

- ◆ Non contact web micro profile monitor
- ◆ Ideal for paper, metal foil, plastic films (extruded or blown) and fabrics
- ◆ Functions with clear, opaque, shiny or matt materials
- ◆ Can be used with a wide range of production processes including coating, laminating, slitting and web production.
- ◆ Continuous measurement across web offers 100x resolution improvement
- ◆ Scope to integrate into control processes to ensure ongoing optimum conditions



In association with :

Contact YEC

Email info@yec.york.ac.uk
 Phone +44 (0)1904 432323
 Fax +44 (0)1904 432333
 WEB www.yec.york.ac.uk
 Post York Electronics Centre
 University of York
 Heslington
 YORK
 YO10 5DD
 UK



Micro profile monitor installed on a film processing line

This Micro Profile Monitor system is ideally suited for in-line real-time assessment of planarity and tension in web material. Current planarity measurement techniques, such as flatness, camber, curvature, baggy lanes or tight lanes, are time consuming and often involve the analysis of a section of material removed from the roll. Tension measurement systems tend to be mechanically based looking at average values whereas the micro-profile monitor provides real time information with much finer resolution across the width of a web.

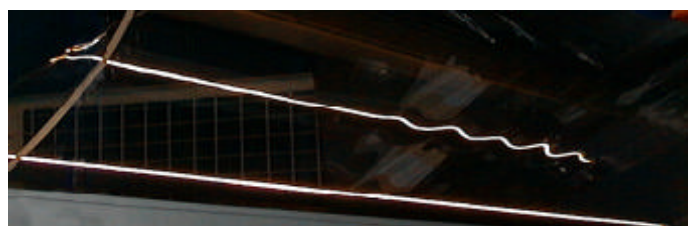
The technique works by deflecting the material using a stable cushion of air and monitoring the distortion of either a collimated line of light projected on to it or the reflected image of an illuminated line. The distorted line image is continuously captured by a computer that converts the information into meaningful tension and planarity values

The technique is viable for a wide range of materials including paper, metal foil, plastic film and textiles. Currently, development systems have been used in industrial applications to verify the viability of the process and also to correlate results with existing off-line monitoring techniques. York Electronics Centre can provide customised solution to suit specific industrial applications.

Outline Specification

Parameter	Min	Typical	Max	Unit
Web speed	0	80	>200	(m/min)
Web width	0.5	1.5	40	(m)
Position resolution				
Machine direction*		10		(mm)
Cross direction		0.2		(mm)
Displacement		0.2		(mm)
Bagginess resolution		0.01		(%)

* Dependent upon web speed and capture rate



Typical input signal to camera array