Physical Properties of DiamondV™ Coating

Composition	Carbon, Hydrogen doping elements
Structure	Mixture of sp3 (tetrahedral diamond type) and sp2 (trigonal graphitic)
Coating Thickness	3.5 – 5.0 microns
Density	1.92-2.2 g/cm3
Hardness	3500-3900 HV (30-35 Gpa)
Co-efficient of friction	DiamondV® on Steel: 0.05 (Example:Steel on Steel-0.45)
Adherence Scratch test:	LC=40 N
Thermal conductivity	>400 W/K/m
Coefficient of dilation	2.10-6/° C
Permeability Barrier	to hydrogen and other gases
Electrical resistivity	108 ohms cm
Chemical resistance	Inert in acids, alkalis,solvents,salts & water
Successfully Used on:	Shaft,Stems,Bushing,Ball&Butterfly Valves

DiamondV offers the following advantages:

- Substantial torque reduction due to > 10 friction (metal on metal)
- Torque breakaway reduced by 30% to 40%
- No corrosion, sticking, media, wear or galling
- Ideal for gas, refractory, pulp and paper service
- Eliminates valve & packing leaking, torque increase due to premature wear
- Replace sellite with 316 S.S for bearing
- Extends valve life by 2 to 3 years and operate at tempature over 575 degree F
- Cost of ownership saving over 50% with substantial maintenance and spare inventory cost reductions

"DiamondV coating now replace expensive metallurgy's"
Plant Design Engineer

Applied Diamond Coatings

Engineered Solutions for Material Performance

30 Ozick Drive, Durham, CT 06422 Phone (860) 349-3133 - Fax (860) 349-1143