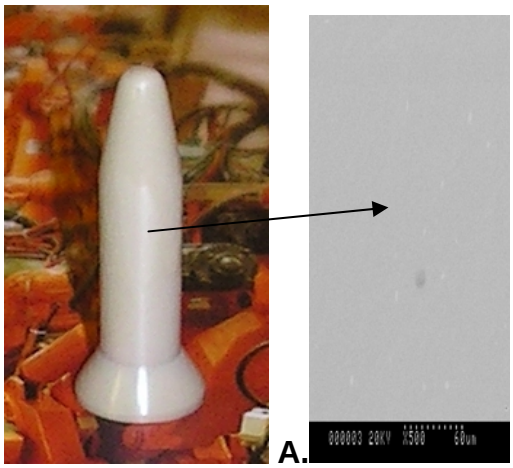
Huys Technical Library #21

ZIRCONIUM OXIDE GUIDE PINS

Hard, solid, stabilized ceramic ZIRCO™ zirconium oxide pins offer longer life, no risk of electrical shorting, reduced part and fixture damage due to stiff abrasion resistance, strong impact strength and increased wear resistance. Ideal for robotic applications, they can exceed regular coated pin life by up to a factor of 50. Huys' ZIRCO™ pins assist in stabilizing production processes and reduce costs through less frequent replacement and reduced downtime and reduced part damage.

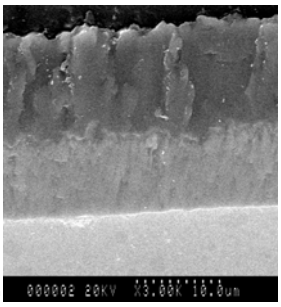
Micro Hardness: 1200 HV
Flexural Strength: 1300 MPa / 188 kpsi
Compressive Strength: 3000MPa/435 kpsi
Young's Modulus: 210 GPa / 30 Mpsi
Impact Resistance: 15 MPa.$m^{1/2}$
Maximum Temperature: 1000 °C / 1832°F

ZIRCO™ parts are stock or custom designed to fixture requirements. All have high strength and significant thermal shock resistance.

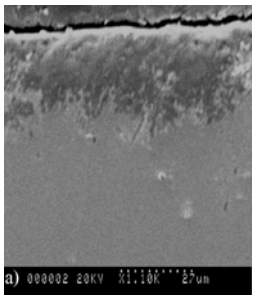


A.

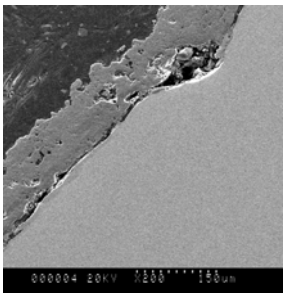
*At left, with cross sectional micrograph at (A), is a Huys solid **ZIRCO™** pin which has no inclusions, porosity or cracks for maximum performance. Below are micrographs of other types of coated insulated pins: (B) is a typical CVD (chemical vapour deposition) coating showing cracking and a thin 20-µm coating. (C) is a typical diffusion base coating which shows an inconsistent and thin (30 µm) thickness, which is subject to early shorting. Two pictures at (D) show HVOF (high velocity oxy fuel) and plasma spray coatings, which show porosity, delamination and porosity.*



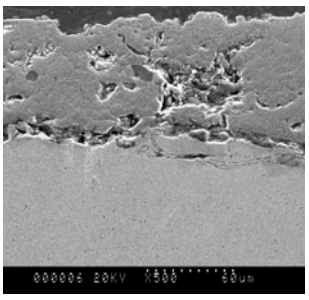
B.



C.



D.



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