



*Coating Applications
for Helicopters*



Coating Applications for Helicopters

Helicopter Landing Gear

Helicopter Main Rotor

Helicopter Tail Rotor

Helicopter Transmission (not illustrated)



Helicopter Landing Gear

Part Name	Coated Area	Typical Coating Type	Typical Mating Surface	Typical Objective of Coating
Linkage Components	Links, bearings, pins	Tungsten carbide LW-1N40A, LW-90, LW-103F, SDG 2040GA	–	Wear, corrosion resistance, fatigue behavior
Nose & Tail Gear Pistons	Piston outside diameters	Tungsten carbide LW-103F, SDG 2057A	–	Wear, corrosion resistance
Nose Gear Axle	Bearing journals	Tungsten carbide LW-103F, SDG 2057A	–	Wear, corrosion resistance
Axle Pintle NH90 Landing Gear	Inner/outer surfaces	SermeTel® 5380DP Al-ceramic coatings	Atmosphere	Corrosion resistance

Helicopter Main Rotor

Part Name	Coated Area	Typical Coating Type	Typical Mating Surface	Typical Objective of Coating
Actuation Systems	Damper cylinders I.D., piston rod O.D. & piston heads	Tribaloy* LPT-400; SDG 2400, tungsten carbide LW-90, SDG 2057A	–	Wear resistance, reduce oil leakage
Blade Bolts	Outside diameters	Tungsten carbide LW-1N40, LW-11B	–	Fretting, sliding wear resistance
Blade Extension Sleeves	Journal	Tungsten carbide LW-90, LW-1N40	–	Sliding, fretting wear resistance
Blade Fold Pins and Pistons	Journal diameters	Tungsten carbide LW-1N40	–	Fretting wear resistance, vibration
Blade Lock Pins, Hinge Pins	Outside diameters	Tungsten carbide LW-1N40	–	Sliding wear, corrosion, resistance
Blade Radius Rings	Journal	Tungsten carbide LW-1N40	–	Sliding, fretting wear resistance
Cylinder Assembly, Plunger	Outside diameters	Tungsten carbide LW-1N40	–	Wear, corrosion resistance
Inner Race Bearings	Outside diameters	Tungsten carbide LW-1N40	–	Stress corrosion, water resistance
Pitch Lock Piston	Outside diameters	Tungsten carbide LW-1N40	–	Fretting wear resistance
Seal Spacer & Nut	Outside diameters	Chrome oxide LC-4	–	Fretting wear resistance
Shafts	Journals and annular faces	Tungsten carbide LW-1N40, SDG 2040GA	–	Fretting wear resistance
Spur Gears	Bearing areas	Tungsten carbide LW-1N30	–	Fretting wear resistance
Swashplate Cap	Outside diameters	Tungsten carbide LW-1N40	–	Sliding, fretting wear resistance
Swashplate, Pivot Sleeves & Collective Sleeves	Spherical O.D. and other outside diameters	Tungsten carbide SDG 2040GA, LW-1N40	–	Fretting wear resistance
Swashplate, Ring	Outside diameters	Tungsten carbide LW-1N40	–	Fretting, sliding wear resistance
Swashplate, Support	Outside diameters	Tungsten carbide LW-1N40	–	Sliding, fretting wear resistance

