and cured one hour at 150° C. It was then subjected to thermal shock test described in Mil–I–16923C in which the specimen was cycled from 155° C. to −55° C. ten times without cracking. This proves that the material has sufficient flexibility to withstand the stress caused by difference in expansion between the siloxane and the metal inserts.

The above composition was also used to pot an electronic printed circuit. The siloxane was cured four hours at 65° C. to give a clear mass through which each component of the circuit was visible. One of the components was replaced by cutting into the cured siloxane, replacing the component and then filling the hole with more uncured siloxane. The filling material was then cured as above and the system performed in the same manner as it did prior to removal of the component. This proves the feasibility of removing one component of an insulated system without destroying the effectiveness of the insulation.

Example 2

A mixture of 55% of composition (1) and 45% of composition (2), both of Example 1 was made. 94.9 parts of this mixture was mixed with 5.1 parts of composition (3) of Example 1 and the catalyst of that example in amount to give 3 parts p.p.m. platinum. The resulting mixture had a viscosity of 18,000 cs. It was cast into a slab 8 x 8 x 1/16 inch and then cured one hour at 150° C. The resulting clear material had the following properties:

Durometer	55
Tensile strength, p.s.i.	840
Percent elongation at break	100

Example 3

A fluid mixture was made containing 75% of composition (1) of Example 1, and (2) 25% of a copolymer of SiO_2, $Me_3SiO_{1/2}$ and $Me_2ViSiO_{1/2}$ units which copolymer contained 2.7% vinyl groups.

100 parts of this mixture was mixed with 30 parts diatomaceous earth, 5.1 parts of composition (3) of Example 1, and 3 p.p.m. of platinum. The resulting material had a viscosity of 12,000 cs. the mixture was heated one hour at 150° C. and gave the following properties:

Durometer	54
Tensile strength, p.s.i.	770
Percent elongation at break	110

Example 4

This example shows the critical effect of the vinyl content of ingredient (2) of the claimed compositions.

In each case shown below the compositions employed were composed of 60 parts of ingredient (1) of Example 1, 40 parts by weight of each of the ingredients (2) shown in the table below 2 p.p.m. platinum and a sufficient amount of ingredient (3) of Example 1 to give in each case a SiH to vinyl ratio of 1:1. Each formulation was cast into a slab of 8 x 8 x 1/16 inch and then cured one hour at 150° C.

TABLE I

Run No.	Percent By Wt. Vi in Resin Ingred. (2)	Durometer	Tensile, p.s.i.	Percent Elong. at Break
1	3.5	61	590	70
2	2.95	56	790	80
3	2.70	50	930	110
4	1.70	35	600	190
5*	.70	14	60	300

*For comparison only.

Example 5

Each of the samples shown in the table below were made by mixing 65 parts of ingredient (1) of Example 1 and 35 parts of ingredient (2) of Example 1. To this mixture was added sufficient catalysts to give 2 p.p.m. platinum and sufficient of the ingredients (3) shown below to give in each case a SiH to vinyl ratio of 1.15:1. Each sample was cast into a slab 8 x 8 x 1/16 inch and then cured one hour at 150° C. The properties were as shown below:

TABLE II

Ingredient (3)		D	Tensile, p.s.i.	Percent Elongation at Break
Copolymer Formulation	Percent by Wt. SiH*			
$PhSiO_{3/2}$, $Me_2HSiO_{.5}$	0.84	40	960	110
$HSiO_{3/2}$, SiO_2, Me_2SiO and $Me_2HSiO_{.5}$	1.08	49	995	100
$Me_3SiO_{.5}$, MeHSiO, $Me_2HSiO_{.5}$, MeHSiO, Me_2SiO	1.35	52	580	75
	0.57	46	1,030	105

*Determined by analysis.

Example 6

A tough product is obtained when a mixture of 65 parts of a 9,000 cs. fluid of the formula

$$Me_2ViSi[(OSi)_{.1}(OSi)_{.9}]_nOSiMe_2Vi$$

(with Ph_2 and Me_2 substituents on the Si atoms)

is mixed with 35 parts of copolymer (2) of Example 1 and 94.9 parts of this mixture is mixed with 4 parts of $Si(OSiMe_2H)_4$ and 20 p.p.m. platinum in the form of platinum dispersed on charcoal, and the resulting mixture is heated 12 hours at 50° C.

Example 7

A mixture was prepared which consisted of 75 parts of composition (1), 25 parts of composition (2), both of Example 1, 40 parts of Minusil (a silica having an average particle size of about 5 microns), 1 part zinc oxide and 0.5 part lampblack.

100 parts of the above mixture was mixed with 10 parts of a mixture consisting of 3.2 parts of a copolymer consisting of $Me_3SiO_{1/2}$, $Me_2HSiO_{1/2}$, MeHSiO and Me_2SiO units and containing .70% silicon-bonded hydrogen atoms, 5.7 parts of composition (1) of Example 1, 1.1 parts of composition (2) of Example 1, and 3 parts per million of platinum as chloroplatinic acid.

The above composition was found to be an excellent potting composition for electrical components.

That which is claimed is:

1. A composition of matter, stable for several days at −20° C., consisting essentially of

(1) a polysiloxane of the formula

$$R_2(CH_2{=}CH)SiO(R'_2SiO)_nSiR_2(CH{=}CH_2)$$

in which R and R′ are both selected from the group consisting of methyl and phenyl radicals, at least 80 mol percent of the R′ groups being methyl, in which siloxane (1) *n* has a value such that the viscosity of (1) is from 500 to 500,000 cs. inclusive at 25° C.,

(2) from 5 to 50% by weight based on the total weight of (1) and (2) of a copolymer of SiO_2, $(CH_3)_3SiO_{.5}$ and $(CH_3)_2CH_2{=}CHSiO_{.5}$ siloxane units in which copolymer there is from 1.5 to 3.5 inclusive percent by weight vinyl groups based on the weight of (2) and in which copolymer (2) the ratio of the total $(CH_3)_3SiO_{.5}$ and $(CH_3)_2CH_2{=}CHSiO_{.5}$ to SiO_2 units is from 0.6:1 to 1:1,

(3) a compound compatible with (1) and (2) which is a siloxane containing from 0.1 to 1.7% by weight silicon-bonded hydrogen atoms, the remaining va-