MICROSEAM V4

SOFTWARE INSTALLATION AND USER GUIDE - ISSUE G

Author: S. P. Goodland
Date: 19th February 2008

Copyright © 2008 Unity Computing Limited

PRODUCED FOR:-

ARUNDLE OPTICAL INSTRUMENTS

20 Evan's Road, Highfield Estate, Willesborough, Ashford,
Kent. TN24 0UA United Kingdom.
Tel/Fax: +44 (0) 1233 633766

Website: www.arundle-optical-instruments.com

The copyright in this document is the property of Unity Computing Limited. The document is supplied by Unity Computing Limited on the express terms that it is to be treated in confidence and that it may not be copied, used or disclosed to others for any purpose except as authorised in writing by Unity Computing Limited.

AMENDMENT RECORD			
Issue	**Date**	**Page No.**	**Reason**
A	31/07/06	ALL	1st Issue.
B	7/8/06	31	Updated format formula.
C	14/8/06	14-17	Updated 'Edit the Program Configuration' dialogue box figures.
D	2/8/2007	8 & 10	Replace DK12 dongle with DK3 USB dongle.
E	6/8/2007	ALL	Updated for Vista support.
F	17/8/2007	ALL	Storing app data in mis folder
G	18/2/2008	ALL	Updated for codejock interface

CONTENTS

TITLE PAGE
REVISION HISTORY
CONTENTS
1 INTRODUCTION 7
2 SCOPE 7
3 GENERAL 7
4 DEFINITIONS 7
5 SECURITY 9
5.1 Passwords 9
6 SOFTWARE INSTALLATION 10
6.1 System Requirements 10
6.2 PC Video Mode 10
6.3 Demo Software 10
6.4 Media 11
6.5 Installing the Software 11
6.6 Identifying the Version of Software Installed 12
7 DESkey DONGLE INSTALLATION 14
7.1 DESkey Driver Software Installation 14
7.2 Dongle Connection 14
8 SETTING ADMINISTRATOR PASSWORD 15
8.1 Run Microseam 15
8.2 Logon as Administrator 16
8.3 Setting the Administrator Password 18
8.4 Configuring the Software 19
9 Network Installation 21
10 VISUAL SEAM GAUGE CONNECTION 22
11 DIGITAL GAUGE CONNECTION 23
12 SYSTEM BACKUP 24
12.1 Format files 24
12.2 Datafiles 24
12.3 Image Files 24
12.4 Networked System 24
13 IMAGE FILES 25
13.1 Viewing Seam Images in the Library 25

13.2 Adding Seam Images to the Library 26
13.3 Editing/Deleting Seam Images in the Library 29
13.3.1 Delete an Image 30
13.3.2 Edit an Image Description 30
14 FORMAT FILES 32
14.1 Viewing Formats in the Library 32
14.2 Creating a New Format 33
14.2.1 Normal and Rotated Image 34
14.2.2 Normal Image 42
14.3 Editing an Existing Format 43
15 DATAFILES 45
15.1 Parts of the Screen 45
15.1.1 Format Parameters 45
15.1.2 Datafile Parameters 46
15.1.3 Data Table 46
15.2 Create a New Datafile 47
15.3 Editing an Existing Datafile 51
15.4 Selecting a Datafile 54
15.5 Taking Measurements 57
15.6 Approving Measurements 69
15.7 Notes 69
15.7.1 Adding Notes 69
15.7.2 Reading a Note 72
15.8 Deleting Measurements 72
15.9 Printing Measurement Data 72
15.10 Producing Graphs of Measurement Data 74
15.11 Exporting Measurement Data to Other Applications 78
16 ADMINISTRATOR PROCEDURES 82
16.1 Create a New User/Supervisor 82
17 USER PROCEDURES 84
17.1 User Logon 84
17.2 User Password Change 84
18 MICROSEAM DOUBLE SEAM DIMENSIONS 86

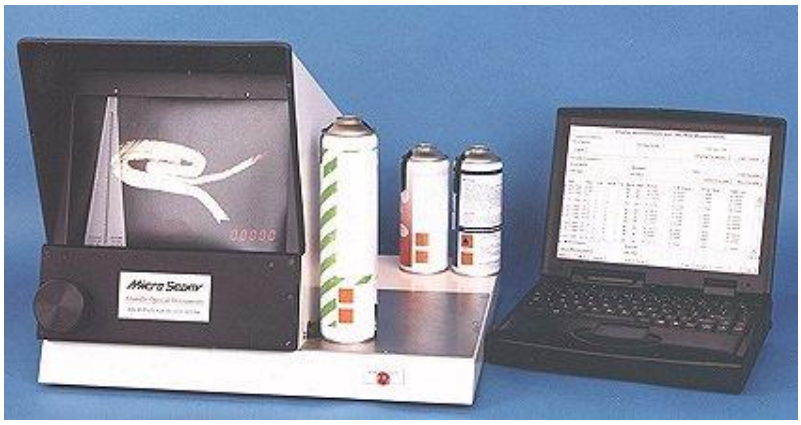
1 INTRODUCTION

The Microseam Inspection Software, from this point on referred to as Microseam, is a Windows based software package designed to receive, process and store dimensional data from a Visual Seam Gauge and other Digital Gauges used for inspecting the dimensional accuracy of seam joints in metal containers.

Captured data can be viewed in tabular form or graphically with clear indication of whether the measurements are within tolerance.

Many seam types can be inspected, and dimensional data and high quality images are held in the software database.

Microseam is Windows 2000, XP, and Vista compliant and is capable of being networked.



Visual Seam Gauge with Microseam Running on Laptop.

2 SCOPE

This document is intended to explain the installation and use of Microseam in a stand alone and networked PC environment.

It covers procedures for users and administrators/supervisors.

3 GENERAL

The screen shots within this document are from a PC running Windows Vista.

4 DEFINITIONS

Format

A measuring format describes the measurements to be taken on a can to obtain the required dimensions. It includes information such as the images to use, whether a rotated image is included, the names of the dimensions, the way in which the dimensions are to be calculated from the measurements, the tolerances, etc.

It is held in a library with other formats and may be used with one or more Datafiles.

Datafile

A Datafile contains measurements made using a particular Format for a particular can type.

It is held in a library with other Datafiles.

Image File

An Image File is a .BMP file containing a view of a particular can seam configuration to be used when setting up dimensions within a Format File and when the operator takes measurements using a Datafile.

Operator

Any person using the Microseam system regardless of security classification.

Administrator

A person authorised by the company to set-up and maintain the Microseam system. Duties include allocating Supervisor and User identities.

Supervisor

An operator defined by the Administrator as a 'Supervisor'.

User

An operator defined by the Administrator as a 'User'.

XML

Stands for 'Extensible Markup Language', which is a cross-platform, extensible and text based standard for representing data. It is an option within Microseam for exporting data.

Directory

An MS DOS term for a named area of disk containing files. A Directory can contain a number of sub-directories.

Folder

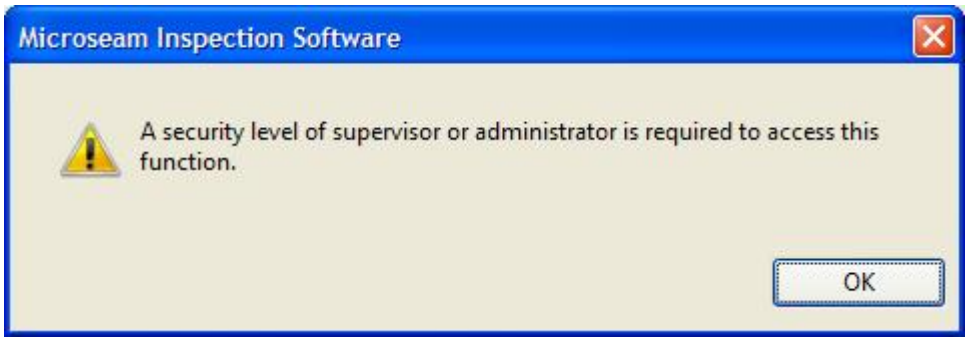
A Microsoft Windows term for a named area containing files, equivalent to a directory in MS DOS. A folder can contain a number of folders within it.

5 SECURITY

Microseam has 3 levels of password controlled security which enables different operators to be allowed access to different software features:-

- Administrator
  Will have access to all functions within Microseam and can create new users, delete existing users and allocate the security level at which they can operate.
- Supervisor
  Can perform all 'User' functions and in addition can delete or approve measurements.
- User
  Can take measurements, add notes to measurements, print data, produce graphs and export data.

If an operator who is defined as a 'User' for security purposes, attempts to approve a measurement, which is a feature restricted to Supervisor and Administrator, the following message will be displayed.



5.1 Passwords

When first installed and run, Microseam has a fixed 'Operator ID' of 'Administrator' with 'Security Level' of 'Administrator' but with no password set.

The Administrator should allocate him/herself a password at the earliest opportunity after software installation to maximise data security. See paragraph 8 below.

6 SOFTWARE INSTALLATION

Software installation should be carried out by a competent person with a working knowledge of the Microsoft Windows operating systems running on a PC platform.

If Microseam is to be run on a network then follow the procedure in paragraph 9 below.

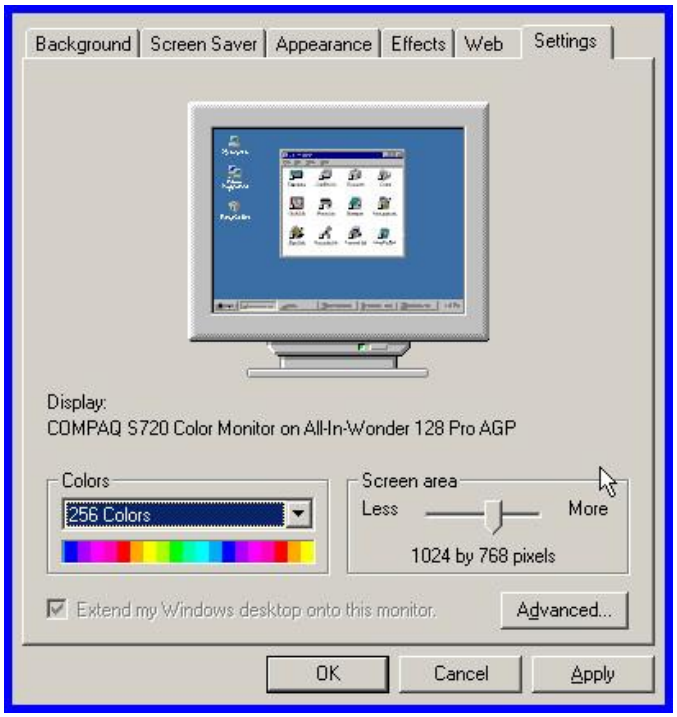
6.1 System Requirements

A PC running a 32 bit Windows operating system, i.e., Windows 2000, Windows XP, or Windows Vista operating systems.

6.2 PC Video Mode

Microseam works best using a 256 colour (or greater) video mode which allows the seam images to be displayed to a reasonable degree of accuracy on the PC screen. A 16 colour video mode is not recommended since the displayed seam images will be of poor quality.

In Windows 2000 the video mode can be changed using the 'Display' icon in 'Control Panel' and selecting the 'Settings' tab.



The Screen Area setting to be used depends on the size of the monitor and can be set after installation to give a clear view of the information screens. A screen area of 800 by 600 (or greater) is recommended.

6.3 Demo Software

Before installing the software, inspect the computer to see if a demonstration version of the software (misdemo3.exe) has been previously installed to the PC**.** If a demo version has been installed, remove all of its components before attempting to install the full working version.

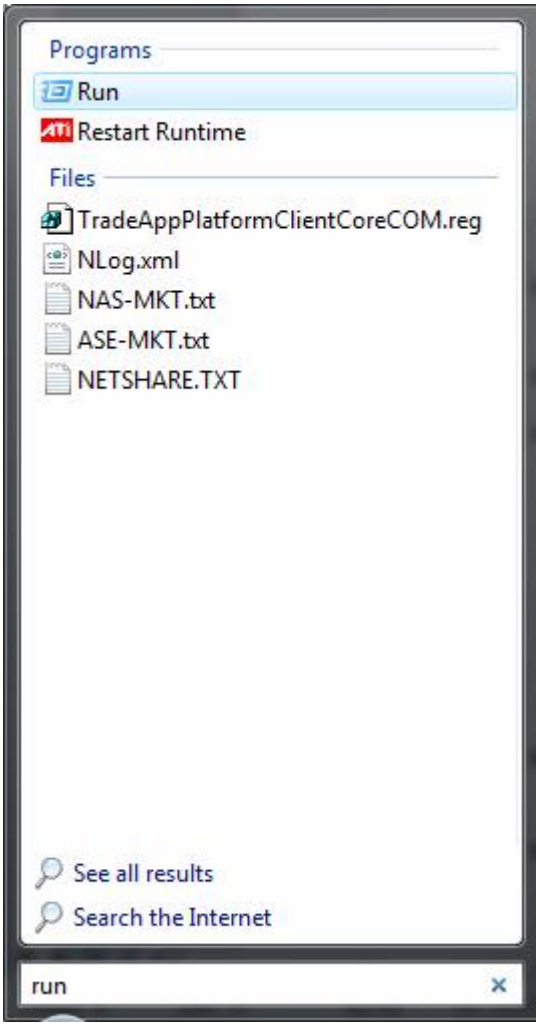
6.4 Media

The Microseam software is supplied on a single CD-ROM. For copy protection, a 'dongle' is supplied (DESkey DK3-USB) and needs to be connected to the PC after software installation. (See paragraph 7 below).

