

3M Science.
Applied to Life.™



**Driving road safety in
the right direction.**

3M™ Permanent Traffic Signage

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

Like you, we aspire to a world free of roadway fatalities and serious injuries. It's why we have partnered with the U.N. Internationally and are a National Partner of Yellow Ribbon National Safety Awareness week.



**The Safer Australian
Roads and Highways
Group (SARAH)**



*Together we can
save millions
of lives.*

Contents

Retroreflective Sign Sheeting.....	2
3M™ Diamond Grade™ DG ³ Sheeting	3
3M™ Diamond Grade™ VIP Reflective Sheeting	5
3M™ High Intensity Prismatic Reflective Sheeting.....	6
3M™ Engineer Grade Reflective	7
3M™ ElectroCut™ Films.....	8
3M™ Digital Sign Printing.....	9
3M™ Delineation	10

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.
- ▶ Best Usage: Parking and recreation signs

High Intensity Prismatic Sheeting

Intermediate reflectivity

- ▶ Traffic signs, work zone devices and delineators
- ▶ Best Usage: General traffic control signs in non-disadvantaged positions and street name blades.

3M™ Diamond Grade™ DG³ Sheeting

Maximum total reflected light

- ▶ Higher luminance for larger angle, 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.
- ▶ Best Usage: Ideal for high truck traffic, multi-lane roads or for disadvantaged signs or where there is high sign clutter/interference.

Standards:

- ▶ Class AS/NZS 1906.1 Class 100

Standards:

- ▶ Class AS/NZS 1906.1 Class 400

Standards:

- ▶ Class AS/NZS 1906.1 Class 1100

3M™ Diamond Grade™ DG³ Sheeting

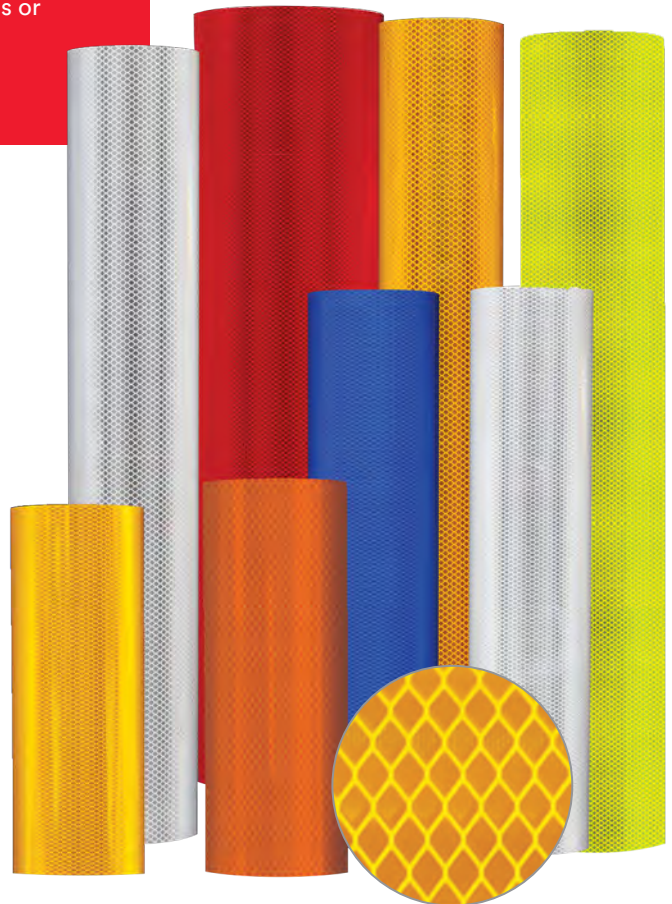
Best applications:

1. Ideal for critical regulatory signs such as Stop, Give Way, Roundabout and Keep Left.
2. High truck traffic routes, multi-lane roads, disadvantaged signs or where there is high sign clutter/interference.
3. Signs on sharp bends that require excellent retroreflective performance such as directional, hazard signs and chevrons.

Maximum total reflected light.

