



SERIES “19X-YYY-ZZZZ” FOR MDF

Epoxy modified powder



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MRK-012-0145R4

SERIES 19X-YYY-ZZZZ

Epoxy Modified Powder

1. Product Features

The powders in the *19X-YYY-ZZZZ* series have been specifically formulated to offer the full decorative potential of MDF to all producers who want to further customize their products, providing in this way added value and expanding in new markets.



Figure 1: Example of a decorated MDF sample

2. Technical Information

- Technical Data

Chemical Nature	Epoxy modified
Class of resistance	INTERNAL USE ONLY
Yield in surface/mass	13,0 m ² /Kg
Specific weight	1,20 ± 0,09 g/cm ³

- Application and Curing Cycle

Available for corona charging.

Curing Time and Temperature:

- 25' x 155 °C (metal temperature) 25' 311 °F
- **20' x 160 °C (metal temperatures) 20' x 320 °F**
- 15' x 165 °C (metal temperatures) 15' x 329 °F

Reccomended thickness: 60 microns – yield 13.1 m²/Kg,
70 microns – yield 11.2 m²/Kg,
80 microns – yield 9.8 m²/Kg.

- Mechanical properties

Test	Standard reference	Result
Buchholz hardness	ISO 2815	ok
Adhesion	ISO 2409	No loss of adhesion, ok
Gloss	ISO 2813	ok

3. Variants:

On customer's request, the following special formulations are available:

- Smooth opaque;
- Smooth glossy;
- Texture;
- Can be used as single layer;
- Available in all colours;



Figure 2: Example of painted MDF

4. Powder-Coating

1. The MDF sample is put in the oven for preheating for 40 minutes at a temperature of 190° (oven temperature). This eliminates any gaseous residues from previous processes and prepares it for powder-coating.

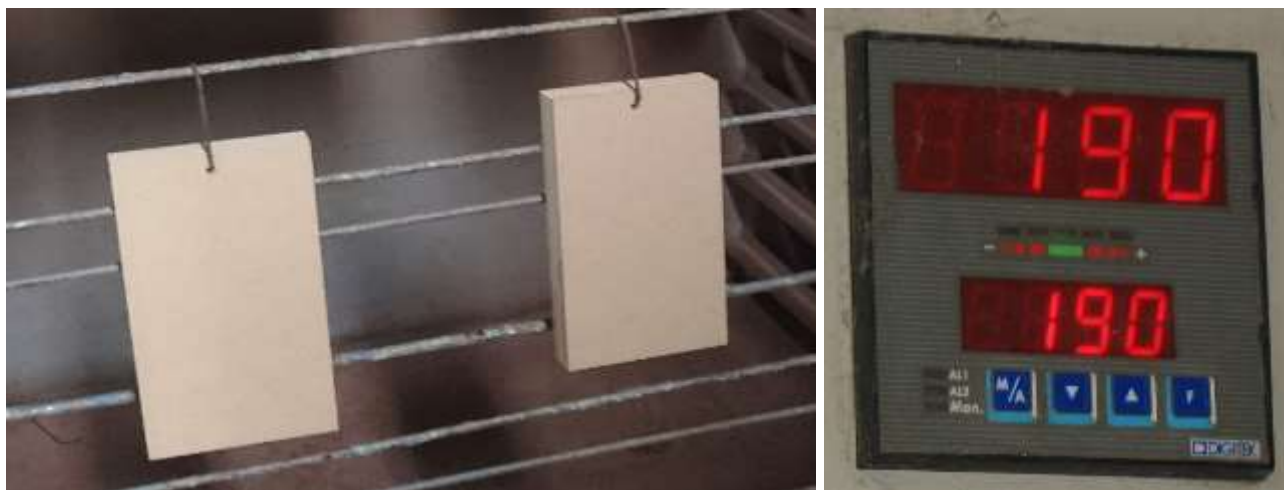


Figure 3: Sample ready to be preheated at 190°C

N.B. – Being a **non-conductive** product, the MDF must be pre-heated as seen in point 1. However, it is also possible to use **conductive primer** to make it suitable for powder-coating. An excess of pre-heating **can physically change** the MDF, thus making it unusable. It is **therefore always advisable** to carry out tests on real pieces.