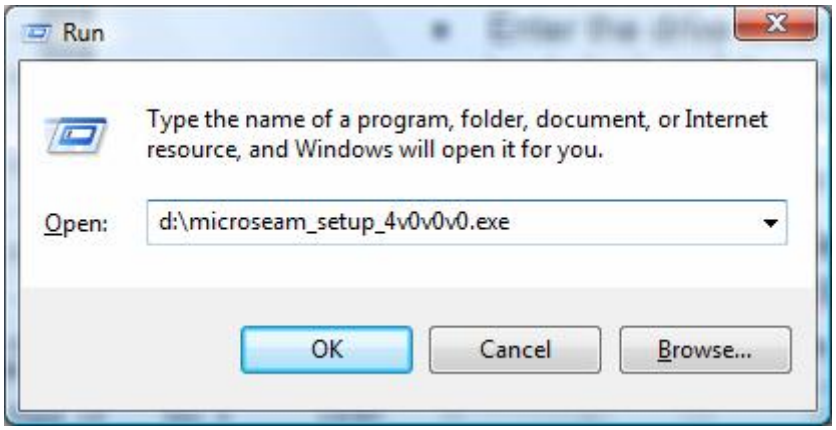
6.5 Installing the Software

- Insert the CD-ROM containing the Microseam software into the CD drive.
- From the Windows desktop click the Windows start button.
- The Start Menu appears. This will differ depending on the Windows version. A screen shot from a PC running Windows Vista is shown below.

- Type 'run' into Start Search and a list of search results will be displayed.



- Select the ‘Run’ program and the ‘Run’ box appears.



- Enter the drive letter of the CD ROM drive containing the software, a backslash and the name of the installation program e.g. microseam_setup_4v0v0v0.exe.
- Click the ‘OK’ button
- The Installation Wizard will automatically take you through the installation process for the Microseam software.

6.6 Identifying the Version of Software Installed

The version of software running can be found as follows:-

- From the main menu select ‘Help’.
- From the drop down list select ‘About Microseam’.
- The ‘About Microseam’ box appears, giving the software version.

7 DESkey DONGLE INSTALLATION

Microseam is supplied with a matched DESkey DK3-USB dongle which must be attached to a USB port of the PC to operate correctly.

For the dongle to function, drivers must be installed also.

7.1 DESkey Driver Software Installation

The DESkey DK3-USB dongle requires the DK3 dongle drivers to be installed on the PC on which the Microseam software is running.

The installation file for the dongle drivers is located in the dongle subdirectory of the Microseam executable directory, i.e. "C:\Program Files\Arundle Optics\Microseam\dongle", if the program is installed to the default directory.

To install the drivers, run the ‘dk3wn32.exe’ setup program and the Installation Wizard will automatically begin the installation process.

IMPORTANT

If the operating system is ever upgraded after installing the DESkey drivers, for example from Windows 2000 to Window XP, uninstall the drivers first and reinstall after the operating system upgrade. Further information can be found at http://www.deskey.co.uk

7.2 Dongle Connection

- The dongle should be connected to a spare USB port on the PC.

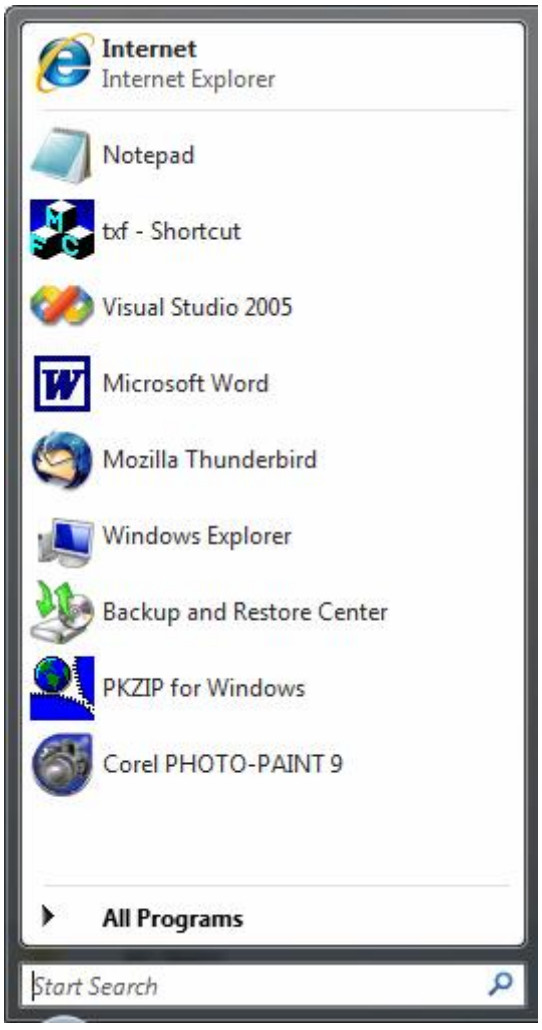
8 SETTING ADMINISTRATOR PASSWORD

When installation of Microseam and the dongle is completed, for security reasons, the 'Administrator' password should be set as soon as possible by running the software and Logging on as 'Administrator'.

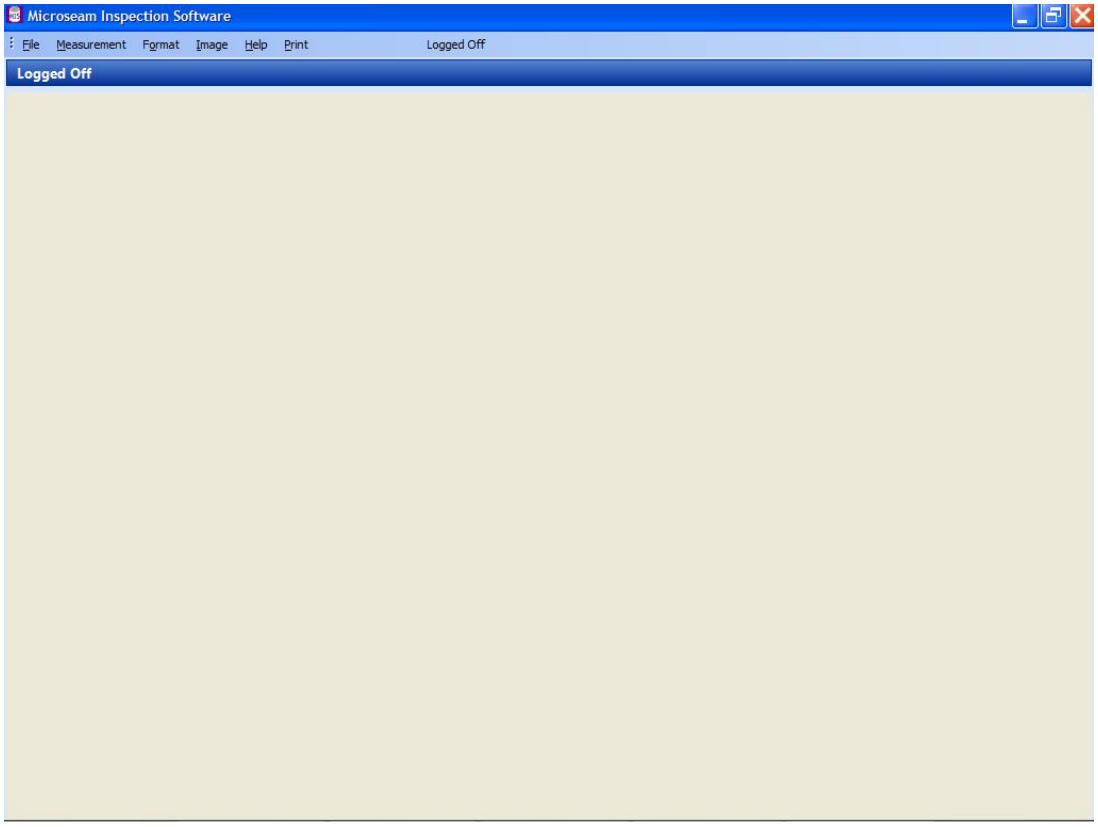
8.1 Run Microseam

The are a number of ways of starting Microseam, by double clicking an icon on the desktop (assuming a shortcut has been placed there) and via the Start Menu. Below is a description of starting from the Start Menu.

- From the Windows desktop click the Windows start button at the bottom left of the screen. The 'Start Menu' appears. This will differ depending on the Windows version.

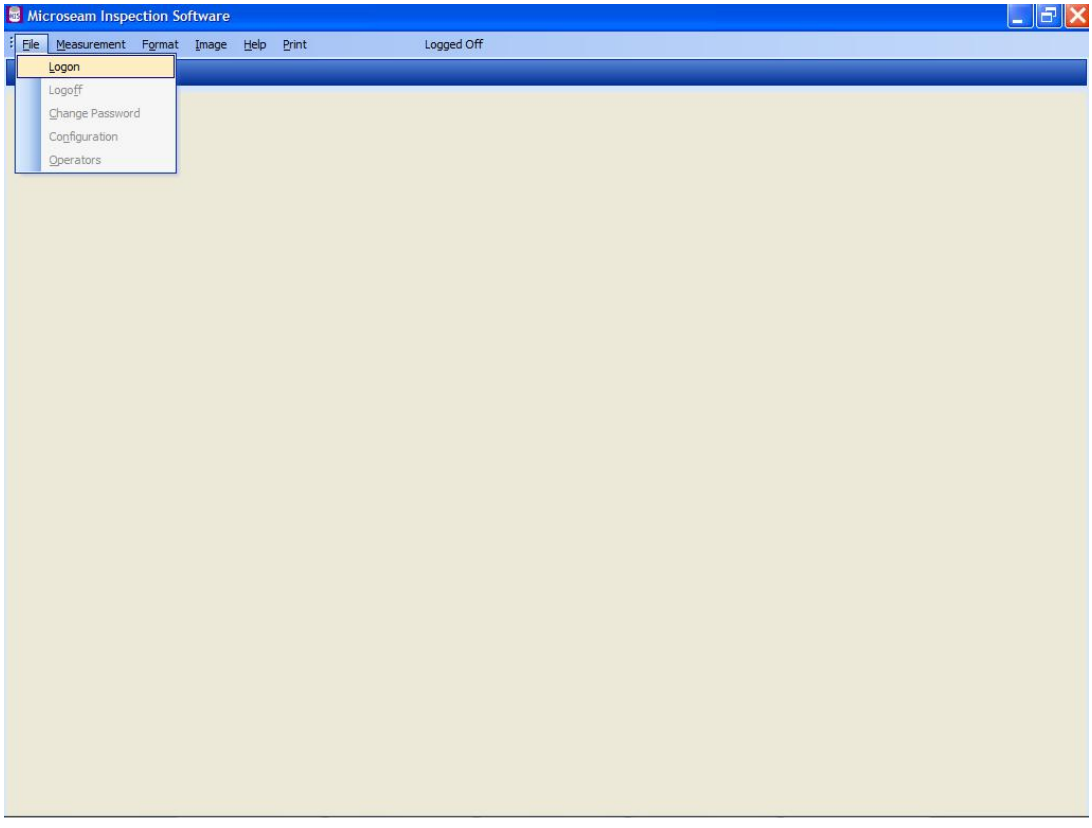


- Select 'All Programs'.
- Select Microseam in the program list and the program option 'Microseam' will be given.
- Select 'Microseam'. The 'splash screen' appears then the Logged Off screen as shown below.



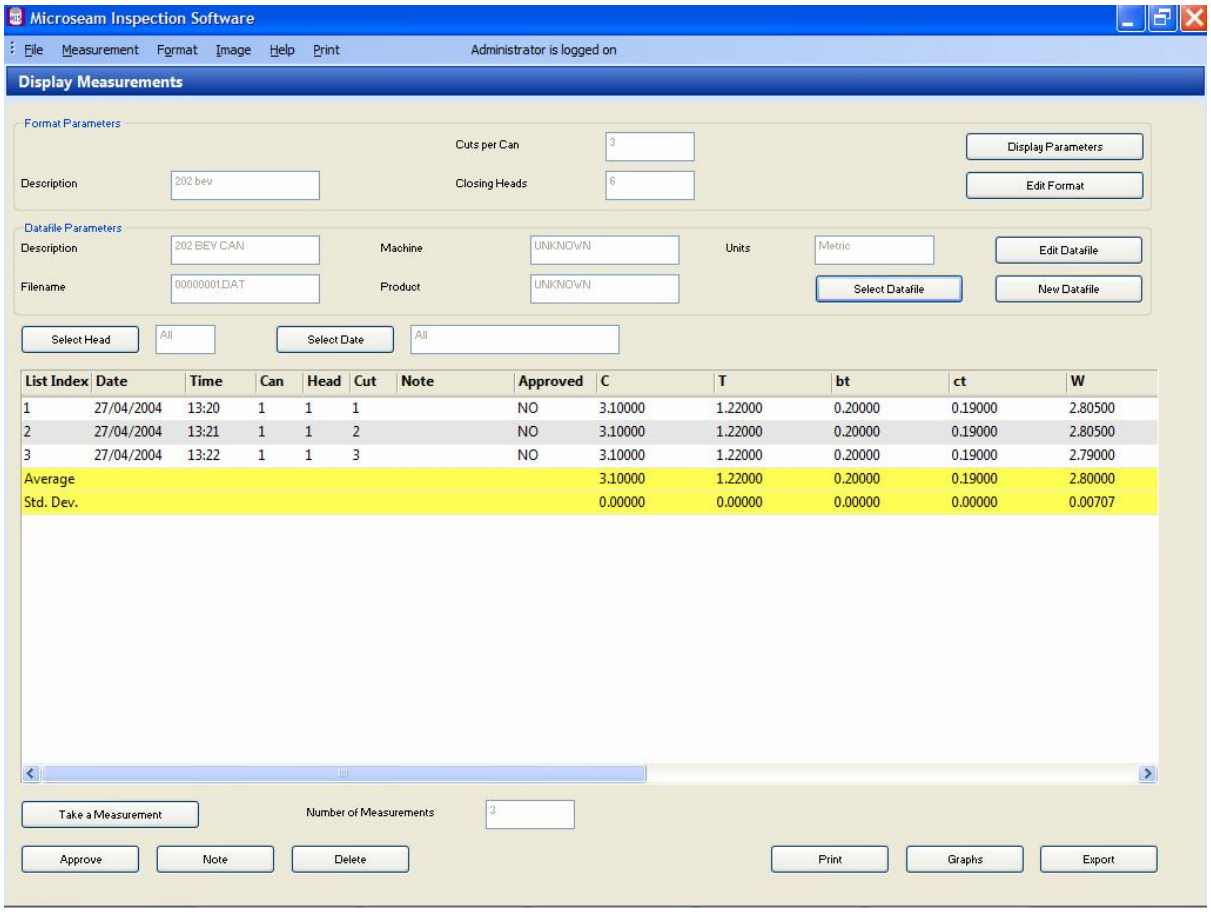
8.2 Logon as Administrator

- From the main menu select the ‘File’ option.
- From the drop down list select ‘Logon’.



