

TECHNICAL BULLETIN 7.5 - August 2014

Outdoor Durability of combined MACtac print media and laminates

1) Introduction

Within MACtac, we care about quality. Most of our print media are therefore warranted for several years outdoors. However, the printing process reduces -sometimes greatly- the overall outdoor durability as all inks fade-away when exposed to UV light. The colour change of inks depends greatly upon the nature of the inks (solvent, latex, UV) as well as the ink load used. Other parameters greatly influencing the durability of the ink are the temperature and humidity of the region, its pollution level and altitude as well as image orientation. Horizontal and/or south-facing exposure in high temperature and high UV climates are the worst conditions a printed image will have to withstand. As a consequence, few horizontal applications are warranted.

Laminates from MACtac are recommended to limit the colour fading of the inks, in addition to providing mechanical protection, and ease of cleaning. MACtac laminates provide other functionalities to the printed image - like anti-graffiti performance – are also available.

Outdoor durability of the different constructions (printed media + appropriate laminate) can be found in the table below. These values are only valid if standard CMYK, OEM inkjet digital inks are used.

2) Zone definition

The climate of a region greatly influences the outdoor durability of printed images. The globe has therefore been divided into 3 regions or zones:

Zone 1

- North Europe
- West Europe
- Central Europe
- East Europe
- North America (excl. desert areas of the USA: Arizona, California, Florida, Nevada, New Mexico, Texas, Utah, as well as Mexico which all belong to Zone 3

Zone 2

- South Europe
- Central & South America
- Asia Pacific
- Australian South coastal area (from Perth to Brisbane),
- New Zealand

Zone 3

- Greater Middle East (e.g. Egypt, Iran, Maghreb countries, UAE, ...)
- Africa
- Australian Desert areas, North of Perth-Brisbane coastal area
- USA : Arizona, California, Florida, Nevada, New Mexico, Texas, Utah, Mexico

3) Table of Outdoor Durability :

The following figures are given for 90° exposure facing south in Western Europe (zone 1).

For all outdoor applications except for Floor Graphics, durability is reduced by:

40% for non-vertical exposure

60% for horizontal exposure

No warranty is given for horizontal exposure for car wrap in Zone 2 and 3 except for the Permacolor HORIZon™ laminating film.

