

TECHNICAL DATA SHEET

MARBOCOTE HP3181 BLACK

MARBOCOTE
RELEASE TECHNOLOGY

Product Description: HP3181 Black Tool Sealer is designed to seal all types of highly porous substrates. HP3181 Black is a one component, high solids, moisture cure system in a solvent carrier that gives a high gloss finish to the surface.

Recommended Uses: HP3181 Black can seal highly porous substrates such as epoxy and polyurethane tooling board and MDF.

Product Benefits:
High sealing capability
High gloss without polishing
Fast cure
Non-contaminating
Quick and easy to apply

Product Characteristics:	
Appearance	Black liquid
Composition	Butyl acetate
Flash Point	23°C
Application Temperature	Ideal temperature 15°C - 30°C
Thermal stability of cured film	180°C
Coverage	20 - 50 m ² / L per coat
Application Type	Wipe or Spray
Shelf Life	12 months

Note: The polymeric resin used in HP3181 Black Tool Sealer reacts with moisture. Please ensure can is resealed immediately after use.

Please read Safety Data Sheet before use. Do not mix with other products or solvents. Application should be conducted in a dust free area with good ventilation. Solvent resistant gloves and eye protection must be worn during this process.

The number of coats of HP3181 Black Tool Sealer required depends on the porosity of the surface and the amount applied with each coat. Due to variations in application technique and to the large range in porosity observed in mould and tooling systems, prior to using HP3181 Black Tool Sealer in a production environment, it is important that the user determine for themselves how many coats are required to adequately seal the type of substrate being coated.

A superior finish can be obtained by flattening back the surface (for example, after 3 or 4 coats) before applying the final 1 or 2 coats. The coating needs to be cured for at least 2 hours at room temperature (or 15min at 60°C) for sanding or polishing to be possible.

HP3181 Black Sealer must be used in conjunction with an appropriate release agent, such as Marbocote HP7. Marbocote HP7 is specifically designed to be applied on top of Marbocote HP Tool Sealers; see HP7 Technical Data Sheet for more details.

Mould Cleaning: This needs to be performed prior to product application

Ensure that the mould or tool surface is cleaned with Marbocote Mould Cleaner to remove traces of dust, dirt, oils or release agent. The mould must be clean and dry before use.

Application Type: For a superior gloss finish, wipe application is preferred. For the best finish, it is important that the coating procedure be performed in a dust free environment and using lint free cloths. HP3181 Black can also be brush applied in a similar manner to this application. The use of foam brushes ("Jenny" brushes) has been found to give particularly good results.

When spraying, the use of a High Volume Low Pressure spray gun is strongly recommended. This type of spray gun will give the best drying pattern and highest gloss finish while providing optimum transfer efficiency.

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Wipe/Brush Application Technique:

- 1) To apply Marbocote HP3181 you need a clean, dry cloth. The choice of cloth is important; as the HP3181 resin reacts with water, the cloth must be dry. A smooth, soft cloth with a high synthetic content, such as Kimberley-Clark® Wypall® X60 is ideal.
- 2) Fold the cloth so that a smooth, flat surface is presented to the mould surface; ensure that all areas of the cloth are coated with product.
- 3) Wipe the wet cloth over mould surface covering an area of approximately 0.3m². Vigorous rubbing or polishing is not required.
- 4) Repeat step 3 on the adjacent area, frequently reapplying the product to the cloth. Take care to minimize the overlap area where previously applied product has dried but not cured sufficiently.
- 5) Repeat until mould is completely coated. Change the cloth if it becomes dirty.
- 6) Allow a minimum of 20 minutes at room temperature (20°C) between coats.
- 7) Depending on the porosity of the substrate, repeat Steps 1-6 above until the mould is sealed (i.e. a high gloss surface is obtained). This can vary from 4-5 coats for highly porous tooling board. See *NOTE* below.
- 8) Once the mould or tool is sealed, then the coating needs to be cured. See "Cure Times" table below.
- 9) Apply release agent top-coat (e.g. Marbocote HP7; see HP7 Data Sheet for more details).

Spray Application Technique:

Spray Gun Parameters	
Air pressure	0.5-1.0 bar (7-15 psi)
Fluid needle size	<1.2mm
Distance from mould	20cm
Film dry time	20 minutes

Note: Ensure that you apply light uniform coats and the product is not running or dripping (especially on vertical surfaces). It is important to clean the Spraygun immediately after use with acetone or similar solvent to ensure that the product doesn't cure in the gun.

- 1) Holding the nozzle of the gun approximately 20cm from the mould surface, adjust the output so that the product forms a very light coating on the surface that will dry within 2-3 minutes.
- 2) Systematically coat the entire surface of the mould. Care must be taken to over-lap sprayed areas.
- 3) Keep applying very light coatings 90° to previous until the coating on the surface shows a uniformed wet surface, then you need to leave the coating 20 minutes at room temperature between coats.
- 4) Depending on the porosity of the substrate, repeat Steps 1-3 above until the mould is sealed (typically 3-4 coats for 700kg/m³ tooling board). See *NOTE* above.
- 5) Once the mould or tool is sealed then the coating needs to be cured. See table below.
- 6) Apply release agent top-coat (e.g. Marbocote HP7; see HP7 Data Sheet for more details).

Cure Times:

Temp (°C)	Cure Time
Room temp (20°C)	2 hours
60°C*	15 minutes

* If heating, allow sufficient time for the mould to reach temperature (i.e. adjust cure time to compensate for mould or tool mass). Note: depending on mould configuration and room environment (temperature and humidity), the HP3181 Tool Sealer may also require a longer cure than detailed above.

After application of the Sealer, a release agent top-coat (such as Marbocote HP7), is required before starting production. The efficiency of the final release film is best determined through a combination of tape tests and experimentation.

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Note: The user will determine the suitability for use of this product. The recommendations / data given above are based on information we believe to be accurate. They are intended to be used only as a guide for selection for end-use evaluation and do not constitute a product specification. Marbocote cannot assume responsibility for results obtained by use of this product as we have no control over end-use applications or handling. Marbocote therefore specifically disclaims any damage or loss of any kind in relation to the use of this product.