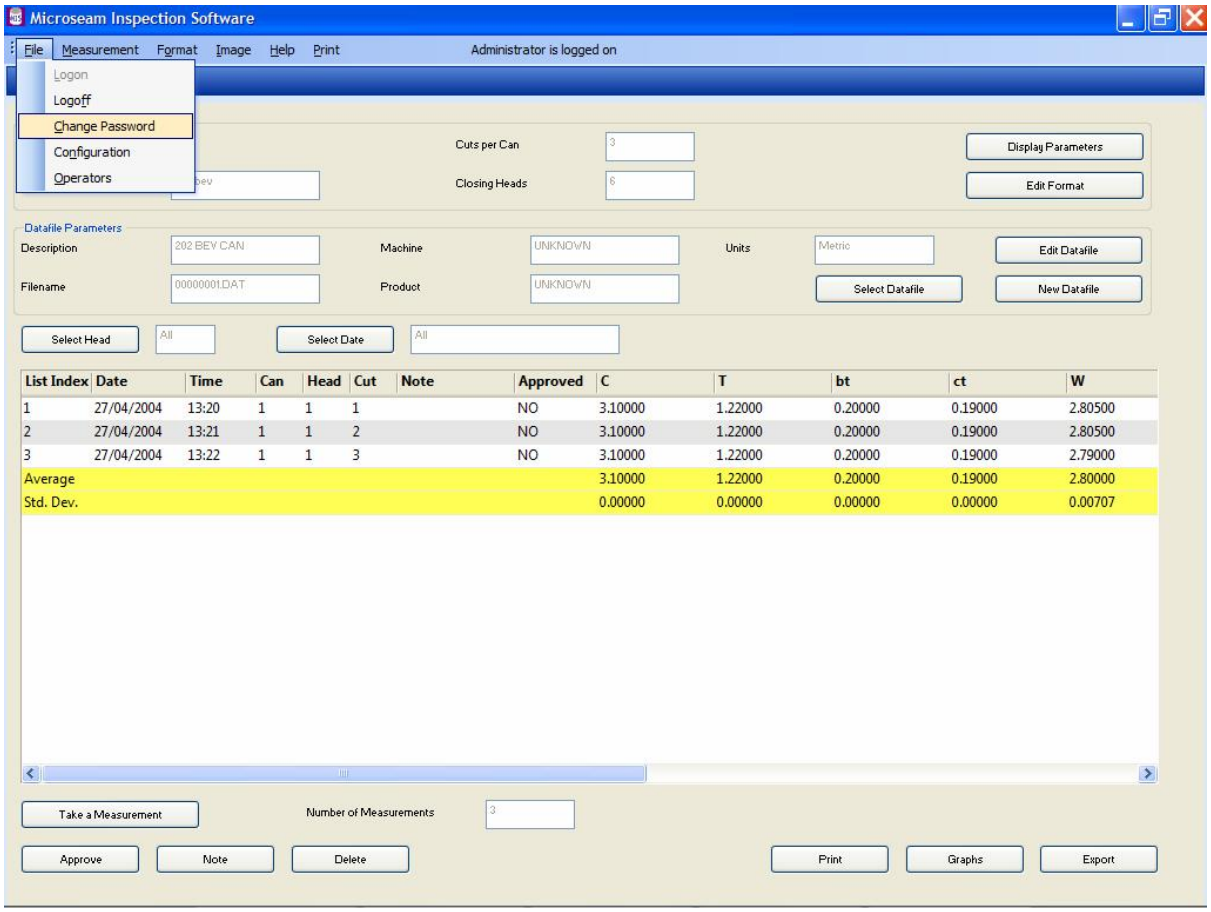
- The ‘Operator Logon’ box will appear.

- In the ‘Select Your Operator ID’ box click on the down arrow on the right hand side and from the list that appears select ‘Administrator’, which is a fixed ‘Operator ID’ and cannot be changed.
- There is no password set for the ‘Administrator’, when the software is first run, so leave the ‘Enter Your Password’ box blank and click the ‘OK’ button.
- The Display Measurements screen will be displayed.



8.3 Setting the Administrator Password

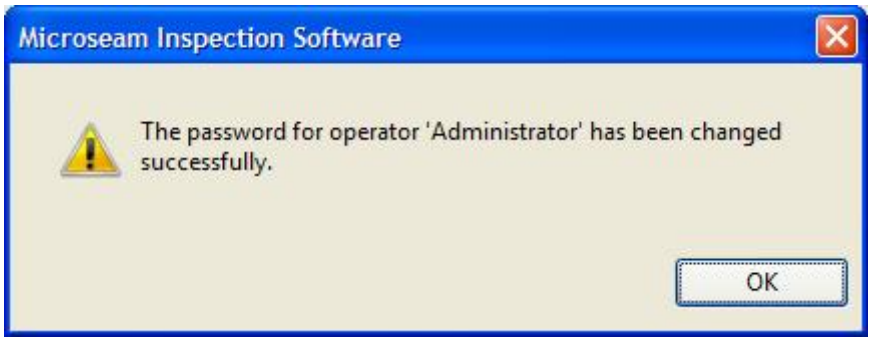
- From the main menu select the ‘File’ option.



- From the drop down list select ‘Change Password’.
- The ‘Enter a New Password’ box appears.

- Enter an alpha numeric password of up to 16 characters and click the ‘OK’ button. The password can be alpha numeric up to 16 characters and is not case sensitive i.e. PASSWORD, password or Password are all the same.
- The ‘Re-type the New Password’ box will appear and the password should be entered again.

- Click the 'OK' button.
- A password changed success box appears.

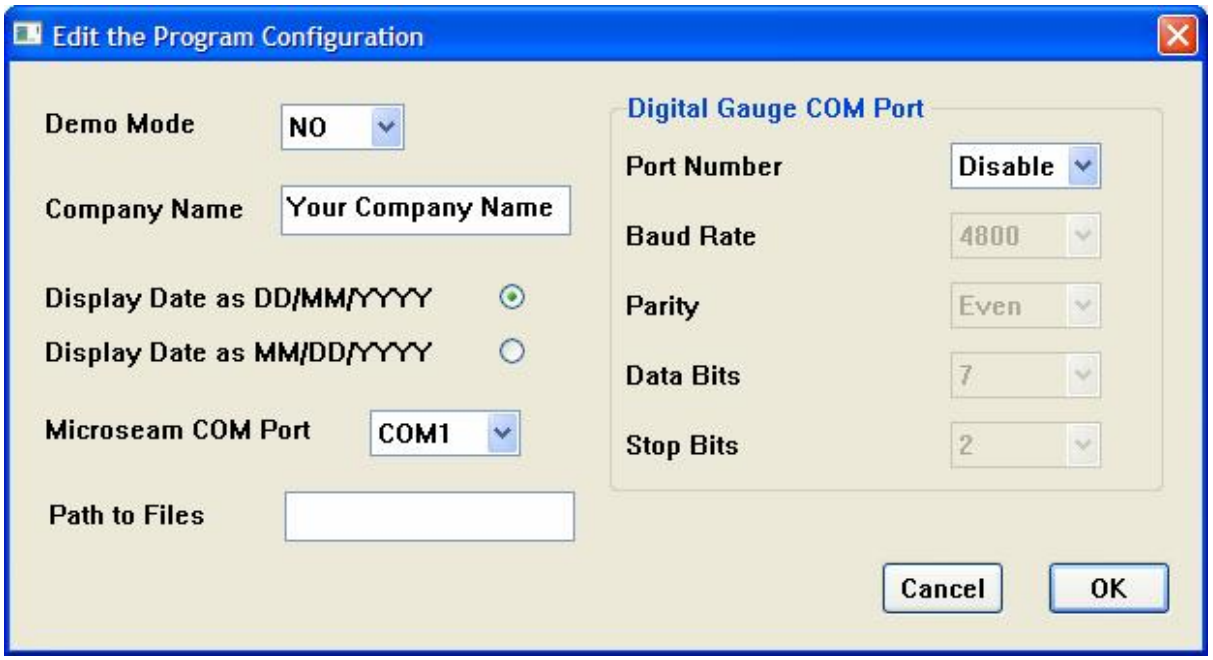


- Click the 'OK' button.

8.4 Configuring the Software

The Administrator should configure the software as follows:-

- Run Microseam and 'Logon' as 'Administrator'.
- From the main menu Select the 'File' option and from the drop down list select 'Configuration'.
- The 'Edit the Program Configuration' box appears:-



Demo Mode – Set to ‘YES’ for demo mode or ‘NO’ for normal mode. This should usually be set to ‘NO’ but it can be set to ‘YES’ for demo mode where no connection is required to a seam gauge and pseudo-data is generated for display purposes by the software.

Company Name – enter name as required to appear on printed output.

Display Date – choose date display format from ‘DD/MM/YY’ or ’MM/DD/YY’.

Microseam COM Port - The communications port being used for the visual seam gauge connection can be selected. (See paragraph 10 below).

Path to Files – Normally, Microseam stores files in the **C:\mis** directory and in its sub-directories ‘**\datafile**’, ‘**\formats**’ and ‘**\images**’.

The ‘Path to Files’ parameter can be used to specify an alternative path, and this can be used in network systems where a shared location is required for the datafiles. Refer to paragraph 9 below.

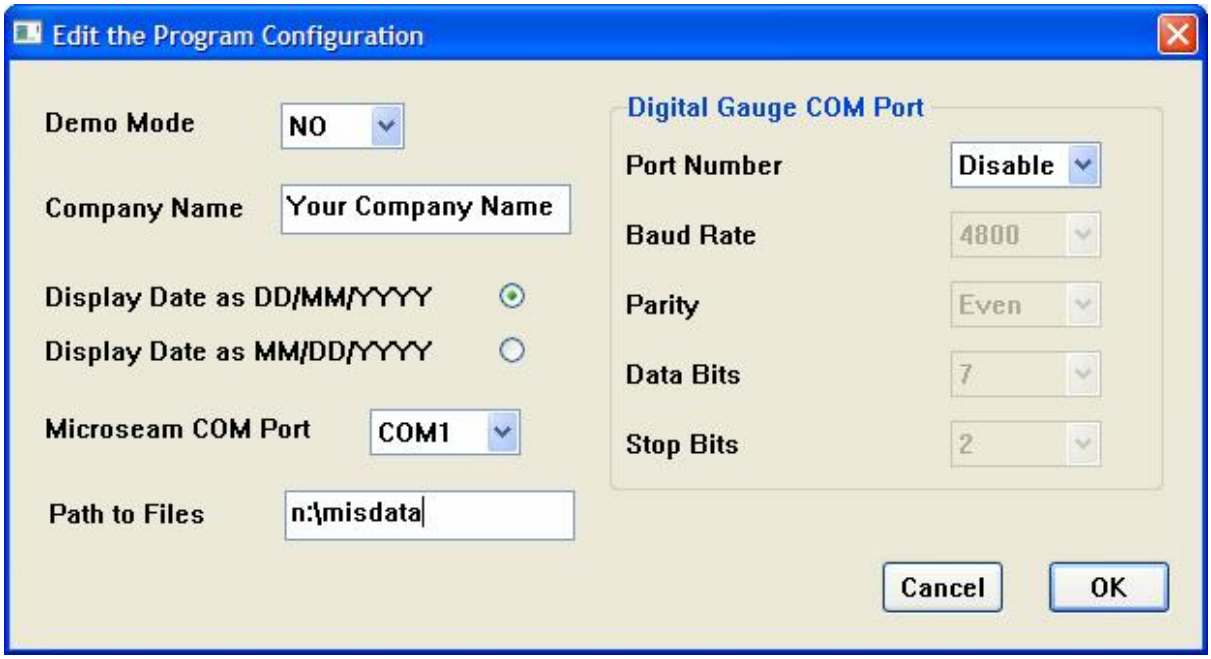
Digital Gauge COM Port - The communications port and other settings being used for the external digital gauge (if any) can be selected and set up. (See paragraph 11 below).

9 Network Installation

It is possible for each PC in a network to share datafiles, format files and image files held on a shared drive. Before carrying out the following procedure, ensure the network is up and running and PC's are connected.

Carry out the following on each networked PC:-

- Install the Microseam software.
- Install the DESkey dongle and drivers.
- Set the 'Administrator' password.
- Run Microseam and 'Logon' as 'Administrator'.
- From the main menu Select the 'File' option and from the drop down list select 'Configuration'.
- The 'Edit the Program Configuration' box appears:-



- In the 'Path to Files' box add the following reference to the shared network drive:-
  'n:\misdata' - where 'n' is the shared drive letter.
- Click the 'OK button.

Then carry out the following additional steps.

- On the shared network drive, create empty directories as follows:-

  'n:\misdata\datafile'
  'n:\misdata\formats'
  'n:\misdata\images' – where 'n' is the shared drive.

- From one of the networked PC's, copy files from:-

  'C:\mis\datafile' to 'n:\misdata\datafile'
  'C:\mis\formats' to 'n:\misdata\formats'
  'C:\mis\images' to 'n:\misdata\images' – where 'n' is the shared drive.

- Restart Microseam.

