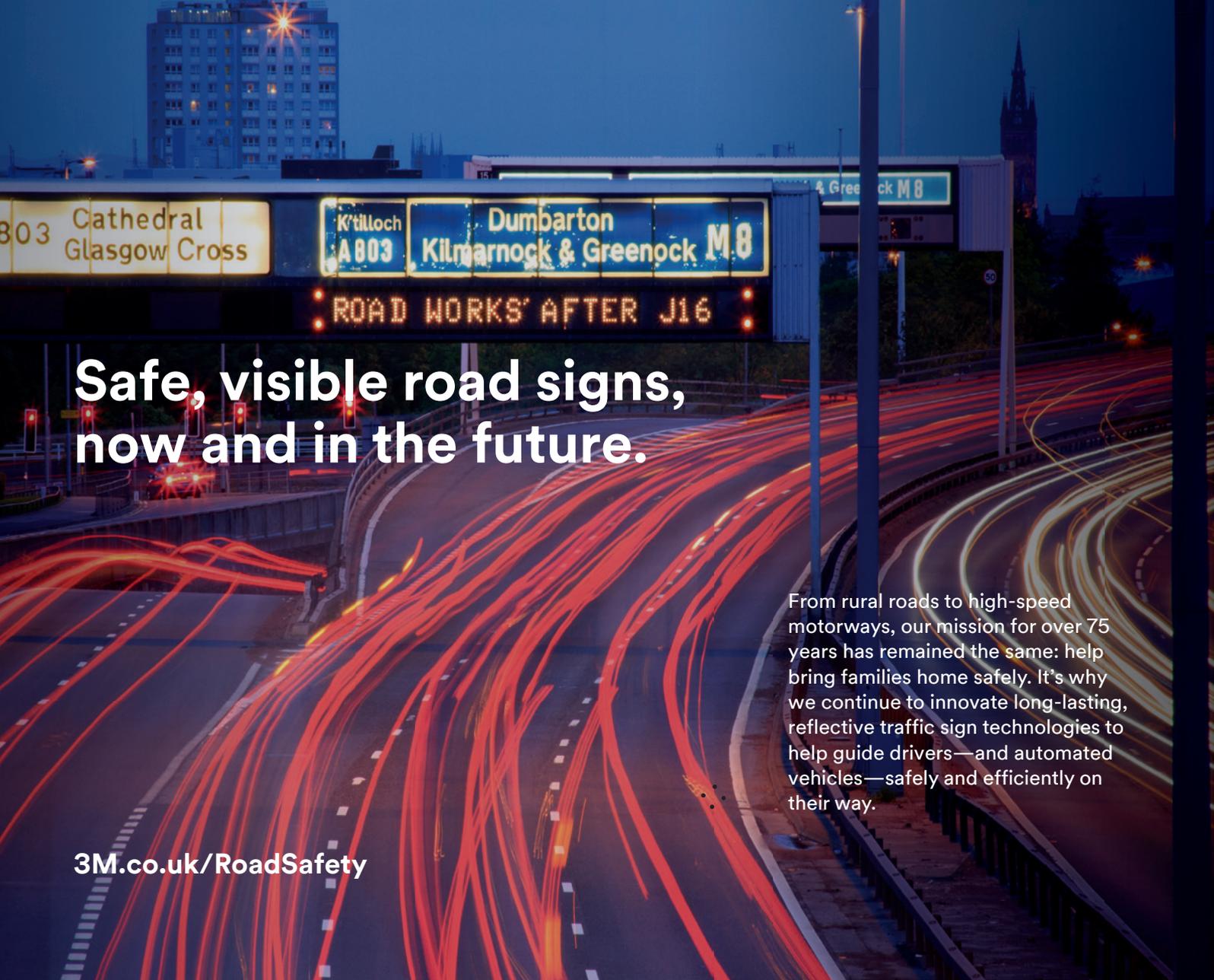


3M Science.
Applied to Life.™

Driving road
safety in the right
direction.

3M Transportation Safety | Traffic Signs



Safe, visible road signs, now and in the future.

