

## Turco Form Mask 522 = Turco 5145

### DIP AND FLOW COAT CHEM-MILL MASKANT

#### Description

Turcoform Mask 522 is a tan, liquid, single component, air curing, peelable protective coating formulated to provide protection against the corrosive action of hot caustic and acidic solutions used in the Chem-Mill processing of aluminium, magnesium, steel and titanium alloys.

Turcoform Mask 522 can be applied by immersion or flow coating methods and dries to a chemical resistant elastomeric film within 12 hours. Turcoform Mask 522 can be forced dried by conventional methods, after air drying for 2 to 3 hours at room temperature.

A top-coat of Turcoform Mask 526 is recommended for steel and titanium processing to provide additional protection against aggressive acid etchant solutions or when used in oxidizing solution such as chromic anodizing acid.

#### Liquid properties

Appearance:	tan viscous liquid
Solids by wt:	34.5 ± 1%
Specific gravity:	1,00 ± 0,02 g/ml
Viscosity, Poise:	15 ± 4
Flash point (SETA):	4 °C
Storage life at 25°C	1 year min.

#### Film properties

Tensile strength:	900 psi min. = min. 65 kg/cm <sup>2</sup>	
Elongation at rupture:	475% min.	
Peel adhesion:		
Solvent wiped panels	before etch	after etch
2024-T3 Clad aluminium	145± 40 g/cm =max. 232 g/cm	365 ± 100 g/inch max. 590 g/inch

## Directions for use

1. **Pre-cleaning:** For optimum uniformity in adhesion and performance the parts to be masked must be free of oil, grease, dirt or corrosion. Your Turco Territory Manager can recommend suitable Turco cleaners based on specifications and production needs.
2. **Mixing:** To assure reproducible results in application and performance of the Turcoform Mask 522, adequate mixing of the solution is very important prior to and during use. Caution must be exercised to prevent air from being drawn into the mask by the mixing action. Since some solvent is lost during use due to evaporation, periodic additions of thinner are required. The amount of thinner required is based on viscosity measurements. A #5 Zahn cup viscometer may be used to measure and adjust the maskant to the desired operating viscosity. The thinner must be thoroughly mixed into the mask in order to obtain a true viscosity reading.
3. **Selection of Thinner:** When the user is required to comply with air pollution regulations, such as the California South Coast Air Quality management District, Turcoform Mask Thinner #4 should be used. When no regulations are in effect, toluene or xylene or a blend of toluene and xylene may be used to reduce the viscosity of the mask. When a faster drying solvent is desired, as in the cold season, toluene should be used. The slower evaporating solvent, xylene, may be desirable during the hot summer months. Blends of toluene and xylene have been used to achieve optimum drying conditions.
4. **Dip Application:**
  - 4.1. Proper circulation of the mask in the dip tank is necessary for optimum results. Continuous movement of the mask from one end of the tank to the opposite end avoids dipping into the drainage of excess mask from the previous parts.
  - 4.2. Adjust the mask to the desired viscosity with thinner.
  - 4.3. Slowly immerse clean parts into the mask up to but not over the top edge of the part. Caution - immersing the parts too rapidly into the mask will introduce air and produce bubbles in the film.
  - 4.4. Remove the parts from the tank and allow drying until the film is tack free.
  - 4.5. Rotate the part 180° in the vertical plane and dip again for an additional coat. In a three-coat system, common practice is to rotate the part only between the second and third coat.
  - 4.6. Repeat the cycle until the required dry film thickness is obtained.
5. **Flow Coat Application:**
  - 5.1. Adjust the viscosity of Turcoform Mask 522 to the desired limits using a #5 Zahn cup viscometer.
  - 5.2. Flow mask onto the clean part. Avoid flowing over the top of the part. Flow the mask nearly to the top leaving a narrow band uncoated. This narrow uncoated area will be covered when the part is rotated. On all subsequent coats leave a narrow strip uncoated.
  - 5.3. Allow part to dry until tack-free then rotate 180° in the vertical plane and recoat.
  - 5.4. Repeat cycle until the desired dry film thickness is obtained.
6. **Viscosity:** The recommended viscosity range (#5 Zahn cup) for Turcoform Mask 522 is from 16 seconds to 45 seconds depending on the particular set of conditions. In general, to provide a film thickness of 9 to 14 mils, a viscosity in the lower range is recommended for long parts. A viscosity in the higher range is recommended for short parts.

<u>3 Coat System</u>	<u>2 Coat system</u>
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Short parts 24 - 33 sec.	35 - 45 + sec.
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Long parts 16 - 23 sec.	30 - 40 sec.
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Through experience and user preference, an intermediate viscosity range may be selected that

accommodates most parts but may require an extra coat on small and net (no trim) parts.

7. **Drying:** Avoid excessive heat and drafts on wet film to eliminate undesirable skin-drying and poor, uneven flow. Heat or air movement may be applied to force dry the film only if the user is satisfied that the quality of the film is satisfactory after force drying.
8. **Curing:** Air cure at room temperature overnight. To accelerate the cure, an air dry at room temperature for 2 to 3 hours followed by an oven cure for 45 minutes to 1 hour at 80°C may be used.

## Disposal information

Dispose of spent material per local, state and regional regulations. Refer to your local Turco Territory Manager, District Sales Office, OSHA Form 20 Sheet or Turco Material Safety Data Sheet for additional disposal information.

## Caution

Turcoform Mask 522 contains aromatic flammable solvents. Avoid contact with eyes, skin and clothing. Do not take internally. Avoid prolonged breathing of vapours.

Use adequate (equivalent to outdoor) ventilation.

A face mask with an organic vapour canister or air supply is recommended.

Keep away from flames and other ignition sources, such as sparks and welding or cutting torches.

Open containers carefully to avoid spurting. Keep containers closed when not in use. For maximum life containers should be stored below 50°C.

Refer to container label, Turco Material Safety Data Sheet or OSHA Form 20 Sheet for additional precautionary, handling and first aid information.

### NOTICE:

*The above information and recommendations concerning this product are based upon our laboratory tests and field use experience with this or similar products. However, since conditions of actual use are beyond our control, any recommendations or suggestions are made without warranty, express or implied. Manufacturer's and seller's sole obligation shall be to replace that portion of the product shown to be defective. Neither shall be liable for any loss, damage, or injury, direct or consequential, arising out of the use of this product.*

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