



TEST METHOD FOR PS190 POLY-DISPERSE GLASS BEAD STANDARD ON CAPA-700

Polydisperse glass bead standards were developed as a better test of complete system performance for particle size analyzers, compared to mono-disperse polystyrene latex dispersions that are commonly used, but are not representative of the vast majority of materials tested on these instruments. The PS190 glass bead standard has been tested and verified as an appropriate test of system performance for the Horiba CAPA-700 analyzer.

Analytical test method

Dispersant fluid: deionized water with 0.1% sodium pyrophosphate

Set the following conditions:

- Set the selector switches to k[d]=standard
- Set the following run conditions:
 - Dispersant viscosity: 0.96
 - Dispersant density: 1.00
 - Sample density: 2.19
 - Diameter (maximum): 7.00
 - Diameter (divisions): 0.25
 - Diameter (minimum): 2.00
- Select "CS" mode
- Set motor speed to 500rpm

Procedure:

1. Turn analyzer on and allow to warm up for a minimum of 30 minutes.
2. Ensure measuring cells are clean.
3. Ensure that light quantities and motor speeds are within specification in the diagnostics module.
4. Fill both sample cells with dispersant solution and perform blank measurement.
5. Add entire sample to 10ml of dispersant liquid in a 25ml beaker. Sonicate beaker in ultrasonic bath for five minutes.
6. Empty sample cell. Fill with sample dispersion.
7. Insert sample cell into instrument and start measurement immediately.
8. Initial light absorbance value at start of run should be 0.5-1.0. Ideal value is 0.8. If value is outside this range, stop the run and adjust sample concentration as appropriate.



Analytical Test Method

Particle Size Distribution Analyzer

CAPA-700

ATM075

PS190 Glass Bead Standard

Results

Verify that the sample results are within the following tolerances.

Cumulative %	Expected Value (μm)	Acceptable Range (μm)
10	2.88	2.59-3.17
25	3.42	3.08-3.76
50	4.18	3.76-4.60
75	5.10	4.59-5.61
90	6.23	5.61-6.85

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