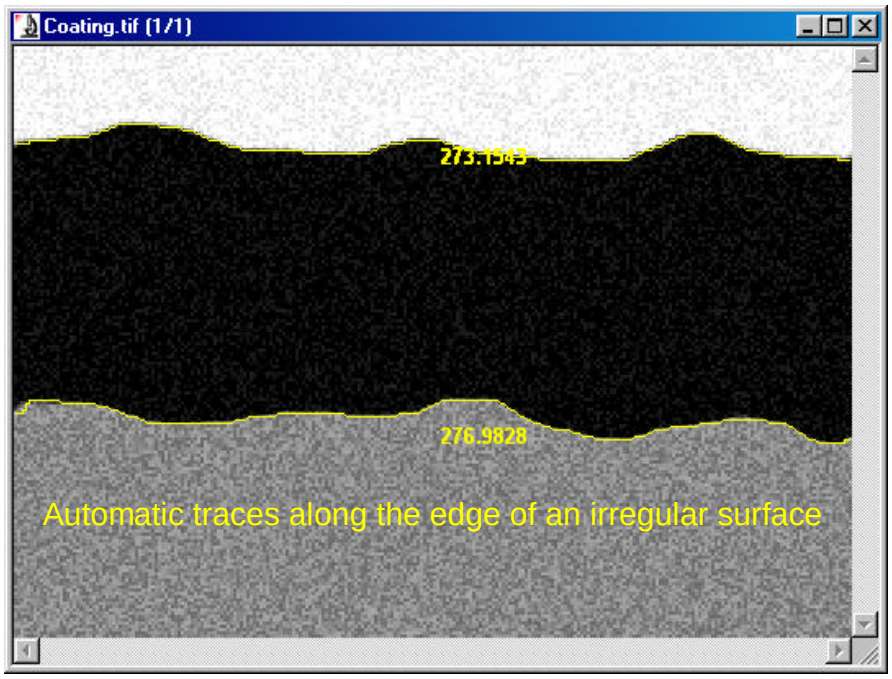
Automatic Boundary Tracing -Edge Tracking with the Trace Tool

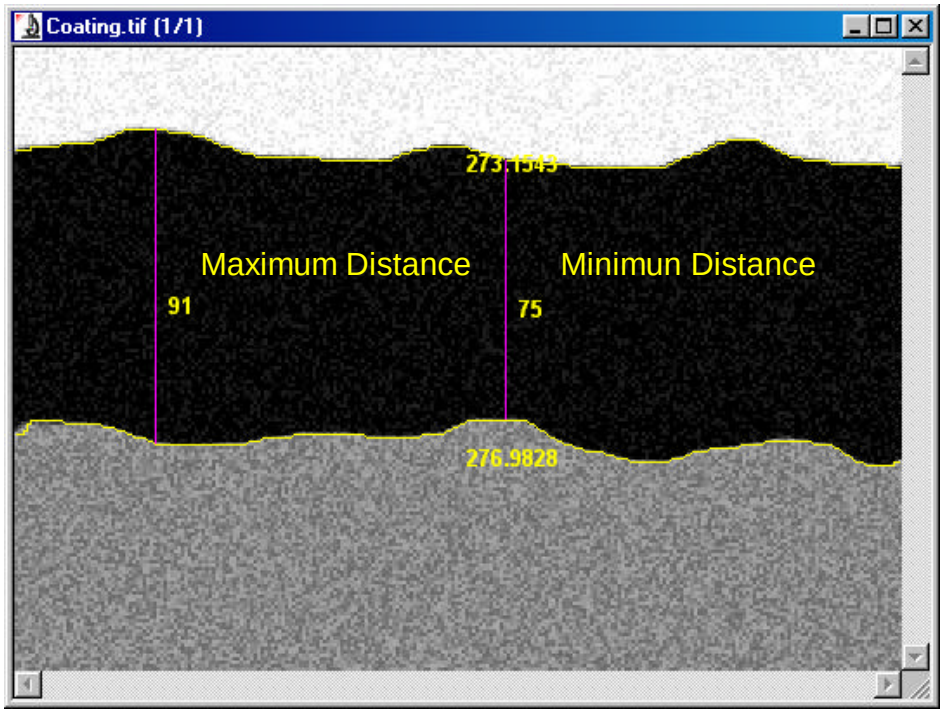
Often the irregular edge of an object or surface needs to be defined for dimensional measurements. The example shown here is an industrial coating, an irregular surface that would be difficult and time-consuming to trace manually. Image-Pro's Auto-Trace option lets you create a feature or an AOI (area of interest) by automatically tracing along a contrast interface. The user defines two points along the edge of the object to be traced. The first point defines the beginning of the outline, and the second point defines the direction. The Trace tool can then automatically follow along the chosen edge.



Threshold: This value (1-10) describes the level of contrast between the feature and surrounding elements. A low value represents low contrast; a high value represents high contrast.
Smooth: This value (0-9) specifies the amount of post-filtering of the outline. 0 = no smoothing, 9 = high degree of smoothing.
Speed: This value (1-9) controls the speed of the trace. You might slow down a trace to make it easier to track its progress.
Noise: This value specifies the number of pixels (1 to 5) used between nodes along the edge. A large value results in a smoother outline.

Following automatic tracing of the the upper and lower edges of the dark band, the Horizontal Thickness measurement was chosen.

Horizontal Thickness: between two primarily horizontal lines or traces
Vertical Thickness: between two primarily verticall lines or traces
Curve Thickness: minimum and maximum distance between two lines or traces in any direction



	Features	Length	Avg. Dist.	Min. Dist.	Max. Dist.
1	T7	273.1543			
2	T10	276.9828			
3	HT3		82.95313	75	91

Shown in the measurement output window are the lengths for the automatic traces (T) and the average , minimum, and maximum distances (HT) between the two traces. The data here are expressed in terms of pixels. Through an easy-to-use spatial calibration procedure, the user is able to calibrate the image for the appropriate unit of measure.

Media Cybernetics, Inc. **(www.mediacy.com)**
8484 Georgia Avenue
Silver Spring, MD 20910 1 301-495-3305

MediaCybernetics
From Images to Answers®