EQUIPMENT SPECIFICATIONS & CERTIFICATION

**Purpose:** To obtain an IR scan of pin coatings, bowling ball cover stocks, ball cleaners, lane cleaners, and lane oil.

## Materials:

- Dell Optiplex GX620
- Spectrum 100 Series Perkin Elmer FT-IR
- Kimwipes
- Tweezers
- Isopropyl alcohol (IPA)

## Procedure:

1. Power on the Instrument

    a. Power on FT-IR and wait for display on PE Spectrometer
    b. Power up computer and log in as Administrator (no password)
    c. Select the Spectrum icon.
    d. At Perkin Elmer Log in click OK
    e. At Spectrum 100 Log in click OK

2. Run a System Suitability Check

    a. Perform the system suitability check at the beginning of each workday the instrument will be used.
    b. Using a Kimwipe, swab crystal (located on the top-plate) with IPA and allow the top-plate to dry.
    c. From the menu select: Instrument > Validate > System Suitability
    d. Select OK to run system suitability check. Once instrument has been validated, print the report and proceed to Section C.

3. Take a Background Scan

    a. From the menu select: Instrument > Scan
    b. In the ***Scan and Instrument Setup*** window, select the *Sample* tab and enter "background" for the name.
    c. Select the *Scan* tab and under the options heading, select background from the drop-down menu.
    d. On the same tab and under the durations heading, enter 15 for the number of scans and click start.
    e. Begin the background scan by either pressing the Scan button on the screen. Alternately, the blue scan button on the instrument may be pressed to begin the scan.
    f. Overwrite the previous background scan by saving the newly collected file.

4. Take a Sample Scan

    a. From the menu select: Instrument > Scan
    b. In the ***Scan and Instrument Setup*** window, select the *Sample* tab and log sample number & name under details. Enter all other known information.
    c. Select the *Scan* tab and under the durations heading, enter 15 for the number of scans.
    d. Using tweezers place the sample over the crystal and select start.
    e. Select the appropriate foot, move arm over the sample and apply light pressure by rotating knob clockwise. Monitor the force gauge and do not exceed 150.

f. Select scan.
g. When complete, sample spectrum will appear on monitor.
h. Save the collected scan to C:/pel_data/spectra
i. Turn the knob counter clockwise to release the sample and return arm to its original position.
j. Remove the sample with the tweezers.
k. Clean the top-plate with IPA before analyzing another sample.

5. Compare Spectra (when required)

a. Load spectral file to compare.
b. From the menu select: Setup > Compare > Type
c. In the directories heading, select previous file path and choose Delete.
d. Select Add and choose the folder containing the data to be compared.
e. Select OK.
f. From the menu select: Process > Compare OR select the Compare icon located on the toolbar.
g. If desired, select the Comparison window and print results.