Model SP-3A

Labino Softening Point Approximation

Glass Softening Point Approximation System

The Model SP-3A was invented by a famous glass artist, Domenic Labino, to be a low cost instrument to APPROXIMATE quickly and easily a softening point temperature for a solid glass sample. There is no ASTM specification for the Labino test method.

As a Quality Control instrument, the Model SP-3A it is valuable tool. The SP-3A is not recommended for high precision, R&D quality softening point determination. It can however be used by industrial QC departments to reliably detect gross changes in a manufacturing process.

Description of Operation

The Model SP-3A is a penetrometer. The test sample, a solid piece of glass (5mm square x 3mm thick) is placed into the sample holder. The penetration rod rests on a stainless steel ball bearing placed between the sample and the penetration rod. The sample holder assembly is manually lowered into the furnace. The operator sets the penetration depth with a micrometer head connected to a micro-switch and begins the test. The furnace heats the sample at 25°C/minute. As the glass softens during heating, the weight of the penetration rod forces the ball bearing into the softening glass sample. Once the ball bearing penetrates into the sample a fixed distance, the micro-switch trips, the process controller records the peak temperature, and the furnace begins to cool. The peak temperature at which the micro-switch was tripped is recorded and correlated to the softening point of the glass.

Technical Specifications

Temperature range:	Room Temp – 1000°C
Furnace Power:	500 Watts
Heating Rate:	Programmable
Penetration Travel:	Limited to Sample thickness
Micro-switch Travel Resolution:	0.0001"
Temperature Resolution:	1°C or °F
Power Requirements:	120 VAC, 5 Amps, 50/60Hz (240VAC Optional)
Cooling Air (not required):	15 psi, 3 cfm, dry, and oil free
Process Controller:	Dwyer Model 16010, PID
Thermocouple Type:	K
Dimensions:	8" x 8" x 22" High (20.3 cm x 20.3 cm x 55.9 cm)
Weight:	11.3lbs. (5.1 kg)
Shipping Carton (approx):	24" x 15" x 15" (61 cm x 38 cm x 38 cm)
Shipping Weight (approx):	15lbs. (6.8 kgs)

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