


# Engineering Note


**Topic:** Nonunity Correction

**Products Affected:** WS-1

**Date Issued:** 08/16/2010

## Description


Select **Processing** | **Pre-processing** | **Non-unity correction** for reflection experiments if you need to perform a calculation to compensate for a reflection standard that is not perfectly white. You can also access this function with the  icon in the Preprocessing toolbar.

SpectraSuite provides the  icon for storing a reference. The default assumption is that the reference is equal to exactly 100% reflection. This works for comparative work, but it will not yield accurate quantitative results.

The better procedure is to use a file of nominal reflectivity values or NIST-traceable values for your particular standard. These files are available for download from this page for the WS-1-SL, STAN-SSH and STAN-SSL standards. If you are using a WS-1, there are significant potential errors. The WS-1-SL is recommended as a substitute.

## Installation

### ► Procedure

1. Set up your experiment as usual by choosing the appropriate integration period (so the signal to noise will be high but the spectra for the standard or samples won't be off-scale). Choose scans to average and box car smoothing to obtain the desired signal-to-noise.
2. Store dark and reference spectra and switch to %R (or %T) scales. SpectraSuite will make your graph read 100% +/- random noise across the spectra.
3. Click on the  icon.

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4. The wizard asks for the location of the file. Use the browse function to find the appropriate file. These files are text files with a \*.STANDARD file extension. The file format must be exactly as expected or SpectraSuite won't be able to load it properly. The files that you can download from this page are ready to be used.
5. Once you load the file, the contents of the file header are shown as well as a graph of the reflectivity values.
6. Click  to make your stored reference read the values from the file, interpolated to the wavelength at each pixel. You can take a new reference spectrum at any time without having to go through the wizard again.

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### Note

You can use your own materials as a reference. The data in the reference file consists of a header, then a pair of numbers wavelength and value. SpectraSuite will interpolate from the data set to the wavelengths used by the particular spectrometer you have connected.

Make a copy of a working file, and then edit the contents. Be sure to change the starting and ending wavelength in the file header, and use decimal values for reflectivity.

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