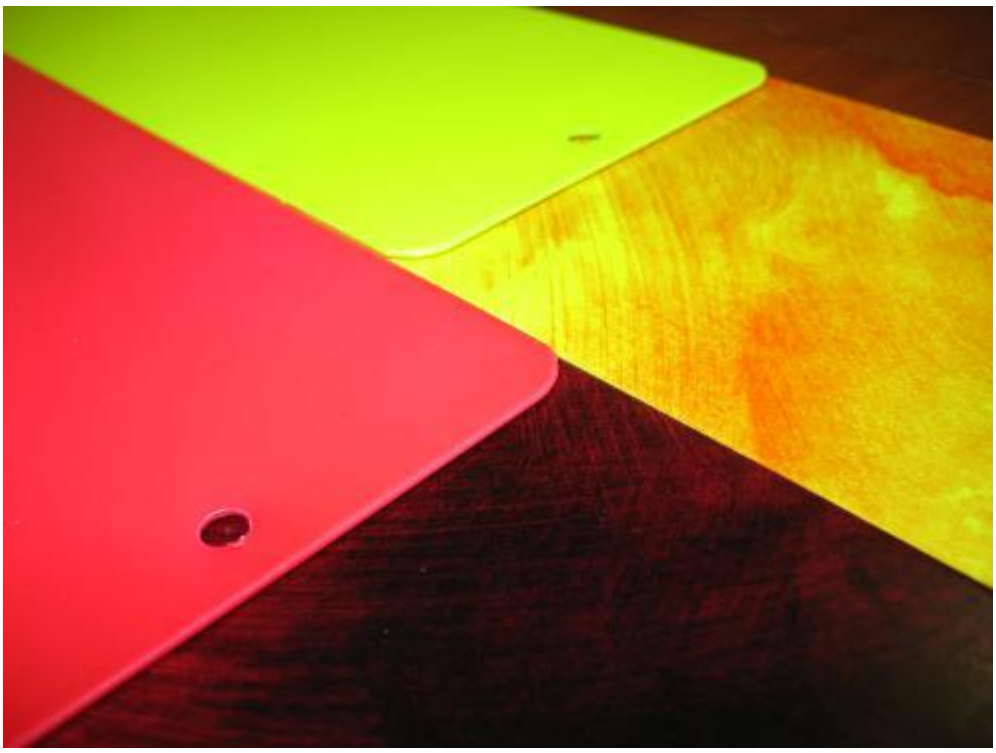
Decoral System®

TECHNICAL TOOLS

Laboratory Tests and Technical Documentation

SUBLIDALÌ-XXX

Fluorescent sublimation powder coatings



Information:

1. *Product features*
2. *Technical information*
3. *Variants and special formulations*
4. *Double coat*
5. *Hiding power test*
6. *Anti-graffiti test*
7. *Accelerated weathering test*
8. *Wet climates resistance test*
9. *Possible usage and applications*

MRK-012-0056rev3

SUBLIDALÌ

Fluorescent sublimation powder coatings

1. Product features

The powders of *Sublidalì* series are characterized by fluorescent pigments that make it possible to achieve flashy and bright colours.

These powders are suitable for the decoration with heat-transfer technology to obtain outstanding results.

2. Technical information

- Technical data

Powder type	Polyurethane
Class resistance	Only for indoor use
Yield (in surface/mass)	13,1 m^2/Kg
Specific weight	1,27 ± 0,03 g/cm^3

- Application and curing cycle

Available for corona charging.
Curing time and temperature: 20 minutes at 200°C – 392 F (metal temperature).
Reccomended thickness: 60 microns – yield 13.1 m^2/Kg,
70 microns – yield 11.2 m^2/Kg,
80 microns – yield 9.8 m^2/Kg.

- Mechanical properties

Test	*Standard reference*	*Result*
Buchholz hardness	ISO 2815	ok
Cross-cut	ISO 2409	no loss of adhesion; ok
Bending	ISO 1519	no detachment; ok
Acetic salt spray	ISO 9227	corrosion <4 mm; ok

3. Variants and special formulations

On customer's request, powder coatings are available in the following versions:

- Smooth and glossy, smooth and matt, textured;

- Antimicrobial;

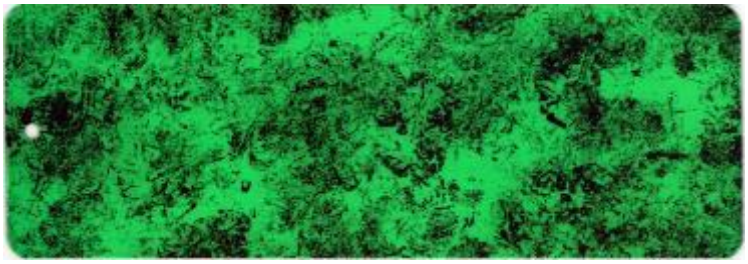
- Bendable;

- Anti-graffiti.

