

TECHNICAL DATA SHEET

GINPLATE ENVIROETCH 901

CHROME FREE ETCHANT FOR PLASTICS

The etchant gives the plastic substrate an increased hydrophilic surface and a microroughened, micro-porous resin topography. It is the key to unsurpassed metal coverage and high adhesion values. A thorough counterflow rinse should follow processing in Ginplate Enviroetch 901.

Ginplate Enviroetch 901 is supplied as two components : a powder, Ginplate Enviroetch 901 A and a liquid, Ginplate Enviroetch 901 B. These are mixed in deionized or distilled water to make the operating solution.

HOW TO USE GINPLATE ENVIROETCH 901

OPERATING CONDITIONS CONCENTRATION

Deionized or distilled water	20% by volume
Ginplate Enviroetch 901 B	80% by volume
Ginplate Enviroetch 901 A	5 g/l - for ABS (may vary depending on types of ABS)
Temperature	Room Temperature (25 - 35 °C)
Immersion Time	10 - 15 min.
Agitation	Mechanical, Air Agitation

Fill the process tank full with deionized or distilled water. Add the required amount of Ginplate Enviroetch 901 B and mix well. Add the required amount of Ginplate Enviroetch 901 A and mix thoroughly. Stir well to completely dissolve all materials. Solution is now ready for use.

OPERATION

Periodic replenishment of Ginplate Enviroetch 901 A powder (1 - 5 g/l) is required from time to time depending upon the numbers of pieces processed and by observing the colour of bath solution. When the bath is active, the colour is purple. Fully brown colour, indicates an inactive bath. Filtration at the end of work or decantation of the solution once in a week will help in removing the accumulated sludge.

EQUIPMENT

Titanium or acid resistant glass lined stainless steel, is recommended material for tank construction. If other materials such as PVDF (Kynar), moulded polypropylene and linear polyethylene are used they must be inspected periodically for degradation and promptly repaired or replaced. Plastic materials must be installed in a structurally sound and well supported outer tank to prevent distortion which may result in loss of the Ginplate Enviroetch 901 solution.

DO NOT USE WELDED POLYPROPYLENE or PVC MATERIALS. Exhaust ventilation is recommended to remove dust or fumes that may be generated during make-up and operation. Continuous stirring is recommended to keep solution uniform in composition.

ANALYSIS OF GINPLATE ENVIROETCH 901 B

Apparatus needed : weighing bottle & weighing balance
pH meter with pH electrode
conical flask

Reagents needed : 1 N NaOH - standardized

Procedure

1. Weigh 4 g of the sample under testing in a weighing bottle.
2. Transfer the sample along with washings into a conical flask.
3. Titrate with 1 N NaOH to pH 4.5 using a pH meter.

Calculations

$$\frac{\text{Rdg. X N NaOH X 9.8}}{\text{Weight of sample}} = \% \text{ Ginplate Enviroetch 901 B (by wt.)}$$

Replenishment

The normal operating level of Ginplate Enviroetch 901 B is 65 - 75% by wt. Add sufficient Ginplate Enviroetch 901 B to maintain the solution at this level.

(Addition of 100 ml/l of Ginplate Enviroetch 901 B, increase the content in bath by about 2%.)

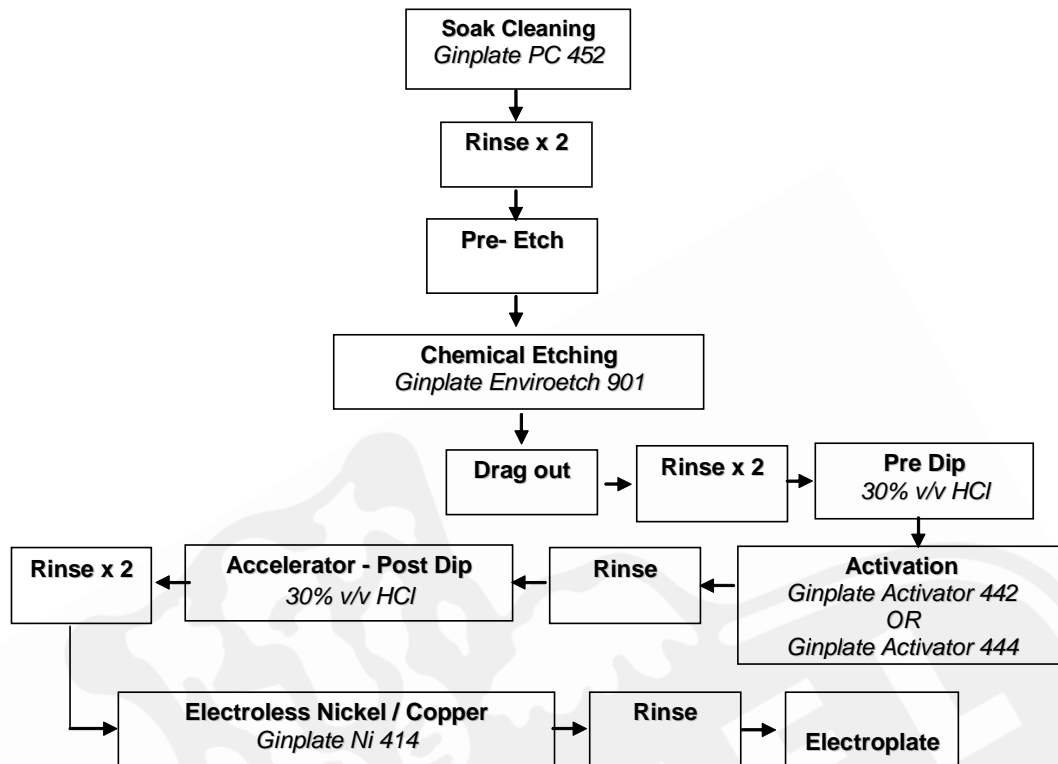
CAUTION

The Ginplate Enviroetch 901 operating solutions are oxidizing in nature. They should not be allowed to come in contact with organic material such as cloth, rubber, wood or sawdust or with chemical reducing agents such as sulphur, phosphorous, due to the danger of ignition or explosion. Do not get in eyes or skin or on clothing. Do not take internally. Breathing of dust, or vapours from solution may cause lung damage.

When adding Ginplate Enviroetch 901 A salts to the solution, sift the powder slowly into the solution, stirring to facilitate dissolution of the powder.

Avoid contact of Ginplate Enviroetch 901 A,B and the Ginplate Enviroetch 901 operating solution with the skin or eyes. Breathing of dust or fumes from the solution may cause lung damage. Always wear goggles, face shield, rubber gloves, respirator and protective clothing when handling. In case of contact, immediately flush skin or eyes with plenty of water for at least 15 minutes. For eyes get immediate medical attention. Remove contaminated clothing and wash before re-use. Exhaust ventilation is recommended to remove dust or fumes that may have generated during make-up and operation.

PROCESS SEQUENCE



PRE-ETCH will help in preventing the carry over of any impurities into main Etch bath. It is prepared by mixing **Ginplate Enviroetch 901 Part B** with DM water (20% by volume). After some days of working the dragout solution may also be used as pre-etch.

Nitrates and Chlorides are detrimental to the etching bath.

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