From rural roads to high-speed motorways, our mission for over 75 years has remained the same: help bring families home safely. It's why we continue to innovate long-lasting, reflective traffic sign technologies to help guide drivers—and automated vehicles—safely and efficiently on their way.

3M.co.uk/RoadSafety

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Retroreflective Sign Sheeting

3M pioneered the development of retroreflective sign sheeting over 75 years ago and continues to meet today's requirements with long-lasting and effective signs that help get drivers safely where they're going. Explore our full range of visibility performance levels to meet the needs of your specific application:



Engineer Grade Sheeting

Ideal for non-critical traffic signing and devices

- ▶ An affordable choice for non-critical traffic signs.

High Intensity Prismatic Sheeting

Excellent reflectivity for regulated applications

- ▶ **Traffic signs and work zone devices**

3M™ Diamond Grade™ Sheeting

Maximum total reflected light

- ▶ Higher luminance for long-distance visibility
- ▶ 3M™ Diamond Grade™ DG³ Reflective Sheeting returns almost 60% of the available light to vehicle drivers—about double that of our high intensity prismatic reflective sheeting.

Standards:

- ▶ BS EN 12899-1:2007 Class RA1

Standards:

- ▶ BS EN 12899-1:2007 Class RA2/R2

Standards:

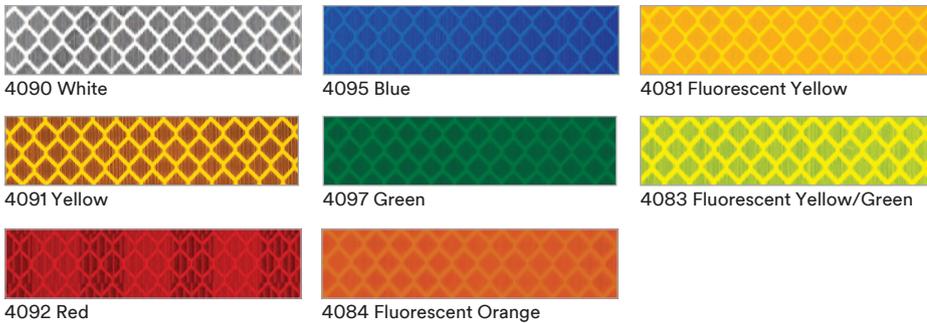
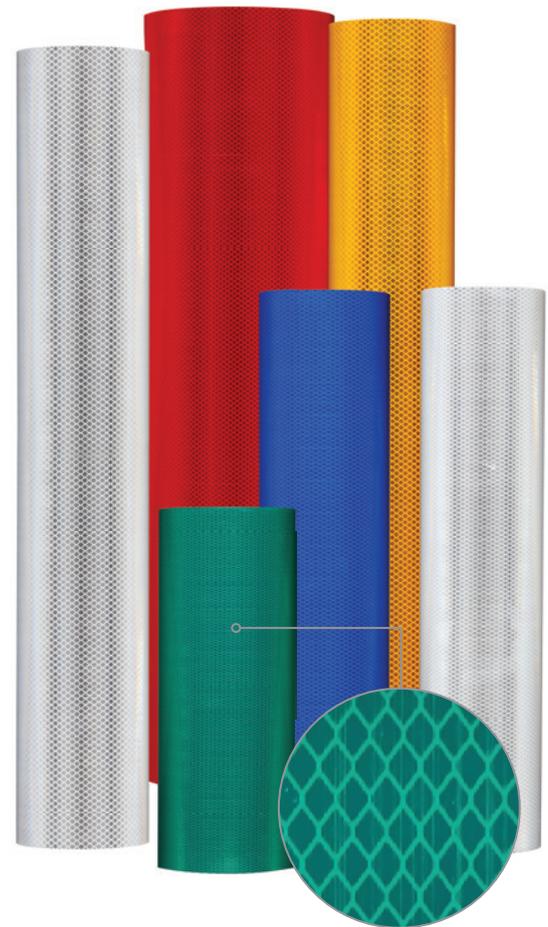
- ▶ BS EN 12899-1:2007 Classes R3A, R3B and R3C

Maximum total reflected light.

