



## Visual Inspection Criteria for Actel CQFP Packages

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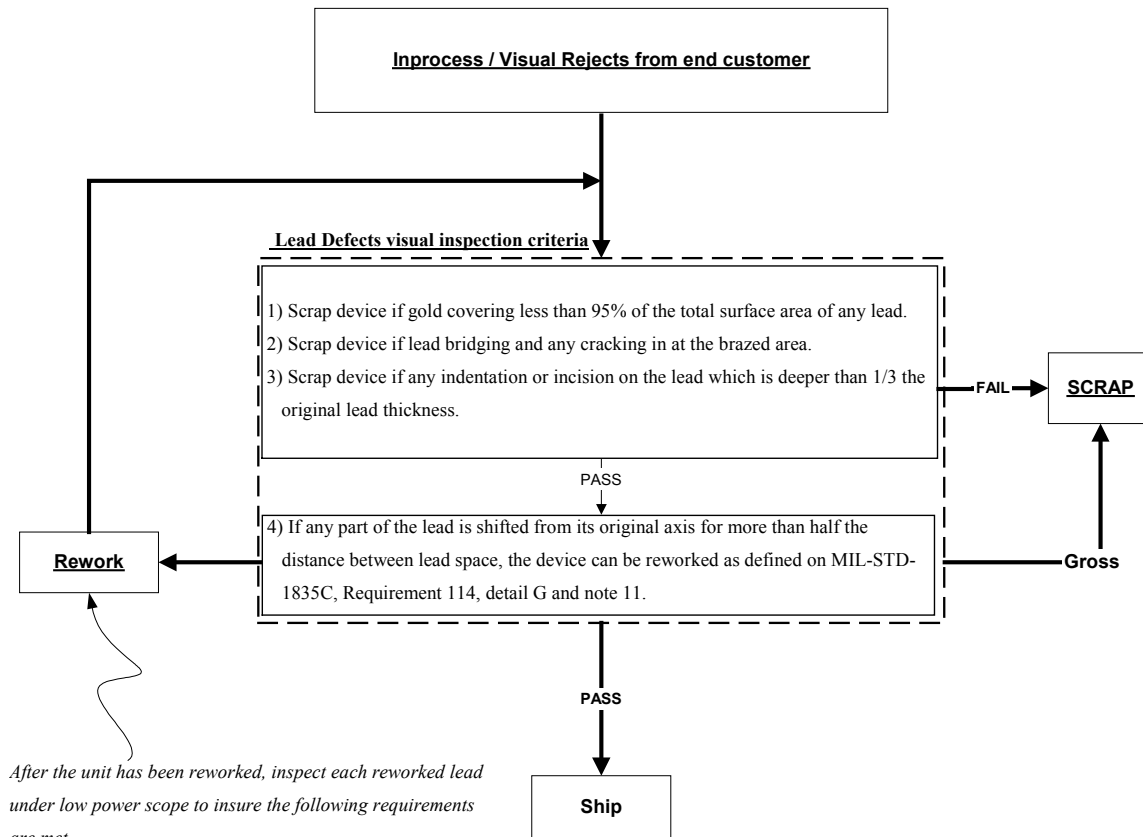
**Thank you for your interest in Actel's CQFPs.**

The following describes the visual inspection and rework process criteria that are followed at Actel (100% End of Line in-process inspection) and the same applies to visual rejects reported by end customer.

### **Lead Defects visual inspection criteria**

1. Scrap device if gold covering less than 95% of the total surface area of any lead; *please refer MIL-STD-883E, Method 2009.9, 3.3.5.h.*
2. Scrap device if lead bridging and any cracking in at the brazed area; *please refer MIL-STD-883E, Method 2009.9, 3.3.3.d.*
3. Scrap device if any indentation or incision on the lead which is deeper than 1/3 the original lead thickness; *please refer MIL-STD-883E, Method 2009.9, 3.3.5.c.*
4. If any part of the lead is shifted from its original axis for more than half the distance between lead space; the device can be reworked; *as defined on MIL-STD-1835C, Requirement 114, detail G and note 11.*
5. After the unit has been reworked, visual inspector inspects each reworked lead under low power scope to insure the following requirements are met.
  - The excess metal on a bent lead from rework must be closed to an NCS (non-conductive trip) tie bar.
  - Also, the excess metal from rework must be bent in the direction as shown on figure of rework device.
  - The leads, which have been reworked must, still meet all **Lead Defect visual inspection requirements** (as stated above number 1 to 4). Note: Inspection is done on the whole reworked lead from the brazed area up to the notch, which is formed by the rework tool.

## Flow Chart



After the unit has been reworked, inspect each reworked lead under low power scope to insure the following requirements are met.

- The excess metal on a bent lead from rework must be closed to an NCS (non-conductive trip) tie bar.
- Also, the excess metal from rework must be bent in the direction as shown on figure of rework device in the rework procedure

**Note: CQFP package can be reworked as “One time per lead” only**