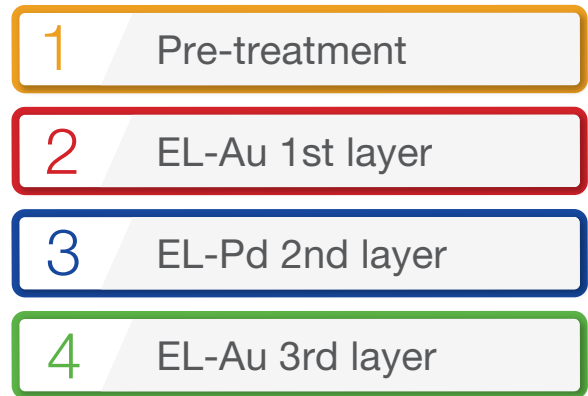


# The IGEPIG Process: A Performance Overview

Uyemura Japan has conducted extensive R&D on the IGEPIG process, focusing on wire bonding (WBR), solder joint reliability (SJR), fine pattern ability and electrical loss. Each characteristic has been evaluated to determine the optimum thickness for each IGEPIG layer.

**IGEPIG is a palladium activator-free process.** The process involves 4 key steps: pre-treatment, 1st EL-Au layer, 2nd EL-Pd layer and 3rd EL-Au layer.



**Detailed findings can be made available;** below are 7 key performance metrics:

- ▶ IGEPIG's unique chemistry prevents palladium over-plating.
- ▶ IGEPIG has high WBR (according to wire pull and bump shear tests) and SJR (according to ball pull and high speed shear tests).
- ▶ The WBR of IGEPIG improves after high temperature stress.
- ▶ AES wide scan analysis shows that neither Cu nor Pd diffuse to the surface of IGEPIG.
- ▶ IGEPIG's fine pattern ability is superior to standard or thin nickel ENEPIG, ENIG and EPIG.
- ▶ IGEPIG signal loss is lower than ENIG because there is no EN layer in the IGEPIG deposit.
- ▶ IGEPIG has excellent SJR for multi-reflow at 240° C: it is equal to ENEPIG.

**UYEMURA** INTERNATIONAL CORPORATION



**North America's Leading Experts** in Final Finishes, Via Fills, Acid and Electroless Coppers, Immersion Silver and Tin; also MEC Surface Treatments and Auruna Gold Electrolytes.

**Corporate Headquarters:** 3990 Concours, #425 • Ontario, CA 91764 • ph: (909) 466-5635  
**Tech Center:** 240 Town Line Road • Southington, CT 06489 • ph: (860) 793-4011



[uyemura.com](http://uyemura.com)