3M™ Diamond Grade™ DG³ Reflective Sheeting Series 4000

- Exceptional performance in short, medium and long viewing distances with 3M Innovative full cube technology.
- Meets the highest overall retroreflectivity requirements in AS/NZ 1906.1 Class 1100.
- Optimal performance in the most challenging environments, where and when drivers need it most.
- Performance warranted for up to 12 years.*



4090 White



4095 Blue



4081 Fluorescent Yellow



4091 Yellow



4092 Red



4083 Fluorescent Yellow/Green



4084 Fluorescent Orange

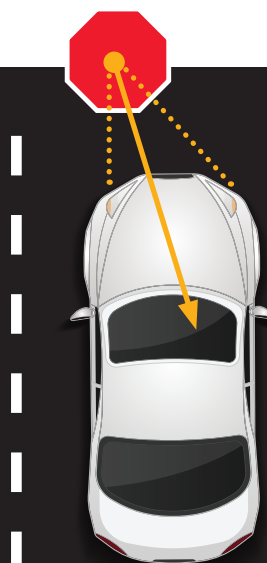


* For full details of the 3M Extended Warranty for Permanent signs, visit www.3M.com.au/roadsafety or www.3M.co.nz/roadsafety



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

Why upgrade to 3M™ Diamond Grade™ DG³ Sheeting?

Brighter signs, safer roads. You can make a difference during the day, and especially at night, by using 3M Diamond Grade DG³ Reflective Sheeting to make signage brighter and more visible, giving drivers more time to react. Let's compare.

3M™ High Intensity Prismatic		3M™ Diamond Grade™ DG ³	
Luminance		Intermediate Luminance	
Specification and standards		Mid to High performance standards AS/NZS 1906.1 Class 400	
Sight distance		Performs best at Short distances	
Retro reflective efficiency		Intermediate Retroreflection 32% Retroreflection efficiency	
Retro reflective technology		Truncated cube technology Reflects more light than glass-bead technology found in some engineer grade sheeting	

use Class 1100



Don't get "accidentally downgraded"

Many traffic sign manufacturers already use Class 1100 sheeting, even when road authorities' specifications might only call for Class 400 or 900. That's why those who are committed to achieving the highest possible traffic safety outcomes know that the technology in 3M™ Diamond Grade™ Sheeting provides solutions to help make roadways safer.



Make bright the standard

Upgrade your specifications to Class 1100 by using 3M™ Diamond Grade™ Sheeting to deliver bright visible signs that will help provide the best driving experience for all drivers on the road. Signs will remain bright with lasting durability, in both urban and rural areas.

3M™ Diamond Grade™ VIP Reflective Sheeting

Best applications:

Signs that feature around a bend and require excellent short distance retro reflective performance such as directional, hazard signs and chevrons.

Superior reflectivity at short distances.

3M™ Diamond Grade™ VIP Reflective Sheeting Series 3990

- Reflects light to drivers of all vehicle types, even at difficult angles.
- Meets AS/NZS 1906.1 Class 900.
- Premium short distance sign brightness.
- Performance Warranted for up to 10 years*.



3990 White



3995 Blue



3991 Yellow



3981 Fluorescent Yellow



3992 Red



3983 Fluorescent Yellow Green



* For full details of the 3M Extended Warranty for Permanent signs, visit www.3M.com.au/roadsafety or www.3M.co.nz/roadsafety



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.

3M™ High Intensity Prismatic Reflective Sheeting

Best applications:

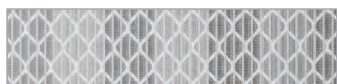
General traffic control signs in non-disadvantaged positions, such as left handed signs and street name blades.

Intermediate reflectivity for regulated applications.

3M™ High Intensity Prismatic Reflective Sheeting Series 3930

The reflective sheeting you need to meet most common middle grade performance standards.

- Excellent for general traffic control signs in non-disadvantaged positions.
- Meets AS/NZ 1906.1 Class 400.
- Warranted for up to 10 years*.



3930 White



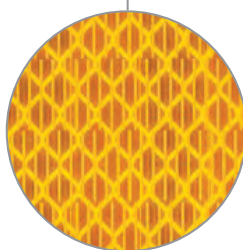
3932 Red



3931 Yellow



3935 Blue



* For full details of the 3M Extended Warranty for Permanent signs, visit www.3M.com.au/roadsafety or www.3M.co.nz/roadsafety

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.



