Rtec instruments

TFT-1000

Spectral Film Thickness Tester

Non-contact, non-destructive, one-click film thickness measurement



Film thickness • Refractive Index (n) • Reflectance • Transmittance

ACCREDITED MSCB-132

Certified ISO 9001:2015

High Precision Thin-Film Thickness

Non-Contact, Non-Destructive, One-Click Film Thickness Measurement

The TFT-1000 is a benchtop, non-contact thin film thickness measurement system that uses spectral reflectometry to measure film thickness, refractive index (n), reflectance, and transmittance. Configurable optical modules enable measurements from approximately 1 nm to 1800um , while delivering fast, accurate, and repeatable results with a simple one-click workflow. Designed for research, process development, and manufacturing, the TFT-1000 combines flexible hardware configurations with intuitive software to characterize a wide range of transparent and semi-transparent thin films.

Key Features

01 - UV, Visible, and NIR Configurations

Optimized with four spectral ranges, the TFT-1000 provides the ideal wavelength range depending on the coating materials, thickness, and substrate.

02 - High Precision and Stability

The TFT-1000 combines next-generation light sources with high-resolution spectrometers to deliver exceptional accuracy, repeatability, and long-term stability.

03 - Extensive 500+ Material Library

The 500+ library includes oxides, nitrides, photoresists, polymers, semiconductors, hard coatings, thin metal films, solar cell stack materials, and so many more.

04 - Single or Multi-Layer

The TFT-1000's non-contact spectral reflectance technique measures the thickness of transparent and semi-transparent single and multi-layer thin films with nanometer precision.

05 - Spot Size Down to a Few µm

The TFT-1000 offers interchangeable optics for maximized flexibility and a large spot size range from 4µm to 2 mm. Perfect for ultra-small spot wafer features to coating uniformity.

06 - Multi Thin-Film Analysis

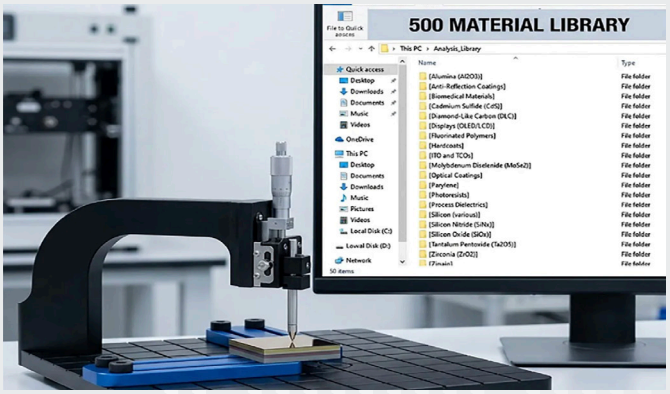
The TFT-1000 measures film thickness from 1 nm to 1800 µm, plus refractive index, reflectance, and transmittance.

Spectral Range	Wavelength Range
Standard	300 - 1100 nm
UV-Enhanced	190-1100 nm
Near-Infrared	900-1750 nm
Enhanced Near-Infrared	1000-2500 nm



Software

Every TFT-1000 ships with the full analysis package: one-click measurement, real-time spectral fitting, multi-layer optical modeling, and automated reporting. Thickness, refractive index, reflectance, and transmittance are extracted from a single acquisition — no software tiers, no add-on licenses. The TFT-1000 is easy to use and a user can run the tool with under 5 minutes of training of software.

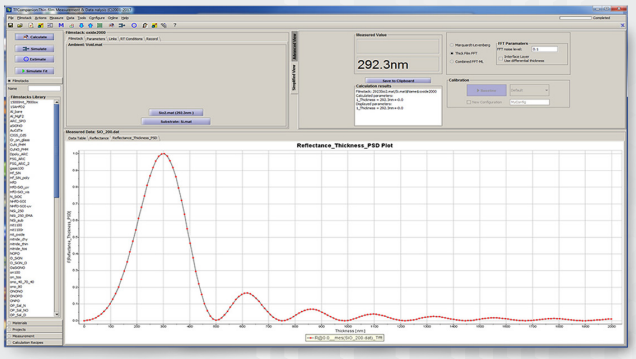


500+ Material Library with Advanced Software

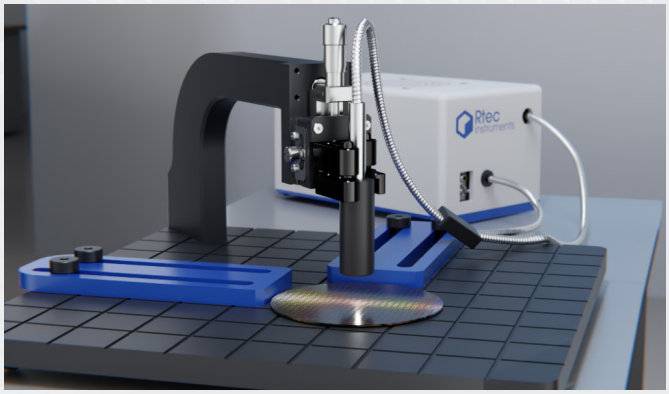
Why the TFT-1000?

The TFT-1000 is a non-contact optical instrument that measures coating thickness by analyzing light reflected from a coated surface. A spectral reflectance film thickness probe like the TFT-1000 extracts thickness, refractive index, reflectance, and transmittance from the interference pattern between light reflected at the film surface and at the film-substrate interface. Measurement takes seconds and requires no sample preparation.

- Single or multiple layers
- Transparent, translucent or lightly-absorbing films
- Highly accurate measurements without damaging the sample
- Automated stage control, mapping capabilities, and powerful analysis software



Quick Curve Fitting Film Thickness Analysis



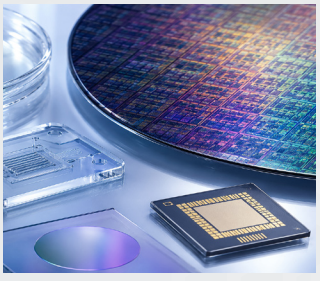
Rtec-Instruments TFT-1000 One-Click Measurement

Applications

The TFT-1000 uses spectral reflectance technology to provide nanometer-precision thickness measurements without touching or damaging the sample. This makes it ideal for quality control, process optimization, and production monitoring of an extensive list of materials used in a multitude of applications.



Medical
Parylene, devices, catheters



Semiconductor
Photoresist, dielectrics, MEMS



Optical Coatings
Mirror coatings, filters, camera and laser optics



AR/VR Devices
MicroLED and OLED displays, AR coatings

Technical Specifications

Test parameters:

Wavelength	300–1100 nm (Standard) 190–1100 nm (UV-Enhanced) 900–1750 nm (Near-Infrared) 1000–2500 nm (Extended Near-Infrared). *Custom wavelength configurations available*
Precision	nm range
Spot Size	4 µm to 2 mm

Software:

Platform	Windows — recipe-based
Test programs	Standard + fully customizable
Material Library	500+
Data export	Binary / ASCII
Analysis	Film Thickness, refractive index, reflectance, and transmittance

Leading innovation in surface and materials testing.

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