IKA

designed for scientists

APPLICATION NOTE

Application Note

/// Viscosity measurement of solder paste with T-spindle

PRODUCT

ROTAVISC me-vi HELI Complete (0020100332)
labworldsoft® 6 Visc (0020101872)

INDUSTRY

Chemical and materials

OVERVIEW

Solder paste, is a new type of soldering material. The viscosity of solder paste can be qualitatively defined as its flow resistance. It is the most important performance index of solder paste and an important basis for setting parameters in production process. Low viscosity, good solder paste fluidity, which is good for tin penetration but poor molding and easy to cause bridging; high viscosity, the resistance of the solder paste flow is large, can maintain a good solder paste shape, but it is easy to block the mesh and cause less tin. Therefore, it is necessary to ensure that the viscosity of the solder paste is within an appropriate range.

EXPERIMENTAL SETUP

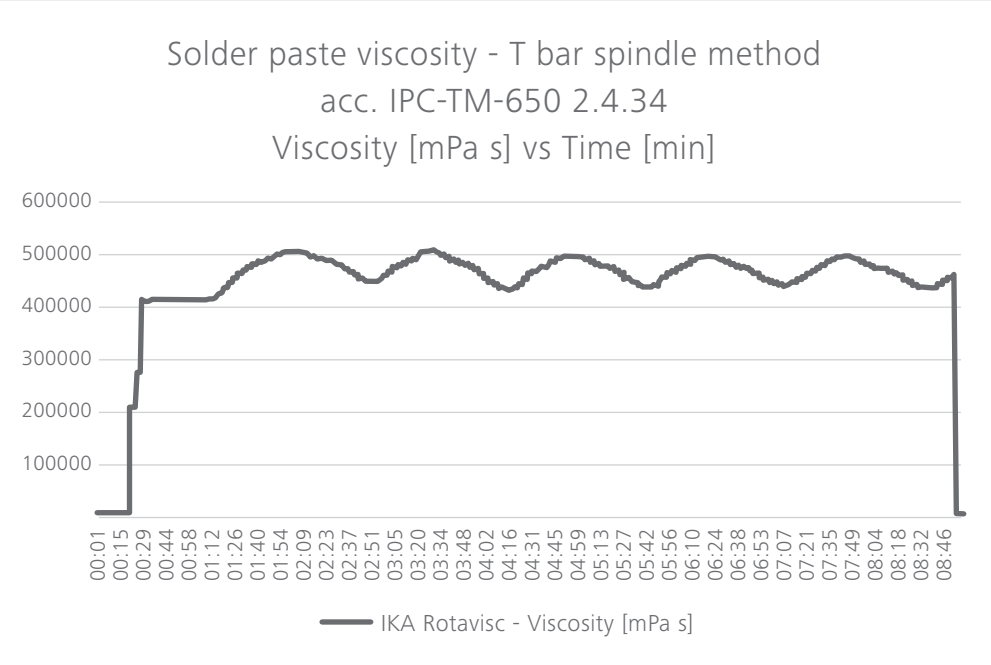
Viscometer	ROTAVISC me-vi HELI Complete + labworldsoft® 6 Visc
Spindle	T-SP-6
Speed	5 rpm
Sample Temperature	25°C

SAMPLE MATERIAL

Solder paste

RESULT

Cycle	1st and 2nd cycle Max. (mpas)	1st and 2nd cycle Min. (mpas)	Torque (%)	Avg. (mpas)	Viscosity (mpas)
1 2	504,000	428,000	>10%	466,000	
Cycle	4th and 5th cycle Max. (mpas)	4th and 5th cycle Min. (mpas)	Torque (%)	Avg. (mpas)	Valuable value 463,000
4 5	494,000	432,000	>10%	463,000	



Note: The above data is obtained by the analysis of 5 cycles measurements recorded by IKA labworldsoft® 6 Visc. (Helistand up and down is one cycle)

CONCLUSION

The rotational viscometer ROTAVISC me-vi with T-spindle can measure the viscosity of solder paste. The viscosity complies with the standard IPC-TM-650 2.4.34 T-bar spindle method (applicable for 300,000 to 1,600,000 centipoise) with torque range between 10% – 100%.

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