3M™ Engineer Grade Reflective

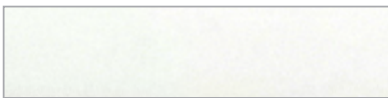
Best applications:

Parking signs and commercial applications.

Excellent visibility and uniformity — day and night.

3M™ Engineer Grade Series 3200

- Glass bead reflective technology.
- High quality, durable material designed for traffic, safety and commercial applications.
- Meets AS/NZ 1906.1 Class 100.
- Upgrade to retroreflectivity for improved visibility*.



3290 White



3275 Blue



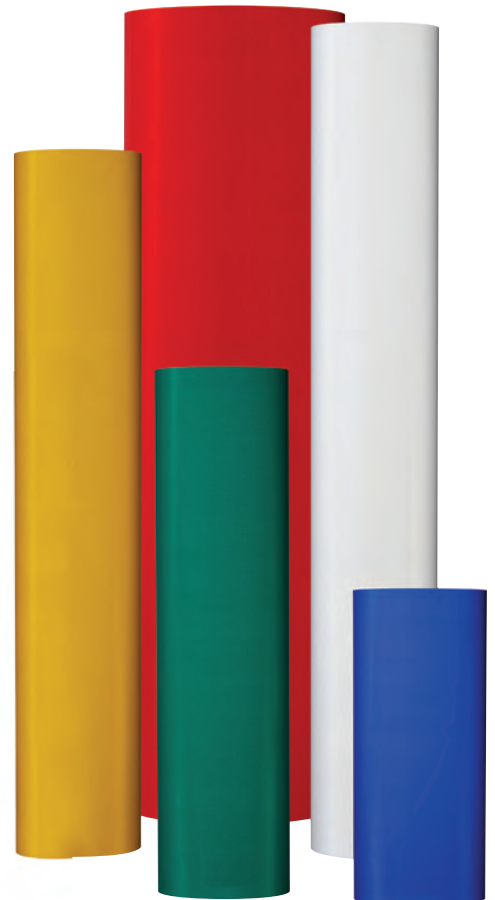
3271 Yellow



3277 Green



3272 Red



* For full details of the 3M Extended Warranty for Permanent signs, visit www.3M.com.au/roadsafety or www.3M.co.nz/roadsafety



Protect and enhance your traffic signs.

3M™ ElectroCut™ 1170 Series

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

- Protects surface from environmental contaminants and UV degradation.
- Transparent, acrylic, coloured film used for application over 3M Reflective Sheeting to produce durable sign backgrounds, copy, and logos.
- Warranted to match sheeting performance.



1171 Yellow



1175 Blue



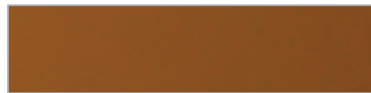
1170 Clear



1172 Red



1176 Worboys Green



1179 Brown

Drive down replacement costs while protecting public safety.

Protect and enhance traffic sign images.

3M™ Protective Overlay Film Series 1160 – Graffiti-Resistant

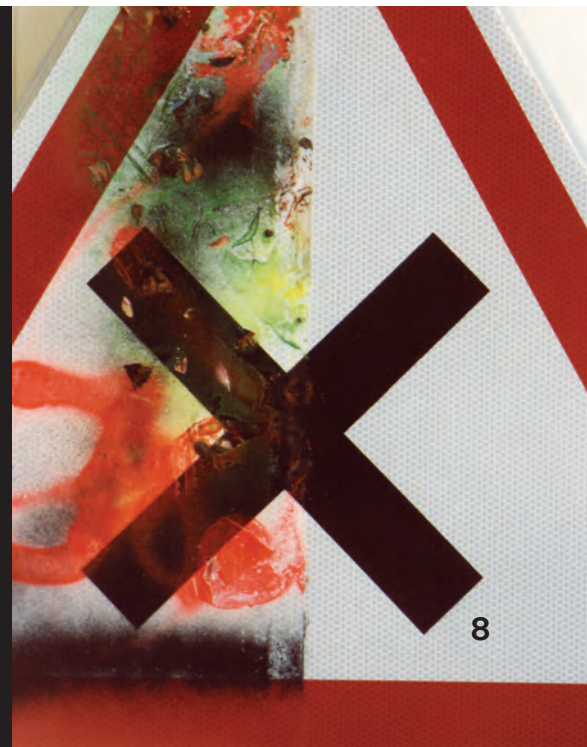
- Easily remove paint and ink from this durable overlamine.

