Claims:

1. A screw joint comprising a tubular element having a female thread and a tubular element having a male thread, wherein said male thread and said female thread have first contact surfaces that cooperate with each other, and the tubular elements preferably have second contact surfaces adjacent to said female thread and/or said male thread, wherein said first contact surfaces and, if applicable, said second contact surfaces each have a coating which has at least a first and a second layers, wherein said first layer is formed as a conversion layer in each case, characterised in that one of said first and, if applicable, second contact surfaces that cooperate with each other has a layer (11) made of ceramic material with a friction reducing effect as the second layer and the other of the two contact surfaces that cooperate with each other has a varnish layer (10) with a binding agent made of an organic polymer, throughout which solid lubricant particles are distributed, as the second layer.

2. The screw joint according to claim 1, characterised in that said second layer made of the ceramic material (11) is formed on said tubular element (2) with said female thread (7) and said second layer consisting of the varnish layer (10) is formed on said tubular element (1) with said male thread (6).

3. The screw joint according to claim 1 or 2, characterised in that said layer thickness of said ceramic layer (11) is less than 1 µm, preferably less than 200 nm, particularly between 10 and 100 nm.

4. The screw joint according to claim 1, 2 or 3, characterised in that said ceramic layer (11) includes a resin, such as melamine resin, or a hydrophobing agent, in particular is waterproofed with it, in order to increase corrosion resistance.

5. The screw joint according to one of claims 1 to 4, characterised in that said ceramic layer (11) comprises titanium, zirconium, niobium, tantalum, molybdenum, chromium, silicon, vanadium, tungsten, germanium oxides and/or combinations thereof.

6. The screw joint according to one of claims 1 to 5 characterised in that said ceramic layer (11) consists of a wet chemical, self-depositing precipitate or a ceramic prepolymer with organic components applied by means of coating.

7. The screw joint according to one of claims 1 to 6, characterised in that said first layer (8, 9) is formed as a phosphate layer, wherein it preferably consists of manganese phosphate, iron phosphate and/or zinc phosphate with the addition of nickel salts, if necessary, particularly preferably of manganese phosphate and zinc phosphate and more particularly preferably of manganese phosphate.

8. The screw joint according to one of claims 1 to 7, characterised in that said second contact surfaces comprise sealing surfaces (12, 13) that cooperate with each other to form a sealing seat and further comprise shoulder surfaces (14, 15) that cooperate with each other, wherein said sealing surfaces (12, 13) are preferably conical and are preferably arranged in screw-in direction adjoining to said female and male thread (7, 6) respectively.

9. The screw joint according to one of claims 1 to 8, characterised in that said layer thickness of said varnish layer (10) is between 5 and 80 µm, preferably between 10 and 40 µm, in the area of said first contact surfaces.

10. The screw joint according to one of claims 1 to 9, characterised in that said layer thickness of said varnish layer (10) is between 10 and 500 µm, preferably between 40 and 300 µm, in the area of said second contact surfaces.

11. The screw joint according to one of claims 1 to 10, characterised in that said layer thickness of said varnish layer (10) is smaller in the area of said first contact surfaces than in the area of said second contact surfaces.

12. The screw joint according to one of claims 8 to 11, characterised in that said layer thickness of said varnish layer (10) is between 10 and 300 µm, preferably between 40 and 150 µm, in the area of said sealing surfaces (12, 13).

13. The screw joint according to one of claims 8 to 12, characterised in that said layer thickness of said varnish layer (10) is between 50 and 500 µm, preferably between 150 and 300 µm, in the area of said shoulder surfaces (14, 15).

14. The screw joint according to one of claims 1 to 13, characterised in that said organic polymer of said binding agent of said varnish layer is a polymer that hardens through cross-linking.

15. The screw joint according to one of claims 1 to 14, characterised in that said varnish layer (10) consists of a baking varnish with a synthetic resin binding agent or comprises a two-component system of a synthetic resin and a curing agent as a binding agent.

