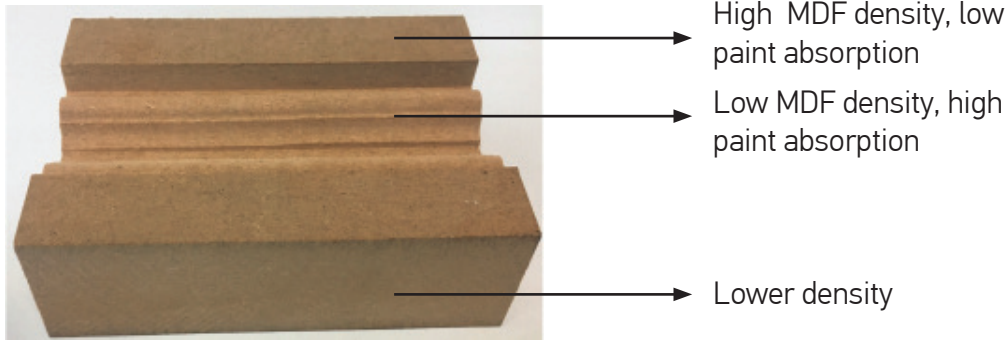


BL193.77.1000 MDF BARRIER WHITE

MDF Barrier Primer is used to increase the surface quality, hide defects in low quality MDFs and increase the performance of the products (primer) to be applied afterwards. It is recommended to use MDF barrier before primer applications. Especially for applications given below:

- Edges of MDF
- CNC treated MDF
- MDF profiles
- Low density MDF (LDF)

Densities of upper and intermediate layers of MDF are the same. Although upper layer has a high density, it decreases through intermediate layers. Because of the fact that edges of MDF and CNC treated MDF have different densities profile , they show different paint absorption properties.



In paint applications, we generally use more primer on low density layer than high density layer. It is the most common failure to use primer too much due to the absorption. This causes crackings on primers. Because primers are recommended with their limited application amount which is generally between 120 g/m² and 220 g/m² for first coat. But due to high absorption, amounts are increased up to 400-600 g/m² on low density layers, therefore cracking problems occur on primer .

Crackings occur especially in winter time. High amount of primer usage blocks solvent evaporation, paint loses mechanical properties and starts to cracking.

BL193.77.1000 MDF Barrier is the best solution to overcome this problem. When BL193.77 barrier is applied on low density layers (CNC treated MDF, edges of MDF), they behave like a high density layer. As a result; MDF layer has equal absorption properties. In other words, MDF becomes ready for primer application. High quality painting process is obtained by using MDF Barrier Primer on low density high absorption surfaces.

** For wood producer, high quality MDF means that upper and intermediate layers of MDF have very close densities.*

BL193.77.1000 MDF BARRIER WHITE



Edges of MDF are shown in two pieces which have 40mm thickness. We just applied 75 g/m² barrier on the right part. After that one coat (1x130 g/m²) standard primer application was applied on both of them equally. As can be seen in the picture on the left, there is no film on the surface since the MDF has high paint absorption after application of the primer. On the other hand for the right part, film formation occurred with good hiding power. This is the clear example to see the benefits of barrier usage.

The most important point while applying barrier is to use it with recommended amounts (60-90 g/m²). We should not expect hiding power from barrier applications. The advantage of barrier is to decrease the price of production with the help of decreasing primer usage, also it overcomes the cracking problems. One other advantage of barrier is to provide high quality painted layer.



BL193.77.1000 MDF BARRIER WHITE

CRACKING BASED ON MDF

MDF is a hygroscopic material which has moisture exchange. According to relative humidity, it increases or decreases the moisture inside of it, therefore it swells or shrinks. In low density layers(CNC treated MDFs, edges of MDF) the exchange happens faster. MDFs which take the same amount of moisture can show different swelling and shrinkage properties due to the wood, ingredient portions inside, production process or resin content and properties. MDFs change their sizes in three dimensions in terms of length, thickness and width. The change mostly arises through thickness, other changes can be negligible.

In wood and furniture sector, cracking problems are observed mostly on edges and CNC treated layers.

HOW CRACKING OCCURS?

After primer application on MDFs, they have high moisture capacity. The moisture starts to create a pressure in edges in order to escape at optimum temperature. They can not create the pressure in upper layer because of high density and enough space to move, therefore the most suitable areas are edges. During the pressure, expansion in the direction of thickness starts, eventually paints or primers crack on edges.

When MDFs that produced with 6-8% moisture capacity is stocked in a place that has 95% humidity content, the moisture of MDFs can go up to 15%-25%. As a result of this edge which has 18 mm thickness can reach up to 19-21 mm and causes capillary crackings that can not be seen with eyes. As the solution method of this; although moisture can be lowered by firing method, it is not preferred much due to high cost and time loss.

There is a different situation on edges to be applied primer. On the other hand, we can see the crackings on edges which applied primer and the most common discussion comes true; based on MDF or primer?



BL193.77.1000 MDF BARRIER WHITE

As you can see, values are given in a certain interval. For having net values we recommend you to want dimensional stability values from your MDF supplier. Additionally advices of MDF producers should be taken into account in order not to face cracking problems.

MDFs that are applied primer in a right way provide isolation and this blocks moisture absorption.

PRECAUTIONS FOR CRACKING BASED ON MDF

- Dimensional stability, moisture content, swelling, shrinkage and mechanical property values in 24 hours should be wanted.
- Before paint application, moisture content in MDF should be calculated with moisture meter. The ideal percentage is 6-9%.
- During paint application whole layer including edges and back layer should be painted. The aim of the painting on surfaces is prevent the movement of wood by resetting the moisture inlet and outlet into the wood. Thus, the risk of cracking is minimized.

MDF BARRIER - TECHNICAL SPECIFICATIONS								
PRODUCT	HARDENER	COMP. RATIOS	SOLID CONTENT (%)	VISCOSITY (DIN4, 20°C)	DENSITY (g/cm ³)	POT LIFE (20°C, sa)	APPLICATION/ COAT (20°C 60-90g/m ²)	DRYING TIME FOR OVERCOATING (20°C, h)
BL193.77.0000	HP193	100/25/20-30	59 ± 2	80-95"	1,18 ± 0,03	Min. 3	1	1

