

HEAT-RESISTANT MATERIAL SERIES

T-MOLD

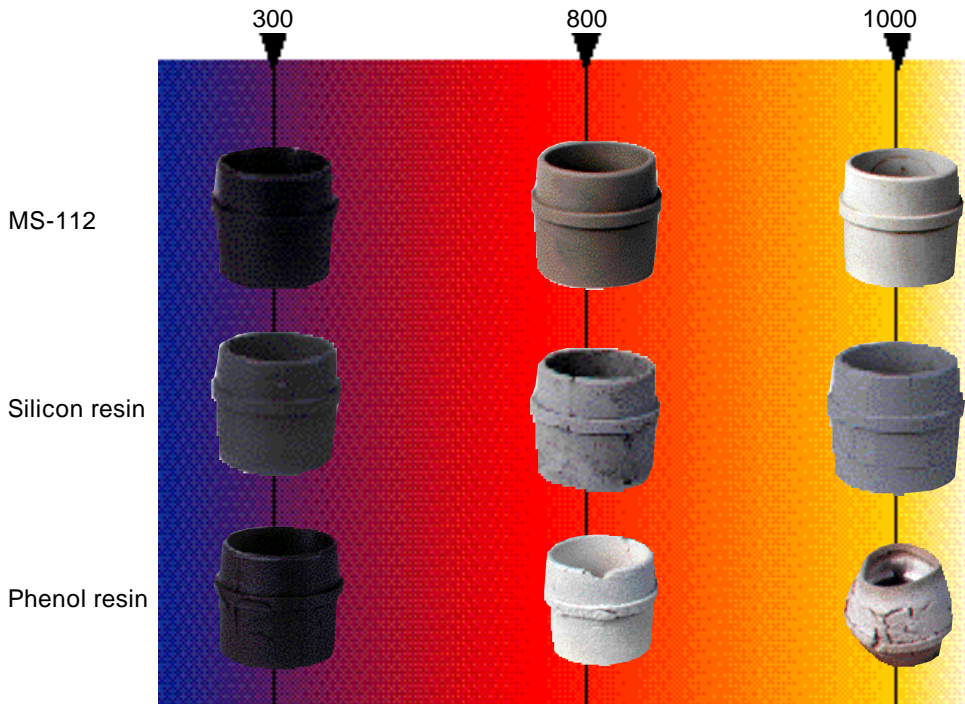
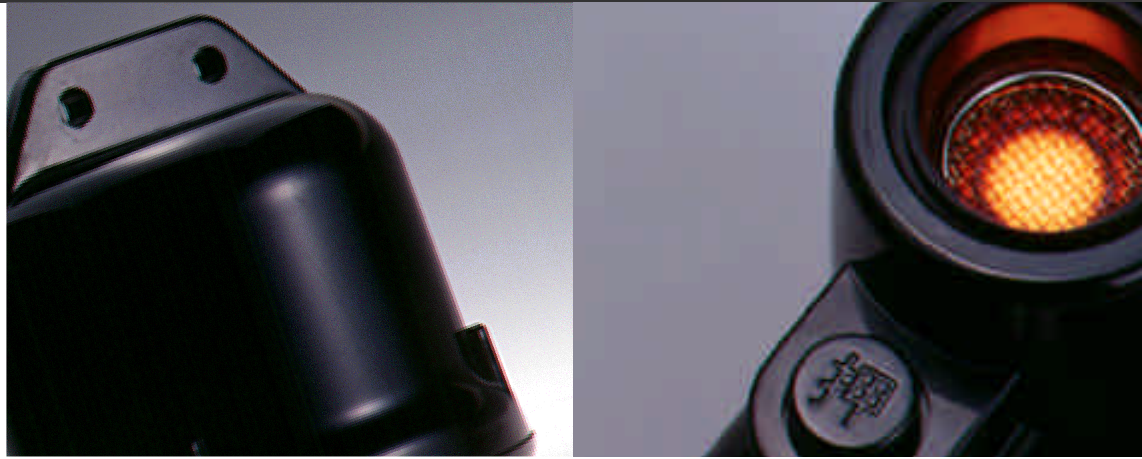
New forming material with excellent heat resistance, dimensional stability, insulation property and arc resistance.