16. The screw joint according to claim 15, characterised in that said synthetic resin is an alkyd resin, preferably an alkyd resin modified with epoxy resin.

17. The screw joint according to one of claims 1 to 16, characterised in that said solid lubricant particles are polymer-based and particularly consist of a synthetic wax, preferably polyolefin, polyamide or fluoropolymer, particularly preferably polypropylene wax.

18. The screw joint according to one of claims 1 to 17, characterised in that the percentage of said solid lubricant particles in said varnish layer (10) is 1 to 50% w/w, preferably 1 to 20% w/w, more preferably 1 to 10% w/w, particularly preferably 5% w/w.

19. The screw joint according to one of claims 1 to 18, characterised in that said thickness of said coating of said first contact surfaces that cooperate with each other is less than 120 µm, preferably less than 70 µm.

20. The screw joint according to one of claims 8 to 19, characterised in that said thickness of said coating of said second contact surfaces that cooperate with each other is less than 340 µm, preferably less than 180 µm, in the area of said sealing surfaces (12, 13).

21. The screw joint according to one of claims 8 to 20, characterised in that said thickness of said coating of said second contact surfaces that cooperate with each other is less than 540 µm, preferably less than 330 µm, in the area of said shoulder surfaces (14, 15).

22. The screw joint according to one of claims 1 to 21, characterised in that said first layer and said second layer made of ceramic material are formed together as conversion layer, preferably generated by means of phosphate conversion coating.

23. The screw joint according to one of claims 1 to 22, characterised in that said lubricant particles consist of non-crystalline fluorinated hydrocarbons and/or non-high polymer, if applicable derivatised, hydrocarbons or silicones.

24. A method for surface treatment of threads of a threaded connection of tubular elements comprising the application of a coating onto first contact surfaces that cooperate with each other of a female thread and a male thread of said threaded connection and preferably the application of the coating onto second contact surfaces that cooperate with each other of said tubular elements adjacent to said female and/or male thread, wherein the coating comprises the application of at least a first layer and the application of a second layer on said first layer, wherein a conversion layer is applied onto the first contact surface and preferable onto the second contact surface as the first layer in each case, characterised in that a layer (11) made of ceramic material with a friction reducing effect is applied as the second layer onto one of said first and, if applicable, second contact surfaces that cooperate with each other and a varnish layer (10) with a binding agent made of an organic polymer, throughout which solid lubricant particles are distributed, is applied as the second layer to the other of the two contact surfaces that cooperate with each other.

25. The method according to claim 24, characterised in that said layer (11) made of ceramic material is applied to said contact surface of the female thread (7) as second layer and said varnish layer (10) is applied to said contact surface of the male thread (6) as second layer.

26. The method according to claim 24 or 25, characterised in that said ceramic layer (11) is applied with a layer thickness

of less than 1 µm, preferably less than 200 nm, particularly preferably between 10 and 100 nm.

27. The method according to claim 24, 25 or 26, characterised in that said ceramic layer (11) is produced by means of wet chemical precipitation of nanoparticles, preferably SiO_2 nanoparticles of a solution.

28. The method according to claim 27, characterised in that said tubular element (1, 2) is immersed with its female thread (7) or male thread (6) respectively into a bath of said solution with primarily perpendicular pipe axis, wherein the level of said bath is preferably increased by means of arranging a displacement body in the inside of said tubular element.

29. The method according to claim 27, characterised in that said tubular element (1, 2) is immersed with a circumferential portion into a bath of said solution with primarily horizontal pipe axis and is rotated on said pipe axis.

30. The method according to one of claims 24 to 29, characterised in that said varnish layer (10) is applied with a layer thickness of between 5 and 80 µm, preferably between 10 and 40 µm, in the area of the first contact surfaces.

31. The method according to one of claims 24 to 30, characterised in that said varnish layer (10) is applied by means of spraying.