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RELATÓRIO DE CLASSIFICAÇÃO

This document is an authorized English version of the reaction to fire classification report RC-RF 0036/2021-URF issued by the Reaction to Fire Testing Laboratory of the National Laboratory of Civil Engineering (LNEC/EM-URF).

CLASSIFICATION OF REACTION TO FIRE PERFORMANCE IN ACCORDANCE WITH EN 13501-1:2018-en (and COMMISSION DELEGATED REGULATION (EU) 2016/364 of 1 July 2015)

1 | Identification

Sponsor:	DIGIDELTA INTERNACIONAL - Importação e Exportação, S. A.
Address of the sponsor:	Casal Torteiro, Zona Industrial de Torres Novas 2350-483 Torres Novas
Prepared by:	Laboratório Nacional de Engenharia Civil (LNEC)
Address:	Av. do Brasil, 101, 1700-066 LISBOA PORTUGAL
Description of the sample:	Self-adhesive clear monomeric films (<i>overlaminates</i>), commercial references “ decal overlamine P HT 70 ” <i>Clear Glossy</i> , “ decal overlamine P HT 70 ” <i>Clear Matte</i> and “ decal overlamine P HT 70 ” <i>Clear UltraMatte</i> , with clear adhesive, used to protect digitally printed images on self-adhesive monomeric PVC films “ Decal vinyl P 100 BO ”.
Classification report No:	0036/2021-URF
Date of issue:	2021-07-27

This Classification Report consists of 8 pages and may only be used or reproduced in its entirety.

2 | Introduction

This classification report defines the reaction to fire classification assigned to the self-adhesive clear monomeric films (*overlaminates*), commercial references “**decal overlamine P HT 70**” *Clear Glossy*, “**decal overlamine P HT 70**” *Clear Matte* and “**decal overlamine P HT 70**” *Clear UltraMatte*, with acrylic adhesive and removable liner (clay coated paper), used to protect digitally printed images on self-adhesive monomeric PVC films ref. “**Decal vinyl P 100 BO**”, white matte. The classification is assigned in accordance with the procedures given in EN 13501-1:2018 - “*Fire classification of construction products and building elements – Part 1: Classification using data from reaction to fire tests*” (and COMMISSION DELEGATED REGULATION (EU) 2016/364 of 1 July 2015).



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3 | Details of the of the classified product

3.1 General

The classified products consist of self-adhesive clear monomeric films (*overlaminates*), commercial references “**decal overlaminate P HT 70**”, *Clear Glossy*, “**decal overlaminate P HT 70**” *Clear Matte* and “**decal overlaminate P HT 70**” *Clear UltraMatte*, with acrylic adhesive and removable liner (clay coated paper), used to protect digitally printed images on self-adhesive monomeric PVC films “**Decal vinyl P 100 BO**”, white matte.

3.2 Product description

In accordance with the information and the Technical Data Sheets supplied by the sponsor, the tested product samples presented the following generic characteristics:

- Manufacturer/trade agent DIGIDELTA INTERNACIONAL
- Address of the manufacturer/trade agent Zona Industrial de Torres Novas, Lote 1 Casal Torteiro
2350-483 Torres Novas

(*Sample 06/2021*) – **decal overlaminate P HT 70 Clear Matte**

- Commercial generic designation **decal overlaminate P HT 70**
- Finish **matte**, ref 120z6668L.10650
- Material (*overlaminate*) monomeric PVC
- Surface finish smooth, with UV protection
- Colour **clear**
- Mass per unit area (**nominal** value) 92 g/m² (± 10%)
- Thickness 70 µm (± 10%)
- Adhesive clear acrylic based (ultra-crystalline)
- Liner (removable) clay coated paper
 - Mass per unit area (**nominal** value) 57 g/m² (± 10%)
 - Thickness (**nominal** value) 55 µm (± 10%)
- Field of application Lamination to protect digitally printed images
(UV, solvent, or aqueous ink printing) on self-adhesive films (monomeric PVC)
applied on flat smooth surfaces (excluding floorings)



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(Sample 07/2021) – **decal overlamine P HT 70 Clear Glossy**