Heat resistance equivalent to ceramics.
 Excellent insulation properties
 Low coefficient of linear expansion.
 Flexible and strong.

“ T-MOLD ”is a thermosetting super heat-resistant forming material developed by concentrating the advanced electrical insulation technology and forming technology of Nikko Kasei. “ T-MOLD ”is quite a new industrial material that has excellent workability like that of organic resins and its heat resistance is equivalent to that of ceramics. “ T-MOLD ”is expected to be used in various fields such as “ heat-resistance articles instead of metal or ceramics ”, “ arc chute ”, “ breaker ”, “ welded components ”, “ heavy electrical components in microwave ovens ”, and “ components related to semiconductor devices ”, etc.



Physical Properties of T-MOLD				
Test Items	Unit	MS-112	MP-114	MI-118
Specific gravity	-	1.90	1.90	1.90
Water absorption	%	0.04	0.04	0.12
Thermal deformation temperature		300 <	300 <	300 <
Coefficient of linear expansion.	1/	4.0×10^{-5}	2.0×10^{-5}	1.5×10^{-5}
Thermal conductivity	W/m · K	0.66	0.52	0.56
Coefficient of contraction upon forming	%	0.2	0.2	0.05
Insulation resistance	Normal state	4.0×10^{15}	2.0×10^{14}	1.0×10^{15}
Insulation resistance	After boiling	5.0×10^{13}	6.0×10^{12}	2.0×10^{13}
Withstand voltage	kV/mm	12	12	12
Arc resistance	SEC	310	242	85
Tracking resistance	V(CTI)	600 <	200	200
Dielectric constant (MHz)	-	4.0	4.6	4.6
Dielectric loss tangent (MHz)	-	0.002	0.015	0.015
Flexural strength	MPa	60	170	120
Bend elastic constant	MPa	9,800	17,700	14,700
Tensile strength	MPa	40	60	60
Izod impact strength	J/m	0.39	0.85	0.36
Flammability	-	Equivalent to V-0		



The outstanding heat resistance of T-MOLD

Resin-based heat-resistant materials are generally used in various fields because of their manageability and low cost. These materials, however, have not reached to satisfactory level in terms of heat-resistant ability. During long-term continuous heat resistance testing, the upper limit temperature of most resin-based heat-resistant materials was approximately 200 to 300 at the high end. T-MOLD MS-112 shows excellent heat-resistance during long-term testing at 300 . Though it is hard to tell the difference among the materials at 300 , T-MOLD, retaining its original form, clearly displays heat-resistance at 800 to 1,000 .

BASIC SERIES

Three types of BASIC series display every feature effectively.
Use suitable one as necessary.

OPTION

Custom-made T-MOLD, is available based on your ratio factor requirements. Through integrated production from constituent blending and forming, we are willing to meet your any special request, e.g., high conductivity, minimization of abrasion, etc. For details, please feel free to contact us.

MS series

Heat-resistance (300 to 500)

Stabilized structure even at a high temperature of 1,000 .

Contains no heavy metal nor asbestos for environment preservation.

Weather resistance against ultraviolet rays, etc.

Low dielectric constant, low dielectric loss tangent and many other excellent electrical characteristics.

Formed by injection, transfer and compression.

MS

MP series

Heat-resistance (200 to 300)

Excellent stability against every kind of solvent.

Excellent electrical insulation.

Formed by injection, transfer and compression.

MP

MI series

Heat-resistance (200 to 300)

Excellent radiation resistance.

Superior dimensional stability when heated.

Chemical resistance against acid, alkali, etc.

Formed by transfer and compression.

MI