



# Decoral System®

## ***PE411 + XXX***

*Double-layer coating for brighter colors*



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# TECHNICAL TOOLS

*Laboratory Tests and Technical Documentation*

MRK-012-0023R3

# DOUBLE-LAYER POWDER COATING

Combination of two different powders

## 1. Product Features

The two-coat system with a base coat of white polyester powder, known as “Cycle 11”, is a process in which two powder coatings are applied to the same substrate to enhance the decorative effect (ex. marble, digital graphics, etc). Applying different powder coatings properly chosen (base coat: coloured powder; topcoat: clear powder), it is possible to bring out the decorative pattern to be transferred on the coated surface. When the sublimation inks penetrate the clear topcoat, their colour is brighter than it would be if they were heat-transferred into a coloured coating layer since powder pigments dim them. According to the topcoat, surface effect can vary from matt, textured, glossy, to special effects like *Saltlake*, *Icetouch*, etc.



Figure 1: A picture of the moon, heat-transferred on one coat of DS 434 (upper panel) and two coats of PE411 + DS 407 (lower panel)

## 2. Technical Information

### - Technical Data

<b>BASE COAT</b>	Polyester for double-layer powder coating – (PE 411)
<b>YIELD (IN SURFACE/MASS)</b>	13,1 m <sup>2</sup> /kg
<b>SPECIFIC WEIGHT</b>	1,55 ± 0,05 g/cm <sup>3</sup>

### - Application and curing cycle of the base coat:

Available for corona charging

Curing time and temperature: 16 minutes at 190°C (metal temperature)

Recommended thickness: 60 microns – yield 10.8 m<sup>2</sup>/Kg,

70 micron – yield 9.2 m<sup>2</sup>/Kg,

80 micron – yield 8.1 m<sup>2</sup>/Kg.

<b>TOPCOAT</b>	Depends on the selected product
<b>CLASS</b>	Depends on the product used as topcoat

**N.B. – THE APPLICATION METHOD AND CURING CYCLE OF THE TOPCOAT CAN BE FOUND ON THE TECHNICAL DATA SHEET OF THE CHOSEN POWDER**

### - Mechanical properties

The mechanical features are directly influenced by the coating thickness; the thicker it is, the less bendable it is. Nevertheless, it is still possible to bend double-coated surfaces using certain expedients like pre-heating and a higher radius of curvature. The durability of the decoration depends on the selected powder coatings. So, it is necessary to choose the right products to get the desired result.

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## 3. Variants and special formulation

The two-coat system offers a wide range of solutions. After choosing the base color (generally white, but all colors are available), we can enhance the appearance of the surface with a special powder. Here are only some of the possible combinations:

<u>SMOOTH MATT</u>		<u>ANTI-SKID</u>	
PRODUCT CODE	DS 407 or DS-0407S or 17C-907-A001	PRODUCT CODE	DS-0707I or DS-0707IS or 17L-XXX-A016
POWDER TYPE	Polyurethane	POWDER TYPE	Polyurethane
CLASS	Class 1 (DS 407), Class 2 (DS-0407S), Class 2,5 (17C-907-A001)	CLASS	Class 1 (DS-0707IS), Class 2 (DS-0707IS), Class 2,5 (17L-XXX-A016)
<u>SMOOTH GLOSSY</u>		<u>ELEVATED TEXTURED</u>	
PRODUCT CODE	DS 810 o DS-0810S o 17B-910-A004	PRODUCT CODE	9I-910-A011
POWDER TYPE	Polyurethane	POWDER TYPE	Polyurethane
CLASS	Class 1 (DS 810), Class 2 (DS-0810S), Class 2,5 (17B-910-A004)	CLASS	Class 2
<u>TEXTURED</u>		<u>ANTI-GRAFFITI</u>	
PRODUCT CODE	DS 707 or DS-0707S or 17G-907-A005	PRODUCT CODE	DS 810A or DS 407A or DS 707A DS-0810SA or DS-0407SA or DS-0707SA 23B-910-A001 or 23C-907-A001 or 23G-907-A005
POWDER TYPE	Polyurethane	POWDER TYPE	Polyurethane
CLASS	Class 1 (DS 707), or Class 2 (DS-0707S), Class 2,5 (17G-907-A005)	CLASS	Class 1 (DS 810A / DS 407A / DS 707A) Class 2 (DS-0810SA / DS-0407SA / DS-0707SA) Class 2,5 (23B-910-A001 / 23C-907-A001 / 23G-907-A005)
<u>SALTLAKE</u>		<u>ICETOUCH</u>	
PRODUCT CODE	SALTLAKE-025	PRODUCT CODE	ICETOUCH-023
POWDER TYPE	Modified polyurethane	POWDER TYPE	Modified polyurethane
CLASS	Class 1	CLASS	Class 1
<u>PHOTOLUMINESCENT</u>		<u>LOW CURING</u>	
PRODUCT CODE	LIGHT-XXX	PRODUCT CODE	DS 1810 (smooth glossy), or DS 1407 (smooth matt), DS 1707 (textured)
POWDER TYPE	Polyurethane	POWDER TYPE	Polyurethane
CLASS	Class 1	CLASS	Class 1

