

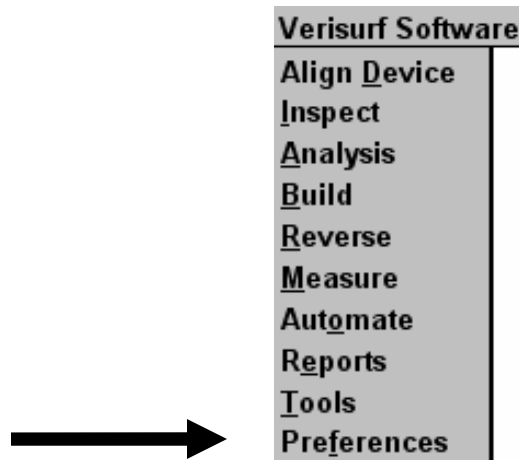


Verisurf Preferences

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Preferences Menu

The Preferences menu allows you to configure the settings that control the operation of the Verisurf products.



The 1st you will note when choosing Preferences is that it is broken into 9 tabbed areas of preference.



These are General, Display, Tolerances, Auto Inspect, Device, Alignment, Paths, Notes and Sounds.

General Tab

There are 5 areas of concern here:

Build Date

This shows both the build date of the software and the current revision. When calling for Tech Support you may be asked for this information.

Serial Number

This shows the serial number of your HASP.

Update button

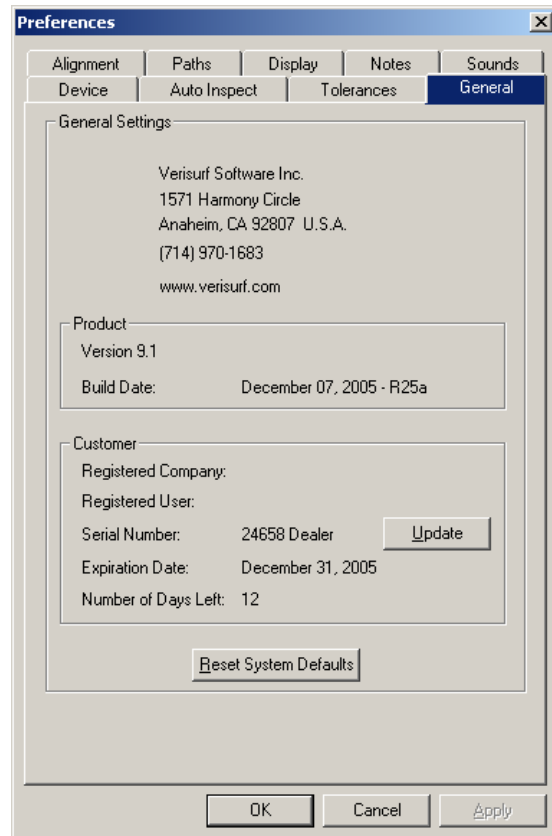
Used to input new Verisurf codes.

Expiration Date

Shows the date when your current license expires.

Reset System Defaults

This command returns the System Modal settings to flush buffers. Use this when odd things happen especially in Analysis or Build.



Display Tab

Show and Image

Nominal

This check box tells Verisurf to display a point at the nominal location. The nominal location is the projected point on the CAD model.

Vector

This check box tells Verisurf to display a vector line from the CAD model to the probe center at a length equal to the distance of the 3D deviation.

Probe

This check box tells Verisurf to display a circle at the current data-collection device location. This circle will have the same radius as is specified for the probe radius.

Envelope

This check box tells Verisurf to display a circle at the current data-collection device location. This circle will have the radius specified by the **Failed Envelope** setting on this control panel. The circle will be shown with a dashed line.

Arrow

This check box tells Verisurf to display an arrow at the current data-collection device location. This arrow will indicate, with its direction and color, which way to move the workplace so that it will more accurately match the CAD model. When **Enable Auto Point** is selected, it will guide the probe to the next target.

Device

This check box tells Verisurf to display the Device in a shaded or solid manner. This can make it easier to visualize the inspection process.

