will need to be positioned in such a way that they are not obscured by the container/body when fitted.

Skeletal trailer – rear view



Mixer – side view

If practicable to within 600mm of rear of vehicle.



Line marking, or example of where rear marking plates can contribute to conspicuity (see page 4).

Alternative line markings.

Mixer – rear view



Refuse vehicle – side view



Many refuse vehicles will not be able to take a full line or contour marking due to equipment etc being fitted. In these cases, it is acceptable to retain rear marker plates with conspicuity markings fitted to the fullest extent practicable.

Refuse vehicle – rear view

Enforcement by DVSA

DVSA introduced the inspection of side and rear conspicuity marking into the annual test from 1 January 2012. All vehicles within the scope of the requirement to be marked are subject to inspection at annual test and DVSA recognises that derogations will apply in many cases. The minimum requirements at annual test are less stringent than the full requirements of the relevant legislation, and the minimum requirement on all vehicles and trailers within scope of the requirements to fit conspicuity markings are side and rear line markings compliant with the legislative dimensional and positioning requirements. Therefore additional markings required under the conspicuity marking

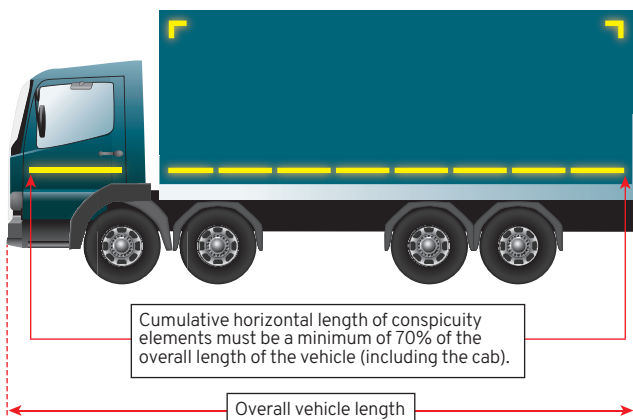
legislation such as partial and full contour markings will not form part of the annual test inspection, but may be required to be fitted to meet the full requirements of the legislation.

DVSA examiners will check that rear marker plates are fitted to vehicles which normally require them to be fitted (vehicles over 7.5t and trailers over 3.5t). If no rear marker plates are fitted, but the vehicle or trailer is instead fitted with rear conspicuity markings conforming to the requirements of UN ECE Regulation 48, then this will be acceptable and the vehicle/trailer will not fail the check.

Developments and amendments to UN ECE Regulation 48

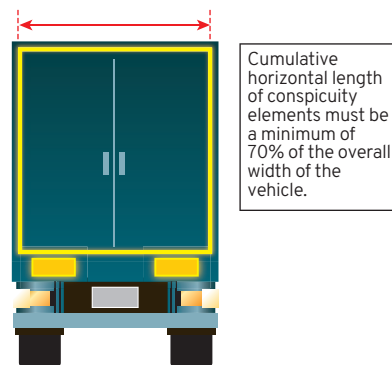
Amendments to UN ECE Regulation 48 on the approval of vehicles with regard to the installation of lighting and light-signalling devices amend the requirements for conspicuity markings. These amendments are only applicable for new lighting or vehicle type approvals carried out from the entry into force date of 15 July 2013. The main change is that the length of the vehicle cab is taken into account in calculating the cumulative horizontal length of the conspicuity markings, a minimum 70% cumulative marking requirement for the vehicle length and width and an alternative marking option for the front of vehicles.

The amendments are detailed below.



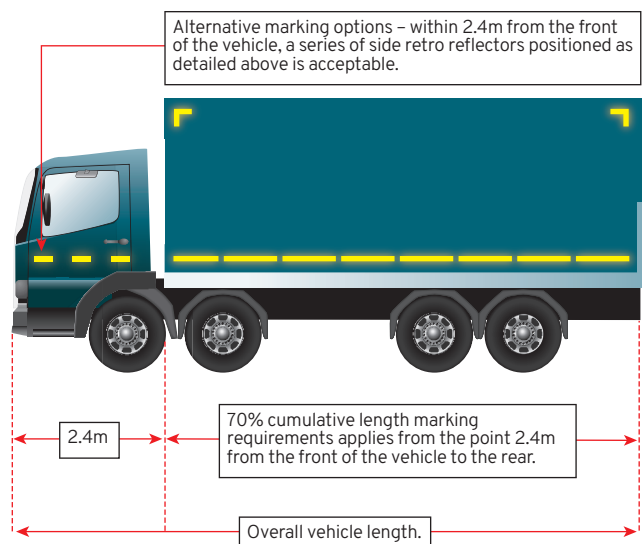
Length

- The side markings are required to extend to within 600mm of each end of the vehicle (including the cab).
- The cumulative horizontal length of the conspicuity elements must cover at least 70% of the overall length of the vehicle (including the cab), or for trailers the overall length of the trailer (excluding the drawbar).