3M™ ElectroCut™ Film Series 1170

- Premium UV protection defends against fading, finishing retroreflectivity after digital printing.
- Restore brightness and legibility of your signs after graffiti.
- Resists graffiti penetration by commonly used sprays, paints, markers, crayons and stickers.

3M™ Protective Overlay Film Series 1180 - Anti-dew

- Stay bright in all weather conditions, with a film that prevents water and dew build-up.



Digital by design.

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.

- Produce signs with a wider range of colourful reflective graphics and images.
- Customise your signs by branding with your councils logo.
- Turn your tourist signs into visual high graphic images of popular local landmarks.



Lighting up a safe path of travel.

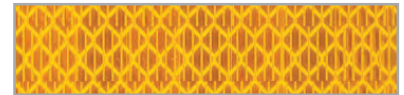
Delineator Markings

3M delineator markings are designed to provide the highest prismatic reflectivity alerting drivers to the direction of the road and obstructions earlier.

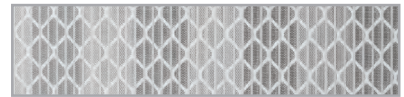
- 3M Delineators made from Series 983 are a cost-effective road safety improvement.
- Enhance driver safety where there is a need to call attention to changing road conditions, such as an abrupt roadway narrowing or curvature.