Shaft or Beam

Displays a red dotted line from the Tracker device zero position (base position) to the current location of the probe center. This dotted line simulates a laser tracker beam. It may also be used to display a probe shaft.

3D Display

This check box tells Verisurf to display the probe or SMR in a shaded or solid manner. This can make it easier to visualize the inspection process.

Translucent

This setting will enable the operator to 'see through' the probe or SMR when using 3D Display due to the shading being translucent.

Build Display, Orientation and Size

This refers to the characteristics of the point entities that are displayed at the locations saved by the data-collection device.

Display As

Circles will display the point as a circle.

Squares will display the point as a square.

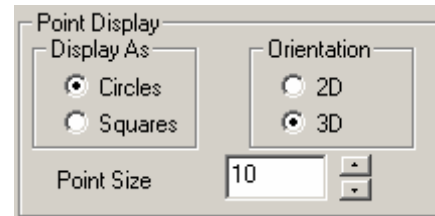
Orientation

2D will display the points normal to the view.

3D will display the points normal to the surface.

Size

This will set the pixel size of each displayed point.



Open GL Setting

Enabled

Default is ON. Will allow dynamic operation of display.

XYZ Axis

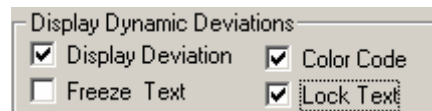
Default is ON. Will create a color coded XYZ Axis in lower-left corner of screen.



Fast Mode Off

Default is OFF. Will turn off fast refresh. Available in 9.1 only.

Display Dynamic Deviations



Display Deviation

This will enable the deviation to be displayed in the upper left corner while you are taking touch / single points in build.

Color Code

This will color code the pixilated points according to the preset legend. Default is RED – minus OOT, YELLOW – minus in-Tol, GREEN – plus in-Tol, BLUE – plus OOT.

Freeze Text

Freeze Text ON will disable the dynamic deviation display and only show the last point taken. OFF will dynamically show deviation text.

Lock Text

Lock Text ON will keep the deviation display docked / locked to the upper left of screen. OFF will allow the deviation to float next to the measuring device on screen.

Deviation Gauges

Deviation Gauges

☒ Bar Graph ☐ Dial Gauge

☒ Upper Left ☐ Upper Right

☐ Lower Left ☐ Lower Right

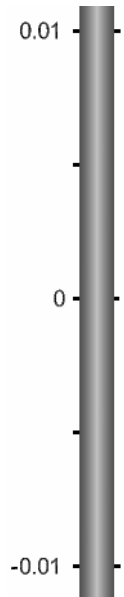
☐ Screen Center ☐ Logo On

Bar Graph

Will enable the Bar Graph to be displayed while in Build module.

Dial Gauge

Will enable the Dial Gauge to be displayed while in Build module. The 5 position options will show the Dial Gauge in any of those 5 with Screen Center being a large gauge occupying the whole screen.



Logo On

Will display the Verisurf logo inside the Dial Gauge.

Auto Screen Center

Auto Screen Center

☐ Use Screen Ratio % 50

This option causes Build to automatically shift the graphics screen in a way that keeps the data-collection device position at the center of the screen.

Screen Ratio %

When **Screen Ratio %** is set to a lower number, less movement of the probe is required before the graphics screen will shift. This caused the graphics screen to redraw more frequently.

Display Deviation Text

Dev Text On

With this toggled all touch points will have the deviation displayed next to the point.

Text Smooth On

The Smooth On can be toggled to smooth the deviation and / or the balloons. Seeing a difference on the screen is dependent on your display settings and your screen size. What the Smooth On button does is take the pixels that compose the deviation or balloon graphic and drawn a line around the numbers.

Outline Text

With this toggled all touch points will have the deviation displayed along with a box around the text next to the point.

Color Code

With this toggled the deviation text or balloons will be colored to match the color legend.

Balloon On

With this toggled on the deviation will be displayed in ballooned format.

ID On

With this toggled on the balloon deviation will also contain the ID of the point.

