



Surface Technologies

Technical Process Bulletin

TURCO Form Mask 5580 GMD

Hand peelable coating

I. DESCRIPTION :

TURCO Form Mask 5580 GMD is a green hand-strippable coating formulated to provide protection to metal surfaces during successive fabrication operations, such as forming, chemical cleaning, conversion coating, type I and type II anodising, adhesive bonding and chemical milling.

It is applied by hot airless spray methods and can be used on ferrous and nonferrous alloys. It meets the requirements of Boeing Specification BMS 10-65 and DPM 5252.

TURCO Form Mask 5580 GMD resists emulsion cleaners, anodising solutions, alkaline cleaners, acid deoxidisers, strong caustic solutions (at 120°C) and various plating solutions.

II. BENEFITS :

TURCO FORM Mask 5580 GMD offers these benefits :

1. its thixotropic properties make it possible to apply thick coatings with few applications. Usually 2 to 3 applications will permit to obtain a film thickness of 250 to 300 micrometer.
2. it has a good stability and minimize the risks for split out of the chemicals. It allows long periods between mixing.
3. minimize the overspray and dust into the spray booth.

III. PHYSICO CHEMICAL PROPERTIES :

LIQUID :

Appearance/colour : viscous green liquid

Odour ; perchlorethylene

Specific gravity : 1.570 kg/dm³

Viscosity (20°C) : 18-23 poises (Brookfield 3/10)
30 sec in cup Zahn N°5

Boiling point : 121°C

Flash point (TOC) : > 80°C

Vapor pressure : 18 m bar

Dry content (by weight) : about 16.9%

Solidification point : -20°C

Shelf life : 1 year minimum

DRY FILM :

Appearance : hard, flexible and green polymeric coating resistant to chemical and abrasive severe conditions.

Film thickness after 2-3 applications : 220-300 micrometer

Adhesion before chemical milling (2024/A5-T3) : 90-125 g/cm

Adhesion after chemical milling : < 175 g/cm

Elongation strength before chemical milling (2024/A5-T3) : 0.70 hbar

Elongation strength after chemical milling : 0.60 hbar

Rupture elongation : about 500 %

Resistance to abrasion : excellent

Resistance to impacts : excellent

Chemical resistance : resists to detergent solutions, anodising baths, alkaline cleaners, acidic deoxidising and chemical milling solutions (up to 110°C)

Do not resist to chlorinated solvents.

IV. INSTRUCTIONS :

1. Pre-cleaning : the parts to be coated must be dry and clean, free of corrosion, dirt, oil and grease. Your HST Sales Engineer can recommend suitable pre-cleaners based on your requirements.

2. Spray application :

2.1. Equipment : Hot Airless Spray equipment such as Graco Nordson or Binks may be used.

Example : Graco President or Bulldog 30:1 circulating unit with Stainless Steel Heater # 210-624, with a # 250-264 filter element, # 163-919 or 163-919 or 163-921 spray tips for large parts, 163-515 for small parts. Adequate compressed air volume at 6 to 8 bar is required for the pump. Set "back pressure" at 125 to 165 bar and the heater thermostat at 70° to 90°C.

2.2 Application Procedure : hold the spray gun approximately 300 to 400 mm from the work surface moving the gun parallel and at right angles to the work surface. Use straight uniform strokes. Apply one fast half (1/2) box coat, i.e. one horizontal pass overlapping about 50 to 75%. Then spray full box coat (one horizontal pass and one vertical pass) overlapping approximately 50%. This will provide a 150 to 250 micron dry film depending on the speed at which the spray gun is moved. Approximately a 400 to 650 micron wet film equates to a 150 to 250 micron dry film.

2.3 Cold Airless Spray : **TURCO Form Mask 5580 GMD** may be sprayed cold. However, 5 box coats may be required to obtain the same dry film thickness as 1 1/2 to 2 box coats when applied hot. Hot spray allows application of heavier wet films without sagging than can be obtained with cold spray.

2.4 Dilution : **TURCO Form Mask 5580 GMD** is packaged ready for use. However, if thinning is required, use TURCO Form Mask Thinner 4. Thinning with other materials may result in undesirable performance characteristics and/or make **TURCO Form Mask 5580 GMD** non compliant with air quality regulations. Zahn cup viscosity readings of **TURCO Form Mask 5580 GMD** may be misleading and are not recommended for control of **TURCO Form Mask 5580 GMD**. To assure uniform and reproducible results, adequate mixing of the products is necessary and should be done at least once per 8-hour shift.

3. Curing :

Allow the coating to dry overnight (ca.16 hours) at room temperature before processing. To accelerate the cure, allow drying 4 hours at room temperature, then oven cure for 1 hour at 70° to 80°C. (As a stop-off for plating or anodising, optimum results are obtained by additional cure of 30 to 40 minutes at 120°C)

4. Removal :

TURCO Form Mask 5580 GMD is hand peelable. However, on rough and oxidized surfaces, the adhesion will be higher than normal. **TURCO Form Mask 5580 GMD** may be stripped by immersing coated parts in TURCO Form Demask 625 for 10 to 20 minutes followed by air-drying for 10 to 30 minutes. This lowers the adhesion of **TURCO Form Mask 5580 GMD** that it is easily removed from very thin or fragile parts.

DISPOSAL INFORMATION :

Dispose of spent material per local, state and regional regulations. Refer to TURCO MATERIAL SAFETY DATA SHEET for additional disposal information.

WARNING !

TURCO Form Mask 5580 GMD contains chlorinated solvents. Avoid contact with eyes, skin and clothing. Do not take internally. Avoid prolonged breathing of vapours. Use with adequate (equivalent to outdoor) ventilation. Protective clothing, such as a chemical face shield or goggles, gloves, boots and apron made from solvent resistant materials should be worn when using this product.

Do not use 1, 1, 1 - trichloroethane, methylene chloride, perchloroethylene, or other halogenated solvents or solvent mixture containing halogenated solvents with pressurizable fluid handling equipment such as airless spray equipment containing aluminium or galvanized wetted parts. Direct contact between aluminium or galvanized metal and these or other chlorinated solvents could result in an uncontrollable chemical reaction and possible explosion.

Keep away from flames or other ignition sources, such as welding arcs or cutting torches, since hazardous gases may be formed.

Before using this product refer to container label and TURCO MATERIAL SAFETY DATA SHEET for additional precautionary, handling and first aid information.

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