10 VISUAL SEAM GAUGE CONNECTION

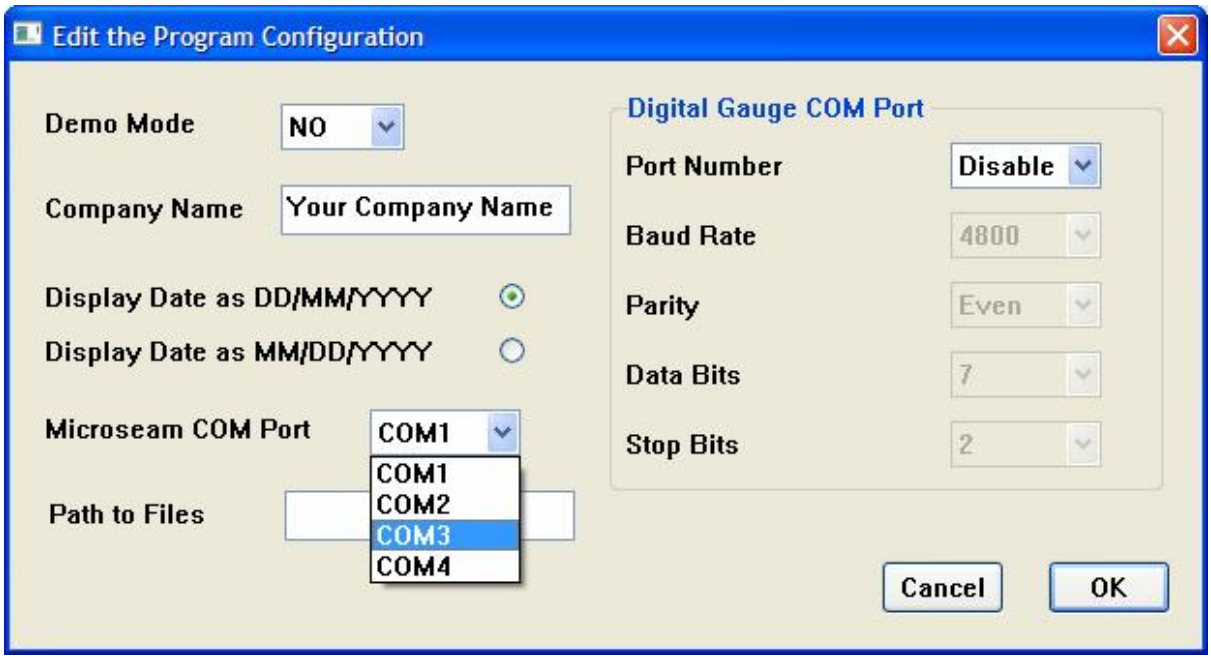
The Microseam software receives dimensional data from a Visual Seam Gauge using a serial communications protocol and will need to be connected to the PC serial port COM1, COM2, COM3 or COM4.

These ports will be 9 pin 'D' type plugs on the rear of the PC.

- Switch off the PC.
- Connect one end of the supplied serial cable to the Seam Gauge.
- Connect the other end to an unused COM port on the PC.
- Switch on the PC.

If the connection is not to COM 1 then re-configure the software as follows:-

- Run Microseam.
- 'Logon' as 'Administrator'.
- From the main menu Select the 'File' option.
- From the drop down list select 'Configuration'.
- The 'Edit the Program Configuration' box appears:-



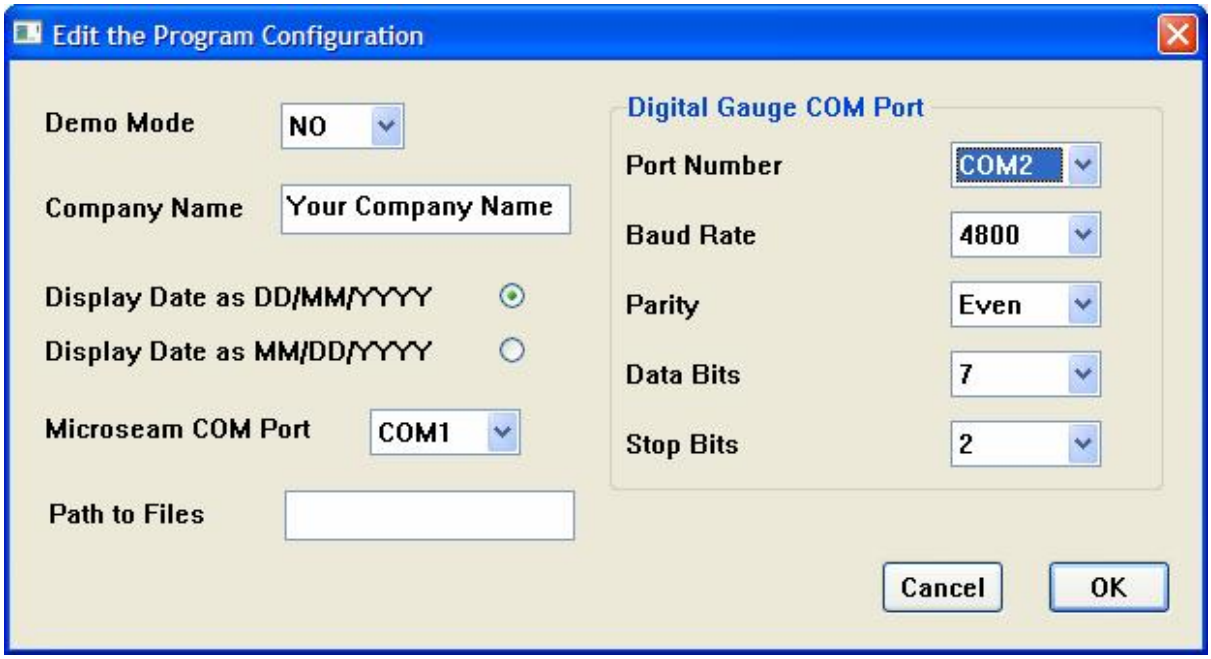
- In the box titled 'Microseam COM Port', select the Microseam COM port into which the Visual Seam Gauge connection is made from the selection COM1, COM2, COM3 or COM4.
- Click the 'OK' button.

11 DIGITAL GAUGE CONNECTION

Microseam caters for measurements to be taken using an external Digital Gauge which can be connected to the PC serial port COM1, COM2, COM3 or COM4 using an RS232 (serial) cable which is usually supplied with the gauge.

Carry out the following steps:-

- Switch off the PC.
- Connect one end of the serial cable to the Digital Gauge.
- Connect the other end to an unused COM port on the PC.
- Switch on the PC.
- Run Microseam.
- 'Logon' as 'Administrator'.
- From the main menu Select the 'File' option.
- From the drop down list select 'Configuration'.
- The 'Edit the Program Configuration' box appears:-



- Select the COM port into which the Digital Gauge is connected from the selection COM1, COM2, COM3 or COM4.
- Set COM port parameters to match the Digital Gauge (Baud Rate, Parity, Data Bits, and Stop Bits).
- Click the 'OK' button.

12 SYSTEM BACKUP

Microseam has NO ‘built in’ automatic data back up function.

IMPORTANT

Users are strongly advised to include format, data and image files in their normal routine PC or network backup procedures as applicable.

12.1 Format files

These files have extensions ‘.fmt’ and ‘.rft’ and are stored in the ‘formats‘ subdirectory of the c:\mis directory.

12.2 Datafiles

Data files with filename extensions ‘.dat’ are normally stored in the ‘Datafile’ subdirectory of the c:\mis directory.

12.3 Image Files

Files associated with images have extensions ‘.bmp’ and ‘.txt’ and are normally stored in the ‘c:\mis\images’ directory.

12.4 Networked System

If a networked system is in use then datafiles, format files and image files may reside on a shared drive.

For example:-
’Datafiles’ may be located at ‘n:\misdata\datafile’
’Format files’ may be located at ‘n:\misdata\formats’
’Image files’ may be located at ‘n:\misdata\images’ - where ‘n’ is the shared drive letter.

13 IMAGE FILES

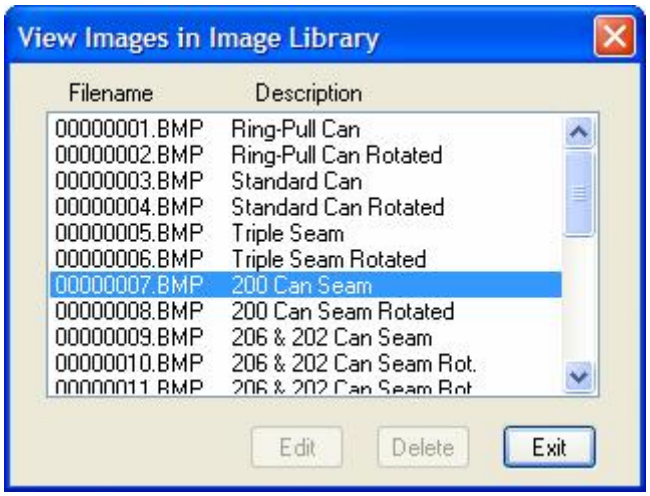
When a new format is created, it is linked to an image of the seam to provide a visual aid, both when setting the format up and when taking measurements.

Microseam is supplied with a set of standard seam images. Arundle Optical Instruments can supply additional image files at nominal cost to users without image scanning facilities who wish to measure different seam configurations. Alternatively most Office Bureaus will scan images for a small fee.

13.1 Viewing Seam Images in the Library

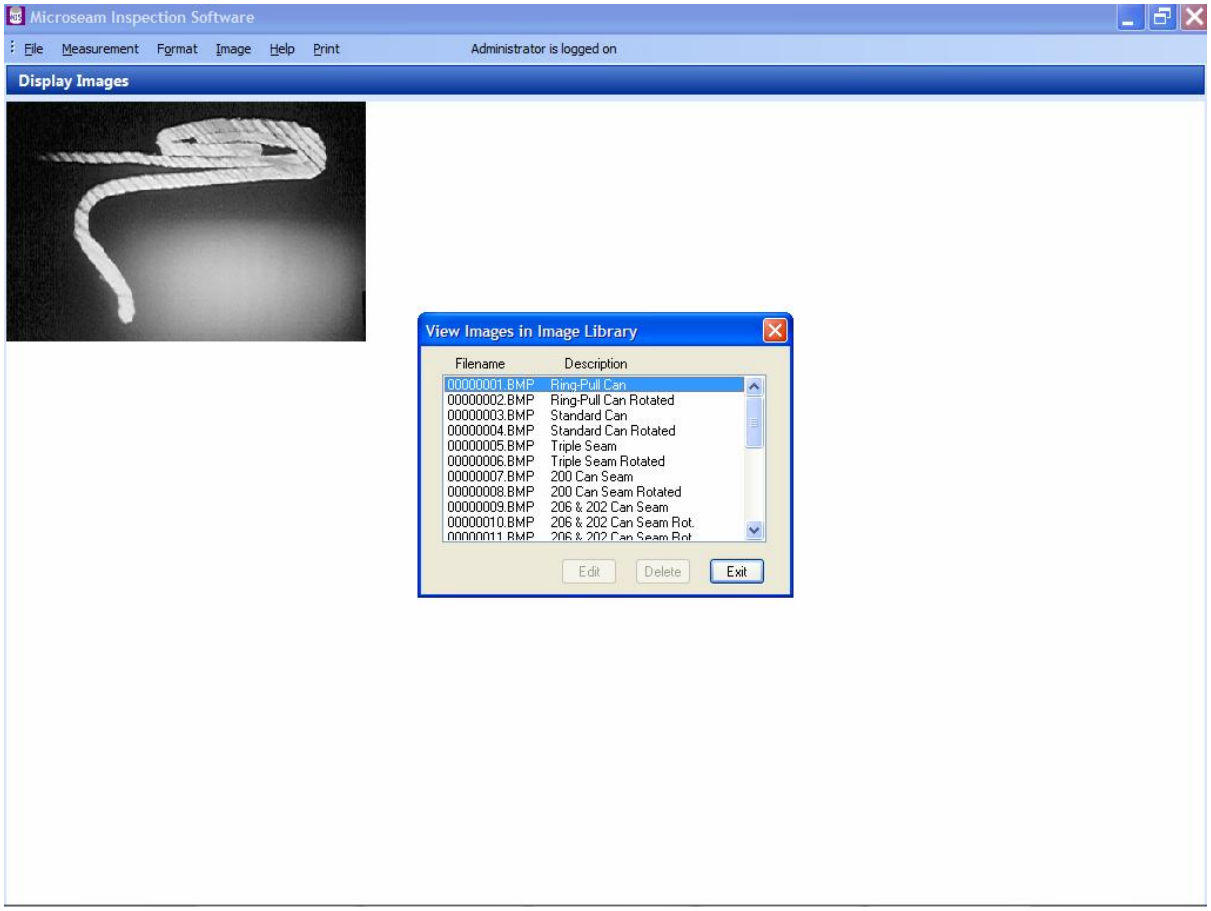
Images of seams already in the library can be viewed by any operator.

- From the 'Main Menu' select 'Image' and then 'View Images' from the drop down menu.
- The 'View Images in Image Library' box appears.



Both the filename and the more meaningful descriptive name given when they were stored is shown.

- Click on an image file.
- The seam image appears at the top left of the screen.



- Select other images to view or click ‘Exit’ to return to the main menu.