Cols (Column Count)

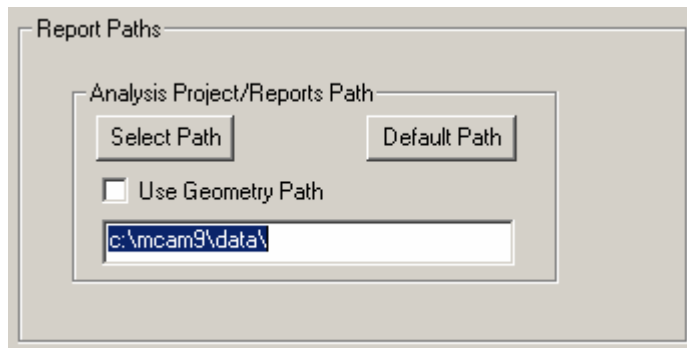
This setting determines how many balloons will be displayed in the graphic panel. A setting of 6 will provide 6 balloons across, a setting of 12 will provide 12 balloons across, etc.

Display/Report Settings

Decimal Precision

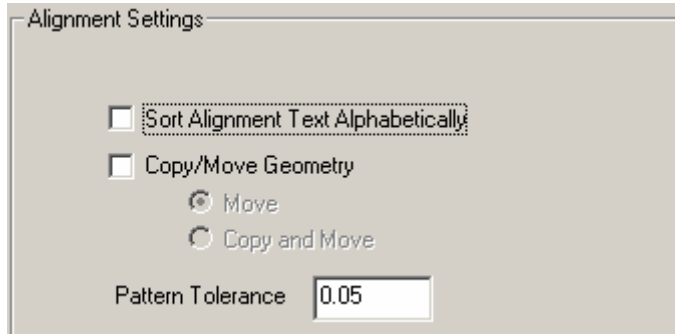
This value is for the display of the deviation results of the Analysis. It is also used for the Analysis Reports.

Paths Tab



By default, Analysis uses C:\mcam9\data to store project and report files. You may use the Paths tab to choose another directory for Analysis to store projects and reports. Check the **Use Geometry Path** box to save Analysis files to the Design default data directory. The Default Path button will reset the Analysis storage directory to C:\mcam9\data.

Alignment Tab



Sort Alignment Text Alphabetically

N/A – Being removed.

