



# Melbourne Etching Supplies

## Product information sheet

### Hydro-coat cold development

#### **Step One: Exposure**

Using a Stouffer 21 step sensitivity guide, expose the plate to a solid step 8-10. To help find the correct exposure units/time, make a series of separate exposures (doubling the time or units with each exposure). Be sure to mask the plate completely where the exposure is not taking place. The Hydro-coat exposure time is approximately 20% longer than the exposure time of Aquatop or Mitsui coatings. (Approx 10 minutes using a 300watt Ultravitalux globe, available at MES) After developing and descumming, the optimal time/units is that which produces a solid step 8-10 reading on the Stouffer guide.

*Developer preparation: Dissolve 2.5 grams of solid (normally flakes) sodium hydroxide (caustic soda) per 1 litre of water or use the Photo-plate developer available at MES mixed 1-4 with water.*

*If using a diluted liquid form of sodium hydroxide, add approximately 9ml per 1 litre of water. This formulation is based on a typical sodium hydroxide solution of 30%. Make appropriate adjustments for varying solutions. For example, a 20% solution would require 13.5ml per 1 litre of water and a 40% solution would require 6.75ml per 1 litre of water.*

#### **Step Two: Developing**

**Don't use an aluminium tray:** Plastic, porcelain or stainless steel is ideal.

The developer solution should be used at 20°C. The warmer the developer solution is, the faster the development will be. Likewise, if the solution is at a lower temperature, development will take longer.

Place the exposed plate in your tray containing the developer solution and gently agitate by lifting the tray on one side. Develop 45 seconds to one minute or until the coating begins to peel from the plate. A fan or hake brush is ideal for gently brushing the plate during this step.

**Don't over develop. Over development will cause the coating to lift from the plate.**

*\*With tray development the developer solution should be changed daily.*

#### **Step Three: Stop Bath**

A warm water rinse acts as a stop bath and ensures that all unwanted resist is removed from the non image area.

#### **Step Four : Etch**

Etch as usual.

#### **Step Five: Removal of top coating**

Prepare a solution of 25-30% sodium hydroxide/caustic soda (250-300 grams per 1 litre of water) in a plastic tray. Soak the plate in the tray for 5-6 minutes and then rub it vigorously with a bristle brush. For faster and more effective removal it is important that the water be warm (at least 20°C)

*These cold development instructions are for zinc and copper plates. Although descumming is recommended by the manufacturers, it is not deemed necessary.*