13.2 Adding Seam Images to the Library

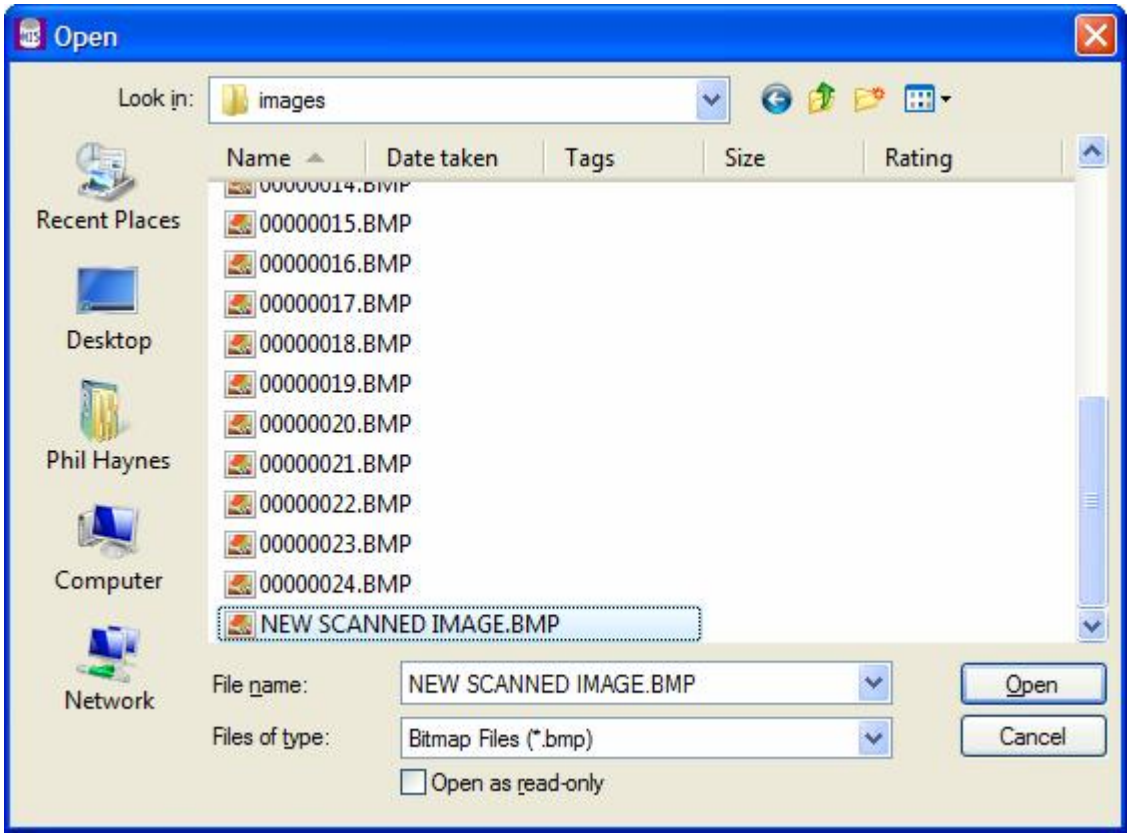
Images of seams for use by Microseam should be scanned in as 256 grayscale Windows bitmaps with aspect ratio ideally of 4:5 for best results.

Microseam will automatically scale the image on the screen, but the quality will depend on the resolution of the scanned image.

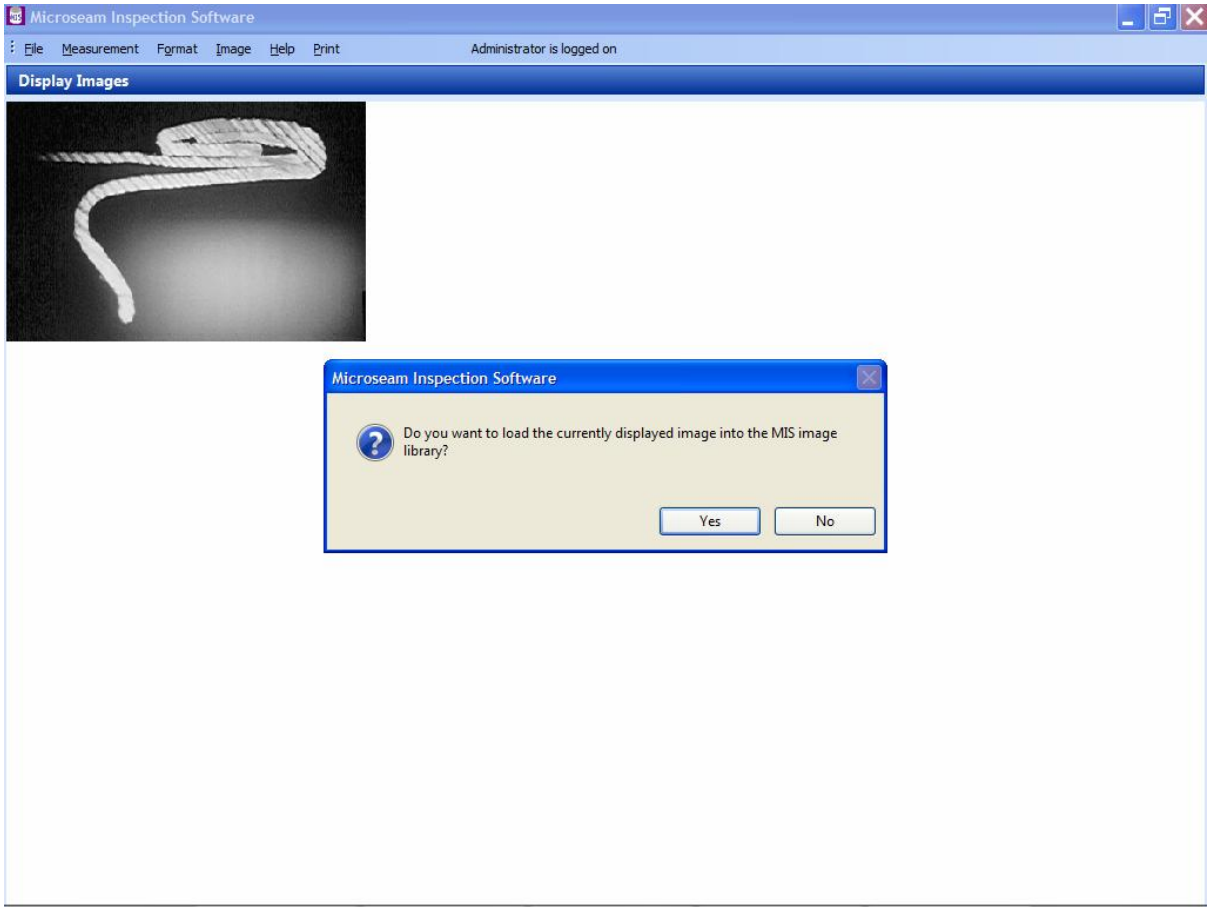
When images of seams are added to the library they are automatically allocated a filename by the software. A more meaningful descriptive name can also be added to make recognition easier when the image is used.

This function is restricted to a security level of ‘Administrator’.

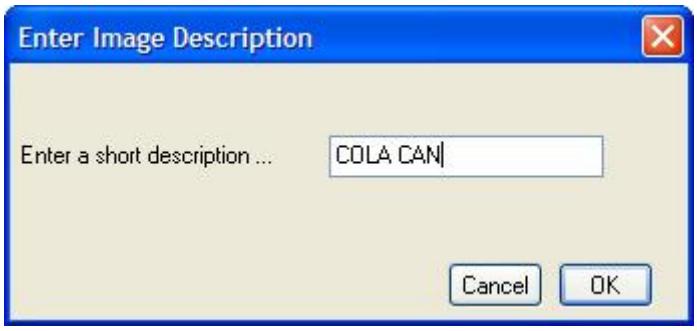
- Scan the new seam image into the C:\mis\images directory.
- From the ‘Main Menu’ select ‘Image’ and then ‘Add Image’ from the drop down menu.
- A box appears as below, showing the contents of the \images sub-directory If not navigate to C:\mis\images. The new seam image file should be shown.



- If the file has not been scanned into the \images sub-directory then use the 'Look in' box to locate the folder containing the scanned file by clicking on the down arrow on the right.
- Select the file containing the new scanned image and click the 'Open' button.
- Microseam displays the selected image on the screen together with a confirmation box.

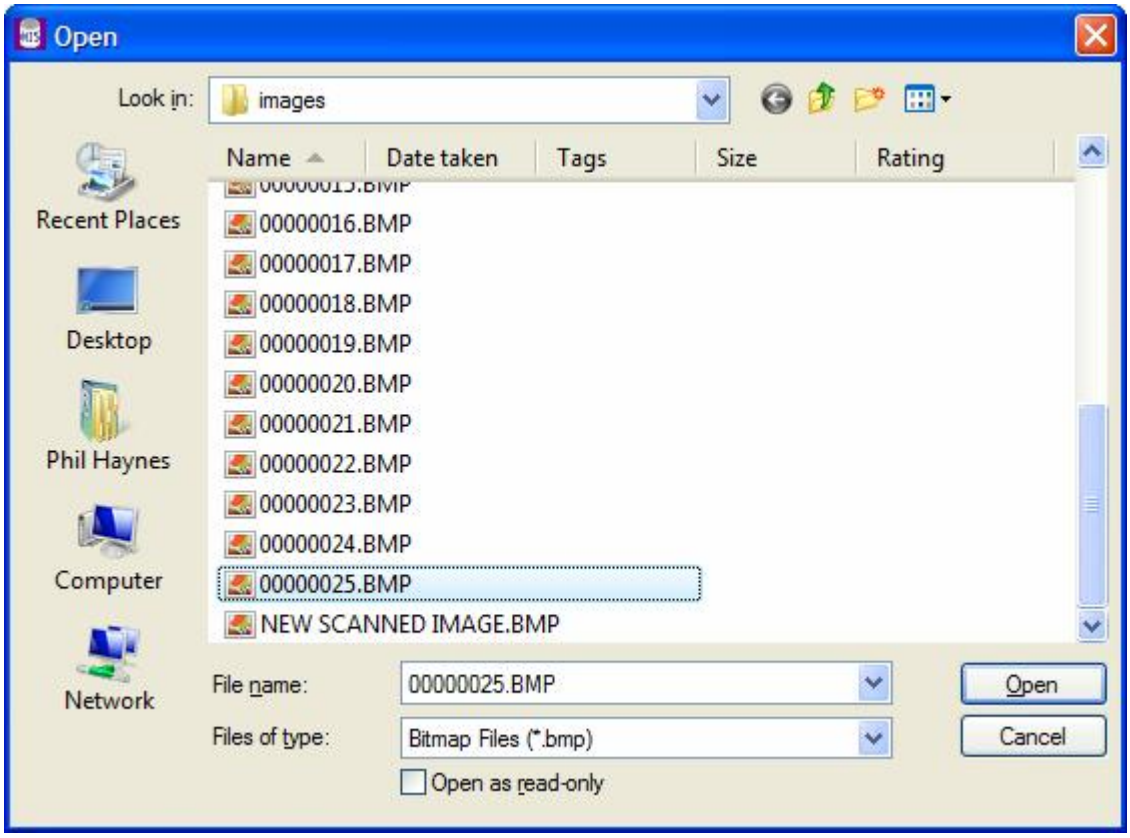


- Click the 'Yes' button to proceed (or 'No' to abort).
- A dialogue box appears. Enter a descriptive name to help identify the image in the future and click the 'OK' button. (or 'Cancel' to abort).



- A successful completion box appears, click the 'OK' button.

- The 'Open' dialogue box re-appears showing the added image file which in this case is 00000025.BMP.



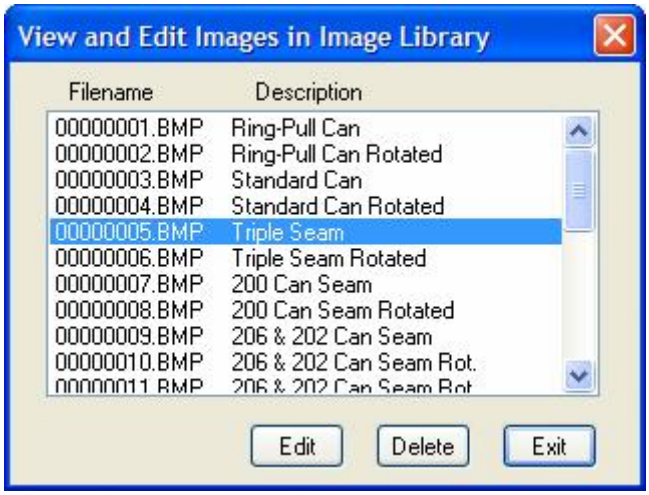
- The original file which was scanned in can now be deleted by right clicking on it and selecting ‘Delete’ from the list of options.
- Further images may be added as above or click the ‘Cancel’ button to return to the Display Measurements screen.

13.3 Editing/Deleting Seam Images in the Library

Images of seams in the library can be edited (description modified) or deleted as follows:-

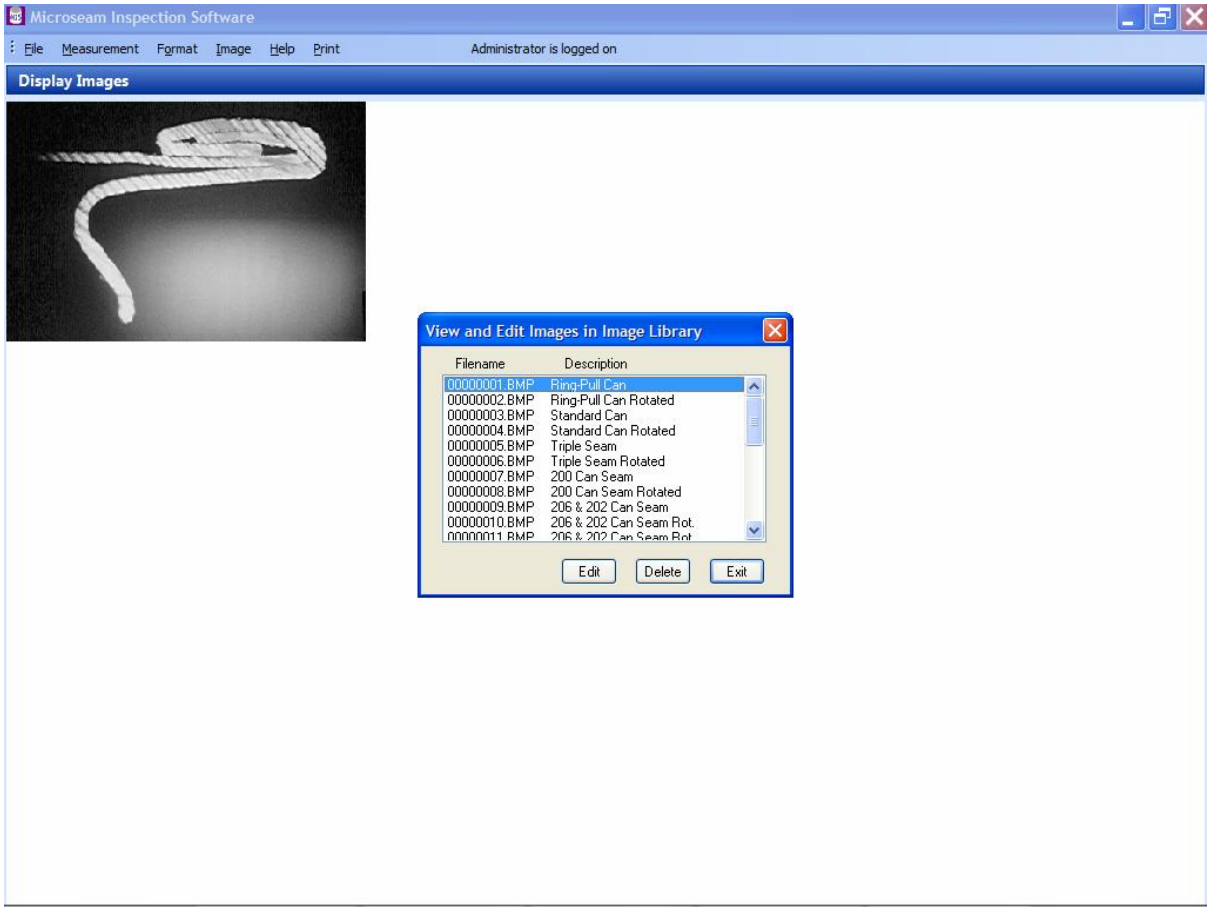
This function is restricted to a security level of ‘Administrator’.

