



Technical Information Bulletin

TURCO® Form Mask 537-42 HT

INTRODUCTION:

TURCO Form Mask 537-42 HT is a one-package-hand-strippable, protective coating, which possesses a high degree of chemical resistance, especially developed for acid etchants.

The build-up capability (usually three dip applications will give up to 10 mills or 230 microns dry film thickness), a high bubble release capability, and easier flaw detection made possible by a fluorescent film. It is conveniently packaged at ready-to-use viscosity for dip application.

LIQUID PROPERTIES

Viscosity at 25°C	38 - 42 sec. Zahn Cup 5
Solids by weight	23,6 - 24,6 percent
Specific weight	1,51 g/ml
Storage life at 25°C	1 year minimal
Color	red
Flash point T.O.C.	Above 90°C

FILM PROPERTIES

Tensile strength:	1000 psi. Min.
Elongation at rupture	700 percent min.
Peel adhesion in g/2,5 cm on aluminum	
Before etching	380 - 400 g
After etching	600 - 800 g

HAZARDOUS PROPERTIES

Read precautionary information carefully before opening.

CAUTION: Prolonged exposure to high concentrations of vapor may cause irritations to eyes and respiratory tract.

Contains chlorinated hydrocarbons. Avoid contact with skin and eyes. Avoid prolonged or repeated breathing of vapor.

Do not take internally. Open container carefully to avoid spurting.

FILM THICKNESS

A dry film thickness of 250 microns (10 mil) normally provides adequate protection in processing aluminum and magnesium.

A minimum of 300 microns (12 mil) is recommended for steel and titanium, since some deterioration of the film occurs in these etchants.

NUMBER OF COATS

TURCO Form Mask 537-42 HT will provide the required film thickness in three coats depending on the use temperature.

VISCOSITY

In principle the product is used as received with the indicated viscosity of 38-42 sec. Zahn Cup 5 at 25°C.

SELECTION OF REDUCING THINNER

Depending on local temperature/humidity conditions and part seize, xylene, toluene or TURCO Form Mask Thinner 4 may be used to control the viscosity. When fast evaporation solvent is desired, for example during the cold season, toluene may be used.

Do not add too much toluene, as this will substantially lower the flash point of the material. Addition of TURCO Form Mask Thinner 4 will not change the flash point of the product.

DIRECTIONS FOR USE

To assure uniform and reproducible results in applying mask, adequate mixing of the solution is necessary, prior to and during use. Caution should be exercised to prevent air from being drawn into the mask by the mixing action. Since some solvent is lost to the atmosphere during use, periodic additions of thinner, based on viscosity measurements, are required. After measuring the viscosity with a 5 Zahn Cup, adjust to the desired operating viscosity with thinner.

In dip and flow-coat systems, a filter is necessary to remove foreign matter or partially cured particles of mask that may fall into the solution.

Avoid excessive heat and drafts on wet film, as these can cause undesirable "skin-drying" of the film. Heat or ventilation used to force the drying of the wet film, should be applied only if the user observes that film quality is satisfactory under these conditions.

DIP APPLICATIONS

Although TURCO Form Mask 537-42 HT contains anti-settling agents, proper circulation of the mask in the dip tanks is recommended to avoid dipping into run-off (drainage of excess mask) from previous parts.

1. Use mask as received, but verify proper viscosity.
2. Slowly immerse clean part into the mask, up to but not over the top edge of the part. Avoid dipping a part rapidly into the mask, as this introduces air and creates bubbles in the film. Remove part from dip tank.
3. Allow part to dry until the film is tack-free; rotate 180°C and recoat.

Film built-up should be within the desired thickness now.

FLOW-COAT APPLICATIONS

1. Dilute mask with thinner to desire flow-coat viscosity.
2. Flow mask into clean part. Avoid flowing over the top of the part, as this creates bubbles on the back part. Flow nearly to the top leaving a narrow strip of bare metal. This will be coated when the part is reversed on subsequent coats, likewise leave a narrow strip uncoated.
3. Allow part to dry until the film is tack-free; rotate part 180°C and recoat.
4. Repeat cycle until desired film build is obtained.

COLD OR HOT AIRLESS SPRAY APPLICATION

1. Reduce mask to a viscosity of 13 to 18 seconds in a Zahn Cup, using a blend of toluene/xylene, 1/1, or TURCO Form Mask Thinner 4.
2. Use Graco Tip 163-817, 163-721 or 163-719. The reverse-A-clean nozzle facilitates cleaning clogged tips.
3. Use 145-160 bar fluid pressure.
4. Application of mask:
 - a. Apply one horizontal coat, one pass with 50% overlap.
 - b. Apply one box coat (one vertical pass, one horizontal pass). Allow drying.
 - c. Apply two boxes coats, allowing suitable drying time between coats. Film built should be 10 mils.
5. Hot application should provide film built to equal to cold spray in one less coat.
6. Spray temperature: 60-80°C at 100 bars.

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