



Save Time and Money with the Right Materials and Methods

Pre-Cut or Die-Cut Masking Profiles are tapes with a liner that have been precision cut by a CNC plotter into recurring shapes that are used to mask a specific area. Pre-Cut masking profiles are of particular interest to thermal spray shop managers and operators who recognize the inefficiency of repetitive masking of identical parts and are seeking possible cost savings associated with reduced masking time.

We use CNC plotters and dies to transfer drawings of a specific shape and pre-cut that shape onto sheets or rolls sheets of thermal spray masking tape. Customers provide a drawing in .DWG or .DXF file format with the drawing of desired pre-cut shape. For larger volumes of repeat profile shapes (7500 or more), the die-cut process is generally recommended and the die is saved for future re-orders. For lower volumes, pre-cut sheets (CNC plotter cuts) are typically used.

Use of Pre-Cut Profiles eliminates the inconsistencies that can occur with manual cutting cuts. Since the the tape is cut by die or CNC plotter, based on customer specifications, the masking profile is precisely controlled and uniform for every profile produced.

In addition to the benefit of consistent masking, using pre-cut shapes results in less wasted tape as the drawings are positioned onto the tape to maximize the number of shapes per roll.

The use of pre-cut profiles also helps to limit excessive razor blade handling and wrist injuries such as Carpal Tunnel Syndrome commonly experienced by employees who are handling and cutting tape rolls every day. Pre-cut profiles can eliminate the danger of repetitive motion injuries as well as limit the injuries typically seen in environments where employees are using razor blades.

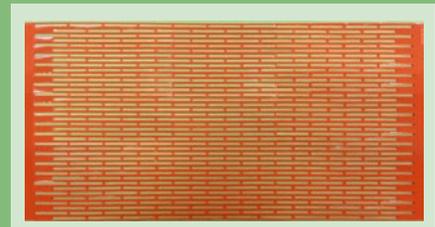
Opportunities for time and cost savings

Pre-cut profiles are created by GBI from CAD drawings supplied by the client and are presented similarly to a label pad where the operator just peels the tape profile off of the pad as needed.

Benefits of pre-cut profiles:

- **Tighter coating lines** - profiles are precision cut to customer specifications and re-work is reduced or eliminated
- **Faster masking** - each pre-cut piece can be removed easily from the backing and applied in minimal time
- **Eliminate cutting errors** - because there is no need to cut each piece individually, sizing and cutting errors are eliminated resulting in significant time reductions for each masking job and less tape consumption (less waste).
- **Improved Safety** - Reduction in operator injuries due to razor work (less razor work equals fewer opportunities for cutting injuries).

Masking with Pre-Cut Masking Profiles for repetitive parts is faster (and safer). And, since GBI tape is stronger most jobs can be masked using just a single layer. Our engineered adhesive leaves no adhesive residue so the need for clean-up and rework is minimized or eliminated.



The above single Pre-Cut Profile masking sheet has many intricately sized and spaced openings that require precision and uniformity. Imagine trying to cut this piece manually!



A part with recurring rectangular target areas is efficiently masked (left) with 170-10s Green HVOF tape with die-cut windows. The image on the right shows the part with masking removed, after receiving the spray coating.

Product Recommendations for Pre-Cut Profiles

Any Thermal Spray masking tape with a liner may be precision cut by our plotter into recurring shapes. Your Account Manager can help you select the best tape for your application. Options include:

- **GBI 170-10s YL** – A reliable masking tape for most standard plasma, flame spray, and arc spray applications.
- **GBI 170-10s Green** – For applications that involve heat and/or higher abrasion and may be used with fewer layers than standard tapes.
- **GBI 170-10s Red** – Recommended for applications involving higher temperatures. This tape resists burning/scorching which gives cleaner coating lines and less residue from any scorching that may occur.
- **GBI 170-14C** – A premium masking solution for applications involving the harshest conditions including high abrasions and high temperatures.
- **GBI HVMT Orange** – A reliable masking tape that provides precision masking for challenging applications such as gas fueled HVOF.

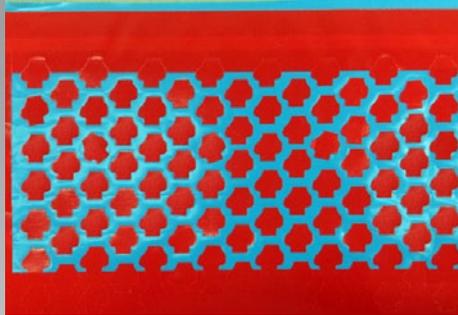
Advantages of Engineered Masking Solutions from PTFE Group

Engineered to meet the demands of a wide range of thermal spray coating processes including plasma spray, PTFE Group Masking Materials offer superior performance. All PTFE Group Thermal Spray Masking Materials are engineered for:

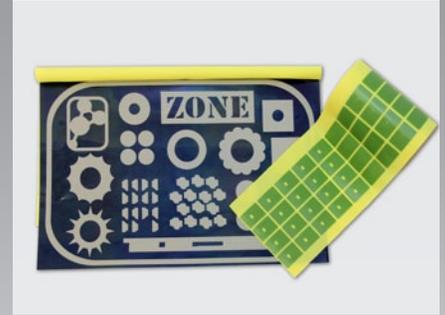
- **Heat Resistance** – From the substrate to the coatings and adhesives, PTFE Group masking materials are engineered to resist the extreme temperatures of thermal spray coating processes including plasma spray.
- **Abrasion Resistance** – The types of coatings and thicknesses used are engineered to resist the abrasive forces of both the grit blast and plasma spray coating processes. PTFE Group products can be applied once for both grit blasting and plasma spray coatings.
- **Conformability** – Our tapes and compounds are easy to work with and conform well to surface contours in more complex masking applications.
- **Adhesion** – masking tapes exhibit high adhesion to metal and to themselves (to prevent flagging).
- **Clean Release** – Despite high adhesion, the tapes are designed to remove cleanly with no adhesive residue.



A CNC Plotter cuts repetitive shapes from a sheet of 170-10s Red Plasma Spray Masking Tape.



A close-up of the 'kiss-cut' sheet with multiple profiles uniformly sized and shaped.



Examples of a range of Pre-Cut Profile styles on a single sheet on the left and a die-cut roll on the right.

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