▶ 3M™ Diamond Grade™ DG³ Reflective Sheeting Series 4000

Achieve superior reflectivity at short and long distances with 3M full cube technology.

- ▶ Meets the retro reflectivity of BS EN 12899-1:2007 Classes R3A, R3B and R3C.
- ▶ Our best solution for signs positioned inside and outside of primary headlight illumination
- ▶ One of the brightest durable sheetings
- ▶ Performance warranted for up to 12 years



Guidance you can count on.

Most efficient polycarbonate full-cube technology

Returns almost 2X more light*

Broad observation angles

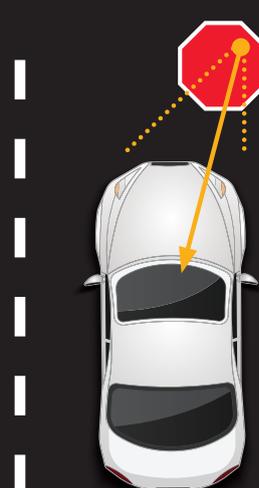
Polycarbonate, stable prismatic optics.

*vs. traditional sheeting



3M Full Cube Technology

When you can almost double the average effective brightness of road signs, visibility and safety are a natural result. Of the three technologies used on roadways today, only fully reflective micro prismatic cube-corners—or 3M full cube technology are the most efficient.



14%

Encapsulated glass bead sheeting:
Reflects 14% of light back to source

32%

Truncated cube corner sheeting (most common):
Reflects about 32% of light back to source

58%

3M™ Diamond Grade™ DG³ Reflective Sheeting with 3M full cube technology:
Reflects 58% of light back to source

Excellent reflectivity for regulated applications

▶ 3M™ High Intensity Prismatic Reflective Sheeting Series 3930

The reflective sheeting you need to meet most common performance standards

- ▶ Suitable for many traffic signs
- ▶ Meets performance standards of BS EN 12899-1:2007 Class RA2/R2
- ▶ Warranted for up to 12 years
- ▶ Great for different imaging methods—compatible with select digital printing solutions, electronic cuttable films and screen print imaging methods



3930 White



3935 Blue



3931 Yellow



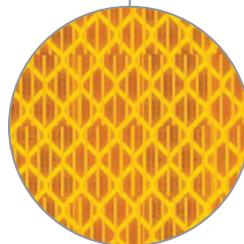
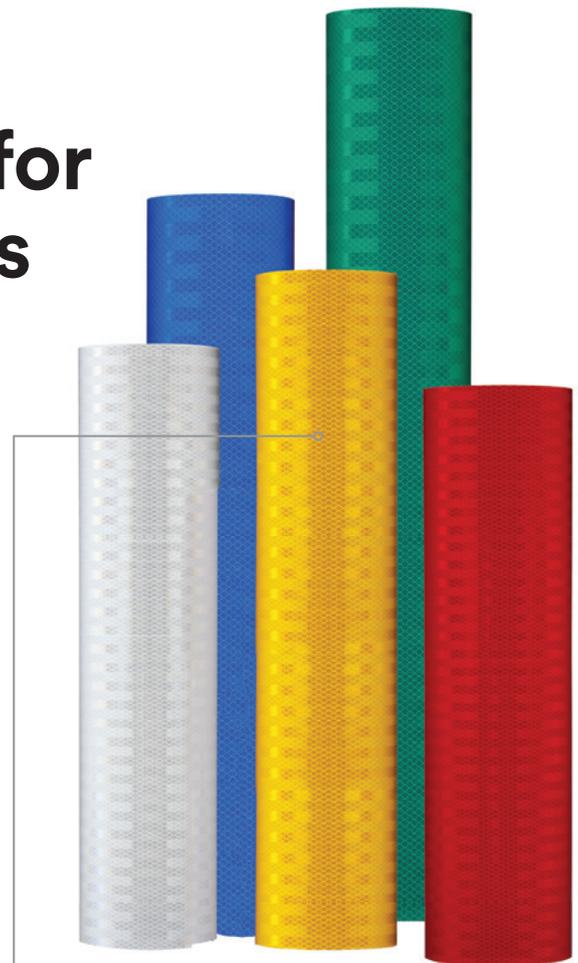
3937 Green



3932 Red



3934 Orange



The reliable performance you need.

