

**Acceptable Quality Level (AQL) for Inspection of LIGO Components**

AUTHOR(S)	DATE	Document Change Notice, Release or Approval
Jeff Lewis, Bob Anderson	2/11/2011	see LIGO DCC record Status

**1 Scope**

This document defines the number of components to be 100% inspected from a manufacturing lot of a particular size based on a specified AQL number.

**2 Definition**

The maximum percent defective (or the maximum number of defects per 100 units) that, for the purposes of sampling inspection, can be considered satisfactory as a process average.

**3 Procedure****AQL Number**

Lot Size	0.25	0.4	0.65	1.0	1.5	2.5	4.0	6.5	10
2 to 8	*	*	*	*	*	5	3	2	2
9 to 15	*	*	*	13	8	5	3	2	2
16 to 25	*	*	20	13	8	5	3	3	2
26 to 50	*	32	20	13	8	5	5	5	3
51 to 90	50	32	20	13	8	7	6	5	4
91 to 150	50	32	20	13	12	11	7	6	5
151 to 280	50	32	20	20	19	13	10	7	6
281 to 500	50	48	47	29	21	16	11	9	7
501 to 1200	75	73	47	34	27	19	15	11	8
1201 to 3200	116	73	53	42	35	23	18	13	9
3201 to 10,000	116	86	68	50	38	29	22	15	9

\* Denotes inspection of entire lot. Acceptance Criteria (C) = 0

Table 1. AQL Inspection Frequency.

Use Table 1. to determine the number of pieces from a manufacturing lot to 100% inspect for a specified AQL number. For example: a lot of 100 parts with an AQL number of 1.0 signifies that 13 parts shall be 100% inspected. With the Acceptance Criteria (C) = 0, then if one feature on one part is found to be non-conforming then the entire lot shall have that feature inspected.

The first and last part of a manufacturing lot must always be inspected.