- From the ‘Main Menu’ select ‘Image’ and then ‘Edit Images’ from the drop down menu.
- The ‘View and Edit Images in Image Library’ box appears.



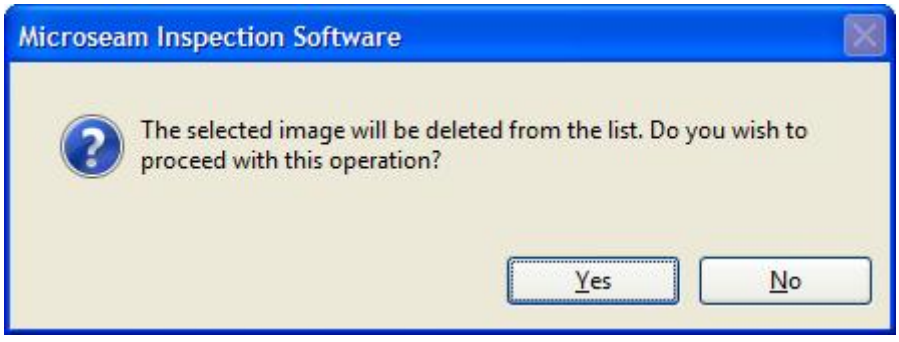
Both the filename and the more meaningful descriptive name given when they were stored is shown.

- Click on an image.
- The image appears at the top left of the screen.



13.3.1 Delete an Image

- To ‘Delete’ the selected image click the ‘Delete’ button.
- A confirmation box appears – click the ‘Yes’ button.

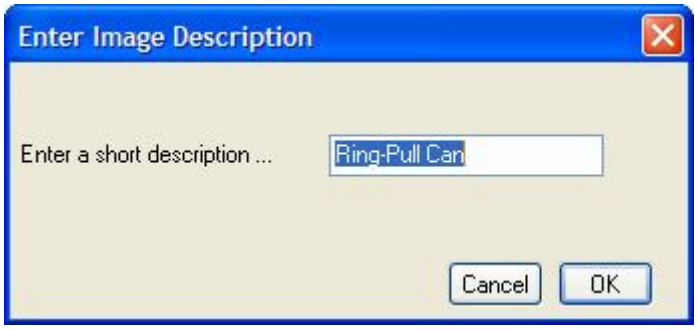


- The ‘View and Edit Images in Image Library’ box re-appears with the deleted item missing.
  Either select another image file to delete or click the ‘Exit’ button to return to the main menu.

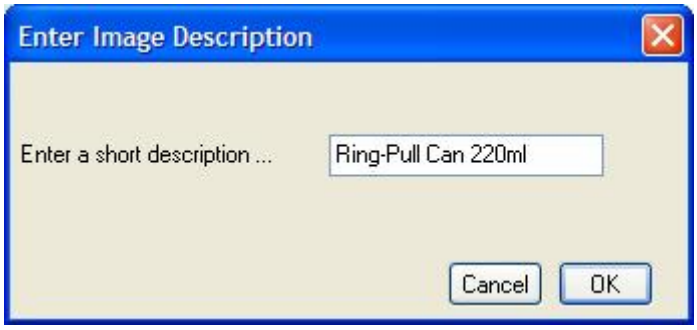
13.3.2 Edit an Image Description

- To ‘Edit’ an Image Description, select the file and click the ‘Edit’ button.

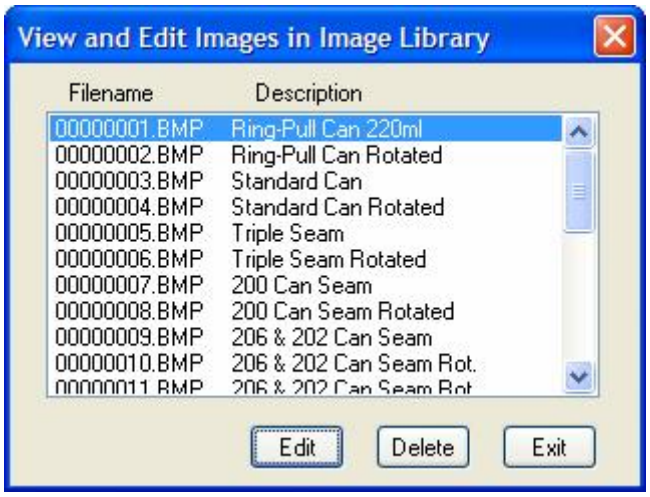
- The ‘Enter Image Description’ box appears containing the current description.



- Amend the description as required.



- Click the ‘OK’ button. (or Cancel).
- The ‘View and Edit Images in Image Library’ box re-appears showing the modified description.



- Either select another image file to edit or click the ‘Exit’ button to return to the main menu.

14 FORMAT FILES

A measuring format describes the measurements to be taken on a can to obtain the required dimensions. It includes information such as the images to use, whether a rotated image is included, the names of the dimensions, the way in which the dimensions are to be calculated and the tolerances etc.

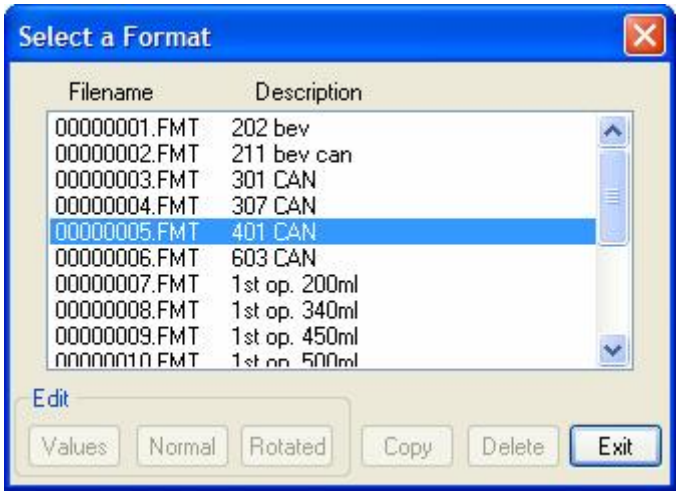
Format files are held in a library (normally C:\mis\formats) and may be used with one or more datafiles.

When a new format is created it is automatically given a filename by the system. As this name is not meaningful a more descriptive name should also be given to identify the format in future.

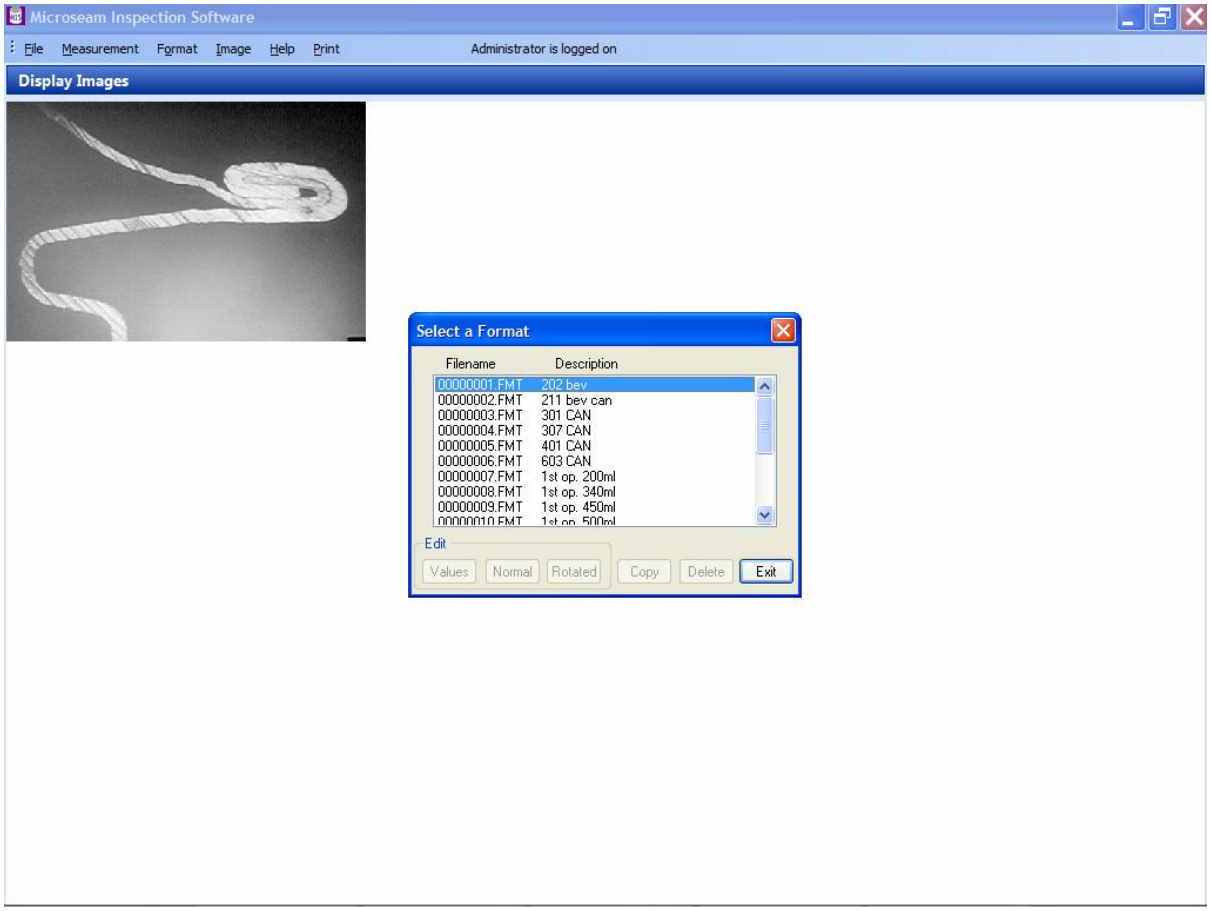
14.1 Viewing Formats in the Library

Any operator can view formats in the library.

- From the 'Main Menu' select 'Format' and then 'View Formats' from the drop down menu.
- The 'Select a Format' box appears with the filename and the more meaningful description given when the format was stored.



- Click on a Format file. The associated image appears on the screen.



- Press Exit to return to the main menu.

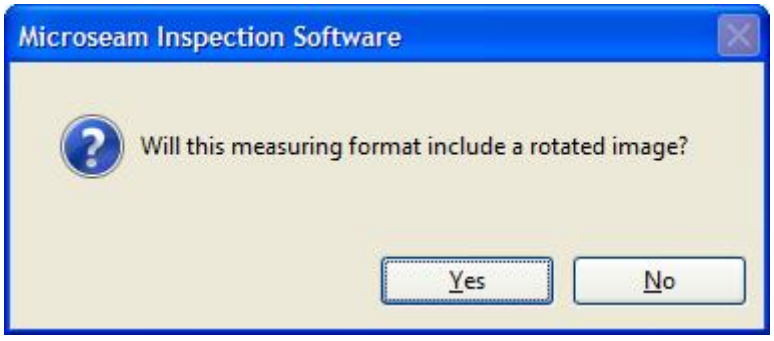
14.2 Creating a New Format

A new format may need to be created or an existing one edited if, for example, a different style of can was introduced for which different dimensions need to be taken or different tolerances applied.

A Format File may contain either a Normal Image or a Normal and Rotated Image but note that Rotated Images are only applicable if the seam gauge used supports this feature.

This function is restricted to a security level of 'Administrator'.

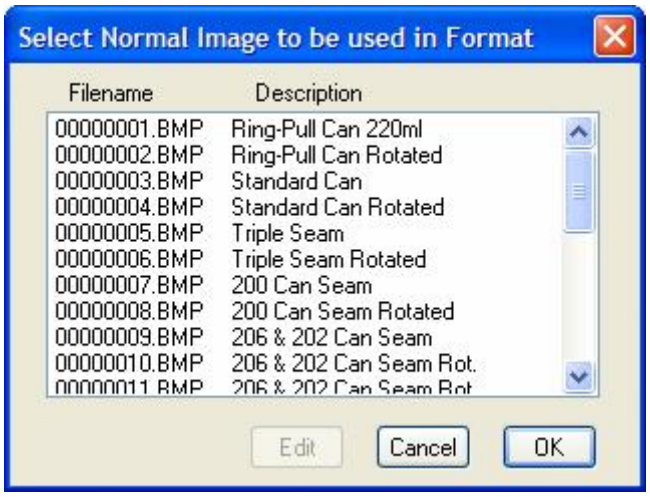
- From the 'Main Menu' select 'Format' and then 'Create New Format' from the drop down menu.
- A confirmation box appears asking 'Will this measuring format include a rotated image?'



