

We claim:

1. A blood pump, comprising:

a pump motor comprising a rotor portion having proximal and distal ends and a stator portion having proximal and distal ends, wherein the proximal portion of the rotor portion is received into a cavity defined by the stator portion;

the rotor portion comprising an impeller, wherein the impeller comprises impeller blades and a drive unit, the impeller blades positioned at the distal end of the rotor portion and not received into the stator and the drive unit positioned in a portion of the rotor received into the stator portion, wherein the drive unit is coupled to the impeller blades;

the stator portion comprising a yoke, a coil and a coil holding sleeve, the sleeve defining the cavity into which the proximal portion of the rotor is received;

wherein the yoke, coil and sleeve have interior and exterior surfaces, wherein epoxy is introduced between the yoke and the coil and the coil and the sleeve, thereby substantially embedding the coil in epoxy, wherein at least one of the interior surface of the yoke, the exterior surface of the coil, the interior surface of the coil or the exterior surface of the sleeve are treated with a primer prior to the introduction of epoxy therebetween.

2. The blood pump of claim 1 wherein the primer is a silane solution.

3. The blood pump of claim 2 wherein the silane has the general chemical formula $(\text{RO})_3\text{SiCH}_2\text{CH}_2\text{CH}_2\text{-X}$ wherein RO is a hydrolysable group.

4. The blood pump of claim 3 wherein the hydrolysable group is selected from the group consisting of methoxy, ethoxy, or acetoxy.

5. The blood pump of claim 4 wherein X is an organofunctional group.

6. The blood pump of claim 1 wherein the interior surface of the yoke is treated with the primer wherein the primer is a silane solution such that the silane is interposed between the interior surface of the yoke and the epoxy.

7. The blood pump of claim 1 wherein exterior surface of the coil is treated with the primer wherein the primer is a silane solution such that the silane is interposed between the exterior surface of the coil and the epoxy.

8. The blood pump of claim 1 wherein the interior surface of the coil is treated with the primer wherein the primer is a silane solution such that the silane is interposed between the interior surface of the coil and the epoxy.

9. The blood pump of claim 1 wherein the exterior surface of the sleeve is treated with the primer wherein the primer is a silane solution such that the silane is interposed between the exterior surface of the sleeve and the epoxy.

10. A method for making a blood pump the method comprising:

assembling a pump motor comprising a rotor portion having proximal and distal ends and a stator portion having proximal and distal ends, wherein the proximal portion of the rotor portion is received into a cavity defined by the stator portion;

the rotor portion comprising an impeller, wherein the impeller comprises impeller blades and a drive unit, the impeller blades positioned at the distal end of the rotor portion and not received into the stator and the drive unit positioned in a portion of the rotor received into the stator portion, wherein the drive unit is coupled to the impeller blades;

the stator portion comprising a yoke, a coil and a coil holding sleeve, the sleeve defining the cavity into which the proximal portion of the rotor is received;

wherein the yoke, coil and sleeve have interior and exterior surfaces;

treating at least one of the interior surface of the yoke, the exterior surface of the coil, the interior surface of the coil or the exterior surface of the sleeve with a primer; and

introducing epoxy between the yoke and the coil and the coil and the sleeve, thereby substantially embedding the coil in epoxy.

11. The method of claim 1 wherein the primer is a silane solution.

12. The method of claim 11 wherein the silane has the general chemical formula $(\text{RO})_3\text{SiCH}_2\text{CH}_2\text{CH}_2\text{-X}$ wherein RO is a hydrolysable group.

13. The method of claim 12 wherein the hydrolysable group is selected from the group consisting of methoxy, ethoxy, or acetoxy.

14. The method of claim 13 wherein X is an organofunctional group.

15. The method of claim 10 wherein the interior surface of the yoke is treated with the primer wherein the primer is a silane solution such that the silane is coated on the interior surface of the yoke when the epoxy is introduced between the yoke and the coil.

16. The method of claim 10 wherein exterior surface of the coil is treated with the primer wherein the primer is a silane solution such that the silane is coated on the exterior surface of the coil when the epoxy is introduced between the yoke and the coil.

17. The method of claim 10 wherein the interior surface of the coil is treated with the primer wherein the primer is a silane solution such that the silane is coated on the interior surface of the coil when the epoxy is introduced between the coil and the sleeve.

18. The blood pump of claim 10 wherein the exterior surface of the sleeve is treated with the primer wherein the primer is a silane solution such that the silane is coated on the exterior surface of the sleeve when the epoxy is introduced between the coil and the sleeve.