

Bubble Viscometer Tubes (U-Z6)

Bubble Viscometer Tubes are applicable for viscosity determination of transparent liquids such as paints, resin solutions and varnishes. Each set consists of identical glass tubes pre-sealed with colorless transparent mineral oils of distinct viscosities. The calibrated tubes carry pre-measured data of bubble rise time (seconds) and kinematic viscosity (cm^2/s), arranged in ascending viscosity order as standard reference fluids.

This instrument delivers precise viscosity readings within a short period, making it widely used for in-process intermediate quality control in coating manufacturing.

- The sealed reference fluids maintain permanent stable viscosity.
- Sample test tubes can be cleaned rapidly and conveniently.
- Tubes feature no outlet spouts, eliminating clogging and erroneous measurements.
- Readings with excellent repeatability can be easily obtained under controlled temperature conditions.

The direct timing method employs glass tubes marked with three horizontal "timing lines" to measure "bubble seconds"—the time required for a single air bubble to vertically travel a fixed distance inside a tube of known inner diameter. Bubble seconds can be converted to Stokes values.

The bubble rise time is directly proportional to fluid viscosity: the faster the bubble ascends, the lower the liquid viscosity.

The **BGD 105 Bubble Viscometer Tubes** series is divided into four groups, coded alphabetically from A5 to Z10 on the glass tubes, covering a viscosity range of 0.005 to 1000 Stokes:

- BGD 105/1 Bubble Viscometer Tubes:** Set A5-A1, 5 bubble tubes total. Suitable for solvents, thinners, low-viscosity additives and monomers.
- BGD 105/2 Bubble Viscometer Tubes:** Set A8-T, 20 bubble tubes total. Suitable for conventional resins, vegetable oils, finished varnishes and gloss oils.
- BGD 105/3 Bubble Viscometer Tubes:** Set U-Z6, 12 bubble tubes total. Suitable for high-solid resins, base UV resins, adhesive intermediates and heavy-bodied oils.
- BGD 105/4 Bubble Viscometer Tubes:** Set Z7-Z10, 4 bubble tubes total. Suitable for molten polymers, ultra-high viscosity solvent-free resins and hot-melt transparent adhesives.

Ordering Information

- ★ BGD 105/1— Bubble Viscometer Tubes (A5–A1)
- ★ BGD 105/2— Bubble Viscometer Tubes (A–T)
- ★ BGD 105/3— Bubble Viscometer Tubes (U–Z6)
- ★ BGD 105/4— Bubble Viscometer Tubes (Z7–Z10)
- ★ BGD 105/W–001— Grade A Gardner Empty Glass Tubes
(Original Import, 144 tubes per carton)
- ★ BGD 105/W–014— Bubble Viscometer Tube Holder



Operating Procedure

- Based on the sample's approximate viscosity, select four standard tubes with viscosity values closest to the specimen.
- Fill an empty glass tube with the test sample, fit a cork stopper, then mount the four letter-coded standard tubes and the sample tube onto the tube holder.
- Flip the entire tube holder upside down, and visually match which lettered standard tube shows a bubble rise time closest to that of the sample tube.
- Use a stopwatch to record the exact bubble rise time (in seconds) for both standard reference tubes and the sample tube.