

## Inspection method and AQL

There are two methods can be used to examine products quality: whole inspection and random sampling inspection

Whole Inspection means taking examining on each product, jetting out unqualified ones so the others are all qualified. However, this method is applicable when the quantity of product is not very large.

Sampling inspection is more common, we use the internationally standard tables, which called ANSI Z1.4-2003, to take sampling inspection (As shown below). The sampling has three levels: **Level III, Level II and Level I**. We usually use Level II to take sampling inspection. In addition, we use **0.010, 1.0, 1.5, 2.5, 4.0, 6.5** as defect level(AQL). The defects can be divided into critical defect, major defect and minor defect.

E.G.: we do inspection for 4000pcs electrical products. The sampling level is level II and the defect level(AQL)is 0.010, 1.5, 2.5. In this condition, we will randomly select 200pcs products in 4000pcs to take inspect. The critical detects will be 0, Major defects will be 7, and Minor defects will be 10



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**SAMPLE SIZES:BASED UPON ANSI Z1.4-2003, TABLE I**

SHIPPING LOT SIZE	SPECIAL LEVELS				GENERAL LEVELS		
	S-1	S-2	S-3	S-4	I	II	III
2 to 8	2	2	2	2	2	2	3
9 to 15	2	2	2	2	2	3	5
16 to 25	2	2	3	3	3	5	8
26 to 50	2	3	3	5	5	8	13
51 to 90	3	3	5	5	5	13	20
91 to 150	3	3	5	8	8	20	32
151 to 280	3	5	8	13	13	32	50
281 to 500	3	5	8	13	20	50	80
501 to 12,00	5	5	13	20	32	80	125
1201 to 32,00	5	8	13	32	50	125	200
3201 to 10,000	5	8	20	32	80	200	315
10001 to 35,000	5	8	20	50	125	315	500
35001 to 150,000	8	13	32	80	200	500	800
150001 to 500,000	8	13	32	80	315	800	1250
500,001 and over	8	13	50	125	500	1250	2000

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AQL' S:BASED UPON ANSI Z1.4-2003, TABLE II-A, SINGLE NORMAL PLANS																															
SAMPLE SIZE	0.010		0.015		0.025		0.040		0.065		0.10		0.15		0.25		0.40		0.65		1.0		1.5		2.5		4.0		6.5		
	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac
2	↓		↓		↓		↓		↓		↓		↓		↓		↓		↓		↓		↓		↓		↓		0	1	
3	↓		↓		↓		↓		↓		↓		↓		↓		↓		↓		↓		↓		↓		0	1	↑	↓	
5	↓		↓		↓		↓		↓		↓		↓		↓		↓		↓		↓		0	1	↑	↓	↑	↓	↑	↓	
8	↓		↓		↓		↓		↓		↓		↓		↓		↓		↓		↓		0	1	↑	↓	↑	↓	1	2	
13	↓		↓		↓		↓		↓		↓		↓		↓		↓		↓		↓		0	1	↑	↓	↑	↓	1	2	
20	↓		↓		↓		↓		↓		↓		↓		↓		↓		↓		↓		0	1	↑	↓	↑	↓	2	3	
32	↓		↓		↓		↓		↓		↓		↓		↓		↓		↓		↓		0	1	↑	↓	↑	↓	3	4	
50	↓		↓		↓		↓		↓		↓		↓		↓		↓		↓		↓		1	2	↑	↓	↑	↓	4	5	
80	↓		↓		↓		↓		↓		↓		↓		↓		↓		↓		↓		1	2	↑	↓	↑	↓	6	7	
125	↓		↓		↓		↓		↓		↓		↓		↓		↓		↓		↓		1	2	↑	↓	↑	↓	7	8	
200	↓		↓		↓		↓		↓		↓		↓		↓		↓		↓		↓		1	2	↑	↓	↑	↓	8	9	
315	↓		↓		↓		↓		↓		↓		↓		↓		↓		↓		↓		1	2	↑	↓	↑	↓	10	11	
500	↓		↓		↓		↓		↓		↓		↓		↓		↓		↓		↓		1	2	↑	↓	↑	↓	11	12	
800	↓		↓		↓		↓		↓		↓		↓		↓		↓		↓		↓		1	2	↑	↓	↑	↓	12	13	
1250	0	1	↑		↓		↓		↓		↓		↓		↓		↓		↓		↓		1	2	↑	↓	↑	↓	13	14	
2000	↑		↑		↓		↓		↓		↓		↓		↓		↓		↓		↓		1	2	↑	↓	↑	↓	14	15	

↓ = Use first sampling plan below arrow. If sample size equals, or exceeds, lot or batch size, do 100 percent inspection.

↑ = Use first sampling plan below arrow.

Ac = Acceptance number.

Re = Rejection number.