2. When the pre-heating cycle is complete, the MDF sample is transferred to the coating booth, where the powder is sprayed. The powder sticks on the surface thanks to the fusion principle instead of the usual electrostatic principle.

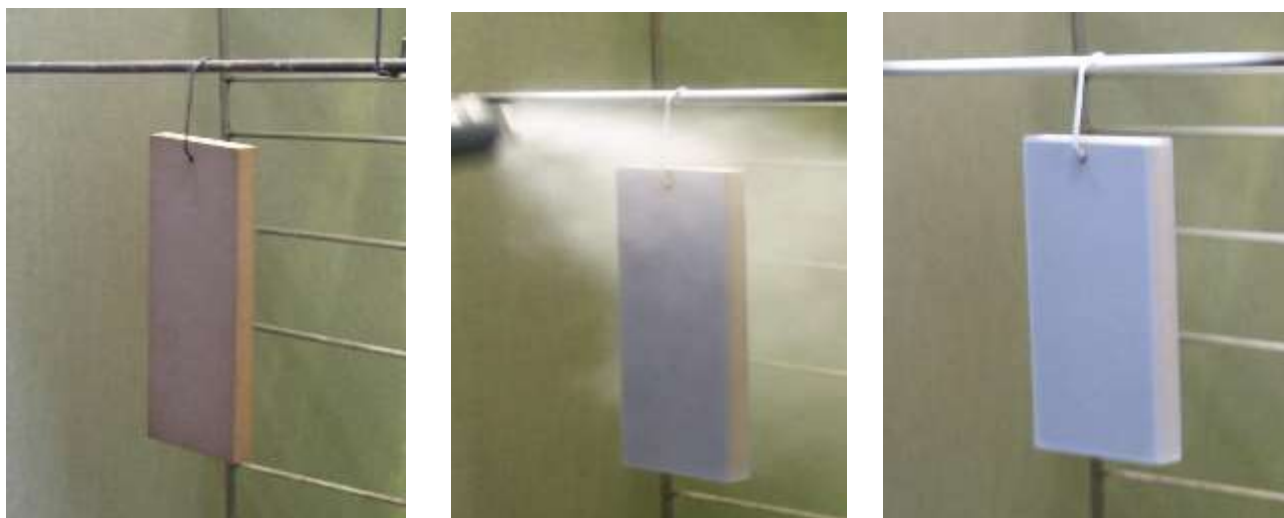


Figure 4: Example of MDF sample in the different stages of powder-coating

3. Once coated, the MDF sample is put inside the oven for **20 minutes at 160°C** (check data sheet) where the powder undergoes the cross-linking process.



Figure 5: Sample put back into the oven at 160° for the curing cycle



Figure 6: Sample ready to be decorated

5. Possible Uses

The powders in the 19X-YYY-ZZZZ series offer the possibility to decorate the MDF as you want. Breath-taking effects on smooth, opaque or texture surfaces can be obtained by combining this powder with our full range of heat-transfer films. It is also possible to decorate objects or surfaces using a plotter.



