

Material Product Data Sheet

Masking Tapes for Thermal Spray

Thermal Spray Products:

Amdry T-3325, Amdry T-3350, Amdry T-3312, Metco Flame Spray Masking Tape, Metco HP Flame Spray Masking Tape

1 Introduction

Masking tapes prevent the adherence of the thermal spray coating on those surfaces where it is not required. They are designed to withstand the temperatures and particle impact associated with thermal spray processes.

All Oerlikon Metco masking tapes use high-temperature, pressure-sensitive silicon adhesives that allows the product to continuously withstand temperatures up to 260 °C (500 °F) and also prevents slippage during thermal spray processing.

Amdry™ and Metco™ HP Flame Spray Masking Tapes are made with flame-retardant silicone rubber, calendered onto high grade fiberglass fabric with adhesive on both sides.

Metco Flame Spray Masking Tape is made with flame-retardant fiberglass fabric, with adhesive on both sides.

Masking Tapes can withstand moderate grit blasting and can be used to prevent blasting on surfaces where it is not required or detrimental.

1.1 Typical Uses and Applications

- To prevent thermal spray coating build-up on surfaces where it is not desired
- To prevent grit blasting on surfaces where it is not desired prior to thermal spray coating

Quick Facts

Classification	Auxiliary, Masking Tape
Operating Temperature	-73 to 260 °C (-100 to 500 °F)
Purpose	Surface protection during thermal spray and grit blasting
Process ^a	All thermal spray processes, except ChamPro™
Shelf Life	6 months

^a Varies by product; see Section 3.1 for details



2 Material Information

2.1 Typical Properties

Property	Product		
	Metco Flame Spray Masking Tape	Metco HP Flame Spray Masking Tape	Amdry T-3312 Amdry T-3325 Amdry T-3350
Backing material	Fiberglass fabric	Silicon rubber / Fiberglass fabric	Silicon rubber / Fiberglass fabric
Adhesive type	Silicone		
Double-faced adhesive	✓	✓	✓
Adhesion to steel (nominal)	g/cm	335	390
	oz/in	30	35
Adhesion to itself (nominal)	g/cm	893	700
	oz/in	83	65
Tensile strength (nominal)	kg/cm	54.7	28.5
	lb/in	306.6	160
Total thickness (nominal)	mm	0.178	0.343
	in	0.008	0.0135
Backing thickness (nominal)	mm	0.114	0.196
	in	0.004	0.0077
Adhesive thickness (nominal)	mm	0.064	0.147
	in	0.002	0.0058
Dielectric strength	V	---	7000

2.2 Additional Powder Characteristics

- Metco and Amdry tapes come in a variety of sizes and may only be available in specific regions. See section 4.1 for further information.
- All Metco and Amdry tapes can be used to protect surfaces during grit blasting.
- All Metco and Amdry masking tapes are suitable for use with atmospheric plasma spray, combustion powder Thermospray™, combustion wire spray, electric arc spray and cold spray. In general, these tapes are not suitable for HVOF, with the exception of Metco HP Flame Spray Masking Tape; however, test samples can determine if they will work in a particular application.
- Metco HP Flame Spray Masking Tape is a high-performance masking tape that has been designed to withstand both the punishing abrasion of grit blasting and extreme temperatures and pressures associated with all thermal spray processes, including the HVOF process.

- Amdry T-3350, Amdry T-3312 and Amdry T-3325 have excellent strength and flexibility, which allows easy wrapping of complex shapes and minimizes wrinkling during flexing.

2.3 Related Products

- Metco Anti-Bond is a premium masking compound for use with any Oerlikon Metco thermal spray material suitable for use with atmospheric plasma spray, combustion spray (low velocity) or electric arc wire spray. It is a water-soluble, liquid masking compound that can be used to mask very complex geometries.
- Metco Super Spray Mask is a versatile, easy-to-use, solvent-based masking compound. It provides superb protection to surfaces to be protected from the thermal spray coating and grit blasting processes. It can be used with any atmospheric thermal spray process, including HVOF.

3 Key Processing Information

- When applying Metco and Amdry masking tapes, avoid touching the adhesive with bare hands to prevent loss of tackiness of the adhesive. Also avoid touching the part with bare hands to avoid contamination of the surface. Wearing gloves is recommended.
- Ensure that the substrate surface is free of grease, oil and moisture before applying the masking tape.
- For best adhesion, press the tape onto the substrate surface firmly and ensure that tape edges are well-adhered to the part. Use of non-damaging mechanical implements, such as wooden or plastic spatulas can help.
- Masking Tapes can withstand moderate grit blasting. Multiple layers of tape are recommended. Two layers of tape should hold up to suction blasting with Metco-lite F at 5.5 bar (80 psi). For heavy grit blasting, a layer of vinyl tape can be applied over the masking material.
- If the masking tape is to be used for both grit blasting and thermal spraying, inspect the tape after grit blasting to ensure the tape is still intact and well-adhered. Clean parts after blasting with clean, dry pressurized air to remove any excess grit or dust contaminates. If the tape is damaged, remove the tape and remask or add additional tape.
- When removing tape after thermal spray, use care not to spall the edges of the thermal spray coating.
- If any adhesive residue remains after removal of the masking tape, it can be removed with alcohol or acetone.

3.1 Recommended Spray Processes

Product	Metco Flame Spray Masking Tape	Metco HP Flame Spray Masking Tape	Amdry T-3312 Amdry T-3325 Amdry T-3350
Atmospheric Plasma Spray	✓	✓	✓
Combustion Powder Thermospray™	✓	✓	✓
Combustion Wire Spray	✓	✓	✓
Electric Arc Wire Spray	✓	✓	✓
HVOF (High Velocity Oxy Fuel Spray)	✗	✓	✗
Cold Spray	✓	✓	✓
ChamPro™ Controlled Atmosphere Plasma Spray	✗	✗	✗

4 Commercial Information

4.1 Ordering Information and Availability

Product	Order No.	Roll Size (width x length)	Availability	Distribution
Amdry T-3312	1050528	12.7 mm x 32.9 m (0.5 in x 36 yd)	Special Order	Europe
Amdry T-3325	1002836	25.4 mm x 32.9 m (1.0 in x 36 yd)	Special Order	Europe
Amdry T-3350	1006310	50.8 mm x 32.9 m (2.0 in x 36 yd)	Special Order	Europe
Metco Flame Spray Masking Tape	1000427	25.4 mm x 32.9 m (1.0 in x 36 yd)	Special Order	Global
	1000428	38.1 mm x 32.9 m (1.5 in x 36 yd)	Special Order	Global
Metco HP Flame Spray Masking Tape	1000450	25.4 mm x 32.9 m (1.0 in x 36 yd)	Special Order	Global

4.2 Handling Recommendations

- Use masking tapes within 6 months of purchase
- Silicon adhesives inherently lose their adhesive properties because they are continuously undergoing a curing process. To assure maximum shelf-life, the following storage procedures are recommended:
- No drastic temperature changes
- No direct sunlight
- Store at temperatures below 40 °C (100 °F)

4.3 Safety Recommendations

See the SDS 50-285 (Safety Data Sheet) localized for the country where the material will be used. SDS are available from the Oerlikon web site at www.oerlikon.com/metco (Resources – Safety Data Sheets).

Information is subject to change without prior notice.