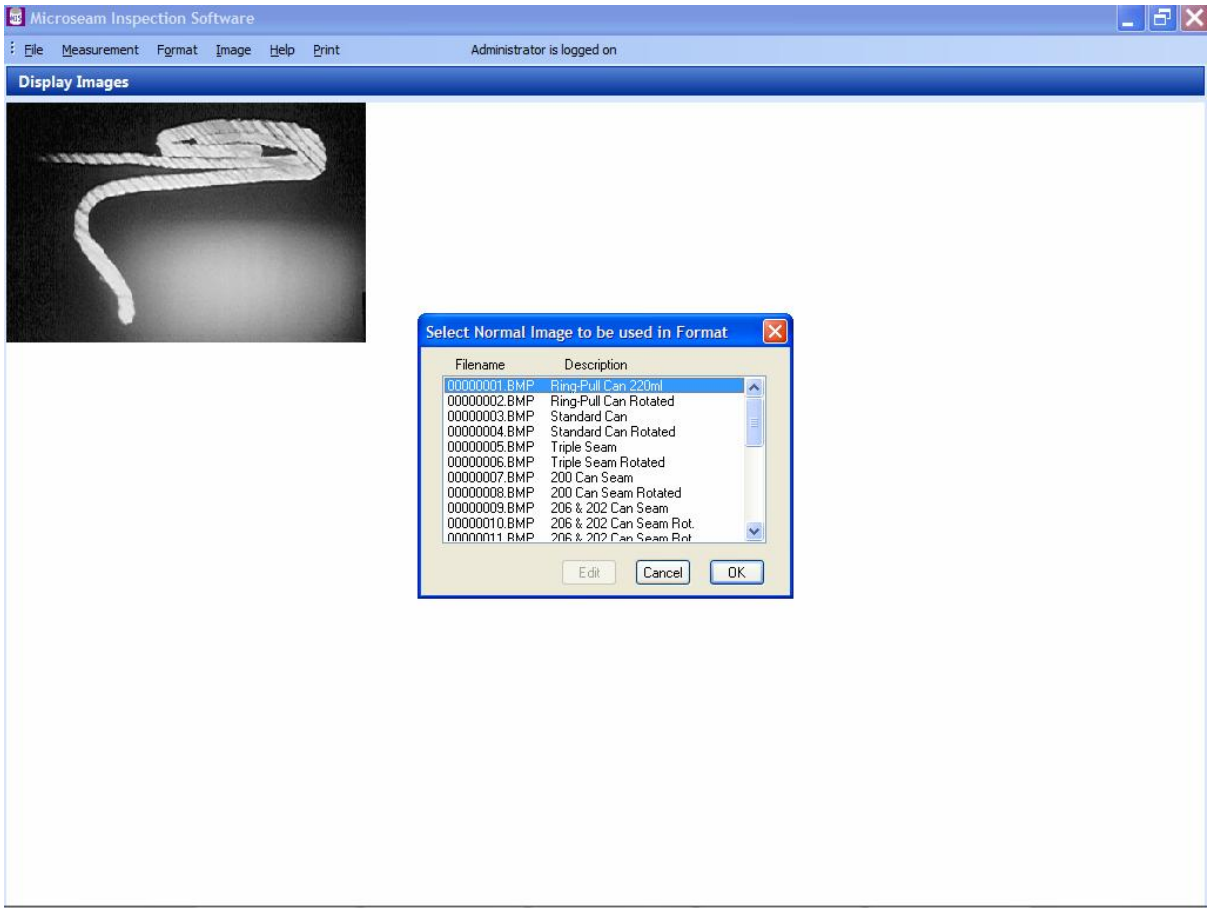
- Depending on the answer chosen above, follow either the ‘Normal and Rotated Image’ procedure or ‘Normal Image’ procedure described below.

14.2.1 Normal and Rotated Image

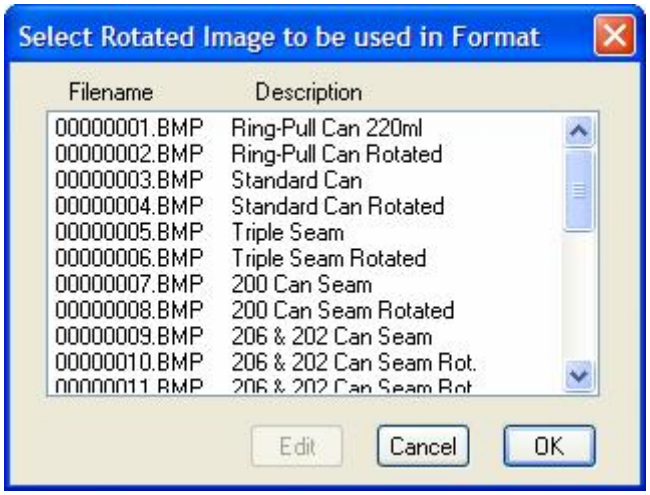
- The ‘Select Normal Image to be used in Format’ box appears.



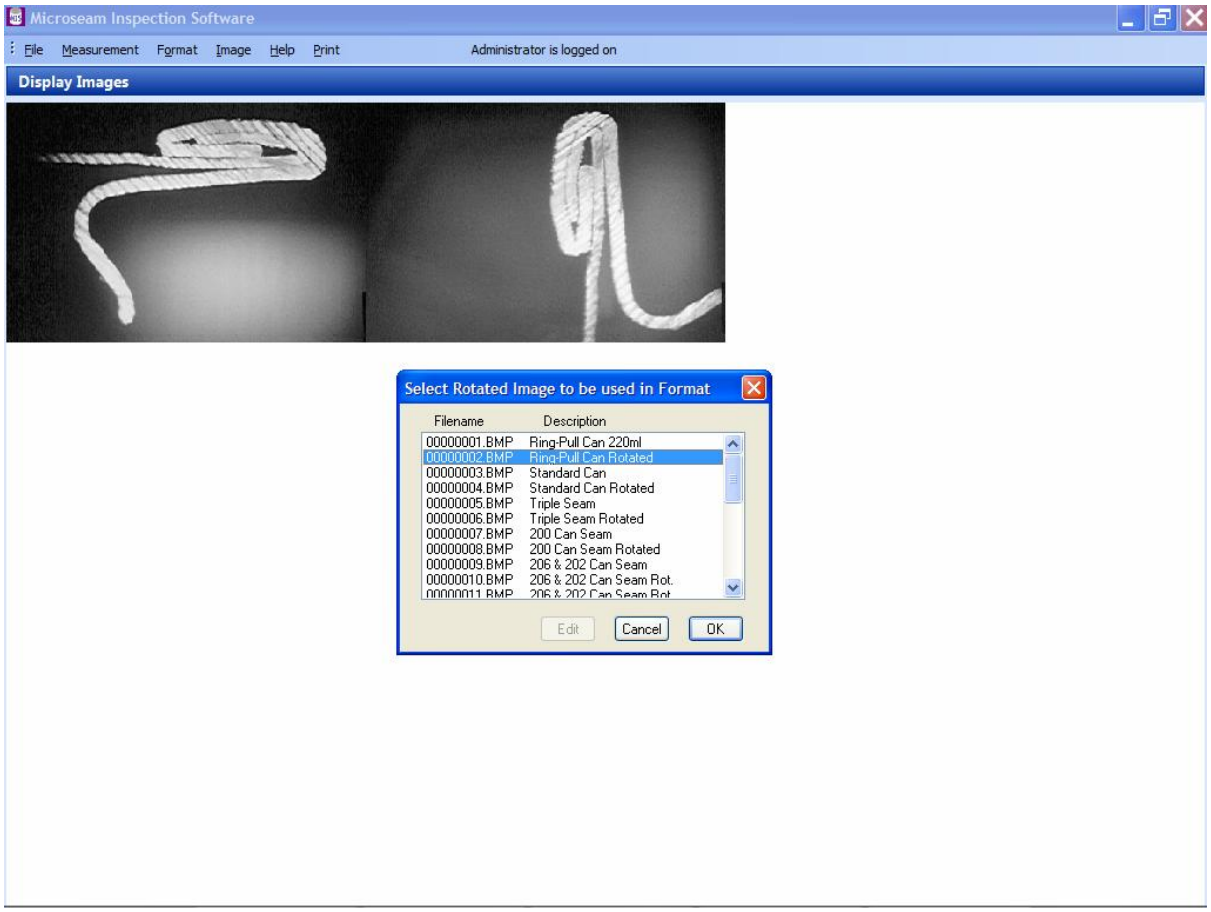
- Click on a Normal Image file.
- The seam image appears at the top left of the screen.



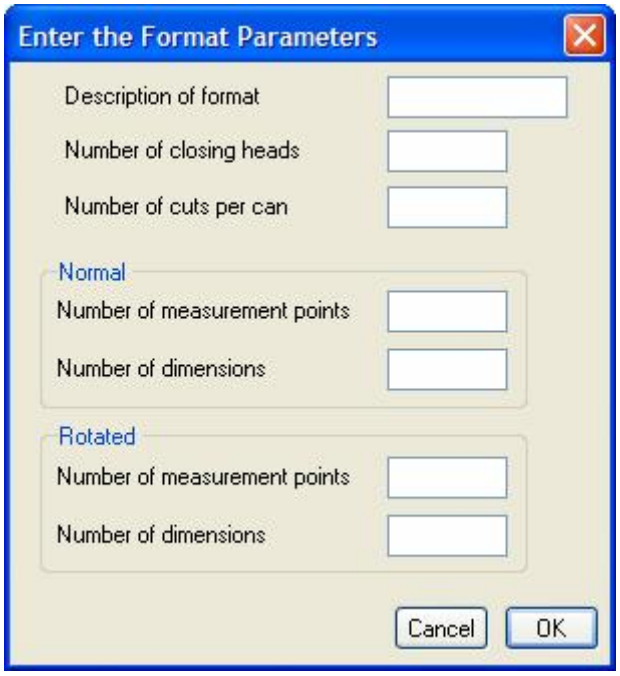
- Select the required image and click the ‘OK’ button.
- The ‘Select Rotated Image to be used in Format’ box appears.



- Click on a Rotated Image file.
- The rotated seam image appears on the screen in addition to the previous image.



- Select the required image and click the ‘OK’ button.
- The ‘Enter the Format Parameters’ box appears.



Description of format - Enter a name for the format. The characters can be alpha/numeric and the number of characters will depend on what will fit the box, but will average about 15 characters.

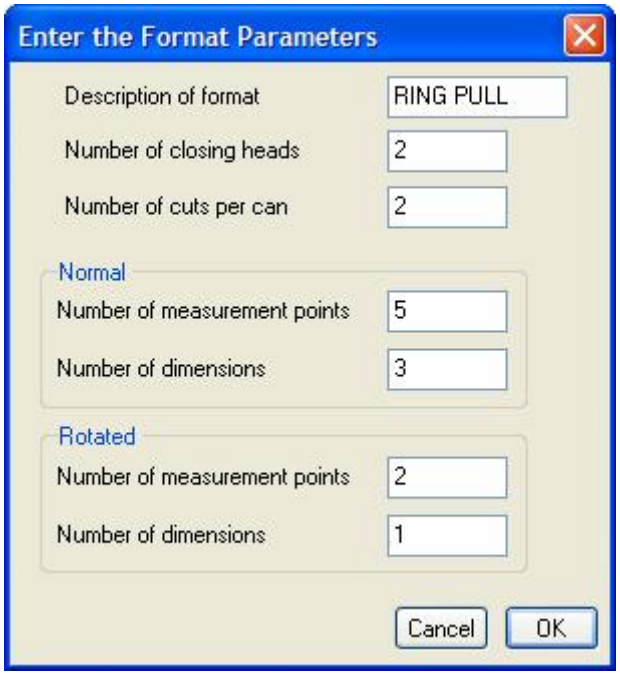
Number of closing heads – Enter a number from 1 to 100.

Number of cuts per can – Enter a number from 1 to 100.

Number of measurement points – Enter a number from 2 to 20 for the Normal and Rotated image.

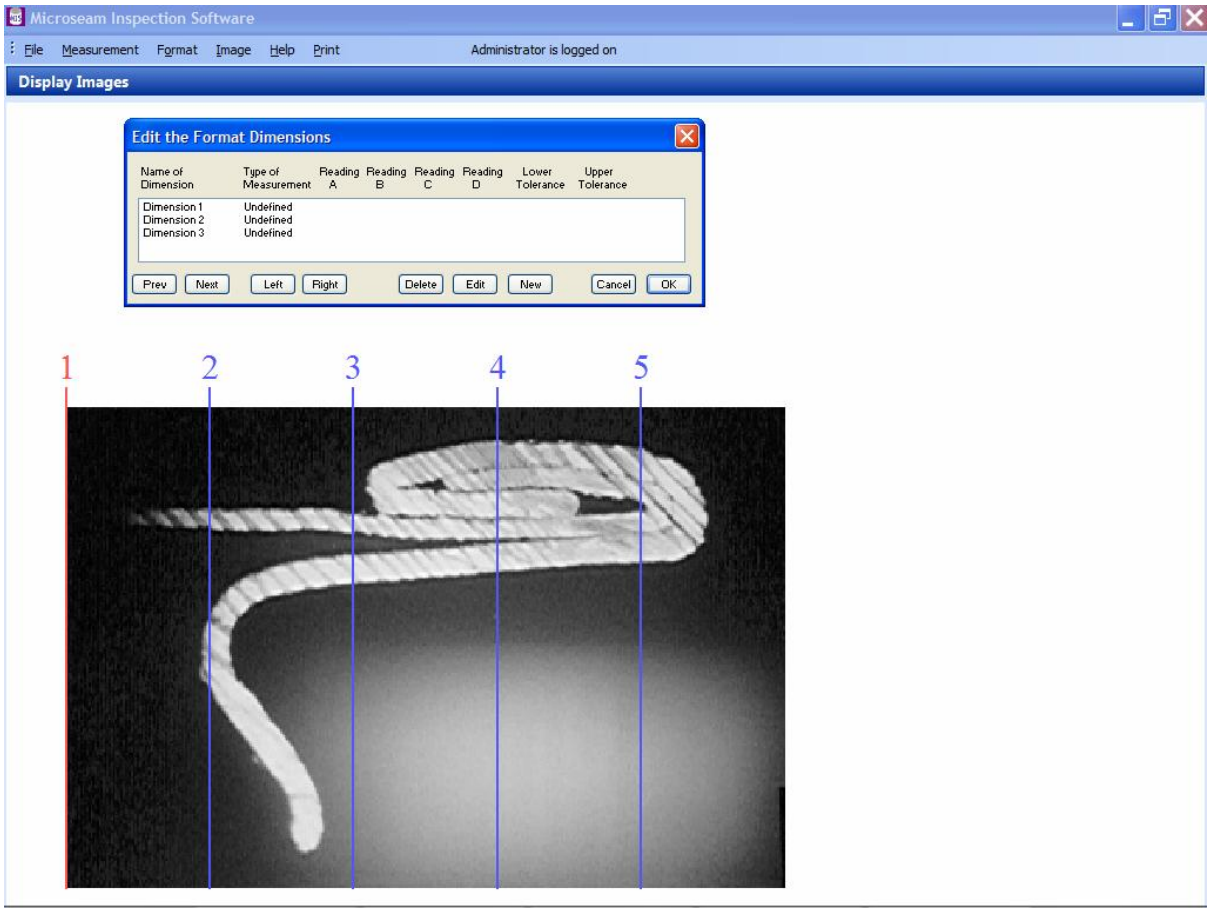
Number of dimensions – Enter a number from 1 to 100 for the Normal and Rotated image.

