

## Thin Film Measurement Software TF LiteX V3.0

TF LiteX is an easy-to-use Excel application, which has been developed solely for non-contact and quick film thickness measurements of automotive headlights using our TF Lite gauges:

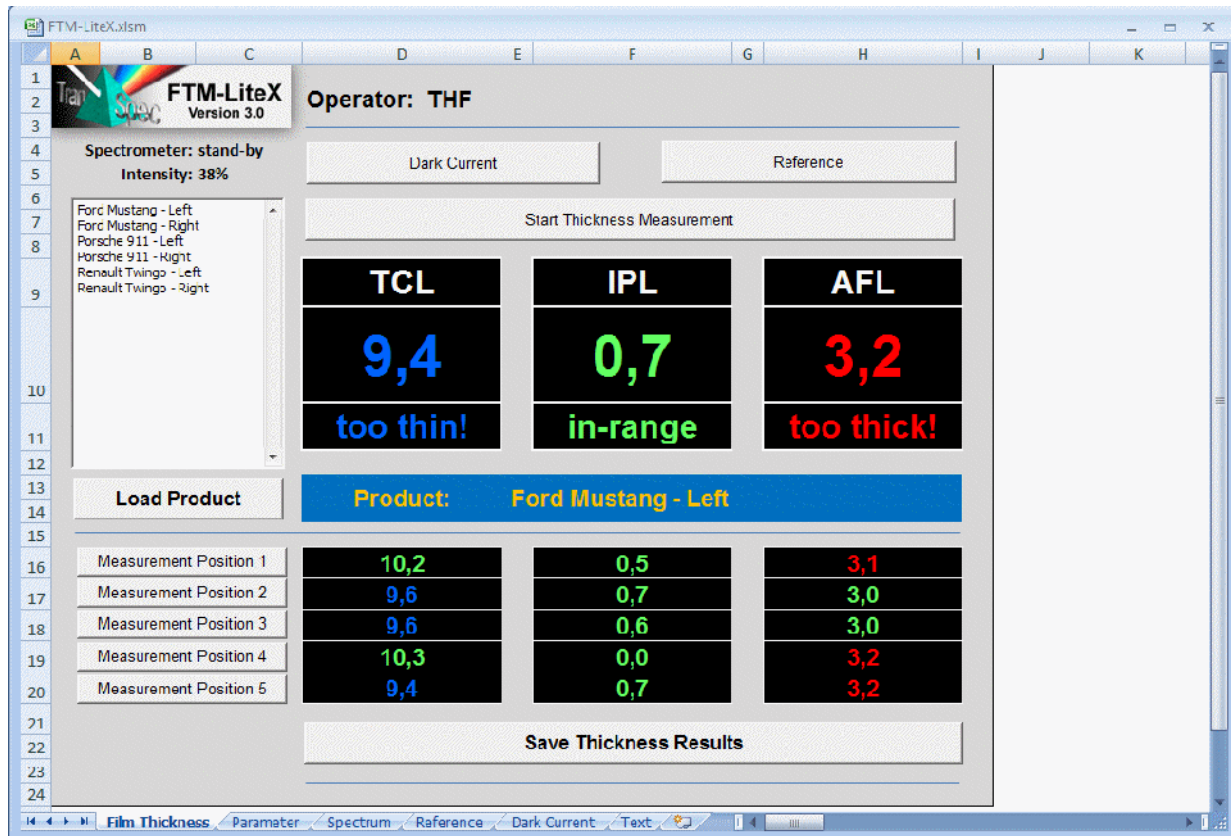


Fig. 1: Screenshot TF LiteX

TF LiteX provides to easily setup film thickness measurement parameter (so-called "Products"), by which you accurately determine the thickness of your headlight hard coats with just a few mouse clicks. The measured thickness data is automatically and continuously saved in tabulated text files with no additional input required. The version 3.0 now offers to simultaneously determine the new 3-layer anti-fog coated headlights!

This software has been created by a partner company with long-time expertise in thin film analysis. It is compatible to tec5 MultiSpec desktop USB spectrometer systems as well as OEM USB operating electronics.

## Features and Specifications

### General Features

- Open source Excel-VBA (Microsoft “Visual-Basic for Applications” ), TF LiteX comes with VBA source code!
- Product parameter setup in separate Excel sheet for thickness measurement and evaluation
- Dark Current, Reference, Interference and FFT-Spectra is reported as chart and data list in separate Excel sheets
- Automatically creates and updates tabulated text files for saving thickness results with date/time/thickness limit status
- Multi-language support, currently available in English, German, Czech, Slovensky and Chinese
- Software documentation as color printed Quick Reference Guide

### Film Thickness Measurement Ranges

The film thickness range generally measurable with our TF Lite gauges is approximately 1 to 150 microns ( ~ 0.04 to 6 mil ) optical film thickness, but depends essentially on the spectral range and the spectral resolution of the spectrometer module assembled to TF Lite. Other factors which determine the measurable film thickness range are the refraction index and its dispersion, as well as the currently selected spectral evaluation range.

In order to automatically measure 3-layer coated headlights with topcoat (TCL) plus interpenetration layer (IPL) and anti-fog layer (AFL) on the backside, the AFL thickness must be smaller than the TCL thickness.

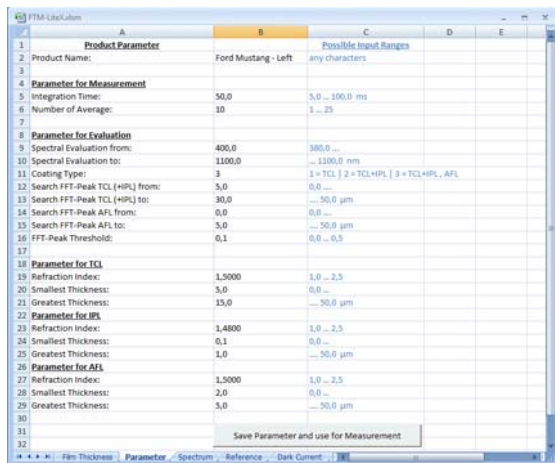


Fig. 2: Parameter setup

### Minimum Hardware and Software Requirements

- PC/Laptop with at least Pentium-4, Windows XP/Vista or Windows 7
- At least Excel (Office) 2000 or higher, Excel (Office) 2007 is recommended
- TF Lite (or TranSpec) film thickness gauge
- TF Lite++ runtime license (in scope of TF LiteX delivery)
- TF ProVis Lite software is recommended, but not required