Helicopter Tail Rotor

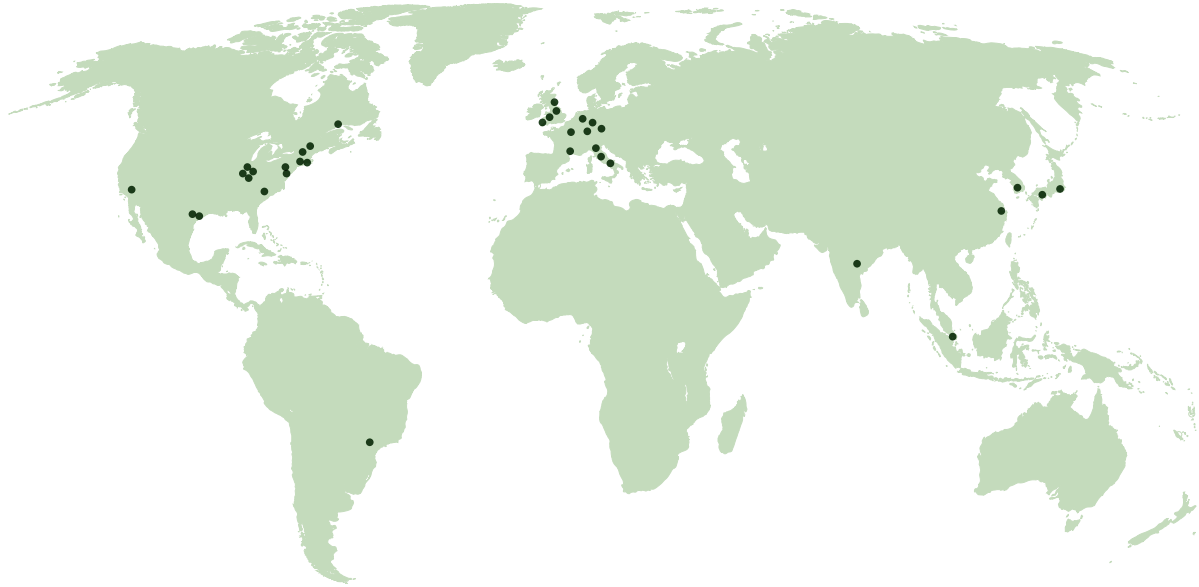
Part Name	Coated Area	Typical Coating Type	Typical Mating Surface	Typical Objective of Coating
Pulley & Idler	Outside diameters	Chrome oxide LC-4	–	Seal compatibility
Shafts	Outside diameters	Tungsten carbide LW-1N40	–	Fretting wear resistance
Spacer	Outside diameters	Chrome oxide LC-4	–	Seal compatibility
Tail Rotor Hub	Bearing journals	Tungsten carbide LW-1N40, LW-5	–	Sliding wear resistance
Lamella for Flexible Coupling	Inner/outer surfaces	SermeTel® 622 metal-ceramic coatings; SermaLube® 72	Atmosphere and mating coated strip	Fretting wear and atmospheric corrosion

Helicopter Transmission (not illustrated)

Part Name	Coated Area	Typical Coating Type	Typical Mating Surface	Typical Objective of Coating
Bearing Retaining Nut	Annular face and journal	Tungsten carbide LW-1N40, LW-1N30	–	Fretting wear resistance
Bevel Drive Gear	Annual face and journal	Tungsten carbide LW-1N40, LW-1N30	–	Fretting wear resistance
Conical Gear	Annular face and journal	Tungsten carbide LW-1N40, LW-1N30	–	Fretting wear resistance
Input Gear	Annular face and journal	Tungsten carbide LW-1N40, LW-1N30	–	Fretting wear resistance
Pinion Gears	Annular face and journal	Tungsten carbide LW-1N40, LW-1N30	–	Fretting wear resistance
Main Gear Box Housing	Entire housing except mating surfaces	SermeTel® 1083/1089; 1207/1208 organic primer-topcoat system	O.D. encounters atmosphere; I.D. exposed to hot transmission fluids	Corrosion resistance
Tail Rotor Gear Box Housing	Entire housing except mating surfaces	SermeTel® 1083/1089; 1207/1208 organic primer-topcoat system	O.D. encounters atmosphere; I.D. exposed to hot transmission fluids	Corrosion resistance
Assorted Covers	Entire cover except mating surfaces	SermeTel® 1083/1089; 1207/1208 organic primer-topcoat system	O.D. encounters atmosphere; I.D. exposed to hot transmission fluids	Corrosion resistance
Horn	Entire surface except mating surfaces	SermeTel® 984 Al-ceramic coating plus SermeTel® 1207/1208 organic primer-topcoat	O.D. encounters atmosphere; I.D. exposed to hot transmission fluids	Corrosion resistance

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