

# Addendum to EasyMatch QC User's Manual

---

## Description

CMR 2921 adds a thickness correction feature to EasyMatch QC software Versions 3.41 and higher. This feature allows you to specify the refractive index, specimen thickness, and target thickness for each standard and sample read in transmittance. The thickness correction is applied to the data prior to its being displayed, printed, sent, transferred, or searched. Raw, uncorrected data, however, is stored in the database when standards and samples are saved.

The following thickness correction formulas apply:

$$T_h = T_o 10^{-\beta h}$$

$$T_o = \left( 1.0 - \left( \frac{RI - 1.0}{RI + 1.0} \right)^2 \right)^2$$

$$\beta = \frac{\log_{10} \left( \frac{T_o}{T_d} \right)}{d}$$

where

$T_h$  = Transmittance at target thickness

$T_o$  = Transmittance without absorption

$\beta$  = Absorption coefficient

$h$  = Target thickness (entered)

$RI$  = Refractive index (entered)

$T_d$  = Transmittance measured for sample

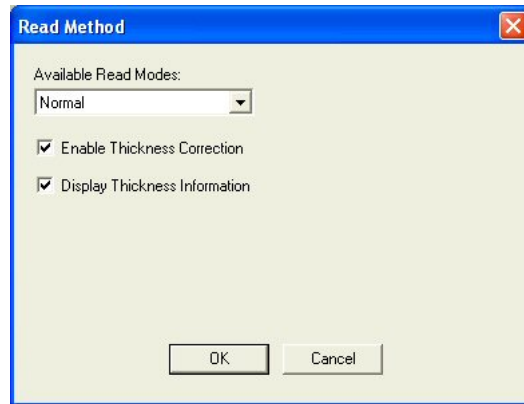
$d$  = Thickness of sample (entered).

## Installation

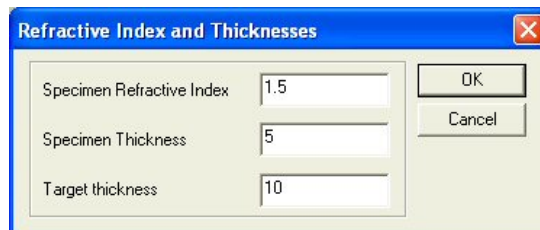
Install the software as described in the User's Manual. Before opening the software, install the special hardware key provided. The hardware key activates the special features.

## Operation

1. Turn on the thickness correction feature by selecting **Read Method** from the **Options** Menu and checking Enable Thickness Correction. Also check Display Thickness Information if you would like the refractive index, specimen thickness, and target thickness to also be displayed in the Color Data Table.



2. When standards or samples are read with thickness correction turned on, an additional prompt will appear after the ID is entered.. Type the Refractive Index, Specimen Thickness, and Target thickness into the appropriate boxes and then click **OK**. This information will be both applied to the displayed values in the Color Data Table and stored with the specimen when saved.



	L*	a*	b*	dE*	R.I.	S.Tk	T.Tk
Standard 1	91.25	-1.01	3.13		1.500	5.000	10.000
+ Tolerances	0.00	0.00	0.00	0.00			
- Tolerances	0.00	0.00	0.00	0.00			

D65/10 / F02/10 / A/10

To edit the thickness information for a given specimen, highlight the item desired in the Job Tree, right click on it, and then choose **Adjust Thickness Values** from the menu that appears.

The new factors will be applied to the selected item. The thickness data can then be printed by printing the Color Data Table.

*Note: This feature applies only when the sensor is standardized in a transmittance mode.*