



3M in the United Kingdom and Ireland certifies

**Stewart Signs Ltd**

as a 3M Approved Signmaker for

**2016**

This is to certify that the above signmaker has been approved by 3M™ and is qualified to offer the 3M Extended Warranty for Permanent Traffic Signs to their customers for the above calendar year. Permanent traffic signs manufactured at the above's premises using 3M Reflective Sheeting and erected in accordance with the Traffic Signs Regulations and General Directions will benefit from the performance guarantees as detailed below.

**3M™ Diamond Grade™ DG<sup>3</sup> Reflective Sheeting**

Permanent traffic signs made with Diamond Grade DG<sup>3</sup> non-fluorescent sheeting will retain the minimum performance levels shown overleaf for a minimum period of 12 years. Permanent traffic signs made with Diamond Grade DG<sup>3</sup> fluorescent sheeting will retain the minimum performance levels shown overleaf for a minimum period of **10 years**.

**Class R2/RA2 prismatic retroreflective performance**

The reflective values of 3M™ High Intensity Prismatic Reflective Sheeting will be equal to or better than British Standard BS EN 12899-1; three year weathered brightness requirement as shown overleaf, for a minimum period of **12 years**.

**Class RA1 prismatic retroreflective performance**

In addition to meeting the requirements of BS EN 12899-1, 3M™ Engineer Grade Prismatic Reflective Sheeting will meet three year weathered brightness requirement as shown overleaf, for a minimum period of **7 years**.

**Class RA1 retroreflective performance**

In addition to meeting the requirements of BS EN 12899-1, 3M™ Engineer Grade Reflective Sheeting will meet three year weathered brightness requirement as shown overleaf, for a minimum period of **7 years**.

**Simon Copeman, General Sales & Marketing Manager,  
3M Traffic Safety Systems, UK & Ireland region.**

# Performance guarantee



## 3M™ Diamond Grade™ DG<sup>3</sup> Reflective Sheeting

### Diamond Grade DG<sup>3</sup> Reflective Sheeting

Test geometry: 0.2° observation angle &  
-5° entrance angle

Colour	Minimum performance after 12 years
White	400
Yellow	300
Red	80
Blue	25
Interstate Green	40

### Diamond Grade DG<sup>3</sup> Reflective Sheeting

Test geometry: 1.0° observation angle &  
-5° entrance angle

Colour	Minimum performance after 12 years
White	84
Yellow	63
Red	17
Blue	3.8
Interstate Green	8

## 3M™ Reflective Sheeting

### High Intensity Prismatic Reflective Sheeting

Test geometry: 0.33° observation angle &  
+5° entrance angle

Colour	Minimum performance after 12 years
White	126
Yellow	85
Red	22
Blue	10

### Engineer Grade Prismatic Reflective Sheeting

Test geometry: 0.33° observation angle &  
+5° entrance angle

Colour	Minimum performance after 7 years
White	25
Yellow	17.5
Red	5
Blue	1

### Engineer Grade Reflective Sheeting

Test geometry: 0.33° observation angle &  
+5° entrance angle

Colour	Minimum performance after 7 years
White	25
Yellow	17.5
Red	5
Blue	1

### Notes

Additional performance table for Diamond Grade DG<sup>3</sup> is provided at 1.0° observation angle to account for shorter range viewing and/or truck driver viewing where larger observation angles typically occur. Values stated are for the coefficient of retroreflection ( $R_{\text{a}}$ ) at the geometry stated, in Candelas per lux per square metre. This performance guarantee is to be read in conjunction with and modifies clause 7.2 of the condition of sale of goods and services of 3M.

### Exclusions

Failure due to vandalism, poor installation, manufacture not in accordance with 3M recommendations\*, or use of non 3M materials are not covered by this guarantee. For colours achieved by silk-screening or digitally printing with 3M inks or achieved using 3M Electronic Cuttable film rather than self coloured sheeting, 70% of the stated retroreflective performance values will apply unless otherwise indicated.

**3M**

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\*Refer to 3M Product Bulletins and Production  
Standards Manual and Information Bulletins