

Ishaan Karode

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EDUCATION

STONY BROOK UNIVERSITY MS IN MATERIALS SCIENCE AND ENGINEERING

THESIS: "Assessment of thermal spray coatings for wear and abrasion resistance applications"
Dec 2016 | Stony Brook, NY

THE MAHARAJA SAYAJIRAO UNIVERSITY OF BARODA BENG IN METALLURGICAL AND MATERIALS ENGINEERING May 2015 | Gujarat, India

LINKS

LinkedIn:// Ishaan Karode

COURSEWORK

GRADUATE

Strength of Materials
Thermodynamics of Solids
Imperfections in Crystals
Polymeric Materials
Diffusion in Solids
Phase Transformations
Applied Stress Analysis

UNDERGRADUATE

Physical Metallurgy-I (Steels and Cast-Iron)
Physical Metallurgy-II (Non-ferrous metals and alloys)
Composite Materials
Non-ferrous electrometallurgy
Alloy Steels
Iron Making and Steel making
Heat treatment of metals and alloys

SKILLS

SOFTWARE

AUTODESK (AUTOCAD and INVENTOR)
• SOLIDWORKS • ABAQUS • CNC programming (G and M codes) • Design of Experiments • Minitab • LATEX

PROGRAMMING

C • MATLAB • HTML • CSS • PYTHON
• STELLA

TECHNICAL

Failure Analysis • Materials characterization • metallography • CVD • Thermal Spray coatings • Heat treatment • stress analysis • FEA • CFD

EXPERIENCE

CVD EQUIPMENT CORPORATION | ENGINEERING INTERN

June 2016 – Aug 2016 | New York, USA

- Optimization of the surface properties of Carbon composites by thermal spray coatings used in manufacturing of helicopter rotor blades
- Developed a machine similar to sand-blaster according to dept. of defense standards to duplicate the in-flight service conditions.
- Testing erosion/abrasion resistance of coatings using the above developed machine.
- Assessment of different thermal spray coatings used in manufacture of mechanical seals in pump industries.
- Devised a block-on-ring test set-up according to ASTM G77 standards to simulate the service conditions of a pump to measure adhesive wear resistance of the coatings.

VIJAY TANKS & VESSELS (P) LTD | MANUFACTURING INTERN

May 2014 – July 2014 | Gujarat, India

- I was a part of manufacturing team that was involved in study of various fabrication processes of storage tanks, pressure vessels, cryogenic tanks, etc
- I was also a part of testing and evaluation team that dealt with NDT Methods (Ultrasonic testing, liquid penetrant, magnetic resonance), welding processes and various metalworking techniques used in manufacturing

PROJECTS

THERMAL SPRAY COATINGS FOR LONGER LIFE MECHANICAL SEALS |CVD EQUIPMENT CORPORATION

July 2016 – present | New York, USA

- Assessment of thermal spray coatings used in manufacturing of mechanical seals.
- Devised a wear testing mechanism (block-on-ring, ASTM G77) to compare tungsten carbide/cobalt and Chromium oxide coatings with Boron carbide for wear resistance application and propose the best coating for mechanical seals

SOLID PARTICLE EROSION TESTING OF THERMAL SPRAY COATINGS ON CARBON COMPOSITES |CVD EQUIPMENT CORPORATION

June 2016 – August 2016 | New York, USA

- Improvement of the surface properties of carbon composites by thermal spray coatings for their use in helicopter rotor blades.
- Devised an erosion testing mechanism for simulating the in-service conditions & to test the erosion resistance of different coatings sprayed on Carbon Composites

FINITE ELEMENT MODELING OF A FRACTURED SPECIMEN

STONY BROOK UNIVERSITY| TERM PROJECT

Jan 2016 – May 2016 | Stony Brook, NY

Design of finite element mesh of the compact tension specimen using ABAQUS to obtain stress and displacement components of the fracture model.

RECOVERY OF METALLIC VALUES FROM ELECTRONIC WASTE | BACHELOR THESIS

Jan 2015 – May 2015 | Gujarat, India

- Recovery and recycling of different metals found in electronic waste (PCB) using hydrometallurgy and electrometallurgy techniques to reduce its hazardous effects.
- Dissolution of solder (Sn,Pb) and hazardous metals (As,Hg,Sb) in specific acid (H₂SO₄ and HCL)
- Electroplating of dissolved metallic values on stainless steel substrate (Cathode)