Figure 7: Example of a decorated MDF sample

SERIE 19X-YYY-ZZZZ



Epoxy Modified Powder

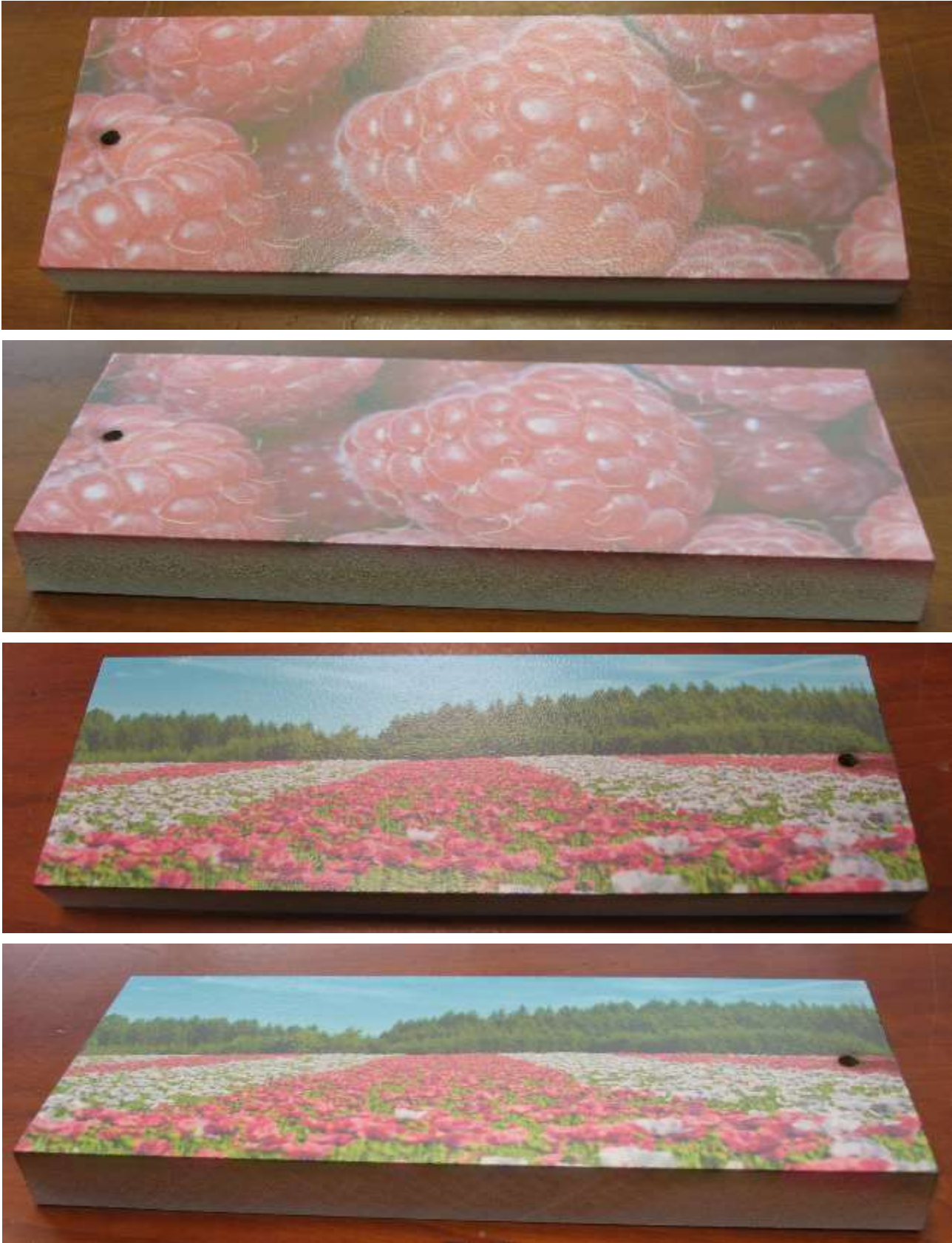


Figure 8: Example of a decorated MDF sample

6. Adhesion Test

The adhesion test enables us to evaluate the capability of a powder to stick on a surface on which it has previously been applied. As we can see from the picture below, powder adhesion is perfect on both sides of the MDF sample, be it smooth or texture.



Figure 7: Result of the adhesion test on a decorated MDF sample

N.B. – the adhesion test can **only be carried out dry**, as a mechanical test.

7. Sawing Test

The sawing test enables us to assess powder coating adhesion on the sample edges, so as to prevent chipping and/ or breaking due to stress factors. As we can see from the pictures below, cutting the object after powder-coating may damage the decorated surface. This is due to MDF tendency to shed fibers and to powder's rigidity.

