



Visual Inspection Criteria for Actel CQFP Packages

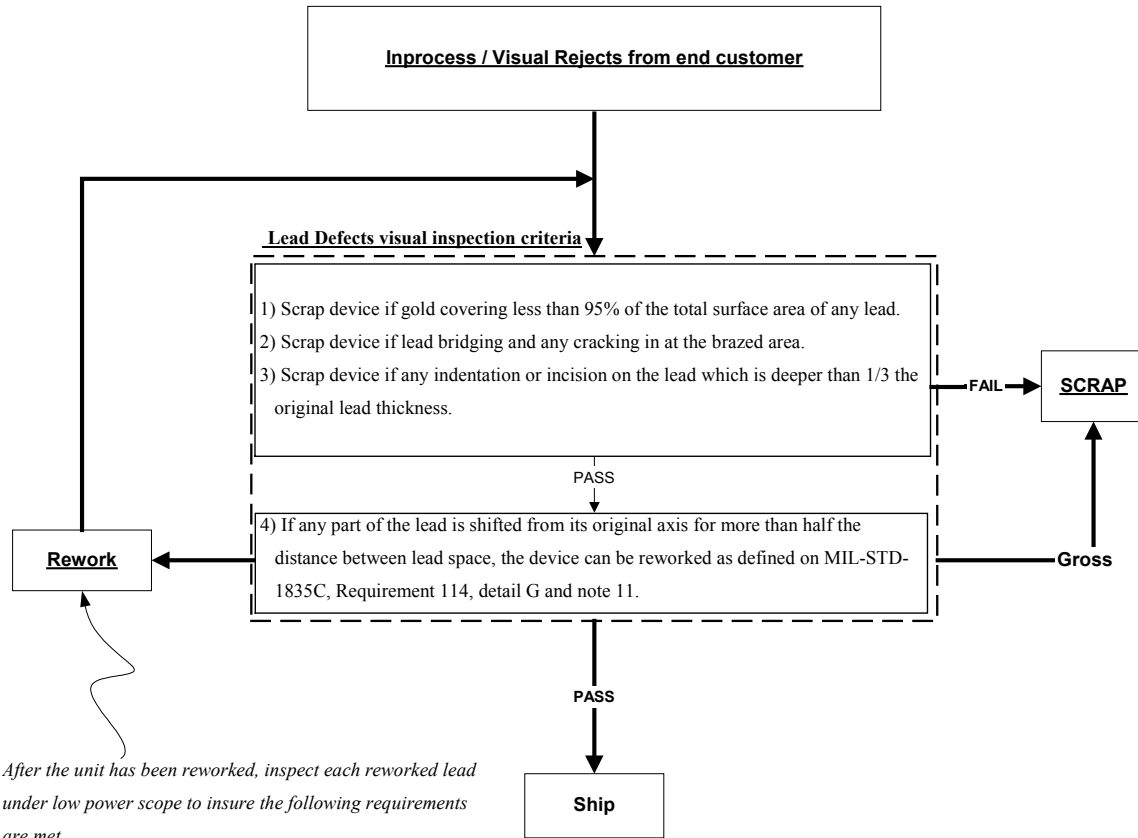
Thank you for your interest in Actel's CQFPs.

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