

## **TECHNICAL BULLETIN 7.5**

### **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

All areas of Zone 1 which are above 1000m of altitude

##### 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 and JT 10700, durability is reduced by:  
40% for non-vertical exposure  
60% for horizontal exposure

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.

Outdoor Durability Table per Region									
Print media name	Laminate name	Unit	Vertical exposure			Horizontal exposure			
			Zone 1	Zone 2	Zone 3	Unit	Zone 1	Zone 2	Zone 3
PrintVinyl 800 Series	PrintCover 898-899	years	2.0	1.0	0.5	years	0.8	0.4	0.2
JT 5822-24 P / R	LUV 3894-98-99	years	3.0	2.3	1.5	years			
JT 5822-24 P / R	PG 7036-75 LUV 7036	years	3.0	1.8	1.2	years	1.2	0.7	0.5
JT 5822-24 P / R	PG 7092 AS	years	1.0	0.6	0.4	years	0.4	0.2	0.2
JT 5828-29 P / PM / R / RM / B-Free	PG 7034	years indoor	2.0	2.0	2.0	years indoor	0.8	0.8	0.8
JT 5828-29 P / PM / R / RM / B-Free	LAG 100 - NoTag 90 series	years	3.0	2.3	1.5	years	1.2	0.9	0.6
JT 5828-29 P / PM / R / RM / B-Free	LUV 3894-98-99	years	4.0	3.0	2.0	years	1.6	1.2	0.8
JT 5899 R	LUV 3894-98-99	years	4.0	3.0	2.0	years	1.6	1.2	0.8
JT 5899 R	PG/LUV 7036	years	3.0	1.8	1.2	years	1.2	0.7	0.5
JT 5829 SPB	LUV 3894-98-99	years	4.0	3.0	2.0	years	1.6	1.2	0.8
JT 5829 SPB	PG 7036-75 LUV 7036	years	3.0	1.8	1.2	years	1.2	0.7	0.5
JT 5829 SPB	PG 7092 AS	years	1.0	0.6	0.4	years	0.4	0.2	0.2
MacPoly 900 Series	PolyCover 900 series	years	5.0	3.0	2.0	years	2.0	1.2	0.8
MacPoly 900 Series	LAG 100 - NoTag 90 series	years	3.0	2.3	1.5	years	1.2	0.9	0.6
MacPoly 900 Series	LUV 3998-99	years	5.0	3.8	2.5	years	2.0	1.5	1.0
MacPoly 900 Series	Permafun Peach Skin	years indoor	5.0	5.0	5.0	years indoor	3.0	3.0	3.0
MacPoly 900 Series	Permafun Leathertex, Carbon Clear Pro and Permafun Frost	years	3.0	2.3	1.5	years	1.2	0.9	0.6
MacPoly 900 Series	Permafun series (except Peach Skin, Frost, Carbon Clear Pro & Leathertex)	years	5.0	3.8	2.5	years	2.0	1.5	1.0
JT5929 P / PM / B-Free, JT 5928 PM	LAG 100 - NoTag 90 series	years	3.0	2.3	1.5	years	1.2	0.9	0.6
JT5929 P / PM / B-Free, JT 5928 PM	LUV 3998-99	years	5.0	3.8	2.5	years	2.0	1.5	1.0
JT5929 P / PM / B-Free, JT 5928 PM	Permafun Peach Skin	years indoor	5.0	5.0	5.0	years indoor	3.0	3.0	3.0
JT5929 P / PM / B-Free, JT 5928 PM	Permafun Leathertex, Carbon Clear Pro and Permafun Frost	years	3.0	2.3	1.5	years	1.2	0.9	0.6
JT5929 P / PM / B-Free, JT 5928 PM	Permafun series (except Peach Skin, Frost, Carbon Clear Pro & Leathertex)	years	5.0	3.8	2.5	years	2.0	1.5	1.0
JT5929 B-Free	LUV 3998-99	years	5.0	3.8	2.5	years	2.0	1.5	1.0
JT5999 B-Free	LUV 3998-99	years	5.0	3.8	2.5	years	2.0	1.5	1.0
JT5999 B-Free	PG 7036 Pro	years	5.0	3.8	2.5	years	2.0	1.5	1.0
JT 5728 PM	LUV 3998-99	years	5.0	3.8	2.5	years	2.0	1.5	1.0
JT 5827 P	LUV 3894-98-99	years	4.0	3.0	2.0	years	1.6	1.2	0.8
WW 100 PRO	LF 10700 Series (CastLAM)	years	3.0	2.3	1.5	years	1.2	0.9	0.6
WW 300	LUV 3894-98-99	years	4.0	3.0	2.0	years	1.6	1.2	0.8
JT 5425 PUV	LUV 7499	years	2.0	1.5	1.0	years	0.8	0.6	0.4
JT 5425 PUV	LUV 7036	years	2.0	1.2	0.8	years	0.8	0.5	0.3
JT 5409 RUV	LUV 7036	years	2.0	1.2	0.8	years	0.8	0.5	0.3
JT 5817 P	PG/LUV 7036	years	3.0	1.8	1.2	years	1.8		
JT 5817 PUV	LUV 7036	years	3.0	1.8	1.2	years	1.8		
JT5837P	PG/LUV 7036	years	3.0	1.8	1.2	years	1.8		
JT5917PUV	LUV 3697	years	4.0	2.4	1.6	years	2.4		
JT5917PUV	PG 7036 Pro	years	5.0	3.0	2.0	years	3.0		
<b>Floor Graphics</b>									
JT 5822-24 P/R	FloorGrip	years indoor	5	5	5	months indoor	12	12	12
	LUV 6300		3	3	3		6	6	6
	LUV 6301		2,5	2,5	2,5		3	3	3
	LUV 6400		3	3	3		3	3	3
JT 5828-29 P/R	FloorGrip	years indoor	5	5	5	months indoor	12	12	12
	LUV 6300		3	3	3		6	6	6
	LUV 6301		2,5	2,5	2,5		3	3	3
	LUV 6400		3	3	3		3	3	3
StreetRap	StreetLam FloorGrip	years indoors	na	na	na	months outdoor	6	6	6
			5	5	5		3	3	3
<b>Vehicle wrapping</b>									
JT 5500 Series	LF 10700 Series (CastLAM)	years	4.0	2.0	1.0	years	1.6	0.0	0.0
JT 10700 WG-BFG (CastRAP 629 B-Free)	LF 10700 CG-UV (CastLAM Gloss)	years	4.0	2.0	1.0	years	2.0	1.0	0.5
JT 10700 WG-BFG (CastRAP 629 B-Free)	LF 10700 CM (CastLAM Matt)	years	4.0	2.0	1.0	years	1.6	0.0	0.0
JT 5500 Series	Permacolor HORIZON™	years	7.0	4.4	3.0	years	3	1.5	1.5
JT 10700 WG-BFG (CastRAP 629 B-Free)	Permacolor HORIZON™	years	7.0	4.4	3.0	years	3	1.5	1.5
JT 5500 Series	ShieldLam	years	8.0	5.0	3.4	years	3.5	1.5	1.5
JT 10700 WG-BFG (CastRAP 629 B-Free)	ShieldLam	years	8.0	5.0	3.4	years	3.5	1.5	1.5