- Commercial generic designation **decal overlamine P HT 70**
- Finish **glossy**, ref. 120z667P10650
- Material (*overlamine*) monomeric PVC
- Surface finish smooth, with UV protection
- Colour **clear**
- Mass per unit area (**nominal** value) 91 g/m² (± 10%)
- Thickness 70 µm (± 10%)
- Adhesive clear acrylic based (ultra-crystalline)
- Liner (removable) clay coated paper
 - Mass per unit area (**nominal** value) 57 g/m² (± 10%)
 - Thickness (**nominal** value) 55 µm (± 10%)
- Field of application Lamination to protect digitally printed images
(UV, solvent, or aqueous ink printing) on self-adhesive films (polymeric PVC)
applied on flat smooth surfaces (excluding floorings)

(Sample 15/2021) – **decal overlamine P HT 70 Clear UltraMatte**

- Commercial generic designation **decal overlamine P HT 70**
- Finish **ultraMatte**, ref. 120z6669P.13750V
- Material (*overlamine*) monomeric PVC
- Surface finish smooth, with UV protection
- Colour **clear**
- Mass per unit area (**nominal** value) 96 g/m² (± 10%)
- Thickness 70 µm (± 10%)
- Adhesive clear acrylic based (ultra-crystalline)
- Liner (removable) clay coated paper
 - Mass per unit area (**nominal** value) 57 g/m² (± 10%)
 - Thickness (**nominal** value) 55 µm (± 10%)
- Field of application Lamination to protect digitally printed images
(UV, solvent, or aqueous ink printing) on self-adhesive films (polymeric PVC)
applied on flat smooth surfaces (excluding floorings)



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(Sample 33/2021-1) – **Decal vinyl P 100 BO** (with digital print)

- Commercial generic designation **Decal vinyl P 100 BO**
- Finish **matte, ref. 120z3111WBM**
- Material (printed film)..... self-adhesive vinyl monomeric PVC film
- Surface finish..... soft calendered
- Colour **white**
- Digital printing UV print
- Print colour images and different colours
- Mass per unit area (**nominal** value)..... 130 g/m² (± 10%)
- Thickness 100 µm (± 10%)
- Adhesive clear acrylic based
- Liner (removable)..... **clay coated kraft paper**
 - Mass per unit area (**nominal** value) 125 g/m² (± 10%)
 - Thickness (**nominal** value) 118 µm (± 10%)
- Field of application smooth and non-porous, flat, and slightly curved surfaces (excluding floorings)

4 | Test reports and test results in support of classification

4.1 Test reports

Name of Laboratory	Name of sponsor	Report No. (*)	Test method and date
LNEC/EM-URF	DIGIDELTA INTERNACIONAL	0071/2021-URF	EN ISO 11925-2:2020
		0072/2021-URF	EN 13823:2020

* - It was also issued the Test Report No. 0036/2021-URF concerning the determination of the gross heat of combustion (PCS) of three printing inks (UV, latex, and solvent), according to the European standard EN ISO 1716:2018, whose results were used to select the less favorable printing method (UV).



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4.2 Test results

Test method(s)	Parameter	No. test specimens	Results	
			Continuous parameter mean values * (individual values) **	Compliance with parameters
EN 13823:2020 (SBI test)	FIGRA _{0,2MJ} (W/s)	3 + 1 + 1 ⁽¹⁾	12 (16.6 / 5.5)	YES
	FIGRA _{0,4MJ} (W/s)		4.5 (16.6 / 5.5)	(YES)
	LFS < edge		YES (YES / YES)	YES
	THR _{600s} (MJ)		1.2 (2.0 / 1.2)	YES
	SMOGRA (m ² /s ²)		--- (--- / ---)	YES
	TSP _{600s} (m ²)		19 (22.9 / 20.8)	YES
	FDP		NO (NO / NO)	YES
EN ISO 11925-2: :2020	F_s	3 + 3 ⁽²⁾ 1 + 1 ⁽²⁾ 1 + 1 ⁽²⁾	< 50	YES (F _s ≤ 150 mm)
Edge and surface exposure to flame	Flaming droplets/particles		NO	YES
Exposure time: 30 s	Ignition of the filter paper		NO	YES

* - Mean value of the results obtained with samples ref. **decal overlamine P HT 70 Clear UltraMatte + Decal vinyl P 100 BO** white matte, printed.

