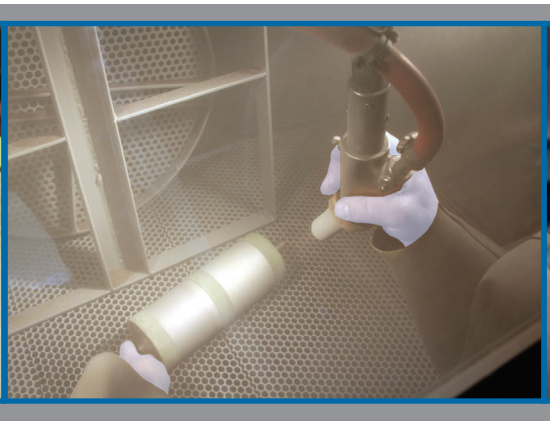
green belting
a division of Ammeraal Beltech

Masking for Grit Blasting

More than just tape!



Save Time and Money with the Right Materials and Methods

Grit Blasting is a surface preparation process in which a high-pressure stream of abrasive material is directed at the surface of a part of component to create shape, add a surface texture (rough or smooth), or to remove surface coatings or contaminants. The grit blast process is used in thermal spray coating facilities, metal fabricating shops, paint shops, and plating shops to prepare surfaces for the coating process.

The type of grit media used depends on the application and the type of substrate. Aluminum oxide is commonly used for a wide range of applications. The size of grit media also depends on the application, substrate and desired texture. For example, intricate plasma coating work often calls for finer particles such as 60 to 80 grit. Industrial applications often use coarser material (between 16 and 36 grit).

The Need for Masking

Most coating facilities (thermal spray, paint, metal fabrication, and plating) use abrasive blasting to etch and prepare surfaces to ensure good bonding surfaces prior to the coating application. Oftentimes, only selected areas of a product require surface preparation so non-target areas must be protected from the abrasive grit spray. The same non-target areas are also masked to protect them from overspray during the coating process.

Opportunities for Time and Cost Savings

The opportunity for cost savings begins with the quality standards that are engineered into all Green Belting Industries Performance Materials.

Because our thermal spray masking solutions are designed to withstand the extreme temperatures and abrasion of both thermal spray coating processes, they are also well suited to resist the abrasive forces of the grit blasting process. Savings therefore begin when materials can be applied just once and used for both processes, grit blasting and thermal spray coating, and with just one or two layers. The result is less time spent, and less material used. Also, our adhesives are engineered to hold fast during the grit blast and thermal spray coating processes, while releasing cleanly afterwards, without added clean-up, and without added time.

The increased efficiency of Green Belting Industries performance materials leads to a leaner, more profitable operation.

Factors in Choosing the Best Masking Materials

Grit Composition – Glass beads, aluminium oxide, steel shot etc. are some of the more common grit media. Steel shot requires the most abrasive resistant masking material while aluminium oxide and glass beads allow for a wider variety of masking options.

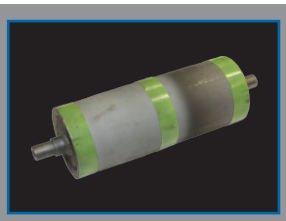
Grit Size – Finer grits (60 and higher) require less abrasive resistant material whereas coarser grits (46 and lower) require more robust tapes or compounds to withstand the blasting process.

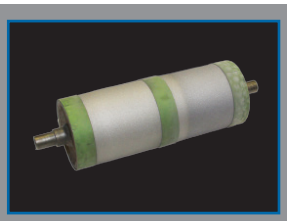
Nozzle Pressure – The amount of pressure (psi) exerted by the stream of abrasive particles varies from lower pressure (60 PSI or less) to higher pressure (80 PSI or greater). Lower pressures allow for a wider range of masking options while higher pressure processes call for more robust tapes and compounds.

Blast Duration – The longer the grit blast spray is in contact with the masked surface (dwell time) the greater the need for stronger and more abrasive resistant materials.

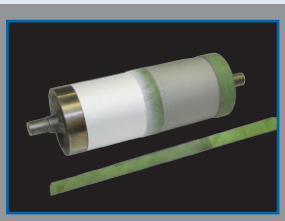
Grit Retention – Depending on the process, grit particles may adhere to the masking material. Where this is a concern, different types and grades of masking material can be used to limit adhesion. For example, 170-10S Red is less likely to retain grit particles compared to 170-10S YL (which has a tackier surface).