Width

- The cumulative horizontal length of the conspicuity elements must cover at least 70% of the overall width of the vehicle.



Alternative marking option for vehicle length

The amendment introduced an alternative marking option for vehicle length which allows a series of retro-reflectors to be mounted within 2.4 metres from the front of the motor vehicle followed by the required conspicuity marking to the rear. The requirements of this alternative marking are as follows.

- The retro-reflectors must be of Class IVA of ECE Regulation No 3 or Class C of ECE Regulation No 104.
- The retro-reflector size must be a minimum of 25cm².
- One retro-reflector mounted not more than 600mm from the front end of the vehicle.

- Additional retro-reflectors spaced not more than 600mm apart.
- The distance between the last retro-reflector and the start of the conspicuity marking must not exceed 600mm.

If this alternative marking is applied, the minimum cumulative 70% marking requirement applies to the length of vehicle from 2.4 metres from the front of the vehicle to the rear end of the vehicle.

Further information

The latest version of UN ECE Regulation 48 can be downloaded at: unece.org/trans/main/wp29/wp29regs41-60.html

The Road Vehicle Lighting Regulation amendment detailing the requirement for conspicuity markings can be downloaded at: opsi.gov.uk/si/si2009/uksi_20093220_en_1

How else can we help?

Logistics UK aims to provide members with all the tools and support they need to help comply with this legislation. In addition to this compliance guide, Logistics UK offers the following.

Vehicle Inspections

Logistics UK's range of UKAS accredited and impartial inspections are available for a range of vehicles including LGVs, vans, tankers and specialist vehicles. You will be provided with peace of mind that you are complying with your legal undertakings and quality monitoring any maintenance providers and procedures. Inspections include: Roadworthiness and Maintenance Inspections, Road Tanker Certification Service and many more. For more information visit www.logistics.org.uk/services_vehicle-inspection-service or call 0371 711 2222*.

Audits

Logistics UK's audits examine various aspects of your operation to ensure that you are fully aware of how your procedures are being carried out, whether they conform with the latest regulations and recommendations and if there are any aspects of your operation that may require attention. Audits available include: a Vehicle Maintenance Audit and a Daily Driver Walk Around Check Audit. For more information visit logistics.org.uk/consultingandstandards or call 0371 711 2222*.

Training

Logistics UK also offers a wide range of courses for staff from drivers to engineers and managers. With numerous public course venues nationwide and the ability to provide courses in-company, Logistics UK can help create a training solution to fit your individual requirements. Courses include Specialist Inspection Training, Driver CPC modules including Vehicle Checks and Defect Reporting, National Freight CPC, Operator Licence Awareness Training and a range of health and safety courses. For more information on any of the courses available visit www.logistics.org.uk/training or call 0371 711 2222*.

Consultancy

Whether you are moving premises, deciding on outsourcing your vehicle maintenance arrangements, facing new challenges, looking to implement new procedures, Logistics UK's team of knowledgeable consultants can provide guidance and bespoke solutions. For more information visit logistics.org.uk/consultingandstandards or call 0371 711 2222*.

Information

Further information is available for Logistics UK members who are seeking operational or legal advice by calling our Member Advice Centre on 0370 605 0000 with any transport related queries you may have or by visiting www.logistics.org.uk for a range of online information and latest news items.

Shop

Logistics UK's one-stop-shop for all your transport consumables sells a variety of products including conspicuity tape and a poster which covers the legal requirements of vehicle operators.

Conspicuity Tape

Suitable for curtainsiders and rigid vehicles.

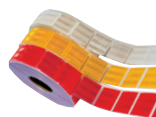
High Visibility Tape

Compliant with Regulation ECE104.

3M Diamond Grade™ Vehicle Marking Film is designed to clearly outline the side and rear perimeter of curtain and rigid sided trucks and enhance visibility and detection to up to 1,000m at night. This means an LGV may be seen by motorway drivers up to 8–9 seconds earlier than those without high visibility tape.

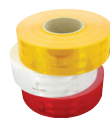
Product features include superior reflectivity, excellent durability and ease of application. Marking your vehicles will provide enhanced safety for drivers and help to reduce accidents and save lives.

Available in red, yellow and white



Conspicuity Tape – curtainsiders

50mm x 50m
Member: £142.60+VAT
Non-member: £148.10+VAT
Code: 4311



Conspicuity Tape – rigid

53.5mm x 50m
Member: £108.60+VAT
Non-member: £111.90+VAT
Code: 4310

For the full range of products available please visit www.shop.logistics.org.uk or call 03717 11 11 11*