Copy/Move Geometry

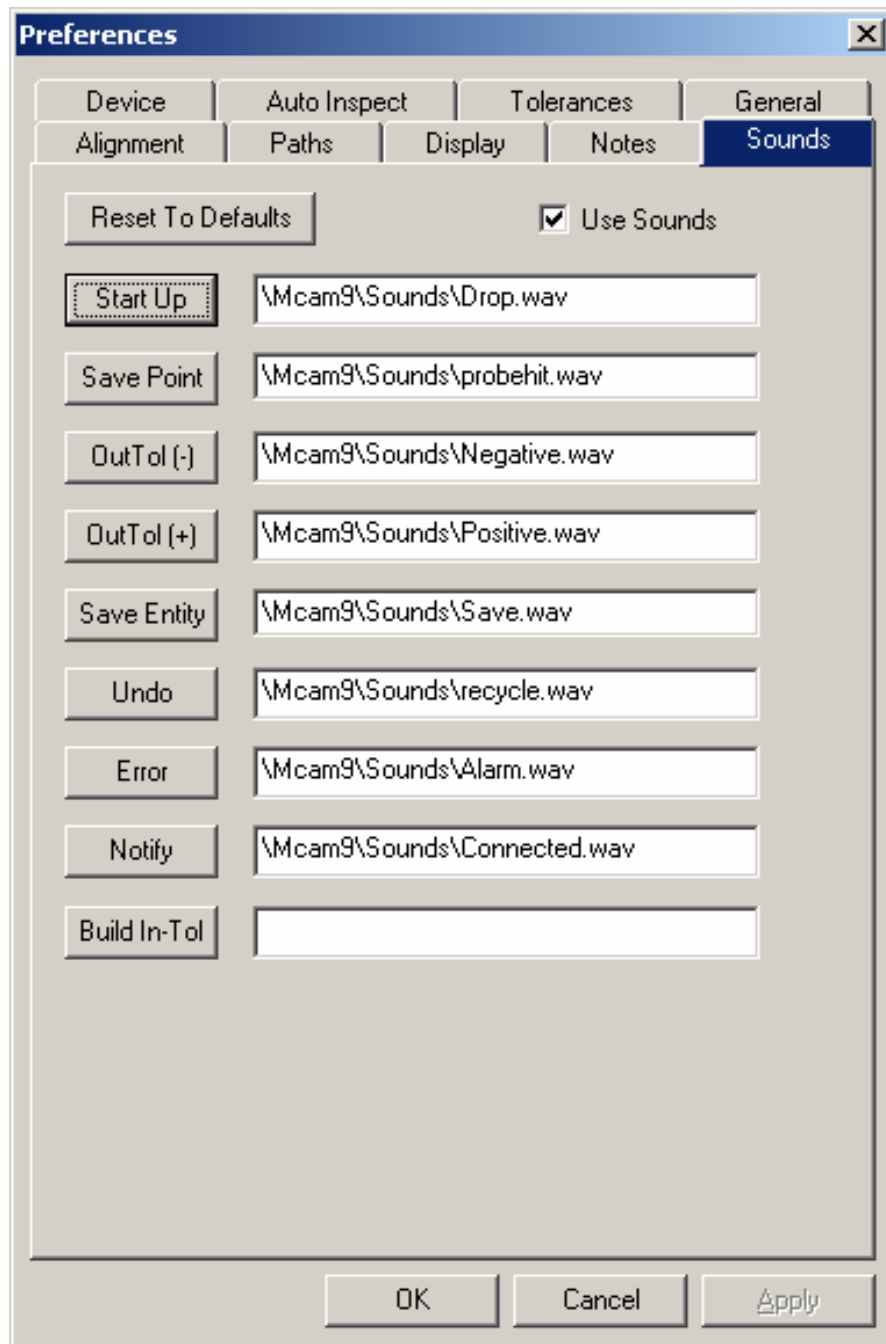
After you have collected the points to create an alignment, Align Device gives you the opportunity to put all or part of your geometry into the calculated alignment. If you check the **Copy/Move Geometry** box, and select either **Copy** or **Move**, the translated geometry will automatically be copied or moved into the alignment system.

Pattern Tolerance

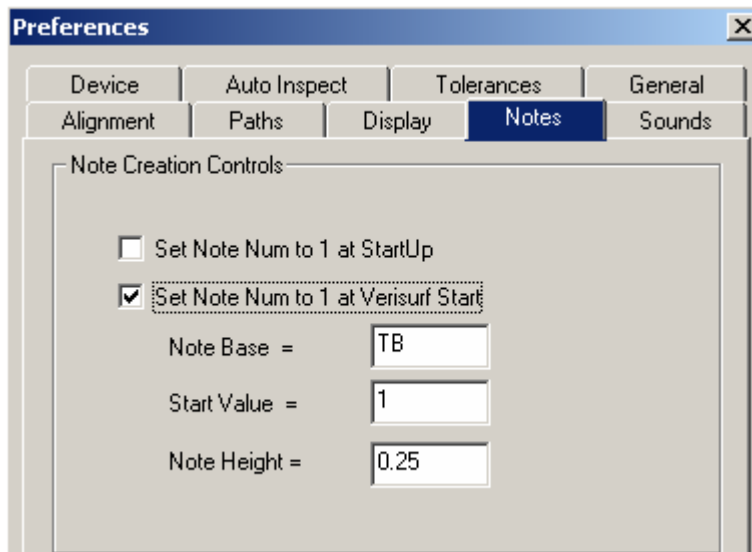
N/A – Being removed. It was used to set a tolerance on the alignment best fitting of points to points.

Sounds Tab

Sounds are associated with a number of Verisurf events. You can change a sound by clicking an event and selecting a different wav file.



Notes Tab



This preference screen is used to set your note labels.

Set Note Num to 1 at Startup will reset the start value when you initially start up Verisurf.