Vivid daytime colors

UV-stabilised acrylic topfilm

Scuff and gouge resistant

Polycarbonate, stable prismatic optics

On the road to the future.

The transportation industry is dramatically changing and autonomous vehicles will soon be on our roads. That's why we're already innovating smart sign technology and more robust pavement markings to help guide the vehicles of the future.

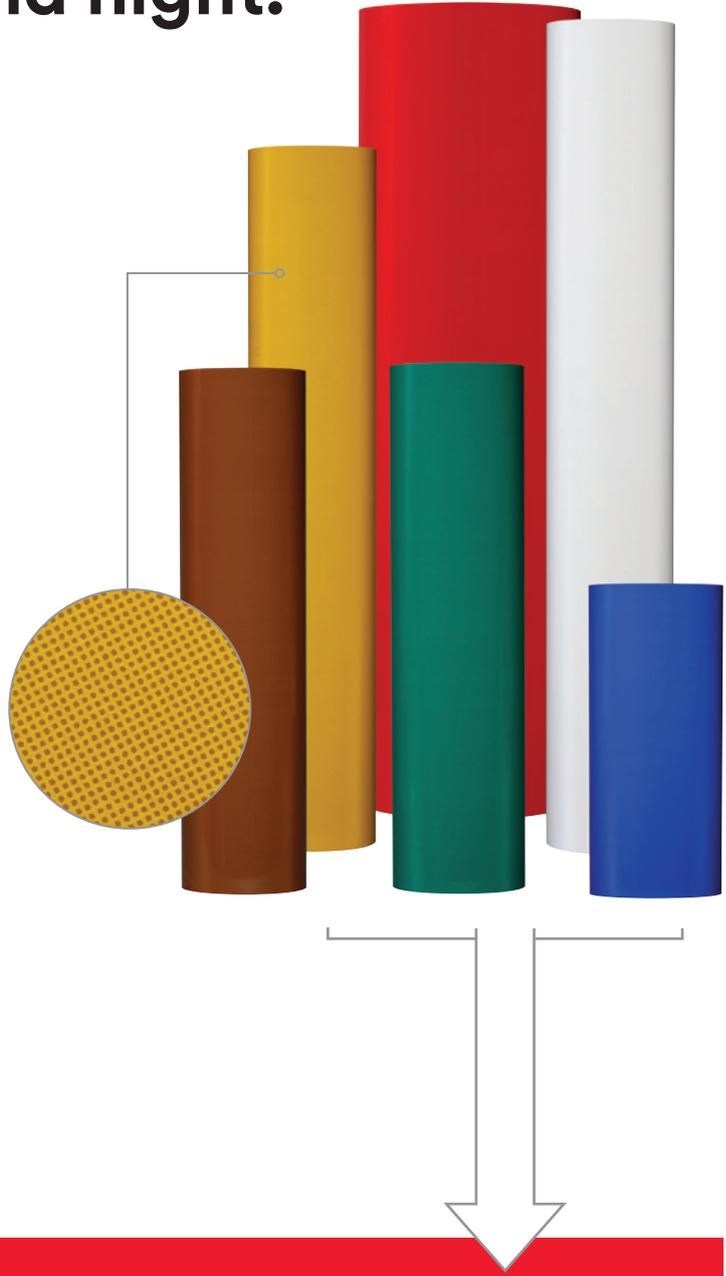


Excellent visibility and uniformity — day and night.

▶ 3M™ Advanced Engineer Grade Prismatic Sheeting Series 7900

Get enhanced whiteness compared to beaded sheeting with excellent visual uniformity on a wide range of applications.

- ▶ Meets performance standards of BS EN 12899-1:2007 Class RA1
- ▶ Reliable performance of polycarbonate cube corners
- ▶ Flexible construction for easy application—micro-seal technology provides an easy-to-handle material supporting conventional and select digital imaging methods



Visibility and Uniformity — Day & Night

	Engineer Grade Beaded Series 3200	Engineer Grade Prismatic Series 3430	Advanced Engineer Grade Prismatic Series 7930
Day			
Night**			
Thickness	6.5 mils (0.17 mm)	15.0 mils (0.38 mm)	8.5 mils (0.22 mm)

Traffic-compliant screen print inks.

