CLAIMS

[Claim 1]

A radical-polymerizable resin composition comprising one or more metal-containing compounds (A) selected from a metal soap (A1) and a β-diketone skeleton-containing metal complex (A2); one or more thiol compounds (B) selected from a secondary thiol compound (B1) and a tertiary thiol compound (B2); a radical-polymerizable compound (C); and an elastomer (D),

wherein a metal element constituting the one or more metal-containing compounds (A) is at least one of selected from zirconium, manganese, cobalt, bismuth, and calcium.

[Claim 2]

The radical-polymerizable resin composition according to claim 1, wherein the content of the metal-containing compound (A) as converted in terms of the metal component is from 0.0001 to 5 parts by mass relative to 100 parts by mass of the radical-polymerizable compound (C).

[Claim 3]

The radical-polymerizable resin composition according to claim 1 or 2, wherein the molar ratio of the thiol compound (B) to the metal component of the metal-containing compound (A) each in terms of the total amount [(B)/(A)] is from 0.1 to 150.

[Claim 4]

The radical-polymerizable resin composition according to any one of claims 1 to 3, wherein the content of the radical-polymerizable compound (C) is from 10 to 99.9% by mass in the radical-polymerizable resin composition, and the content of the elastomer (D) is from 1 to 40 parts by mass relative to 100 parts by mass of the radical-polymerizable compound (C).

[Claim 5]

The radical-polymerizable resin composition according to any one of claims 1 to 4, wherein the elastomer (D) is at least one elastomer selected from a styrene-butadiene rubber, an acrylonitrile-butadiene rubber, an isoprene rubber, a butadiene rubber, a butyl rubber, a chloroprene rubber, an ethylene-propylene rubber, a urethane rubber, a silicone rubber, a chlorosulfonated polyethylene rubber, a chlorinated polyethylene rubber, an acrylic rubber, an epichlorohydrin rubber, and a fluorine-containing rubber.

[Claim 6]

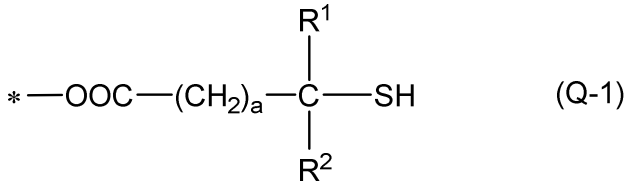
The radical-polymerizable resin composition according to any one of claims 1 to 4, wherein the elastomer (D) is an elastomer in which at least one selected from an isoprene rubber, a butadiene rubber and a chloroprene rubber is subjected to (meth)acrylic modification.

[Claim 7]

The radical-polymerizable resin composition according to any one of claims 1 to 4, wherein the elastomer (D) is a copolymer of at least one selected from an isoprene, a butadiene and a chloroprene, and at least one selected from a (meth)acrylate having 2 or more (meth)acryloyloxy groups.

[Claim 8]

The radical-polymerizable resin composition according to any one of claims 1 to 7, wherein the thiol compound (B) is a compound having at least one ester structure represented by the following formula (Q-1) and having two or more mercapto groups bonding to a secondary or tertiary carbon atom in the molecule, including the mercapto group in the structure represented by the following formula (Q-1):

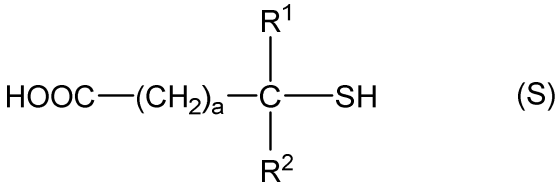


(Q-1)

wherein R^1 represents a hydrogen atom, an alkyl group having 1 to 10 carbon atoms, or an aromatic group having 6 to 18 carbon atoms; R^2 represents an alkyl group having 1 to 10 carbon atoms or an aromatic group having 6 to 18 carbon atoms; * bonds to an organic group; and a represents an integer of 0 to 2.

[Claim 9]

The radical-polymerizable resin composition according to claim 8, wherein the thiol compound (B) having at least one ester structure represented by the formula (Q-1) is an ester compound of a mercapto group-containing carboxylic acid represented by the following formula (S) and a polyhydric alcohol:



(S)

wherein R^1, R^2 and a have the same meaning as R^1, R^2 and a in the formula (Q-1),

respectively.

[Claim 10]

The radical-polymerizable resin composition according to any one of claims 1 to 9, further comprising a radical polymerization initiator (E).

[Claim 11]

The radical-polymerizable resin composition according to any one of claims 1 to 10, wherein the long-chain fatty acid constituting the metal soap (A1) is a chain or cyclic saturated fatty acid having 6 to 16 carbon atoms or an unsaturated fatty acid having 6 to 16 carbon atoms.

[Claim 12]

The radical-polymerizable resin composition according to any one of claims 1 to 11, wherein the radical-polymerizable compound (C) is one or more selected from a vinyl ester resin, an unsaturated polyester resin, a mixture of a vinyl ester resin and a radical-polymerizable unsaturated monomer, and a mixture of an unsaturated polyester resin and a radical-polymerizable unsaturated monomer.

[Claim 13]

The radical-polymerizable resin composition according to any one of claims 1 to 12, further comprising a fiber (G).

[Claim 14]

A prepreg sheet produced by prepolymerizing the radical-polymerizable resin composition of claim 13.

[Claim 15]

A concrete spalling-preventing curable material comprising the radical-polymerizable resin composition of any one of claims 1 to 13.

[Claim 16]

A primer comprising the radical-polymerizable resin composition of any one of claims 1 to 13.

[Claim 17]

A radical-polymerizable coating composition comprising the radical-polymerizable resin composition of any one of claims 1 to 12.

[Claim 18]

The radical-polymerizable resin composition according to any one of claims 1 to 12, further comprising a filler (F).

[Claim 19]

A repairing material for inorganic structure, comprising the radical-polymerizable resin composition of any one of claims 1 to 12 and 18.

[Claim 20]

The repairing material for inorganic structure according to claim 19, which is a section repairing material, a crack injection material, or a water sealant.