

Declaration of Performance/ Leistungserklärung 3M Flexible Engineer Grade Prismatic 7600

Construction Product Code / Bezeichnung des Bauproduktes

Microprismatic Retroreflective Sheeting

1. 3M Flexible Engineer Grade Prismatic Reflective Sheeting Series 7600
2. 3M Flexible Engineer Grade Prismatic Reflective Sheeting Series 7600 printed with 3M Process Color Series 880N or I
3. 3M Flexible Engineer Grade Prismatic Reflective Sheeting Series 7600 printed with 3M Process Color Series 990
4. 3M Flexible Engineer Grade Prismatic Reflective Sheeting Series 7600 + 3M Piezo Inkjet Ink Series 8800UV or 8900UV + 3M Protective Overlay Film 1140

Intended Use / Verwendungszweck

The construction product is used to manufacture sign faces for permanent traffic signs. The intended use includes, for example:

- Retro-reflective signs, retro-reflective and transilluminated signs (see also EN 12899-1)
- Variable message signs (see also EN 12966-1)

Das Bauprodukt wird für die Herstellung von Signalbildern von ortsfesten, vertikalen Verkehrszeichen verwendet. Der Verwendungszweck schließt z.B. ein:

- Retroreflektierende Verkehrszeichen, retroreflektierende und innenbeleuchtete Verkehrszeichen (siehe EN 12899-1)
- Wechselverkehrszeichen (siehe EN 12966-1)

Manufacturer / Hersteller



3M Deutschland GmbH
Carl-Schurz-Str.1
D – 41453 Neuss

Assessment and Verification of Constancy of Performance / Bewertung und Überprüfung der Leistungsbeständigkeit

System 1

StrAus-Zert, notified body 0913, Fleyer Straße 204, D-58097 Hagen performs the continuous surveillance, assessment and evaluation of the factory production control under system 1 and issued the certificate of constancy of performance 0913-CPR-2020/01

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StrAus-Zert, notifizierte Stelle Nr. 0913, Fleyer Straße 204, D-58097 Hagen führt die laufende Überwachung, Beurteilung und Anerkennung der werkseigenen Produktionskontrolle nach System 1 durch und hat das Zertifikat der Leistungsbeständigkeit 0913-CPR-2020/01 ausgestellt.

UBAtc, Rue du Lombard 42, B-1000 Brussels, performed the initial type testing and initial inspection of the manufacturing plant and the FPC under system 1 and issued ETA 19/0839 on the basis of EAD 120001-01-0106

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UBAtc, Rue du Lombard 42, B-1000 Brussels, führte die Erstprüfung und Erstinspektion des Werks und der werkseigenen Produktionskontrolle nach System 1 durch und hat ETA 19/0839 auf der Basis des EAD 120001-01-0106 ausgestellt.

Declared Performance / erklärte Leistung (ETA 19/0839)

Safety in Use / Nutzungssicherheit

Essential Characteristics / Wesentliche Merkmale	Performance / Leistung	Technical Specification / Technische Spezifikation
Visibility Characteristics		
Daylight Chromaticity and Luminance Factor	Table 1.2 (see Amendment)	EAD 120001-01-0106 (sept 2016) ETA 19/0839
Coefficient of Retro-reflection	Table A.1 (see Amendment)	
Rotational Symmetry	Ratio > 1:2.5	
Durability		
Impact Resistance	No apparent cracking or delamination	EAD 120001-01-0106 (sept 2016) ETA 19/0839
Visibility after accelerated artificial weathering		
Daylight Chromaticity and Luminance Factor	Table 1.3 (see Amendment)	
Coefficient of Retro-reflection	Values > 80% of Table A.1 (see Amendment)	

The performance of the construction product identified above is in conformity with the declared performance. This declaration of performance is issued under the sole responsibility of the manufacturer /

Die Leistung des oben genannten Bauproduktes entspricht der erklärten Leistung. Verantwortlich für die Erstellung dieser Leistungserklärung ist allein der Hersteller.

Neuss, May 2020

ppa. Dr. Chris Howitt
Technical Director
3M EMEA Area

**Amendment to the Declaration of Performance
'3M Flexible Engineer Grade Prismatic 7600'**

This declaration covers the product 'Microprismatic retroreflective sheeting'. Sign plates or complete assemblies of fixed vertical road traffic signs according to EN 12899-1:2007 can be manufactured with the following products and product combinations, according to ETA 19/0839.

