lerator 3						4	8						
ng agent 1	2	2	2	2	2	2	2	2	2	2	2	2	2
a wax	2	2	2	2	2	2	2	2	2	2	2	2	2
black	3	3	3	3	3	3	3	3	3	3	3	3	3
w [cm]	78	92	60	71	54	108	68	50	30	41	45	47	34
ow [cm]	257	>260	192	228	162	>260	201	152	98	139	201	>260	177
seconds]	62	69	64	47	37	73	66	53	32	54	38	33	41
filling ties	O	O	O	O	O	O	O	O	X	X	X	X	X

CLAIMS

1. A mold for measuring flow characteristics which is used to measure the flow characteristics of a resin composition, which is a measurement subject, by injecting the resin composition into a flow path provided in the mold,

wherein the minimum distance from the cross-sectional center of gravity to the outline in the cross-sectional shape of the flow path is equal to or more than 0.02 mm and equal to or less than 0.4 mm.

2. The mold for measuring flow characteristics according to Claim 1,

wherein the flow path is a spiral-shaped flow path.

3. The mold for measuring flow characteristics according to Claim 1,

wherein the cross-sectional shape of the flow path is a rectangular form, a trapezoidal form, or a semicylindrical form.

4. The mold for measuring flow characteristics according to Claim 1,

wherein the maximum width (w) and the maximum height (h) in the cross-sectional shape of the flow path have a relationship of $w \geq h$.

5. The mold for measuring flow characteristics according to Claim

4,

wherein the maximum height of the cross-sectional shape of the flow path is equal to or more than 0.05 mm and equal to or less than 0.8 mm.

6. The mold for measuring flow characteristics according to Claim 4,

wherein the maximum width of the cross-sectional shape of the flow path is equal to or more than 0.5 mm and equal to or less than 10 mm.

7. A method for measuring flow characteristics comprising:

a process in which a resin composition, which is a measurement subject, is injected into the flow path of the mold for measuring flow characteristics according to Claim 1, and made to flow in a single direction; and

a process in which a flow distance from a start point to an end point of the flow of the resin composition is obtained as a flow length.

8. The method for measuring flow characteristics according to Claim 7,

wherein the process in which the flow distance is obtained as the flow length is carried out using a low-pressure transfer molder under conditions of a mold temperature of 140°C to 190°C, an injection pressure of 6.9 MPa, and a pressurization time of 60 seconds to 180 seconds.

9. A method for inspecting a resin composition for encapsulating a semiconductor, comprising:

evaluating the flow characteristics of a resin composition by the method for measuring flow characteristics according to Claim 7,

wherein the resin composition is a resin composition for encapsulating a semiconductor, and

a process in which the flow length of the resin composition for encapsulating a semiconductor is measured for a product inspection of the resin composition for encapsulating a semiconductor, the value is compared with a previously specified product standard, and whether a pass or a fail is determined is included.

10. A resin composition for encapsulating a semiconductor which includes (A) an epoxy resin, (B) a phenol resin-based curing agent, (C) an inorganic filler, and (D) a curing accelerator,

wherein the flow length measured by injecting the resin composition for encapsulating a semiconductor into the flow path in the mold for measuring flow characteristics according to Claim 1 having a spiral-shaped flow path, the cross-sectional shape of which is substantially a 5 mm-wide and 0.2 mm-high rectangular form, using a low-pressure transfer molder according to the method for measuring flow characteristics according to Claim 7 under conditions of a mold temperature of 175°C, an injection pressure of 6.9 MPa, and a pressurization time of 120 seconds is equal to or more than 50 cm, is provided.

11. The resin composition for encapsulating a semiconductor

according to Claim 10,

wherein, when L_1 indicates the flow length measured by injecting the resin composition for encapsulating a semiconductor into the flow path in the mold for measuring flow characteristics according to Claim 1 having a spiral-shaped flow path, the cross-sectional shape of which is substantially a 5 mm-wide and 0.2 mm-high rectangular form, using a low-pressure transfer molder according to the method for measuring flow characteristics according to Claim 7 under conditions of a mold temperature of 175°C, an injection pressure of 6.9 MPa, and a pressurization time of 120 seconds, and L_2 indicates the flow length measured by injecting the resin composition for encapsulating a semiconductor into a flow path in a mold for measuring spiral flow, which is defined in ANSI/ASTM D 3123-72, having a spiral-shaped flow path, and the cross-sectional shape of which is a semicircular shape having a radius of R1.6 mm, using a low-pressure transfer molder under conditions of a mold temperature of 175°C, an injection pressure of 6.9 MPa, and a pressurization time of 120 seconds,

the following formula:

$0.25L_2 \leq L_1$

is satisfied.

12. The resin composition for encapsulating a semiconductor according to Claim 10,

wherein the flow length is equal to or more than 60 cm when measured by injecting the resin composition for encapsulating a semiconductor into the flow path in the mold for measuring flow characteristics according to Claim 1 which has a spiral-shaped flow

path, the cross-sectional shape of which is substantially a 5 mm-wide and 0.2 mm-high rectangular form, using a low-pressure transfer molder according to the method for measuring flow characteristics according to Claim 7 under conditions of a mold temperature of 175°C, an injection pressure of 6.9 MPa, and a pressurization time of 120 seconds.

13. The resin composition for encapsulating a semiconductor according to Claim 10,

wherein the flow length is equal to or more than 80 cm when measured by injecting the resin composition for encapsulating a semiconductor into the flow path in the mold for measuring flow characteristics according to Claim 1 which has a spiral-shaped flow path, the cross-sectional shape of which has substantially a 5 mm-wide and 0.2 mm-high rectangular form, using a low-pressure transfer molder according to the method for measuring flow characteristics according to Claim 7 under conditions of a mold temperature of 175°C, an injection pressure of 6.9 MPa, and a pressurization time of 120 seconds.

14. A method for manufacturing a semiconductor apparatus comprising:

encapsulating and molding one or more semiconductor elements stacked or mounted in parallel on a lead frame or a circuit substrate having die pad portion, using the resin composition for encapsulating a semiconductor according to Claim 10,

wherein the semiconductor apparatus has a narrow path having the minimum height of equal to or more than 0.01 mm and equal to or

less than 0.1 mm.

elerator 3						4	8						
ing agent 1	2	2	2	2	2	2	2	2	2	2	2	2	2
ba wax	2	2	2	2	2	2	2	2	2	2	2	2	2
black	3	3	3	3	3	3	3	3	3	3	3	3	3
ow [cm]	78	92	60	71	54	108	68	50	30	41	45	47	34
low [cm]	257	>260	192	228	162	>260	201	152	98	139	201	>260	177
[seconds]	62	69	64	47	37	73	66	53	32	54	38	33	41
h filling rties	o	o	o	o	o	o	o	o	x	x	x	x	x

CLAIMS

1. A method for measuring flow characteristics comprising:

a process in which a resin composition, which is a measurement subject, is injected into the flow path of

a mold for measuring flow characteristics which is used to measure the flow characteristics of a resin composition, which is a measurement subject, by injecting the resin composition into a flow path provided in the mold,

wherein the minimum distance from the cross-sectional center of gravity to the outline in the cross-sectional shape of the flow path is equal to or more than 0.02 mm and equal to or less than 0.4 mm and made to flow in a single direction;

a process in which a flow distance from a start point to an end point of the flow of the resin composition is obtained as a flow length;

wherein the process in which the flow distance is obtained as the flow length is carried out using a low-pressure transfer molder under conditions of a mold temperature of 140°C to 190°C, an injection pressure of 6.9 MPa, and a pressurization time of 60 seconds to 180 seconds.