** - Individual results obtained with samples of **decal overlamine P HT 70 Clear Matte + Decal vinyl P 100 BO**, white matte, printed; and **decal overlamine P HT 70 Clear Glossy + Decal polymeric vinyl P HT 75 BO**, white matte, printed.

¹- Results obtained with samples of **decal overlamine P HT 70 Clear UltraMatte + Decal vinyl P 100 BO**, white matte, printed (3), **decal overlamine P HT 70 Clear Matte + Decal vinyl P 100 BO**, white matte, printed (1); and **decal overlamine P HT 70 Clear Glossy + Decal vinyl P 100 BO**, white matte, printed (1).

²- Results obtained with samples of **decal overlamine P HT 70 Clear UltraMatte + Decal vinyl P 100 BO**, white matte, printed (3 + 3); **decal overlamine P HT 70 Clear Matte + Decal vinyl P 100 BO**, white matte, printed (1 + 1); and **decal overlamine P HT 70 Clear Glossy + Decal vinyl P 100 BO**, white matte, printed (1 + 1).



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5 | Classification and field of application

5.1 Reference of classification

This classification has been carried out in accordance with clause 11 of EN 13501-1:2018. December 2018 (and criteria defined in COMMISSION DELEGATED REGULATION (EU) 2016/364 of 1 July 2015).

5.2 Classification

The products consisting of self-adhesive clear monomeric films (*overlaminates*), commercial references “**decal overlaminate P HT 70**”, *Clear Glossy*, “**decal overlaminate P HT 70**” *Clear Matte* and “**decal overlaminate P HT 70**” *Clear UltraMatte*, used to protect digitally printed images on self-adhesive monomeric PVC films “**Decal vinyl P 100 BO**”, (vd. RC-RF nº 0019/2021-URF), white matte, in relation to their reaction to fire behaviour are classified (see also 5.3):

B

The additional classification in relation to smoke production is:

s1

The additional classification in relation to flaming droplets / particles is:

d0



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The format of the reaction to fire classification **except for floorings** is:

Fire behaviour		Smoke production			Flaming droplets / particles	
B	-	s	1	,	d	0

i.e., **B-s1, d0**

Reaction to fire classification: B-s1, d0

5.3 Field of application

This classification is valid for self-adhesive clear monomeric films (*overlaminates*), commercial references “**decal overlaminate P HT 70**” *Clear Glossy*, “**decal overlaminate P HT 70**” *Clear Matte*; and “**decal overlaminate P HT 70**”, *Clear UltraMatte*, used to protect digitally printed images on self-adhesive monomeric PVC films “**Decal vinyl P 100 BO**” (vd. RC-RF nº 0019/2021-URF), with smooth white matte finish, when **applied directly on non-combustible surfaces** (classes **A1** or **A2-s1. d0**) having a density greater than 1350 kg/m³ and a thickness equal or greater than 9 mm.

This classification is **not applicable** to uses of the products over existing coatings, and is valid for all the generic **monomeric PVC films** with the following characteristics:

“decal overlaminate”

- Mass per unit area (**nominal** value)..... ≤ 110 g/m²
- Thickness (**nominal** value) ≤ 80 µm
- Colour **clear**
- Finish glossy, matte and ultra-matte

“Decal vinyl”

- Mass per unit area (**nominal** value)..... ≤ 145 g/m²
- Thickness (**nominal** value) ≤ 110 µm
- Colour **white**



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- Finish smooth; **matte** or **glossy**
- Print UV, latex or aqueous ink printing; or not printed

6 | Limitations

This classification document does not represent type approval or certification of the product.

The classification presented in this Classification Report does not exempt the satisfaction of normative requirements (namely in the scope of CE marking) and others defined in the relevant legislation.

Lisboa, LNEC, 26 July 2021

THE HEAD OF THE TESTING
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