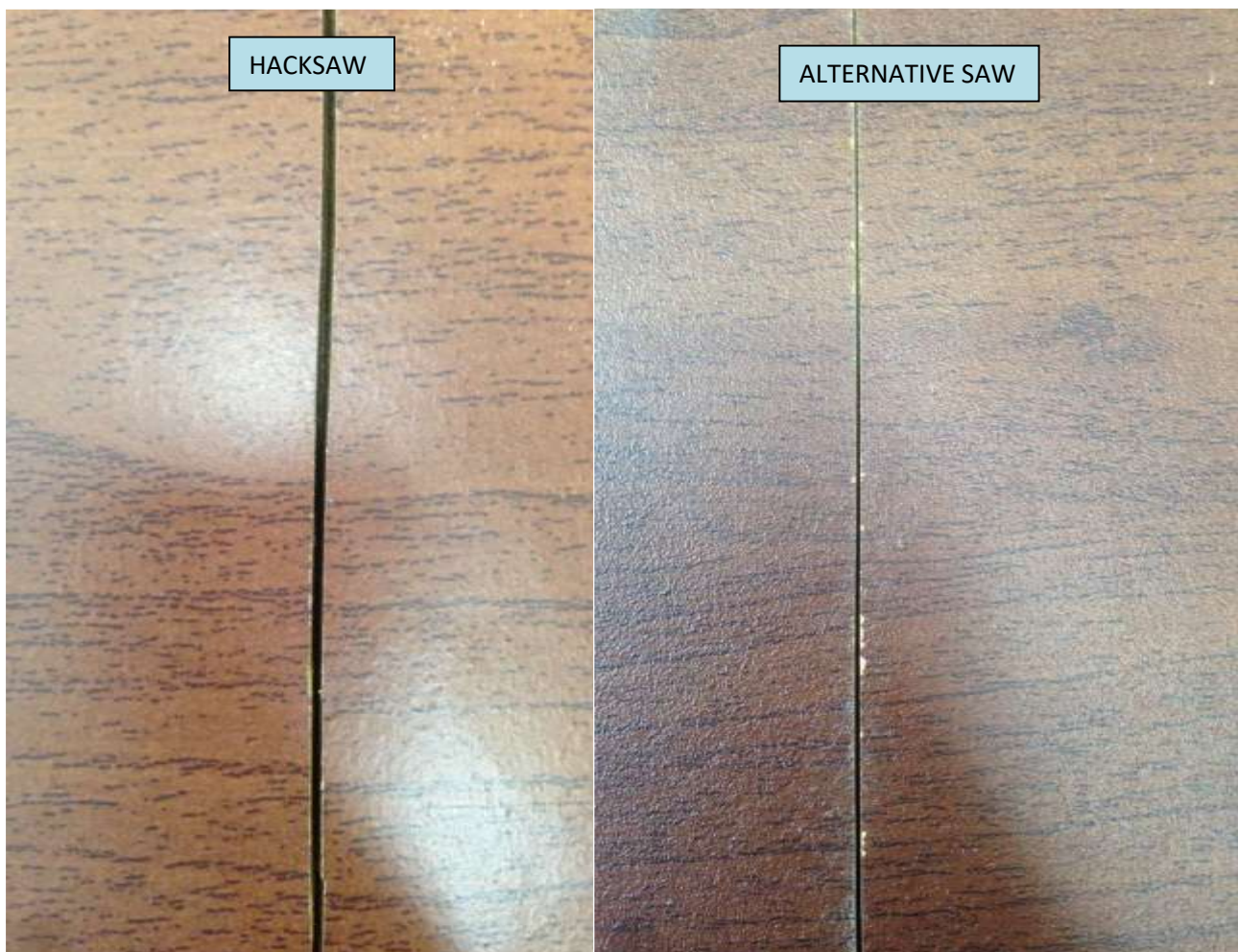


Figure 8: Enlargement of the results of the sawing test on decorated MDF sample

CONCLUSION:

In view of the test results, it is **ADVISABLE** to cut the object **before** coating so as to avoid potential chipping of the decorated surface.

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