The following bendable powder coatings are available on request:

<b>BENDABLE WHITE POLYESTER</b>	
PRODUCT CODE	PE 411P
POWDER TYPE	Polyester
CLASS	Outdoor-Indoor

<b>BENDABLE POWDER SUITABLE FOR SUBLIMATION</b>	
PRODUCT CODE	DS 810P
POWDER TYPE	Polyester
CLASS	Class 1

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## 4. Product application

The products are applied in two stages:

- FIRST LAYER: White Polyester *PE-411*;
- SECOND LAYER: It is possible to use a matt, textured or glossy polyurethane as well as other powders with special surface effects. The topcoat must be applied on objects that have just been coated with white polyester powder (PE411) and have been carefully cleaned. Thickness must be around 60 µm. The curing process takes 20 minutes at 200°C (metal temperature).

## 5. Possible usage

The two-coat technique enhances the colours and shades of the decorative pattern. For this reason, it is specially recommended for heat-transfer films with a high black and white contrast and for pictures with flashy and vivid colours, or wherever brightness is a fundamental feature.



Figure 2: Table and chairs



Figure 3: Shoe rack

Dedicated Marketing Presentation:

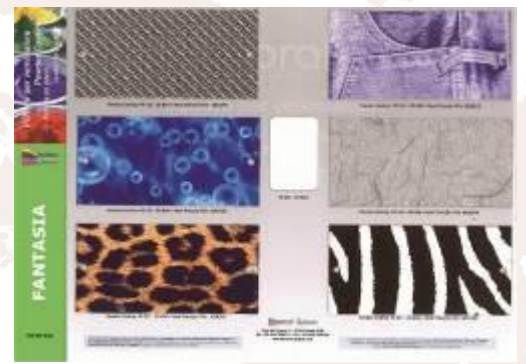
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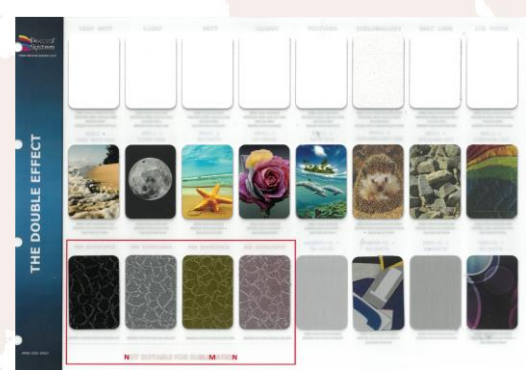
- MRK-005-0264



- MRK-005-0035



- MRK-005-0957



Marchi di qualità registrati di Decoral System®



**DECORAL SYSTEM SRL**

Viale del Lavoro, 5 - Arcole 37040 (Verona) ITALY - Tel. +39 045 7639111 - Fax +39 045 7639100

Email: info@decoral-system.com - Website: www.decoral-system.com