Set Note Num to 1 at Verisurf start up will reset the start value each time you enter the Verisurf module.

You can also change the Note Base name and the Note Height as preferences.

Tolerances Tab

The screenshot shows the 'Preferences' dialog box with the 'Tolerances' tab selected. The dialog has a title bar 'Preferences' and a close button. Below the title bar are several tabs: 'Alignment', 'Paths', 'Display', 'Notes', 'Sounds', 'Device', 'Auto Inspect', 'Tolerances' (selected), and 'General'. The 'Tolerances' tab contains two columns of input fields: 'Positive +' and 'Negative --'. The 'Positive +' column has fields for X (0.03), Y (0.03), Z (0.03), 3D (0.01), Diameter (0.005), Length (0.03), Width (0.03), Form (0.02), I (0.01), J (0.01), and K (0.01). The 'Negative --' column has fields for X (-0.03), Y (-0.03), Z (-0.03), 3D (-0.01), Diameter (-0.005), Length (-0.03), Width (-0.03), and I (-0.01), J (-0.01), and K (-0.01). A 'Reset' button is located below the input fields. At the bottom of the dialog are 'OK', 'Cancel', and 'Apply' buttons.

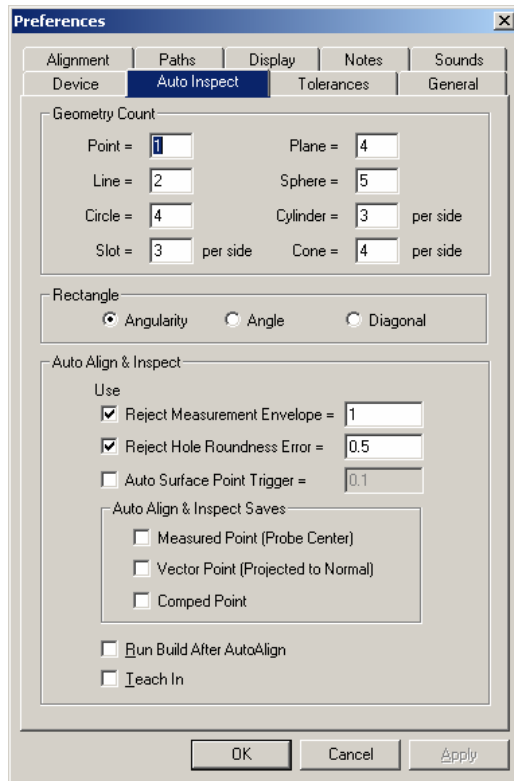
| | Positive + | Negative -- |
|----------|------------|-------------|
| X | 0.03 | -0.03 |
| Y | 0.03 | -0.03 |
| Z | 0.03 | -0.03 |
| 3D | 0.01 | -0.01 |
| Diameter | 0.005 | -0.005 |
| Length | 0.03 | -0.03 |
| Width | 0.03 | -0.03 |
| Form | 0.02 | |
| I | 0.01 | -0.01 |
| J | 0.01 | -0.01 |
| K | 0.01 | -0.01 |

Reset

OK Cancel Apply

These preferences are for Tolerancing geometry created in measure.

Auto Inspect Tab



Geometry Count

These settings are used to set how many points will be used when measuring geometry in Measure.

Rectangle

This is a reporting function created for a customer specific application

Auto Align & Inspect

Reject Measurement Envelope

This setting gives an error if a measurement in Auto Align or Auto Inspect is not within the specified distance.

Reject Hole Roundness Error

This setting gives an error if a hole is measured and the roundness is found to not be within the specified tolerance.

Auto Surface Point Trigger

This setting if ON will trigger Auto Inspect points when measuring device is within the specified distance.

Run Build after Auto Align

This will automatically go from the Auto Align module to the Build Module as soon as the Auto Alignment is calculated.

Teach In

This is reserved for a future application that is in Beta development and testing.

Auto Align & Inspect Saves

These settings determine what point geometry will be saved if desired.