▶ 3M™ Process Color Series 880 Screen Inks

3M™ Screenprinting Inks are designed for application by screen printing onto 3M™ Reflective Sheatings to provide a compatible and durable imaging system.

- ▶ Colorfast and durable—matches warranty of base sheeting
- ▶ No clear coat required
- ▶ Compatible with standard prismatic sheeting



3M™ Piezo Inkjet Series 8800 & 8900 UV Inks

Colorfast and durable traffic-compliant digital printing inks that match warranty of base sheeting.

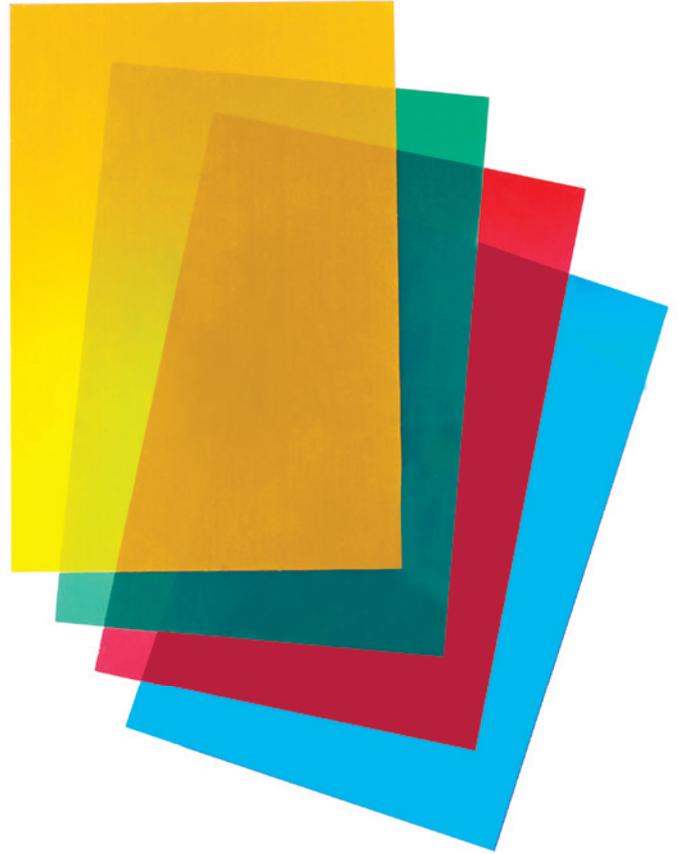
- ▶ Custom-colored sign capability
- ▶ Instant curing for streamlined production
- ▶ 8800 compatible with Durst 161 and 162 Series Printers
- ▶ 8900 compatible with Durst 163 Series Printers

Economical imaging film for low-volume signage.

▶ 3M™ ElectroCut™ 1170 Series

Get reliable compliance to daytime and nighttime color specifications on 3M prismatic sheetings.

- ▶ Precise cutting and fast weeding
- ▶ High-transparency with UV-resistant color
- ▶ Warranted to match sheeting performance



1171 Yellow



1175 Blue



1172 Red



1176 Worboys Green



1179 Brown



1177 Interstate Green

Drive down replacement costs while protecting public safety.

- ▶ **Protect and enhance traffic sign images.**
- ▶ **3M™ Protective Overlay Film Series 1140**
Basic protection for non-critical signs
- ▶ **3M™ Protective Overlay Film Series 1160 – Graffiti-Resistant**
Easily remove paint and ink from this durable overlamine
- ▶ **3M™ Electrocut™ Film Series 1170**
Premium UV protection defends against fading, finishing retroreflectivity after digital printing
- ▶ **3M™ Protective Overlay Film Series 1180 - Anti-dew**
Stay bright in all weather conditions, with a film that prevents water and dew build-up



Create custom and traffic signs with ease.