3932 Red



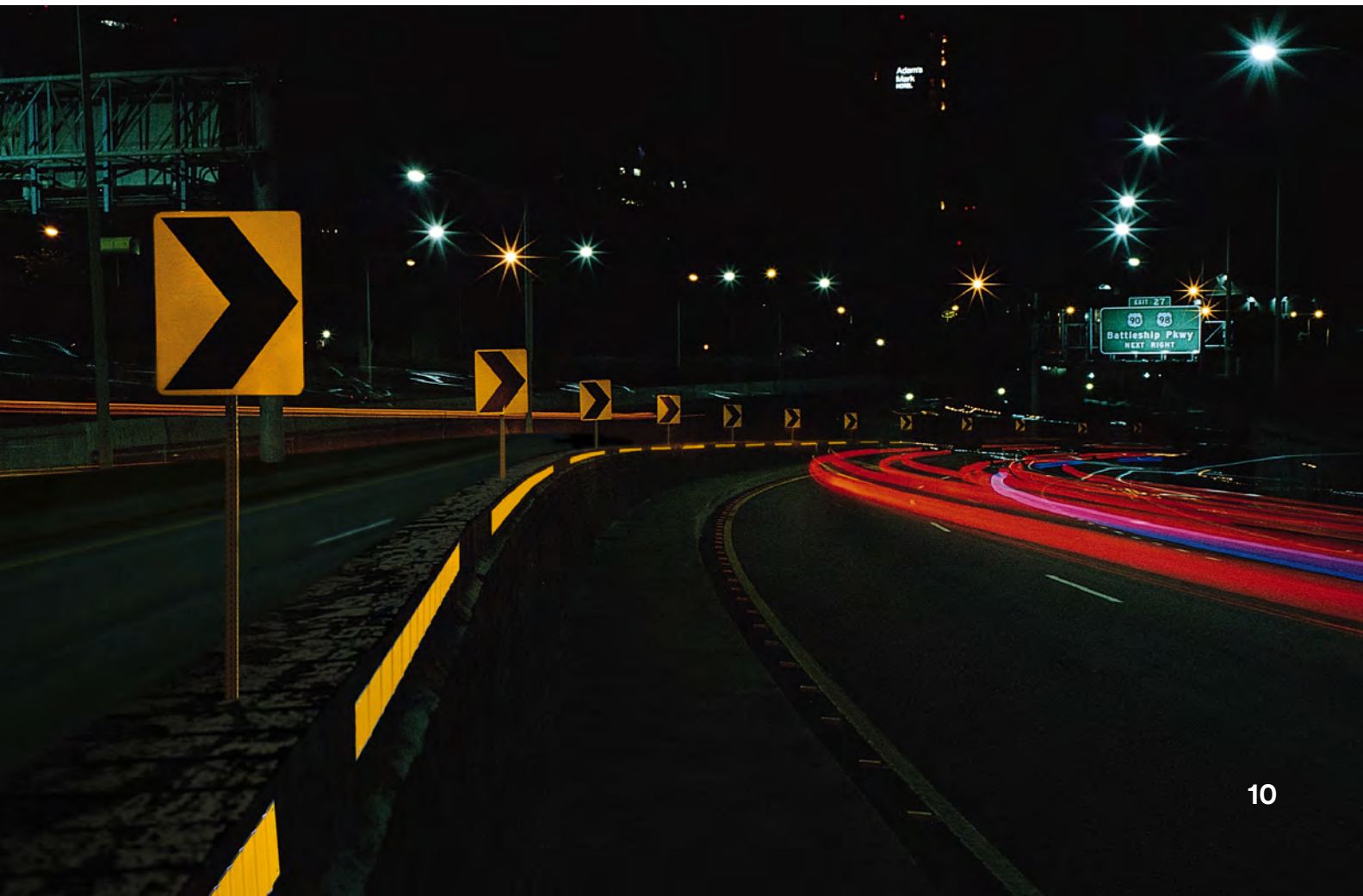
3931 Yellow



3930 White

Linear Delineation Panels

Linear Delineation Panels combine high performance 3M Diamond Grade™ Reflective Sheeting with a unique crimped design for optimal visibility, flexibility and angularity. Panels are available in fluorescent yellow colour that provide increased visibility from dawn to dusk, as well as at night.



Long-lasting quality and performance you can count on.



3M™ Diamond
Certified Manufacturer

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 Australia and New Zealand, offers an Extended Full Sign Warranty through our Approved Diamond Certified Manufacturer network.

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.

- **Full-sign replacement warranty for up to 12 years.**
- **Available for several classes of reflective sheeting.**

3M Extended Warranty Statement for Permanent Traffic Signs

3M Australia and New Zealand 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*

*For full details of the 3M Extended Warranty for Permanent signs, speak to your local 3M representative or visit:
www.3M.com.au/roadsafety or
www.3M.co.nz/roadsafety

3M Certified Signmakers

3M Diamond Certified Manufacturers are authorised to provide the benefits of the 3M Extended Warranty for Permanent Signage. These Certified Manufacturers undergo robust audits and are subject to rigorous 3M manufacturing guidelines. Each year, they are issued with a Certificate of Accreditation, validating their authority to provide the benefits of this Extended Warranty to their customers for that year.

A copy of this Certificate should be requested from your manufacturer annually to ensure all signs manufactured within that year are covered.

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 Certificate of Accreditation each year to ensure all signs manufactured within that year are covered.
2. Ensure your signs have a stamp or label on the rear of the sign. Details must include:
a) manufacturer's name;
b) date of manufacture; and
c) class of material used.
3. Ensure that your signs are stored and handled in accordance with 3M's Guide to the Storage & Handling of Signs.

For a current list of 3M Approved Diamond Certified Manufacturers, visit Where to Buy on www.3M.com.au/roadsafety or www.3M.co.nz/roadsafety

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 Colours	Daytime and nighttime	▲
Retroreflection	Retention	▲

3M Australia Pty Ltd
Transportation Safety Division
Bldg A, 1 Rivett Road
North Ryde NSW 2113
Freecall: 136 136
Web www.3M.com.au/roadsafety

3M New Zealand Ltd
Transportation Safety Division
94 Apollo Drive, Albany
Auckland, New Zealand
Freecall: (09) 477 4040
Web www.3M.co.nz/roadsafety

3M, Diamond Grade and Stamark are trademarks of 3M.
Please recycle. Printed in Australia.
© 3M 2019. All rights reserved. AV
AV011483151