CLAIMS

What is claimed is:

1. A system for protecting a bond line comprising:

a downhole tool;

a rubber material chemically bonded to a tubular substrate of the downhole tool to form the bond line at a bonding interface between the rubber material and the tubular substrate; and

a barrier configured to be applied to the rubber material and the downhole tool to encapsulate the bond line to prevent a fluid from attacking a bonding chemistry along the bond line during wellbore operations as a result of temperatures, pressures, and/or aqueous solutions downhole.

2. The system of claim 1, wherein the barrier is dicyclopentadiene, epoxy, polyester, urethane, elastomer latex, acrylate, cyanoacrylate, or urethane acrylate.

3. The system of claim 1, wherein the barrier is configured to be applied by spray, roll, brush, or vapor deposition.

4. The system of claim 1, wherein the barrier is cold bonded to an outside of the bond line.

5. The system of claim 1, wherein the barrier is configured to be applied in a hot melt or solvent deposition process.

6. The system of claim 5, wherein the barrier is an acrylic melt, a solvated copolymer of ethylene and propylene, a solvated copolymer of ethylene, propylene, and a diene monomer, polycarbonate, polyimide, polystyrene, polyester, or a fluoroplastic.

7. The system of claim 1, wherein the barrier is impermeable or hydrophobic.

8. The system of claim 7, wherein the barrier is configured to be applied by a film wrapped or cold bonded to an outside of the bond line.

9. The system of claim 1, wherein the barrier is applied to encapsulate a plurality of bond lines axially spaced along the tubular substrate to prevent fluid migration along the bonding interface by diffusion through the bonded material.

10. The system of claim 9, wherein the barrier is single, continuous barrier configured to prevent degradation of the plurality of bond lines that are axially spaced along the tubular substrate.

11. A method for protecting a bond line comprising:

chemically bonding a rubber material to a downhole tool to form the bond line at a bonding interface between the rubber material and a tubular substrate; and

applying a barrier to the rubber material and the downhole tool to encapsulate the bond line to prevent a fluid from attacking a bonding chemistry along the bond line during wellbore operations as a result of temperatures, pressures, and/or aqueous solutions downhole.

12. The method of claim 11, wherein the barrier is dicyclopentadiene, epoxy, polyester, urethane, elastomer latex, acrylate, cyanoacrylate, or urethane acrylate.

13. The method of claim 11, further comprising rolling the barrier on the bond line, spraying the barrier on the bond line, brushing the barrier on the bond line or applying the barrier using a vapor deposition to the bond line.

14. The method of claim 11, further comprising applying the barrier as a hot melt or using a solvent deposition process.

15. The method of claim 11, further comprising expanding the tubular substrate to an outer diameter at which the rubber material is forced into sealing contact with a casing.

16. The method of claim 15, wherein the barrier is an acrylic melt, a solvated copolymer of ethylene and propylene, a solvated copolymer of ethylene, propylene, and a diene monomer, polycarbonate, polyimide, polystyrene, polyester, or a fluoroplastic.

17. The method of claim 11, wherein the barrier is impermeable or hydrophobic.

18. The method of claim 17, further comprising wrapping the barrier to an outside of the bond line or cold bonding the barrier to the outside of the bond line.

19. The method of claim 11, further comprising applying the barrier to one or more bond lines that are axially spaced along the tubular substrate.

20. The method of claim 11, further comprising forming the barrier as a single, continuous barrier to prevent degradation of the plurality of bond lines that are axially spaced along the tubular substrate.