Polymer Engineering Company Ltd. (PEC) offers specialized expertise in the field of polymer technology. Consisting of a team of highly-qualified multidisciplinary personnel, and equipped with an array of state-of-the-art equipment, PEC has provided extensive polymer technical support to a multitude of industries, both locally and internationally, for the past 30 years.

SPECIALTY SERVICES

- Fundamental and applied research & development
- Product analysis and formulation
- Industrial and manufacturing technical support
- Failure analysis and materials evaluation
- Litigation support and expert witness services

AREAS OF EXPERTISE

- Plastics
- Rubbers
- Polymer blends
- Coatings and paints
- Adhesive and sealants
- Surface phenomena
- Barrier materials
- Unique polymer applications
- Environmental impact protection (biological, chemical, UV and radiation, moisture, fire, etc.)

INDUSTRIES SERVED

- Aerospace
- Automotive
- Consumer products
- Construction
- Cosmetic
- Defense
- Energy
- Electronics
- Forestry
- Healthcare and medical
- Packaging
- Sport and recreation
- Textiles

AFFILIATIONS

- ASTM
- AWPA
- SWPA
- ACS
- American Coatings Association
- PNW SCT
To serve a wide client base in all areas of polymer technology, PEC has a modern in-house laboratory as well as access to a supplementary network of equipment and facilities, offering a full range of material processing, testing, and analysis capabilities.

**MATERIAL IDENTIFICATION AND ANALYSIS**
- Infrared spectroscopy
- Thermal analysis
- Chemical analysis

**EVALUATION OF PROPERTIES**
- Mechanical properties at a wide range of conditions
  - Tensile, flexural, compression, impact, tear, and more
- Physical properties
  - Density & specific gravity, hardness, and more
- Thermal properties
  - T<sub>m</sub>, T<sub>g</sub>, OIT
- Aesthetics
  - Colour, gloss, yellowing index
- Adhesion testing
  - Peel, climbing drum, direct-tensile, cross-cut, and more
- Abrasion testing
- Viscosity and rheology
- Coating thickness
- Specialty characteristics
  - CTE, MFI, damping, creep, surface contact and energy, and more

**PLASTICS / RUBBER PROCESSING**
- Compounding
- Injection molding
- Compression molding
- Extrusion
  - Free film and sheeting, blown film, tubing, and more

**OTHER**
- Evaluation of environmental and chemical impacts
  - Environmental exposure including accelerated weathering
  - Assessment of chemical resistance
- Microscopy (optical, SEM/EDX, TEM)
- Industrial Imaging (MRI, CT)
- Specialty polymeric material synthesis and blending
- Custom test development
- Preparation of manufacturing prototypes
- Process scale-up / commercialization support