# Hunter Plastics (Europe) Limited
## Gloss Vinyl
### How to get the right results

## MDF

The choice and preparation of the MDF is critical to achieving a high quality gloss finish. A common cause of imperfections in the surface of the pressed high gloss product is the result of the quality of MDF used, or the lack of preparation. It is paramount to understand that the finish can only be as good as the MDF board underneath. Raw MDF from a mill has deep sanding marks that cannot be seen by the naked eye, yet these marks can ruin the gloss finish. Careful sanding prior to any further work is essential; this can be done by hand or if possible a sanding machine. Further preparation of the MDF I would suggest a sand paper or sanding pad no heavier than #240 grit. It is very important to sand deep routed areas were the fibres will be loosened by machining. MDF has a density of 600-800 kg/m3. High-density fibreboard (600-1450 kg/m3) can help to improve the surface quality, as the fibres are shorter and therefore reduces swelling in the board when the adhesive is applied. This will in turn reduce what we call the orange peel effect. The higher density substrates can also be a way of counteracting bowing of pressed panels.

## Adhesive

For the best results, we would recommend the use of a single part spray adhesive that features a very low reactivation temperature and a high viscosity. An adhesive with high water content can cause an increase in swelling of the fibres and will take longer to dry. A balance must be gained between sufficient adhesive weight and the surface quality. A large amount of glue will result in good adhesion but more orange peel. For this reason, we would suggest that the quantity of glue applied is kept to a minimum on areas with little tension between the film and the MDF board (the flat surfaces), but you must remember in the higher quantity where the adhesive strength is necessary (corners and routed areas). There is an option to use Bemis pre applied adhesive but you would have to get advise from Bemis as to there specifications.

The adhesive coating should be applied thicker on routed areas and edges, if possible twice over the edges and deep routes, but remember on flat surfaces a fine dusting is sufficient. If the correct amount is not applied, then delaminating will occur.

On flat surfaces, the adhesive should be thinly sprayed on as a light mist with a minimal amount of air pressure, keeping the sprayed particles a small as possible. It is best to use a nozzle with a 1.5mm needle. The spray angle should be as low as possible to alleviate the spray from bouncing off the work surface. If this procedure is possible, this again will help to reduce the orange peel effect.
Please ensure that the nozzle is clear from blockage as this could produce irregular spray patterns and not give an even distribution of adhesive. If you find that, the surface of the panel is rough, the denibbing should take place and even if the surface feels smooth, a quick rub down with a very fine pad will give a better surface finish. At this point, we would stress that the final finish is again only as good as the surface of the board.

## Housekeeping

It is essential that a very clean environment be maintained to prevent contamination, particularly when processing the high gloss vinyl.

If you have the press in the same environment as the routers and other dust making machines then this will cause endless problems, if possible move the press to a separate room or build a room around the press. If possible, if you are pressing a lot of gloss then invest in a positive pressure system to keep the dust outside. We would recommend at least enclosing the pressing area with vinyl curtains, this is a low cost alternative of keeping a clean environment.

## Anti-Static Measures

Gloss vinyl can attract static. Every effort should be made to reduce static around the press. To overcome this can include anti-static cleaner being wiped on the ends of the vinyl roll. Static can be a particular problem during the winter when the air is dryer. Humidifiers can be used to overcome this problem. After pressing, you could use an anti-static cleaner to prevent particles from scratching the surface.

## Protective Film

We would advise that the protective film should not be removed until it has firmly attached itself to the board. We would recommend that the film remain in tact until it has reached its final destination. As the film is clear, we would recommend that a sticker be placed on the product to advice that the film should be removed.

## Assembling Pressed Material

When you use saws, drills or boring equipment on the product it could cause the vinyl to lift from the surface. This can happen when the adhesive is not set enough or the gluing procedures have not been followed to instruction. Please make adequate test before using said equipment.

## Working with Vinyl

When you cut the vinyl, do not cut at an angle, as this will create a sharp edge that will cut the hands or fingers. Be sure to cut vertically and always wear protective gloves when handling the vinyl. High gloss vinyl is a rigid PVC sheet.

# Press Settings

These settings may vary and for these reasons, you should conduct your own testing to determine what the best for your own situation is. I will be more than happy to assist.

## Wemhoner

With Membrane

| | |
|---|---|
| Top Platen Temperature | 120C |
| Membrane Temperature | 100C |
| Pressure | 4.50bar |
| Pre-forming Pressure | 0.00 |
| Cooling Pressure | 2.00 |
| Pressure Multi-frame | 4.00bar |
| Vacuum Top: | 1.00bar |
| Vacuum Multi-Frame | 1.00bar |
| Vacuum Bottom | 1.00bar |
| T0 Pre-blow | 01.50sec |
| T1 Pre-heat | 05.00sec |
| T2 Vacuum time | 02.00sec |
| T3 Pressing time | 45.00sec |
| T4 Cooling time | 20.00sec |
| T5 Pre-forming Pressure | 00.00 |
| T8 Restart Vacuum | 00.00 |
| T12 Delay after pressing | 00.00 |
| Jig boards 18mm or pins. | |

## Burkle

Please note it is important to use the high gloss program. If unclear, speak to burkle.

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|---|---|
| Temperature | 125.0C |
| Pre-heat | 120.00sec |
| Press closing | 20.30sec |
| Delay time | 30.00sec |
| Vacuum | 04.00sec |
| Pre-evacuation | 00.00sec |
| Evacuation | 00.00sec |
| Ramp 1 | 2.50bar - 05sec |
| Ramp 2 | 3.00bar - 05sec |
| Ramp 3 | 4.00bar - 10sec |
| Ramp 4 | 5.00bar - 10sec |
| Ramp 5 | Not used |

## Simimpianti

With membrane

| | |
|---|---|
| Top platen | 118C |
| Membrane temp if available | 103C |
| Pressure | 4.5 Bar |
| T1 Pre-Blow | 01.50 sec |
| T2 Pre-Heat | 10.00 sec |
| T3 Vacuum bottom platen | 10.00 sec |
| T4 Forming pressure | 45.00 sec |
| T5 Cooling | 30.00 sec |
| T6 Delay press start | 00.00 sec |
| T7 | |
| T8 Delay T-press closing | 00.00 sec |
| T9 Delay to T- Top vacuum | 30.00 sec |
| T10 Delay T press closing | 00.00 sec |
| Jig Board 18mm | |

## Orma

With membrane

| | |
|---|---|
| Pre-Heating time | 55.00 sec |
| Press Temperature | 90-92 sec |
| Pressure | 5.00 – 5.5kg/cm2 |
| Press Time | 15 sec |

## Kolmag

| | |
|---|---|
| Temperature water Bed | 77C |
| Pre-Heating time | 05-15 sec |
| Pressing Time | 40-50 sec |
| Pressure | 250 Bar |
| Re-Pressing | 200 Bar 3 sec |
| Vacuum Pressure | 1 Bar 5-10 sec |
| Jig board 18mm | |

## Fritz

| | |
|---|---|
| Top plate Temp | 110C |
| Lower Heating Platen | 40C |
| Pre-heat Time | 60-90 sec |
| Vacuum Time | 10 sec |
| Press Time | 60 sec |
| Add. Press time (membrane) | 20 sec |
| Pressure | 4-5 Bar |
| Jig Board 15mm | |