



# TECO Technical Solution #1

## *Foreign Materials in Recycle Furnishes Adversely Effects Consistency Sensors*

**Problem / Issue:** Foreign Materials in Recycle Furnishes Damage Standard Consistency Sensors.

**TECO Solution:** C5000 Retractable Consistency Sensor.

**Overview:** A common problem / issue for papermakers utilizing recycled fiber is fighting foreign materials & buildup in the stock lines and on in-process instrumentation. Banding wire, plastics, and string are common sources of foreign materials damaging & building up on process instrumentation such as consistency sensors.

Consistency sensors are designed to be immersed in the stock flow stream to measure the shear force of the fibers along the surface area of the probe. This makes them very susceptible to any foreign (non-fiber) objects to become tangled, built-up, and ultimately damage the sensor making it difficult for the papermaker to obtain continuous, reliable consistency measurement.

**How the TECO Solution Solves The Problem...** The TECO C5000 Consistency Sensor is intrinsically designed to prevent the interference that this kind of material can impose.

The sensor consists of a cylindrical rod inserted into the stockline at an angle of 22° from perpendicular in the downstream direction. As a result there are no edges perpendicular to the flow and no surface breaks to trap or hold any foreign materials. The flowing stock stream helps to continually clean the sensor of any foreign materials.

The main feature of this sensor is ***the retractable design with an isolation valve***, enabling the papermaker the capability to clean, repair, or replace without a costly production outage.

**Benefits**

- Retractable On-line Device*** - easy to clean, repair, or replace without a costly outage.
- Angled Leading Edge Design*** – easily sheds any foreign objects.
- Wide Consistency Range*** – applicable for a variety of consistency levels.
- Simple / Reliable Probe Design*** – no moving parts or maintenance issues.
- Stable Calibration and Excellent Repeatability*** – for complete consistency control.

**Who is it Important to ?**

- Stock Prep Superintendent
- Paper Machine Superintendent
- Process Control Engineer
- Maintenance Manager
- Instrument Superintendent