Masking


Pre-Spray


Post Grit Blast

Post Flame Spray


Post Spray (Tape Removed)

Product Recommendations for Different Grit Blast Applications

Masking for Grit Blast and Thermal Spray Coating

The spectrum of Green Belting Industries solutions is well suited for the demands of both grit blast and application of thermal spray coating so savings can be achieved by masking for both processes just once, in a single step. Various weights, thickness, resistances and flexibility ensure the best available fit for the application. The following recommendations contemplate the best fit for different grit blast and thermal spray coating combinations.

37 Grit and Higher / Wire Arc Spray	**170-10S YL**, **170-10S Green**, **170-10S Red**, **SW-35**, and/or **HVMC**
36 Grit and Lower / Wire Arc Spray	**170-10s Green**, **SW-35**, and/or **HVMC**
37 Grit and Higher / Flame Spray	**170-10S YL**, **170-10S Green**, **170-10S Red**, **190-7S**, and/or **HVMC**
36 Grit and Lower / Flame Spray	**170-10S Green**, **170-20S YL**, and/or **HVMC**
37 Grit and Higher / Plasma Spray	**170-10S YL**, **170-10S Green**, **170-10S Red**, and/or **HVMC**
36 Grit and Lower / Plasma Spray	**170-10S Green**, **170-20S YL**, and/or **HVMC**
37 Grit and Higher / Gas Fueled HVOF	**HVMT Orange** and/or **HVMC**
36 Grit and Lower / Gas Fueled HVOF	**HVMT Orange** and/or **HVMC**
37 Grit and Higher / Liquid Fueled HVOF	**HVMT Orange** and/or **HVMC**
36 Grit and Lower / Liquid Fuel HVOF	**HVMT Orange** and/or **HVMC**

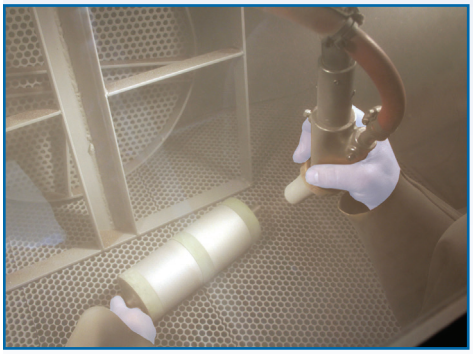
Masking for Grit Blast Only

Some metal fabricating facilities simply use grit blasting to clean industrial parts—there is no coating application that follows. In these cases, the high conformability of thermal spray masking materials is well-suited for detailed masking requirements.

The materials are also well suited to resist the abrasiveness of the grit spray. Most importantly, the thermal spray masking tapes leave no adhesive residue behind, so there no added clean-up is required. Recommendations include:

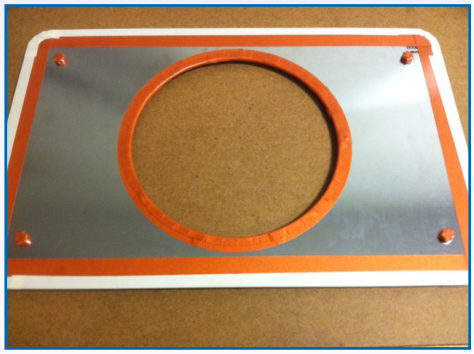
37 Grit or Higher	**170-10S Green** for easy and quick application, flexibility and resistance to abrasive grit.
36 Grit or Lower	**HVMT Orange** or **179-25S** – heavier tapes that protect against coarse grit and high pressure; a better option than plasma spray masking tapes
All Grit Media	**HVMC** is suitable for any grit blast situation as it withstands high pressure and high abrasion

HVMC - High Velocity Masking Compound **HVMT** - High Velocity Masking Tape



170-10S Green Masking Tape

170-10S Red and HVMC –
High Velocity Masking Compound (blue)



HVMT Orange Masking Tape

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As an ISO 9001 Quality Registered Company, our ongoing procedure for quality assurance starts with thorough inspection of all raw materials to ensure compliance with our required specifications. All manufacturing processes are closely monitored, and finished product is tested against our high internal standards and customer specifications. This assures that we always deliver consistently high quality products.

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