Measured Point (Probe Center)

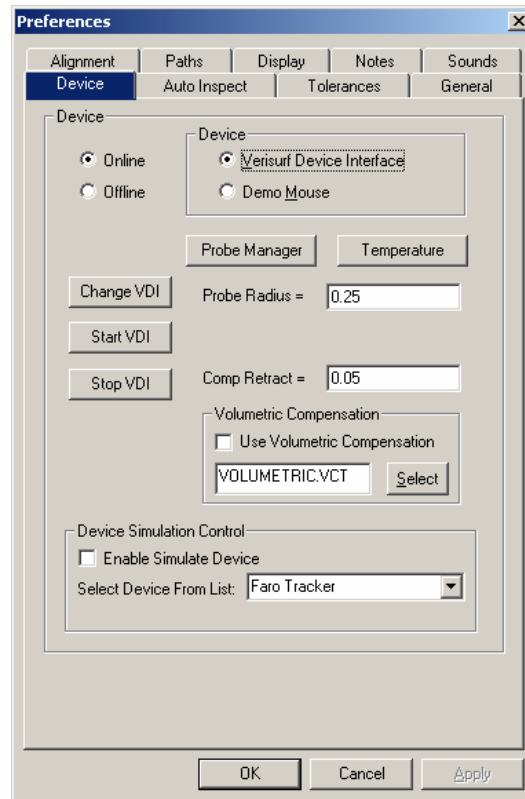
The point will be saved at the center of the measurement sphere or probe.

Vector Point (Projected to Normal)

Compmed Point

Device Tab

Verisurf has the ability to interface with many different inspection devices and software from various vendors. This chapter will explain the basic steps that are required to use Verisurf with the supported devices and software.



Online

With this toggled the device selected is ready for measurement.

Offline

With this toggled the device selected is offline and not available for measurement. Verisurf can also create geometric entities in Measure mode from existing points. This same toggle can be found when in the MEASURE MENU of any element.

Verisurf Device Interface

With this toggled the selected device will be used when Online.

Demo Mouse

With this toggled the selected device is inactive and your mouse will emulate a device. This is primarily used for testing Verisurf without a device connection.

Probe Radius

The current probe radius will be displayed here if you have the Verisurf Device Interface toggled. If the Demo Mouse is toggled you can enter a radius of your choice for demonstration puposes.

Comp Retract

“Comp retract” is for probe radius compensation when measuring features. For instance, measuring a plane, measuring a circle(hole), etc. Since the laser tracker or arm are actually recording the center of the probe, the software has to compensate, or offset the measured point for the radius of the probe. The comp retract is the distance before it calculates and solves the measurement (plane, hole, etc.). You may need to make this a smaller number when measuring inside a small hole, otherwise there is not enough movement to get the compensated measurement.

Volumetric Compensation

This is used for users that have a Volumetric Compensation table associated to their measuring device. Usually CMM's have a Volumetric Compensation table and a file to compensate the CMM. You can enter that file here if your device has a Volumetric Compensation table.

Device Simulation Control

This is used to have your device graphically displayed while measuring. Toggle this on and choose your device, if available, from the drop-down list. Go to the PREFERENCES > DISPLAY tab and choose to display the device. When you are measuring the device you selected will be displayed.

Change VDI Button

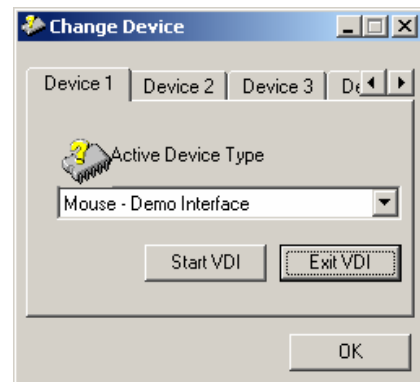
This button allows you to communicate with different data collection devices and adjust settings for the current data collection device.

There are 4 device tabs at the top of this menu. Verisurf can run up to 4 devices at one time.

Device 1 should always be used as the aligning device with 2,3 and 4 aligning themselves to Device 1 is needed.

