## CLAIMS

1. A high strength fiber coated with a cross-linked silicone polymer.
2. The high strength fiber according to claim 1, which is a high performance polyethylene (HPPE) fiber.
3. The high strength fiber according to claim 2, wherein the fiber is made of ultrahigh molecular weight polyethylene (UHMWPE) having an intrinsic viscosity of at least 5 dl/g determined in decalin at 135 °C.
4. The high strength fiber according to any of the preceding claims, wherein the degree of cross-linking of the cross-linked silicone polymer is at least 20%, preferably at least 30%.
5. The high strength fiber according to any of claims 1 to 4, wherein the coating comprising the cross-linked silicone polymer is obtained by
applying to the fiber, a coating composition comprising a cross-linkable silicone polymer; and
cross-linking the cross-linkable silicone polymer.
6. The high strength fiber according to claim 5, wherein the cross-linkable silicone polymer comprises a silicone polymer having a cross-linkable end-group, preferably an $C_2$-$C_6$ alkylene end group.
7. The high strength fiber according to claim 6, wherein the cross-linkable end-group is a vinyl group.
8. The high strength fiber according to any one of claims 5-7, wherein the cross-linkable silicone polymer has the formula:
$CH_2=CH-(Si(CH_3)_2O)_n-CH=CH_2$ (1)
wherein n is a number from 2 to 200.
9. The high strength fiber according to any one of claims 5-8, wherein the coating composition further comprises a cross-linker having the formula:
$Si(CH_3)_3O-(SiCH_3HO)_m-Si(CH_3)_3$ (2)
wherein m is a number of 2 to 200.
10. The high strength fiber according to any one of claims 5-9, wherein the coating composition further comprises a platinum catalyst.
11. A rope comprising high strength fibers, preferably including HPPE fibers, wherein the rope is provided with a coating comprising a cross-linked silicone polymer.

12. A strand comprising high strength fibers, preferably including HPPE fibers, wherein the strand is provided with a coating comprising a cross-linked silicone polymer.

13. Use of a high strength fiber according to any of claims 1 to 10 for making a rope with improved bending fatigue resistance.

14. Use of a high strength fiber according to any of claims 1 to 10 for making a fishing net.

15. A method of making coated high strength fibers, comprising the steps of:
a) applying a coating composition comprising a cross-linkable silicone polymer to the high strength fibers;
b) cross-linking the silicone polymer.

16. A method of making a rope comprising high strength fibers, comprising the steps of:
a) applying a coating composition comprising a cross-linkable silicone polymer to the high strength fibers;
b) cross-linking the silicone polymer;
c) constructing a rope from the coated fibers obtained in step b).

17. A method according to claim 15 or 16, wherein the high strength fibers are HPPE fibers.

## CLAIMS

1. A high strength fiber coated with a cross-linked silicone polymer, wherein the high strength fiber is a high performance polyethylene (HPPE) fiber, and wherein the degree of cross-linking of the cross-linked silicone polymer is at least 20%.
2. The high strength fiber according to claim 1, wherein the degree of cross-linking is at least 30%.
3. The high strength fiber according to claims 1 or 2, wherein the fiber is made of ultrahigh molecular weight polyethylene (UHMWPE) having an intrinsic viscosity of at least 5 dl/g determined in decalin at 135°C.
4. The high strength fiber according to any of claims 1 to 3, wherein the coating comprising the cross-linked silicone polymer is obtained by
applying to the fiber, a coating composition comprising a cross-linkable silicone polymer; and
cross-linking the cross-linkable silicone polymer.
5. The high strength fiber according to claim 4, wherein the cross-linkable silicone polymer comprises a silicone polymer having a cross-linkable end-group.
6. The high strength fiber according to claim 5, wherein the cross-linkable end-group is a vinyl group.
7. The high strength fiber according to any one of claims 4-6, wherein the cross-linkable silicone polymer has the formula:
$CH_2=CH-(Si(CH_3)_2O)_n-CH=CH_2$ (1)
wherein n is a number from 2 to 200.
8. The high strength fiber according to any one of claims 4-7, wherein the coating composition further comprises a cross-linker having the formula:
$Si(CH_3)_3O-(SiCH_3HO)_m-Si(CH_3)_3$ (2)
wherein m is a number of 2 to 200.
9. The high strength fiber according to any one of claims 4-8, wherein the coating composition further comprises a platinum catalyst.
10. A rope comprising HPPE fibers, wherein the rope is provided with a coating comprising a cross-linked silicone polymer wherein the degree of cross-linking of the cross-linked silicone polymer is at least 20%, preferably at least 30%.

11. A strand comprising HPPE fibers, wherein the strand is provided with a coating comprising a cross-linked silicone polymer wherein the degree of cross-linking of the cross-linked silicone polymer is at least 20%, preferably at least 30%.

12. A method of making coated high performance polyethylene (HPPE) fibers, comprising the steps of:
a) applying a coating composition comprising a cross-linkable silicone polymer to the high performance polyethylene (HPPE) fibers;
b) cross-linking the silicone polymer wherein the degree of cross-linking is at least 20%, preferably at least 30%.

13. A method of making a rope comprising high performance polyethylene (HPPE) fibers, comprising the steps of:
a) applying a coating composition comprising a cross-linkable silicone polymer to the high performance polyethylene (HPPE) fibers;
b) cross-linking the silicone polymer wherein the degree of cross-linking is at least 20%, preferably at least 30%;
c) constructing a rope from the coated fibers obtained in step b).