4. Double coat

The colour brightness of this series can be enhanced by applying two coats: using the *Sublidalì* powders as top-coat and PE411 as base coat properly applied (special polyester formulated for double coating), it is possible to obtain brighter and more intense colours.

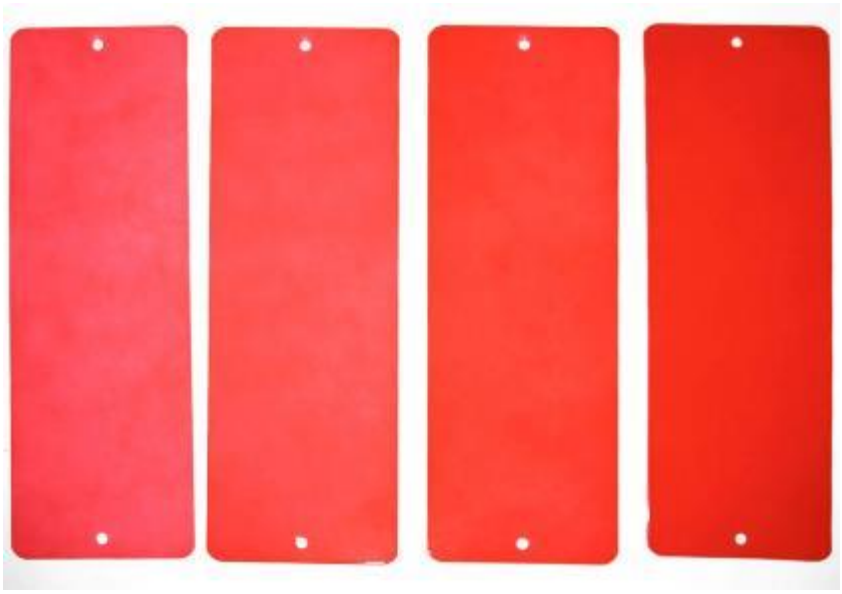
PE 411 + Sublidalì-005



PE 411 + Sublidalì-005 + 6052/01

5. Hiding power test

Four samples are shown here below, as a demonstration of the pale pigmentation of this series (which involves a low hiding power): each panel has been coated with a first layer of white powder (PE411); then a second layer of Sublidalì-004 (increase of layer thickness, from left to right) has been applied.



Sample A	Sample B	Sample C	Sample D
25 µm	**45 µm**	**60 µm**	**85 µm**

6. Anti-graffiti test

The *Anti-graffiti* variant has been purposely formulated for the Dalì series; the "anti-graffiti" properties have been compared with a standard powder, applying different staining agents on samples coated respectively with PE411 + Dalì-001 and PE411 + Dalì-001 "*Antigraffiti*". The test includes the following stages:

- Soiling with: lipstick, marker, N50 pentel, black acrylic spray;
- Drying of the staining agents in an oven at 80°C (176°F) for 120';
- Conditioning at 23°C (73.4°F) for at least 120' with relative humidity at 50%;
- Removing of the staining agents with commercial ethylic alcohol;
- Removing of the staining agents with a mixture of etasol/MEK 70:30.

