Testing Capabilities

I. Laboratory Capabilities
- A. Paper Testing
  - 1. Optical Properties
    - a. Brightness
    - b. Color
    - c. Dirt Count
    - d. Fading
    - e. Fluorescence
    - f. Gloss
    - g. Opacity
  - 2. Strength Properties
    - a. Abrasion Loss
    - b. Basis Weight
    - c. Burst (Mullen)
    - d. Caliper
    - e. Folding Endurance
    - f. IGT Pick
    - g. Peel
    - h. Porosity
      - Air Resistance (Gurley)
      - Air Permeance (Sheffield)
      - Parker Print Surf Method
    - i. Ring Crush
    - j. Scott Bond
    - k. Stiffness
      - Bending Resistance of Paper (Gurley)
      - Stiffness of Paper & Board (Taber)
    - l. Stretch
    - m. Tearing Resistance
    - n. Tensile
    - o. Wax Pick
  - 3. Surface Properties
    - a. Abrasion Loss
    - b. Basis Weight
    - c. Caliper
    - d. Coefficient of Friction
    - e. Grease Resistance
    - f. IGT Pick
    - g. MVTR
    - h. pH
    - i. Porosity
      - Air Resistance (Gurley)
      - Air Permeance (Sheffield)
      - Parker Print Surf Method
    - j Roughness
      - Sheffield Method
      - Parker Print Surf Method
    - k. Size Test
    - l. Water Absorptiveness
    - m. Wax Pick
    - n. Wet Rub
  - 4. Other Properties
    - a. Ash Content
    - b. Bulk
    - c. Dynamic Penetration
    - d. Gum Weight
    - e. Hygroexpansivity
    - f. K + N Ink Rub
- B. Pulp Testing
  - 1. Chemical Properties
    - a. Ash Content
    - b. Carboxyl Content
    - c. Cellulose Content
    - d. Extractives
    - e. Kappa Number
    - f. Lignin Content
    - g. Pentosans Content
    - h. pH
    - i. Silicates and Silica Content
    - j. Solubility
      - Alkali
      - Sodium Hydroxide
      - Water
    - k. Water-Soluble Chlorides Content
  - 2. Physical Properties
    - a. Beating of Pulp (PFI Mill)
    - b. Beating of Pulp (Valley Beater)
    - c. Brightness
    - d. Coarseness

Testing Capabilities

continued…

- e. Compression Wood Identification
- f. Consistency
- g. Density
- h. Dirt
  - In Pulp
  - In Chips
- i. Drainage Time
- j. Fiber Length by Classification
  - Bauer McNett Method
  - Clark Method
- k. Fiber Length by Projection
- l. Fines Content
- m. Freeness
- n. Handsheets
  - British Handsheets
  - Noble and Wood Handsheets
- o. Kajaani Fiber Length
- p. Moisture Content
- q. Screening
- r. Specific External Surface
- s. Viscosity
- t. Zero-Span Breaking Strength

C. Print Testing
1. Dot Gain
2. Dynamic Contact Angle
3. Helio Test
4. Image Analysis
   - Density
   - Spectrophotometer
   - Missing dot
   - Color Gamut
   - Dot Gain
   - Roundness
   - Area
   - Perimeter
   - Half-Tone Quality
5. Mottle
6. Print Density
7. Print Gloss
8. Gravure Prufbau
9. Roughness
   - Sheffield Method (smoothness)
   - Parker Print Surf Method

D. Coating Testing
1. Dynamic Contact Angle
2. Dynamic Penetration
3. IGT Pick
4. K+N Ink Rub
5. pH
6. Stress Rheometry
7. Viscosity
   - Brookfield Viscosity
   - Hercules High Sheer Viscosity
8. Water Retention
9. Wet Rub

E. Materials Testing
1. Dynamic Thermal Mechanical Analysis
   - Deformation Point
   - Elastic Modulus
   - Inelastic Modulus
   - Stress/Strain Relationship
   - Tensile Strength
   - Three Point Bending
2. Fiber Microscopy
3. Pigment Brightness
4. Zeta Potential

II. Microscopy
A. Confocal LSM
B. Scanning Electron Microscopy and Electron Dispersive X-ray Spectrometry
C. Transmission Electron Microscopy
D. Widefield Fluorescence