Vehicle Conspicuity markings - REMA guide for purchasers:

There are numerous different guidelines that need to be considered when deploying high conspicuity markings on vehicles that are working on or around the UK road network; designed and intended to improve vehicle safety by increasing visibility and conspicuity.

This REMA guide is designed to help fleet operators select the most appropriate material grade for their vehicles and to clarify how the relevant guidelines and materials should be interpreted.

Legislation such as ECE104 makes reflective contour marking mandatory on new trucks and trailers, whilst the DfT Code of Practice for Safety at Street Works and Road Works (S-SWRW) strongly recommends rear conspicuity markings for England and are now a legal requirement in Scotland and Wales.

Note that the latest Chapter 8 of the Traffic Signs Manual (updated 2020) has **raised the specification of reflective materials** used; they should now meet class R3B (typically high grade microprismatic).

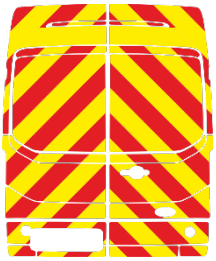
Vehicle and fleet operators are strongly advised to adopt compliant marking for their vehicles; Highways England (HE) contracts already require it, since failure to follow these carries the risk of substantial legal liability or criminal charges should this result in a serious accident.

REMA, established for 40 years, is the UK's only trade association for manufacturers of retro-reflective traffic safety products, we offer this guide to help users cut through the "red tape" and specify appropriate (and legal) best practice markings for their fleets.

	Vehicle / Road type	Guide / Legislation	Specification recommended by REMA (reflective material should meet or exceed class R3B)
1	A. Any vehicle < 7.5 tonnes *(typically cars and vans)* Any public highway	> Code of Practice for safety at Street Works ("Red Book") > Chapter 8	> Rear chevrons in class R3B red and non-reflective fluorescent yellow > Rear facing door edging / lockers / guardrail strips in red class R3B material > HIGHWAY MAINTENANCE or MOTORWAY MAINTENANCE legends in non-reflective black on non-reflective or reflective yellow > 50mm side stripe in fluorescent yellow minimum class R3B or ECE104 material
2	Vehicles on any public highway that operate or stop for work purposes, OVER 7.5 tonnes *(including: spreaders, gritters, tippers and Roadsweepers)*	> Chapter 8 > ECE104 > ECE69 > ECE70 / 70.1 > TSRGD 2016 S13-6-11 Part2 > Highways England (HE) requirements	> Rear chevrons in class R3B red and non-reflective fluorescent yellow > Rear facing door edging / lockers / guardrail strips in red class R3B material > HIGHWAY MAINTENANCE or MOTORWAY MAINTENANCE legends in non-reflective black on non-reflective or reflective yellow > Rear marker chevron boards (ECE70 / 70.1) > Directional arrow in accordance with TSRGD section O8.1 and O10.610.6 > 50mm red rear and yellow side outlines (ECE104)
3	Incident / Mobile Support Units	> Chapter 8 > *Highways England and Highways authority spec.*	> Rear chevrons in red and fluorescent yellow-green both class R3B materials > Door edging strips in red class R3B > HIGHWAY MAINTENANCE and INCIDENT SUPPORT legends > Side markings at 45 degree angles
4	Other vehicles on the public highway *(typically trucks, trailers, buses, coaches, curtain siders – N2, N3, M2, M3)*	> ECE104 > ECE69 > ECE70 / 70.1	> White reflective (ECE104) markings to front of vehicle > Yellow reflective (ECE104) partial contour (outline) marking to minimum of 80% of length, or a complete box contour > Red reflective (ECE104) outline to rear

*>> Note1: Vehicles under 7.5 tonnes (section1 above) that **ONLY** operate on roads at under 40mph can use class RA2/R2 red material to the rear.*

*>> Note2: **All** ECE104 & ECE70 / 70.1 materials **must** be E-Marked to show compliance to UNECE regulations.*



Chevron design:

Rear markings for cars and vans are upward facing chevrons in red and yellow alternating stripes, as shown here.

Each chevron stripe should be no less than 150mm in width (larger on big vehicles), angled upwards between 45 and 60 degrees. The red stripes must be of retro-reflective material that meets class R3B or higher, designed to maximise night-time visibility, whilst the fluorescent yellow stripes are non-reflective, providing good daytime visibility and contrast to the red.

Chevrons should **cover as much of the rear as possible** without obscuring windows, lights or registration plates.

Note that it is also acceptable to have complete coverage of red retro-reflective material in place of chevrons on the rear, but the red/yellow combination is generally considered to give the greater all round conspicuity.

Suitable materials that meet the legislation quoted (*R3B compliant materials are highlighted yellow*):

Manufacturer / Supplier	Products – Chapter 8 (and ECE104)	Product codes
3M www.3m.co.uk/traffic	Diamond Grade DG3 microprismatic Reflective Red, Yellow and Fluorescent Yellow-Green	4092, 4091, 4083
	Scotchcal non reflective fluorescent Saturn Yellow ECE-104 Diamond Grade microprismatic conspicuity tape	3485 983, 983s, 997, 997s
Rennicks www.rennicksuk.com	Nikkalite Crystal Grade microprismatic CVF Red, Yellow and Yellow-Green	92805, 92804, 92844
	Hi-S cal fluorescent non reflective yellow	7F-310
Orafol www.orafol.com	Brilliant Grade / Flexibright metallised microprismatic Red and Yellow-Green	VC612RA, VC412RA, Oralite 6900
	ORACAL non-reflective fluorescent yellow ECE104 metallised microprismatic tape; red, yellow, white	ORACAL 7510/7510RA 7710RA VC104 Rigid / Curtain grade
Lakeside Group www.lakesidegroup.co.uk	Avery Dennison & Aura Optical Systems Micro-Prismatic – Red, Yellow & Yellow-Green	Avery T6000, V8000-C8, Aura 191
	Avery Dennison & Aura Optical Systems ECE104 and Fluorescent products	Avery V6700B, Aura 139 & 144

It is recommended that all microprismatic materials with open cell construction be edge sealed in manufacture.
It is the user's responsibility to maintain the markings in accordance with the material manufacturer's guidelines and to inspect and replace them within the materials expected performance life.

These REMA guidelines were produced and updated with latest changes in conjunction with HE and DfT for advisory purposes only and are intended to clarify official guidance / legislation applicable at the time of publication. They are given in good faith but without liability and should not be taken as legal advice.

For further information on REMA and its members, please visit www.rema.org.uk. Or email REMA Secretariat - info@rema.org.uk

For links to the sources of the latest legislation and guidelines referred to in producing this document, please visit the information page on our website: www.rema.org.uk/information/vehicle-conspicuity-markings