SUBLIDALÌ

Fluorescent sublimation powder coatings

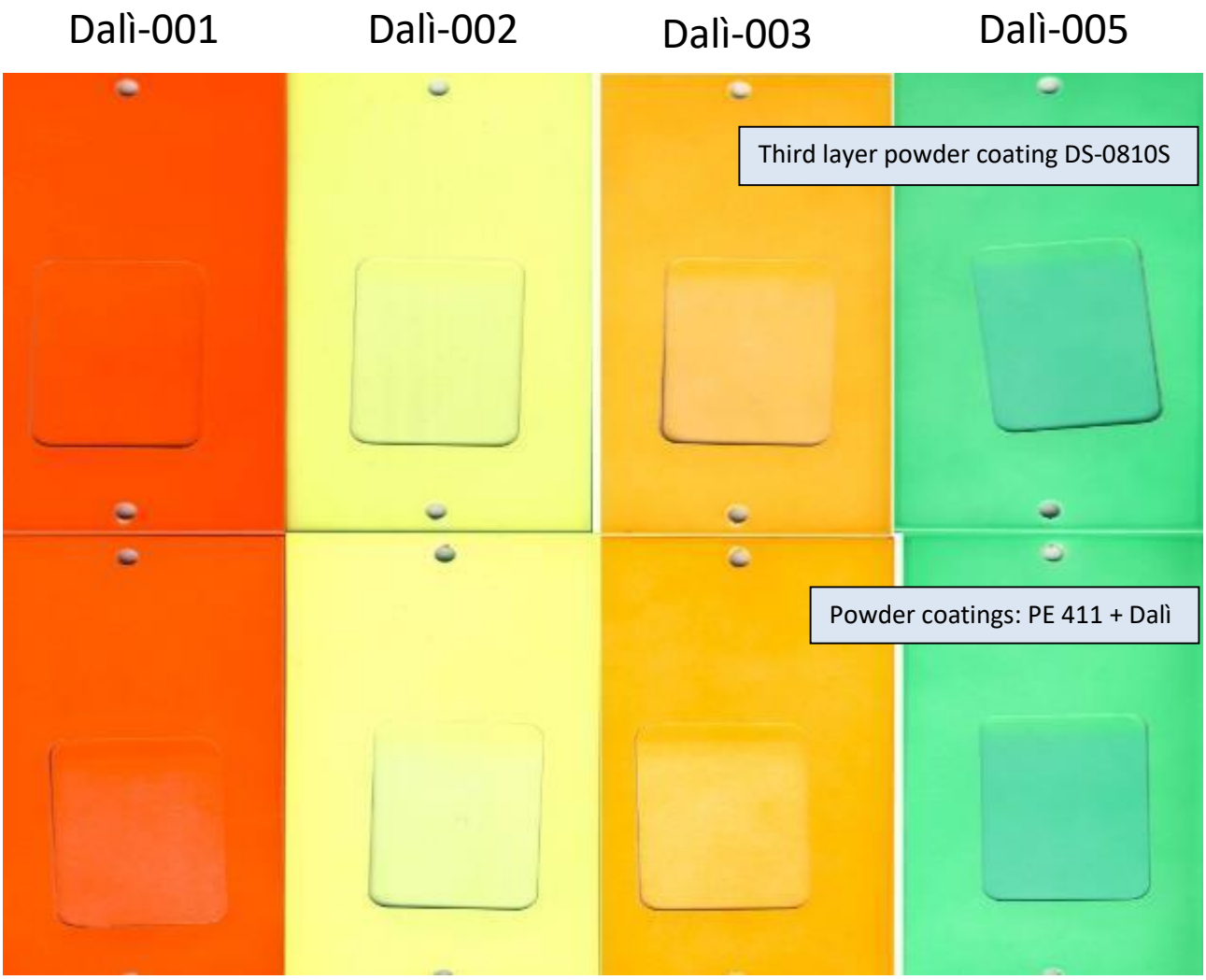
Comparative test on samples coated respectively with PE 411 + Dalì-001 and PE 411 + Dalì-001 Anti-graffitti

CONCLUSION

As can be seen in the picture above, despite the cleaning with ethylic alcohol and etasol/MEK 70:30, the sample coated with PE 411 + Dalì-001 still shows the presence of staining agents (*pentel N50*) and halos. Instead, the sample coated with PE 411 + Dalì-001 *Anti-graffiti* has kept its initial aspect after cleaning.

7. Accelerated weathering test

The resistance to weather conditions of a triple-layer-coated sample (PE 411 + Dalì + DS-0810S) has been compared with a standard double-layer-coated sample (PE 411 + Dalì) through the accelerated weathering test. The test consists in leaving the sample in the accelerated weathering machine and then measuring the colour variation.



Comparison of the test result after 100 hours.