The pull down menu allows you to choose from any available device that Verisurf connects to.

You may also Start and Stop the VDI from this menu.

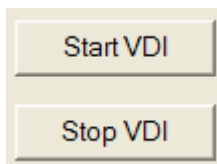


Start VDI

Selecting this button will Start the Verisurf Device Interface.

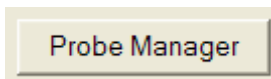
Stop VDI

Selecting this button will Stop the Verisurf Device Interface.



These two buttons are used to quickly Stop and re-start the VDI if there is a VDI error.

Probe Manager Button



Selecting this button will bring up the Probe Manager for the selected device. The probe manager is similar for most devices but each device has its own characteristics. Each will allow the user to change probe, alter probe radius, calibrate a probe and in some, create a custom probe. Each operator should develop an understanding of the Probe Manager for their particular device.

Temperature



Temperature Settings Material Tab

This button will be used to bring up temperature controls to scale your points based on the expansion coefficient of the selected material.

 The "Temperature Settings" dialog box has a title bar and two tabs: "Material" (selected) and "Scale Bar". The "Temperature" section contains:

- Standard Temp: 68
- Material Temp: 68
- Units: Radio buttons for Celsius and Fahrenheit, with Fahrenheit selected.
- ☐ Use Device Temperature for Material
- ☐ Get Temperature from Device — 0°F
- Device: Faro USB Arm 5.0 Interface (dropdown menu)
- ☐ Enable Drift Alarms
- Settings and Reset buttons.

 The "Linear Expansion Compensation" section contains:

- Material Type: Aluminum (dropdown menu)
- Expansion Coefficient: 0.0000123 in/Deg F.
- New and Delete buttons.
- Correction Scale Factor: 1

 An OK button is at the bottom right.

Standard Temp

This is the temperature that is used as a standard to compute any compensation. If Material Temp is equal to Standard Temp then there will be no compensation.

Material Temp

This is where you can enter the material temperature. It can be entered manually right from the keyboard. It can also be automatically entered through a temperature sensor.

Use Device Temperature for Material

With this box checked the temperature will automatically be entered in the Material Temp entry field. With it unchecked you will have to manually enter the temperature.

Get Temperature from Device

With this box checked your device will supply the temperature from the device sensor. The temperature will automatically be entered in the Material Temp entry field if Use Device Temperature for Material is checked.

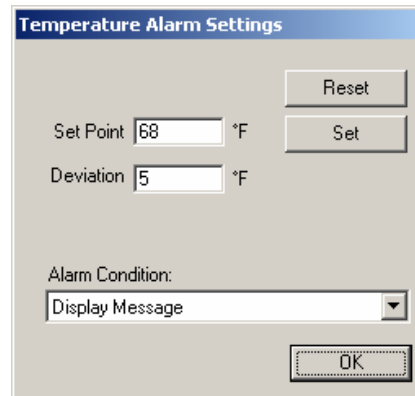
Device Pulldown

This will allow you to choose any temperature sensor device you have available to your measurement device.

Enable Drift Alarms

When this is checked the VDI will monitor the temperature and give an Alarm if the temperature changes by a temperature deviation you specify. It is only available if you have **Get Temperature from Device** enabled. Once enabled you can go into settings and change the deviation. The **Reset** button is to reset the alarm while the **Set** button will re-establish any changes.

The alarm given is determined by the **Alarm Condition** pulldown. The 5 choices for alarms are Display Message, Show temperature settings, Sound Alarm once, Sound Fast Alarm, Sound Slow Alarm.



Linear Expansion Compensation

This pulldown allows you change the material that you are monitoring. There are a number of predefined material types. If your material type is not shown you can add a NEW type. You may also DELETE any types that are in the database.

Temperature Settings Scale Bar Tab

You can adjust your measurement readings through the use of a calibrated scale bar.

To use this you must checkmark the **Enable Scale Bar Compensation**. Once enabled input your scale bar length, choose Start and measure the 2 nests on your scale bar. The observed length will be displayed and the VDI will calculate the Correction Scale Factor and display it.