► Digital sign printing

Create traffic signs with digital printing for any level of production. 3M™ Digital Printing Solutions give you quick, on-demand prints for regulated and non-regulated signs backed by the 3M™ Warranty.

► Digital printer programs

Our partnership with industry leading digital printer manufacturer Durst helps ensure guaranteed performance.

The Rho 163 TS series is the latest development for industrial traffic sign production.

Using specially designed 3M UV Inkjet Traffic Inks it delivers highest quality and reliability, meeting traffic colour specifications to produce certified highly reflective traffic signs.

Key benefits of the Rho 163 TS printer series:

- Digital UV Printing System for the production of long lasting traffic signs
- Roll-to-roll and flatbed printing
- Fast media change with minimum media waste
- 25/46m² Print Speed
- Designed to print traffic and custom colours simultaneously
- Meets traffic colour specifications
- Up to 12 years 3M™ Warranty for traffic signs
- Digital workflow for economical printing
- Ease of use with Durst's proprietary Linux based printer software
- Excellent reliability in the market (24/7 production)



Working towards zero road deaths.



**Working towards
zero road deaths;
visibility matters.**



Studies have found that where more-visible signs are installed, crash numbers have fallen

25% to 46%
in three to six years.

Ripley, D.A, Howard R. Green Company, ITE
AB04H313, Quantifying the Safety Benefits of Traffic
Control Devices—Benefit-Cost Analysis of Traffic
Sign Upgrades, 2005 Mid-Continent Transportation
Research Symposium Proceedings.

Long-lasting quality and performance you can count on.

► Warranties and durability

As a global leader in retroreflective technology, 3M is committed to delivering innovative safety solutions designed to maximise visibility and safety on the road, in the workplace and general community. As part of this commitment, 3M UK, offers this Extended Warranty through our Approved Signmaker network.

- Up to 12 years of protection when using select 3M components
- Available for multiple imaging methods
- Available for several classes of reflective sheeting

This warranty not only guarantees the durability and performance of our sheeting, it gives you peace of mind that you are delivering the highest level of road safety.

3M Extended Warranty Statement for Permanent Traffic Signs

3M UK warrants that should a qualified sign fail during the warranty period*. 3M shall meet the total cost of replacing the sign, including removal and installation costs, subject to the Conditions set out in this statement. qualified and tested OEM inks.

*For full information please refer to the Approved Signmaker Extended Warranty Document.

3M Approved Signmakers

3M Approved Signmakers are authorised to provide the benefits of the 3M Extended Warranty for Permanent Signage to their customers (end users). These Approved Signmakers undergo training and a robust audit process each year and are subject to rigorous 3M manufacturing guidelines. All 3M Approved Signmakers have CE Marking accreditation for permanent traffic signs. 3M will annually issue an Accreditation Certificate, validating its authority to provide the benefits of this Extended Warranty to Approved Signmakers.

A copy of this Certificate should be requested from your Signmaker. For a current list of 3M Approved Signmakers, visit Where to Buy on www.3M.co.uk/traffic.

To make sure you receive the benefits of this Extended Warranty:

1. Ensure that your sign manufacturer provides you with a current copy of the Accreditation Certificate each year to ensure all signs manufactured within that year are covered;
2. Ensure your signs have a label on the rear of the sign which includes the manufacturer's name, date of manufacture and class of material used;
3. Ensure that your signs have met the correct storage and handling requirements in accordance with 3M's Guide to the Storage and Handling of Signs. Visit www.3M.co.uk/traffic for a copy of this document;
4. Ensure you are familiar with all the information set out in this document.

Warranty Coverage		Extended Signing Warranty
Physical Defects of 3M Product	Obvious damage	▲
Manufacturing Defects	Visual defects	▲
	Adhesive defects	▲
	Adhesion failure on recommended substrates	▲
Printing Defects and Ink Performance	Image defects when printing	▲
	Excessive image fading	▲
	Blistering	▲
	Excessive dimensional change	▲
Cutting Defects	Clean cutting and weeding	▲
Traffic Colors	Daytime and nighttime	▲
Retroreflection	Retention	▲

Transportation Safety Division

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