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**RESUME: TED HIGGINS 2013**  
**EDH TECHNICAL SERVICES INC.**  
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### **Ph.D. Wood Science (Chemistry) Faculty of Forestry, 1990**

University of British Columbia Vancouver, B.C.

Inter-disciplinary course work focused on glued wood products, polymer chemistry, and instrumental analytical chemistry. Formal activities included all chemical engineering courses in pulp/paper chemistry, fiber reinforced composites, experimental design, and statistical process control. Lignin-urethane adhesives, and polymer topics were researched in directed studies. Thesis: Grain orientation statistics and their effects on mechanical properties of adhesive bonded wood strand composites.

### **Master of Science, Wood Products Engineering, 1971**

College of Forestry, Syracuse University (SUNY) New York

Courses of study included basic wood technology, polymeric adhesives and coatings, timber engineering, lumber drying, and wood preservation. Directed studies were in wood-plastics, polymeric composites, microscopy, and laboratory instrumentation. Thesis was on tensile properties and dimensional stability of wood fiber reinforced polyester polymer.

## PROFESSIONAL EXPERIENCE

### **1999 - 2013 Polymeric Adhesives and Coatings Consultant**

EHD Technical Services Ltd. Adhesive testing and troubleshooting, bonding process improvement, research consulting, adhesive selection and vendor selection, adhesive component sourcing, codes and standards compliance, technical support for attorneys, and quality control programs. An international clientele is served at [www.adhesiveexperts.com](http://www.adhesiveexperts.com)

### **1987 – 1998 Quality/Research Manager, Technical Services, Softwood Products and Processes**

Weldwood of Canada (International Paper Corp.)

Corporate executive quality audits were provided for five plywood mills, and other technical services for two OSB mills, two pulp mills and eight lumber operations. Quality seminars, and training/procedure manuals were developed. Adhesives and coatings technical evaluation and research was provided for the plywood and LVL divisions. Quality control operations were managed. ISO 9001 internal audits, codes, standards, R &D and representations were made at ASTM, and FPS industry associations.

### **1982-1985 Laboratory Manager, I.E.C Beak Consultants Ltd./Econotech Ltd.**

Management was provided at a private environmental laboratory. Analytical chemistry was done for firms in materials science, soils, foods, drugs, mining, and forestry. Methods were mobilized from protocols or specially developed.

**1980-1982 Research Contractor, Vancouver, BC.** Contracts were executed in wood technology for the Canadian Electrical Association. Wood-cement composite utility poles were developed. A spinning disk adhesive blender design for the oriented strand board (particleboard) industry was developed for CAE Machinery Ltd. Div. of Hawker Siddley UK.

### **1979-1980 Technical Service Representative, Borden Chemical Ltd. Vancouver, BC**

Laboratory duties were in phenolic adhesives formulations research. Field technical support was provided to customers manufacturing plywood, particleboard, and laminated wood. Special skills were developed in optimizing resin level, droplet size, and adhesive distribution in oriented strand board (OSB).

### **1972-1980 Seafoam Products Inc., Urethane Formulation**

A broad background in urethane polymer formulation work is based on my experience at Seafoam Products Ltd as majority shareholder and technical director. 2 – 3 million lbs./year of slab flexible urethane foam were produced in North Vancouver BC. Rigid and flexible urethane foam systems were developed for Polymir Industries Inc., Calif. Solid and micro-cellular urethane 2 part formulations and quality standards for plywood face patching were developed for the plywood industry.

### Publications

Isocyanate Reactive Hot-Melt Adhesives for Veneer Laminates, Forest Products Journal 45 (10): 72-76 1995

Hand Held Capacitance-Admittance (RF) Moisture Meters for Veneer ASTM Workshop for Moisture Meters D-7 Task Group. May 5/93, Madison, Wisconsin. Recent (2001). A client list is found at [www.adhesiveexperts.com](http://www.adhesiveexperts.com)

### References

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