Print media name	Laminate name	Unit	Vertical exposure			Unit	Horizontal exposure		
			Zone 1	Zone 2	Zone 3		Zone 1	Zone 2	Zone 3
Printvinyl 829P - 828P-899P Printvinyl 829R - 828R	PrintCover 898-899	years	2,0	1,0	0,5	years	0,8	0,4	0,2
JT 5822-24 P/R JT 5122-24 P/R	LF 3894-98-99 LUV 3899-98	years	3,0	2,3	1,5	years	1,2	0,9	0,6
JT 5822-24 P/R JT 5122-24 P/R	PF 6200 LUV 6300 LUV 6301 PF 6400	years indoor	2	2	2	months indoor	9	9	9
			3	3	3		6	6	6
			2,5	2,5	2,5		3	3	3
			3	3	3		1	1	1
JT 5822-24 P/R JT 5122-24 P/R	PG 7036-75-92 LUV 7036	years	3,0	1,8	1,2	years	1,2	0,7	0,5
JT 5828-29 P/R	PG 7034	years indoor	2,0	2,0	2,0	years indoor	0,8	0,8	0,8
JT 5828-29 P/R	PG 7281-84-85	years	4,0	3,0	2,0	years	1,6	1,2	0,8
JT 5828-29 P/R	LAG 100	years	3,0	2,3	1,5	years	1,2	0,9	0,6
JT 5828-29 P/R	PF 6200 LUV 6300 LUV 6301 PF 6400	years indoor	2	2	2	months indoor	9	9	9
			3	3	3		6	6	6
			2,5	2,5	2,5		3	3	3
			3	3	3		1	1	1
JT 5828-29 P/R	LF 3894-98-99 LUV 3899-98	years	3,0	2,3	1,5	years	1,2	0,9	0,6
JT 5899 R	LF 3894-98-99 LUV 3899-98	years	3,0	2,3	1,5	years	1,2	0,9	0,6
JT 5899 R	PG/LUV 7036	years	3,0	1,8	1,2	years	1,2	0,7	0,5
JT 5829 SPB	LF 3894-98-99 LUV 3899-98	years	3,0	2,3	1,5	years	1,2	0,9	0,6
JT 5829 SPB	PG 7281-84-85	years	3,0	2,3	1,5	years	1,2	0,9	0,6
JT 5829 SPB	PG 7036-75-92 LUV 7036	years	3,0	1,8	1,2	years	1,2	0,7	0,5
JT 5829 MBF	PG 7281-84-85	years	4,0	3,0	2,0	years	1,6	1,2	0,8
JT5921	LF3991	years	5,0	3,0	2,0	years	2,0	1,2	0,8
JT5929P - JT5928P	LAG 100	years	3,0	2,3	1,5	years	1,2	0,9	0,6
JT5929P - JT5928P	LF/LUV 3998-99	years	5,0	3,8	2,5	years	2,0	1,5	1,0
JT5928-29 P/R	Permafun Peach Skin	years indoor	5,0	5,0	5,0	years indoor	3,0	3,0	3,0
JT 5928-29 P/R	Permafun Leathertex, Carbon Clear Pro and Permafun Frost	years	3,0	2,3	1,5	years	1,2	0,9	0,6
JT5929P - JT5928P	Permafun series (except Peach Skin, Frost, Carbon Clear Pro & Leathertex)	years	5,0	3,8	2,5	years	2,0	1,5	1,0
JT5929MBF	Permafun series (except Peach Skin, Frost, Carbon Clear Pro & Leathertex)	years	5,0	3,8	2,5	years	2,0	1,5	1,0
JT5929MBF	LF/LUV 3998-99	years	5,0	3,8	2,5	years	2,0	1,5	1,0
JT5999R - JT5999MBF	LF/LUV 3998-99	years	5,0	3,8	2,5	years	2,0	1,5	1,0
JT5999R - JT5999MBF	PG 7036 Pro	years	5,0	3,8	2,5	years	2,0	1,5	1,0
JT 5728 P	LF/LUV 3998-99	years	5,0	3,8	2,5	years	2,0	1,5	1,0
JT 5827 P	LF 3894-98-99 LUV 3898-99	years	3,0	2,3	1,5	years	1,2	0,9	0,6
WW 100	CastLAM Gloss & Matt	years	3,0	2,3	1,5	years	1,2	0,9	0,6
WW 300	PG 7281-84-85	years	4,0	3,0	2,0	years	1,6	1,2	0,8
JT 5425 PUV - JT 5425 RUV	LUV 7499	years	2,0	1,5	1,0	years	0,8	0,6	0,4
JT 5425 PUV - JT 5425 RUV	LUV 7036	years	2,0	1,2	0,8	years	0,8	0,5	0,3
StreetRap	StreetLam FloorGrip	years indoors	na	na	na	months outdoor	6	6	6
		3	3	3	3	3	3		
JT 5499 R	PG/LUV 7036	years indoor	1,0	1,0	1,0	years indoor	0,4	0,4	0,4
JT 5409 RUV	LUV 7036	years	2,0	1,2	0,8	years	0,8	0,5	0,3
Vehicle wrapping									
JT 5529 P - JT 5629 PM	CastLAM Gloss & Matt	years	4,0	2,0	1,0	years	1,6	0,0	0,0
JT 5529 P - JT 5629 PM	LF 3499	years	4,0	1,6	0,8	years	1,6	0,0	0,0
JT 5529 P/MBF -JT 5629 PM	Permacolor HORIZon™	years	7,0	4,4	3,0	years	3	1,5	1,5

This table is not exhaustive: please contact us for more information.

More details can be found on our warranty coverage in the individual Product Warranty document which is available upon request.