Components	Trade name	Colours/code	
Microprismatic retro-reflective sheeting	3M™ Flexible Engineer Grade Prismatic Reflective Sheeting Series 7600	White	7610
Process Colour	3M™ Process Colour Series 880 I or N	Yellow	884 I or N
		Red	882 I or N
		Blue	883 I or N
		Green	888 I or N
Process Colour	3M™ Process Colour Series 990	Yellow	990-04
		Red	990-12
		Blue	990-10
		Green	990-08
Process Colour for digital printing	3M™ Piezo Inkjet Ink Series 8800 UV or 8900 UV	Yellow	
		Red	
		Blue	
		Green	
		Brown	
3M™ Protective Overlay Film		Clear	1140

Colours		Chromaticity Coordinates				Luminance Factor β
		1	2	3	4	
White Tolerance Sphere*	x	0.305	0.335	0.325	0.295	≥ 0.35
	y	0.315	0.345	0.355	0.325	
Yellow Tolerance Sphere*	x	0.494	0.470	0.513	0.545	≥ 0.27
	y	0.505	0.480	0.437	0.454	
Red Tolerance Sphere*	x	0.735	0.700	0.610	0.660	≥ 0.05
	y	0.265	0.250	0.340	0.340	
Blue Tolerance Sphere*	x	0.130	0.160	0.160	0.130	≥ 0.01
	y	0.090	0.090	0.140	0.140	
Green Tolerance Sphere*	x	0.110	0.170	0.170	0.110	≥ 0.04
	y	0.415	0.415	0.500	0.500	
Brown Tolerance Sphere*	x	0.455	0.523	0.479	0.558	0.03-0.09
	y	0.397	0.429	0.373	0.394	

* Chromaticity Coordinates are similar to EN 12899-1:2007 Class CR2

Table 1.2: Manufacturer's specification for initial daylight chromaticity and luminance factor

Colours		Chromaticity Coordinates				Luminance Factor β
		1	2	3	4	
White Tolerance Sphere*	x	0.355	0.305	0.285	0.335	≥ 0.35
	y	0.355	0.305	0.325	0.375	
Yellow Tolerance Sphere*	x	0.545	0.487	0.427	0.465	≥ 0.27
	y	0.454	0.423	0.483	0.534	
Red Tolerance Sphere*	x	0.735	0.674	0.569	0.655	≥ 0.05
	y	0.265	0.236	0.341	0.345	
Red on Yellow Tolerance Sphere*	x	0.735	0.674	0.569	0.655	≥ 0.05
	y	0.265	0.236	0.341	0.345	
Blue Tolerance Sphere*	x	0.078	0.150	0.210	0.137	≥ 0.01
	y	0.171	0.220	0.160	0.038	
Green Tolerance Sphere*	x	0.007	0.248	0.177	0.026	≥ 0.04
	y	0.703	0.409	0.362	0.399	
Brown Tolerance Sphere*	x	0.455	0.523	0.479	0.558	0.03-0.09
	y	0.397	0.429	0.373	0.394	

* Chromaticity Coordinates are similar to EN 12899-1:2007 Class CR1

Table 1.3: Manufacturer's specification for daylight chromaticity and luminance factor 'in-use'

Geometry		Colour					
α	β	White	Yellow	Red	Green	Blue	Brown
12' (0.2°)	5°	70	50	14,5	9	4	1
	30°	30	22	6	3,5	1,7	0,3
	40°	10	7	2	1,5	0,5	#
20' (0.33°)	5°	50	35	10	7	2	0,6
	30°	24	16	4	3	1	0,2
	40°	9	6	1,8	1,2	#	#
2°	5°	5	3	1	0,5	#	#
	30°	2,5	1,5	0,5	0,3	#	#
	40°	1,5	1,0	0,5	0,2	#	#

Indicates "Value greater than zero but not significant or applicable"
NOTE: Coloured areas of signs created by digital or screen printing will need to meet 70% of the values in the table.

**Table A.1
Manufacturer's Specification for the Minimum Initial Coefficient of Retro-reflection R_A value
(Values are identical to EN 12899-1:2007 Class RA1)**