

The Stripping of Au, Pt and ITO Conducting Layers from Interdigitated Microsensor Electrodes (IMEs), Planar Metal Electrodes (PMEs), Independently Addressable Microband Electrodes (IAMEs), and E'Chem "Cell-On-A-Chip".

An ABTECH Application Note

Anthony Guiseppi-Elie, Sc.D.

President and Scientific Director

ABTECH Scientific, Inc., 911 East Leigh Street, G24, Richmond, Virginia, 23219 USA

<http://www.abtechsci.com>, abtech@abtechsci.com, Tel. 804 783 7829; Fax. 804 783 7830

I. INTRODUCTION

There are occasions when it may become necessary to remove the conducting metal from the chip in order to recover an organic layer or make some measurement of the substrate itself.

Stripping of Au

Here are some procedures for stripping the metal layers off the IME devices:

1. To strip away the gold layer.

1.a. Use iodine/potassium iodide (I_2/KI) solution. This you may prepare yourself.

However, the exact ratio and concentration to be used is not clear to me at this time. You may have to look this up.

1.b. Technistrip-Au Gold Stripper OR Technistrip-II may be obtained from Technics. This is a cyanide-based solution.

Technistrip, Inc., P. O. Box 9650, Providence, RI 02940-9650.

Tel.: 401 781 6100; Fax: 401 781 2890; www.technic.com

2. To strip away the Ti/W layer.

2.a. Use RCA clean reagent. Comprising 5:1:1 of H_2O (DI) : H_2O_2 (30%) : NH_4OH (conc.)

2.b. Prepare reagent mixture fresh.

2.c. Heat to 80C.

2.d. Immerse device in the hot solution until metallization disappears.