



How to Read an E 11-09 Certificate Report

Specification Data from ASTM E 11-09	Example 30 mesh Calibration report
Nominal Opening = the ideal opening size	600 μm
Average Opening Variation = The average opening (distance between parallel wires measured at the center of the opening), in the X and y directions measured separately shall conform to the nominal opening plus or minus the opening tolerance value.	$\pm 21.20 \mu\text{m}$
Max. Standard Deviation (μm) = The maximum distance that a measured value is likely to lie from its average value.	Insp. +30.14 Cal. +31.32
Maximum Tolerance = largest allowable opening size.	701 μm
Typical Wire Diameter = nominal wire diameter size expressed in millimeters	0.400 mm
Wire Diameter Tolerance = The average of all wire diameters measured shall lie within this range.	0.340 - 0.460 mm

Summary Statistics

Mean Opening Size (μm) = average of all openings measured in a particular direction	X = 601.72 μm Y = 602.13 μm
Standard Deviation (μm) = The distance that a measured value is likely to lie from its average value.	<u>Insp.</u> <u>Cal.</u> X = 8.98 8.93 Y = 7.77 7.73
Minimum Opening Size (μm) = lowest value measured	X = 585.69 μm Y = 584.47 μm
Maximum Opening Size (μm) = highest value measured	X = 622.30 μm Y = 621.26 μm
Range (μm) = difference between the highest and lowest values measured	X = 36.61 μm Y = 36.79 μm
Mean Wire Diameter (mm) = average of all the wire diameters measured in a particular direction	X = 0.399 mm Y = 0.399 mm
X = measurements taken in the direction of right to left (east-west)	
Y = measurements taken in the direction of front to back (north-south)	

Pass / Fail Questions

1. Does the average opening size pass the E-11 test?
Pass = The average (mean) opening size conforms to the nominal opening plus or minus the opening tolerance value.
2. Does the sample pass the maximum opening size test for the E-11?
Pass = None of the measured values exceeds the maximum tolerance value.
3. Does the sample pass the E-11 maximum standard deviation test?
Pass = The standard deviation does not exceed the maximum standard deviation.
4. Does the sample pass the wire diameter test?
Pass = The average (mean) wire diameter lies within given range