

## Metamark Durability Guide

Outdoor durability of Metamark products based on regional climate.

### Introduction

Metamark warrants to its customers that graphics and markings produced using Metamark products will remain in satisfactory condition for a term no less than that defined as the expected durability as detailed in Metamark's technical bulletins. Listed external durability's are on based on vertical exposure under Northern European conditions (this refers to the unprinted vinyl, refer to ink manufacturer for durability of the finished product). The product will remain in satisfactory condition, effective for its intended purpose, and not deteriorate excessively, eg: from shrinkage or discolouration, within the listed durability term.

The regional climate of a country is the main factor which will reduce the expected performance, along with the angle and exposure of the application. Other points to consider are preparation of the substrate, method of application, cleaning and maintenance process. The user must take must ensure that graphics and markings produced using Metamark products are suitable for their intended use and installed in accordance with the published methods and best practices.

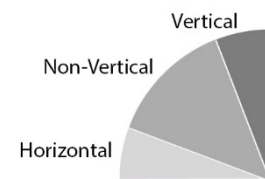
### Angles of Exposure

Graphics will be affected and external durability altered depending on the angle and exposure. The different angles of exposure are detailed as follows:

Vertical Exposure:  $\pm 10^\circ$  from vertical

Non-Vertical Exposure:  $11^\circ$  to  $69^\circ$  from vertical

Horizontal Exposure:  $70^\circ$  -  $90^\circ$  from vertical



### Zone Durability

The below figures show the external performance in years expected in the different listed zones. These are determined by regional climate and angle of exposure.

Vertical Exposure
<b>Zone 1</b>
8
7
6
5
4
3
2
1

Vertical Exposure	
Zone 2	Zone 3
6	4
5	3.5
4	2
3	1.5
2	1
1.5	0.5
1	-
0.5	-

Non-Vertical, Horizontal Exposure		
Zone 1	Zone 2	Zone 3
4	3	2
3.5	2.5	1.5
3	2	1
2.5	1.5	0.5
2	1	-
1.5	0.5	-
1	-	-
0.5	-	-

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### Zones Defined

The durability of a product is effected by the regional climate. Countries have been categorised into three separate groups depending on their region and climate.

Zone 1	Zone 2		Zone 3		
Andorra	Argentina	Singapore	Afghanistan	Indonesia	Sri Lanka
Austria	Armenia	Solomon Islands	Albania	Iran	St. Kitts & Nevis
Belarus	Australia*	South Africa	Algeria	Iraq	St. Lucia
Belgium	Azerbaijan	South Korea	Angola	Israel	Sudan
BIH	Bangladesh	Spain	Antigua & Barbuda	Jamaica	Suriname
Bulgaria	Bhutan	Taiwan	Australia <sup>1</sup>	Jordan	Swaziland
Canada	Bolivia	Tajikistan	Bahamas	Kenya	Syria
Croatia	Brazil	Thailand	Bahrain	Kiribati	Tanzania
Czech Republic	Brunei	Togo	Barbados	Kuwait	Timor-Leste
Denmark	Cambodia	Tonga	Belize	Lebanon	Trinidad & Tobago
Ecuador	Chile	Tunisia	Benin	Libya	Tuvalu
Estonia	China	Turkey	Botswana	Madagascar	Uganda
Finland	Cote d'Ivoire	Turkmenistan	Burkina Faso	Malawi	UAE
France	Cyprus	USA*	Burundi	Maldives	USA <sup>2</sup>
Georgia	Fiji	Uruguay	Cabo Verde	Mali	Vanuatu
Germany	Ghana	Uzbekistan	Cameroon	Marshall Islands	Venezuela
Hungary	Greece	Vatican City	Central African Rep.	Mauritania	Yemen
Iceland	India	Vietnam	Chad	Mauritius	Zambia
Ireland	Italy		Colombia	Mexico	Zimbabwe
Kosovo	Japan		Comoros	Morocco	
Latvia	Kazakhstan		Congo	Mozambique	
Liechtenstein	Kyrgyzstan		Costa Rica	Namibia	
Lithuania	Laos		Cuba	Nauru	
Luxembourg	Lesotho		Djibouti	Nicaragua	
Macedonia	Liberia		Dominica	Niger	
Moldova	Malaysia		Dominican Republic	Oman	
Monaco	Malta		Egypt	Palau	
Montenegro	Micronesia		El Salvador	Palestine	
Netherlands	Mongolia		Equatorial Guinea	Panama	
Norway	Myanmar		Eritrea	Papua New Guinea	
Poland	Nepal		Ethiopia	Qatar	
Romania	New Zealand		Gabon	Rwanda	
Russia	Nigeria		Gambia	Samoa	
Serbia	North Korea		Grenada	Sao Tome & Principe	
Slovakia	Pakistan		Guatemala	Saudi Arabia	
Slovenia	Paraguay		Guinea	Senegal	
Sweden	Peru		Guinea-Bissau	Seychelles	
Switzerland	Philippines		Guyana	Sierra Leone	
Ukraine	Portugal		Haiti	Somalia	
United Kingdom	San Marino		Honduras	South Sudan	

\*Exceptions stated in Zone 3  
<sup>1</sup>Northern Territory, Queensland, Western Australia  
<sup>2</sup>Arizona, California, Florida, Nevada, New Mexico, Texas, Utah

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