CONCLUSION

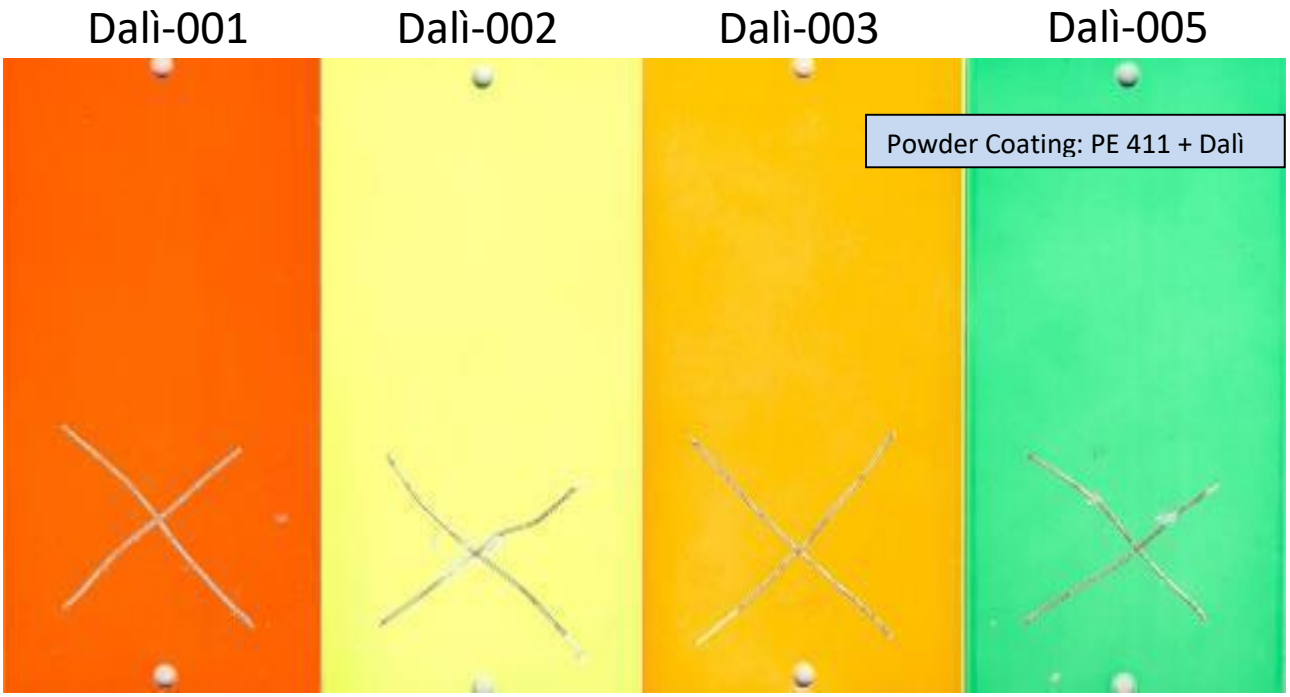
After only 100 hours the test has been suspended. The results proved that the powders of Dalì series are only suitable for indoor use as the colour variation is clearly visible to the naked eye.

By adding a third layer of class 2 powder (DS-0810S), the resistance level was still not high enough to make it suitable for outdoor use; therefore, whatever method of application is chosen, the powders of Dalì series ARE NOT SUITABLE FOR OUTDOOR USE.

8. Wet climates resistance test

The resistance to humid atmospheres has been tested on two samples: one double coated with PE 411 + Dalì powders and the other triple coated with PE 411 + Dalì + DS-0810S powders (60 µm). The test includes the following stages:

- Cross-cut incision (1mm width) on the samples surface;
- 1000-hour test in humid atmospheres;
- Comparison of the test results.



Comparison of the test results after 1000 hours

CONCLUSION

As can be seen in the picture above, we have an excellent adhesion between the PE 411 layers and the Dalì powder layer; thereby confirming the specific formulation of PE 411 as first layer powder coating.

SUBLIDALÌ

Fluorescent sublimation powder coatings

Comparison of the test results after 1000 hours

CONCLUSION

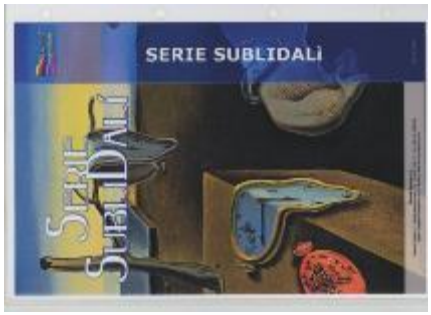
As can be seen in the picture above, despise the addition of a third layer of powder coating (DS-0810S) on a standard double layer products (PE 411 + Dalì), there are no adhesion defects between the second and third layers of products.

9. Possible usage and applications

The powders of *Sublidalì* series are perfect for the decoration of brightly coloured objects with a particular pattern, but also for larger surfaces that can emphasize the brightness and fluorescence of these products.

Dedicated marketing material:

- MRK-005-0301



Marchi di qualità registrati di Decoral System:

DECORAL SYSTEM S.R.L.

Viale del Lavoro, 5 - Arcole (VERONA) Italy- Tel. +39 045 7639111 - Fax +39 045 7639100

Email: info@decoral-system.com – Sito web: www.decoral-system.com