

# DESIGN SYSTEMS, INC.

Specializing in Manufacturing Process Design & Integration

## Conveyor and Process Equipment Health Assessment Surveys

Health Assessments of your manufacturing systems including conveyors, process tooling and other equipment can be one of the best investments you make to minimize lost production and the costs associated with catastrophic failures. It can literally pay for itself many times over by allowing you to anticipate failures and plan remediation rather than react to it. Design Systems teams of trained engineering specialists can quickly assess your plant equipment for potential failures with no disruption to your production.



Rollers shown need to be replaced because of severe wear.

### Visual and Physical Validation of Components

- Conveyor track wear measurements
- Chain stretch
- Lubrication equipment inspections
- Drive and take-up inspections
- Condition of rollers
- Hydraulic units / lifts
- Safety devices

### Vibration Analysis

- Rotating pumps
- Motors
- Fans
- Compressors
- Bearings

### Infrared Analysis

- Substations
- Buss ducts
- Motors & bearings
- Electrical Panels
- Welding cables

### Oil Analysis

- Conveyor Drives
- Cymonic Drives
- Compressors
- Refrigeration equipment

### Strain Gauge Analysis

- Provides detailed analysis of chain tension

### Tools

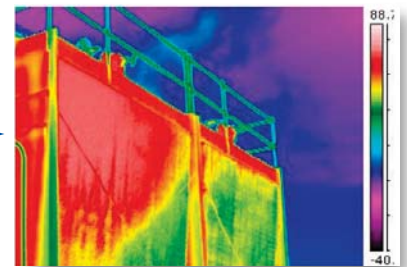
- Digital camera
- Infrared camera
- Calipers
- Conveyor Gap measurement gauge
- Strobe light for high speed devices
- Electronic Ultra Sound thickness gauge
- AMP / Volt meter
- Vibration measurement gauge
- Chain Strain Gauge

### REPORTS ISSUED INCLUDE:

- Schematic layout of the inspected equipment.
- Digital photos of problematic areas.
- Infrared "Hot Spot" analysis of high friction areas, control panel, buss connections and more.
- Problem prioritization.
- Recommendations for corrective action.



Cooling Tower



Thermal Image of Cooling Tower

### "BOTTOM-LINE" RESULTS:

- Reduce unplanned downtime
- Improve useful life of equipment
- Improve energy efficiency
- Improve maintenance efficiency by establishing repair priorities.
- Minimize maintenance overtime

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