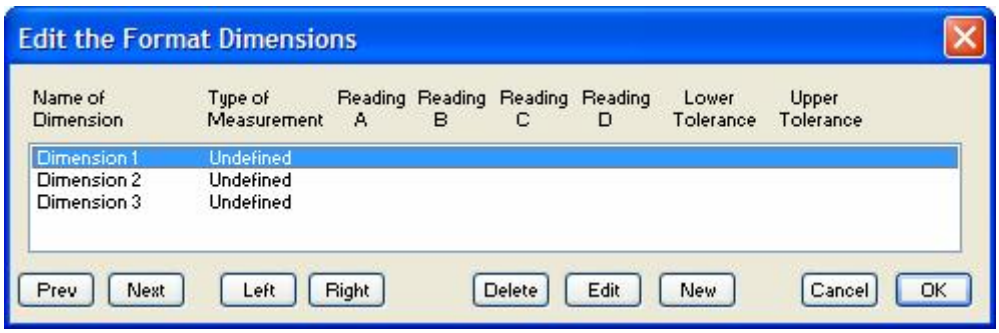
- The completed 'Edit the Format Parameters' box will look similar to the example shown below.



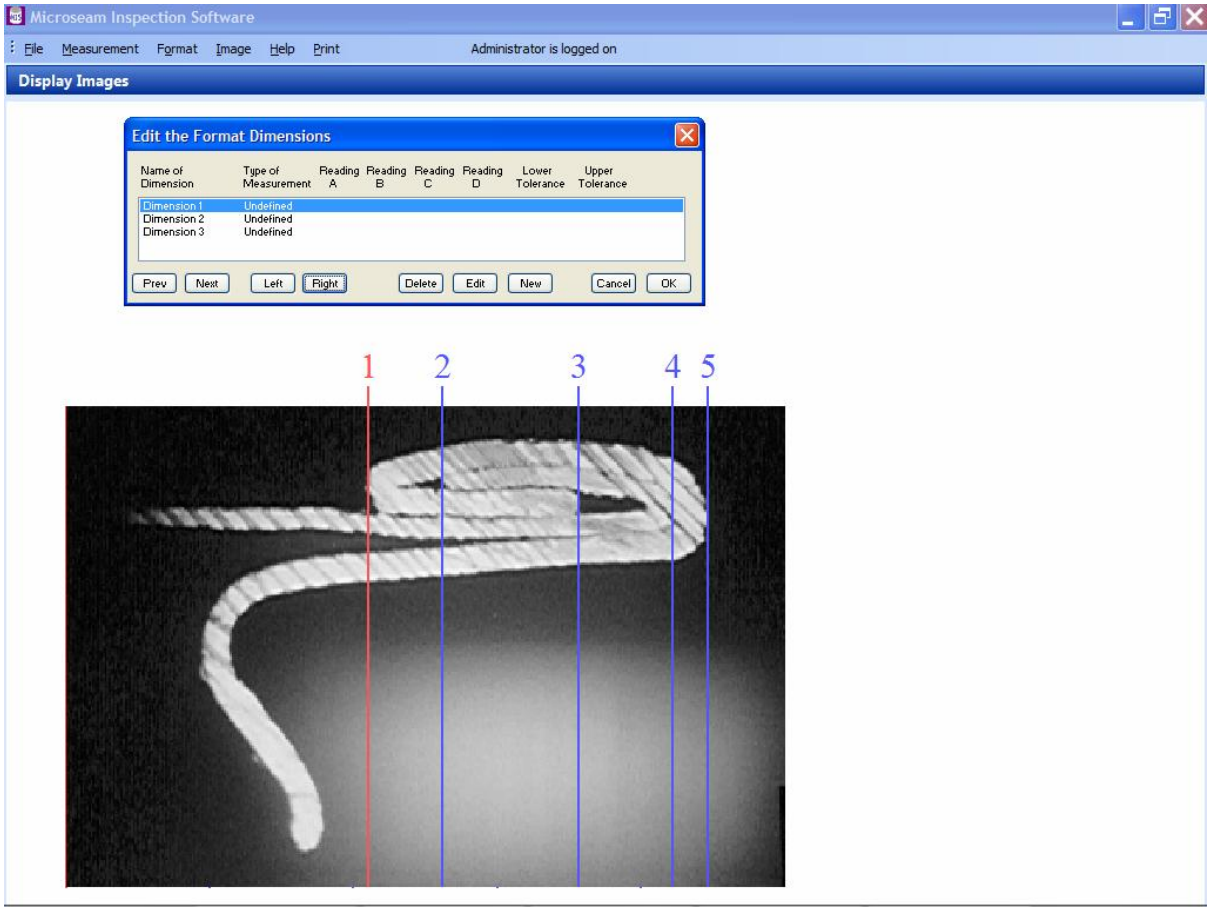
- Click the 'OK' button to continue.
- The screen displays the library image of the normal seam image with numbered vertical cursors indicating the measurement positions. The cursor lines are numbered and represent the point on the seam image at which a measurement should be made and in the order in which they are made.

  The 'Edit the Format Dimensions' box is also displayed ready to enter the name of the can dimensions to be measured with the tolerances and the measurements from which the dimensions are obtained.

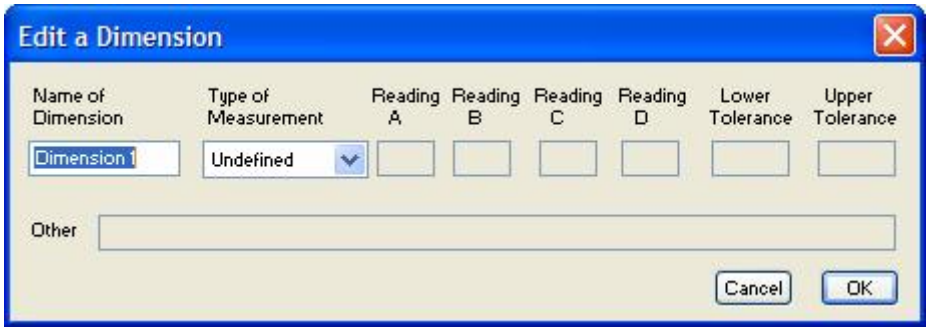




- The position of each cursor can be adjusted onto a desired measurement point by clicking the **Previous** or **Next** button in the 'Edit the Format Dimensions' box to select the cursor (Active cursor is red) and the **Left** or **Right** button to position the cursor in a suitable position. This is shown completed below:-



- Select one of the dimensions in the list and click the Edit button.
- The ‘Edit a Dimension’ box appears.



- Enter a meaningful name for the dimension being measured in the ‘Name of Dimension’ box.
- In the ‘Type of Measurement’ box use the drop down list to select between:-

'Undefined' – Initial state if no other choice is made.
'**Difference'** – The difference between readings A and B, i.e., (A - B)
'**Keyboard'** – A value entered on the keyboard, e.g., the body wall thickness
'**Digital Gauge'** – Value read from a digital gauge connected to an RS232 port.
'**Percentage'** – The ratio of two differences expressed as a percentage, i.e., 100 x (A - B) / (C - D)
'**Other'** – A user defined item which allows the user to create a specific calculation by entering a formula in the 'Other' box.

The formula may use the following operators:-

Addition	+
subtraction	-
multiplication	*
and division	/

Constants may also be entered as well as brackets ( ) to force the order of calculation.

The names of dimensions may also be used in a formula and should be entered in quotes as shown in the following examples.

Note the blank spaces used to help make the expression more readable and the use of brackets to force the order of calculation.

Using named dimensions:

The formula for percentage overlap becomes:

(("body hook length" + "end hook length" + (1.1 * "end component thickness") - "seam length") / ("seam length" - (2.2 * "end component thickness") - (1.1 * "body wall thickness"))) * 100

Where "body hook length", "end hook length", "end component thickness", "seam length", and "body wall thickness" are named dimensions.

Using a combination of named dimensions and readings from the seam gauge:

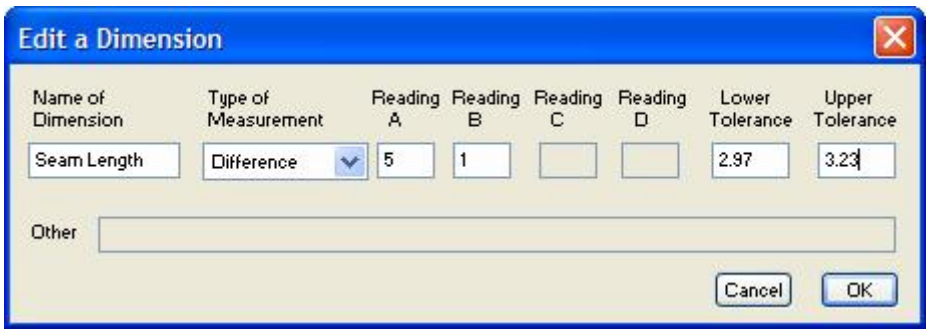
The formula for overlap becomes:

(M4–M2) + (M3–M1) + (1.1 * "end component thickness") - (M5–M1)

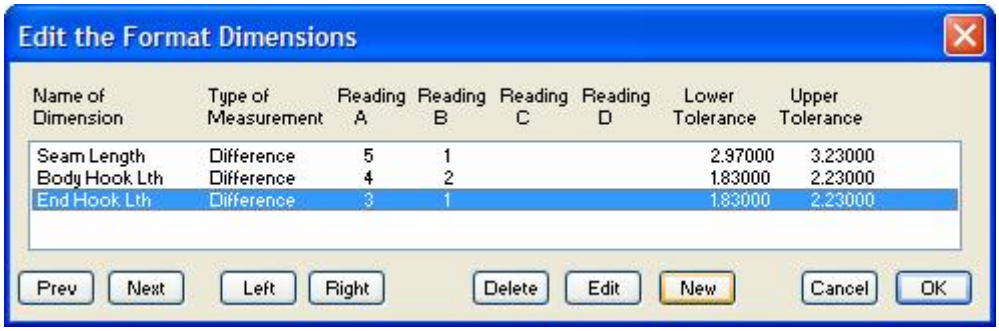
Where M1 is the reading at measurement position 1, M2 is the reading at measurement position 2, etc. and "end component thickness" is a named dimension.

Note:- Named dimensions or readings from the normal image cannot be combined with named dimensions or measurements from the rotated image in a formula.

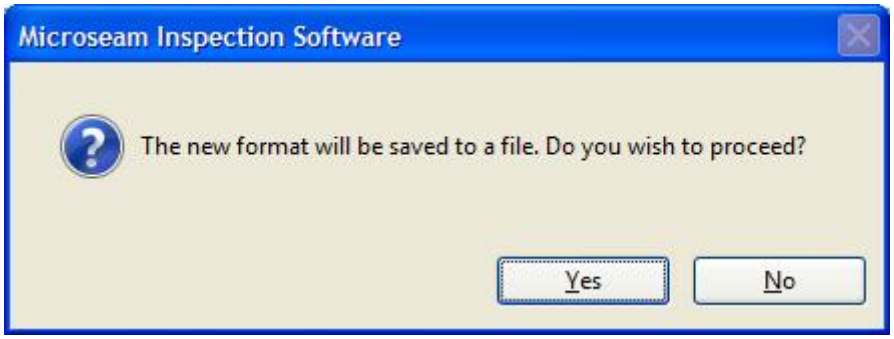
- Depending on the type of measurement selected, some of the boxes will be 'grayed out'.



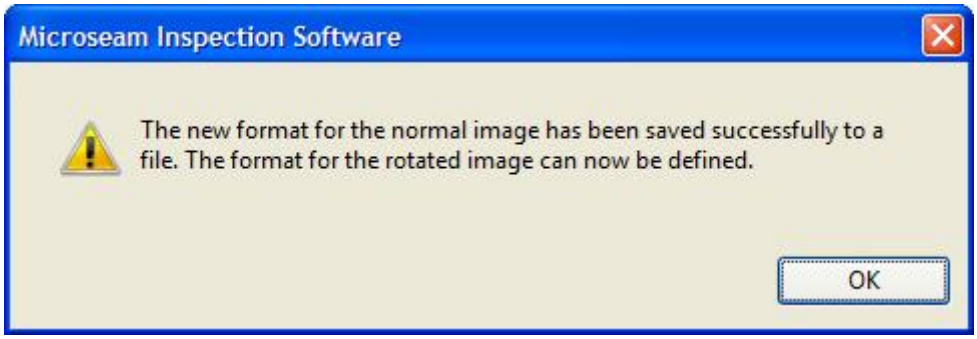
- Once the dimension has been defined as in the above example, click the 'OK' button to continue.
- Follow the same procedure to define the other dimensions.
- The resulting 'Edit the Format Dimensions' box should look similar to the following example.



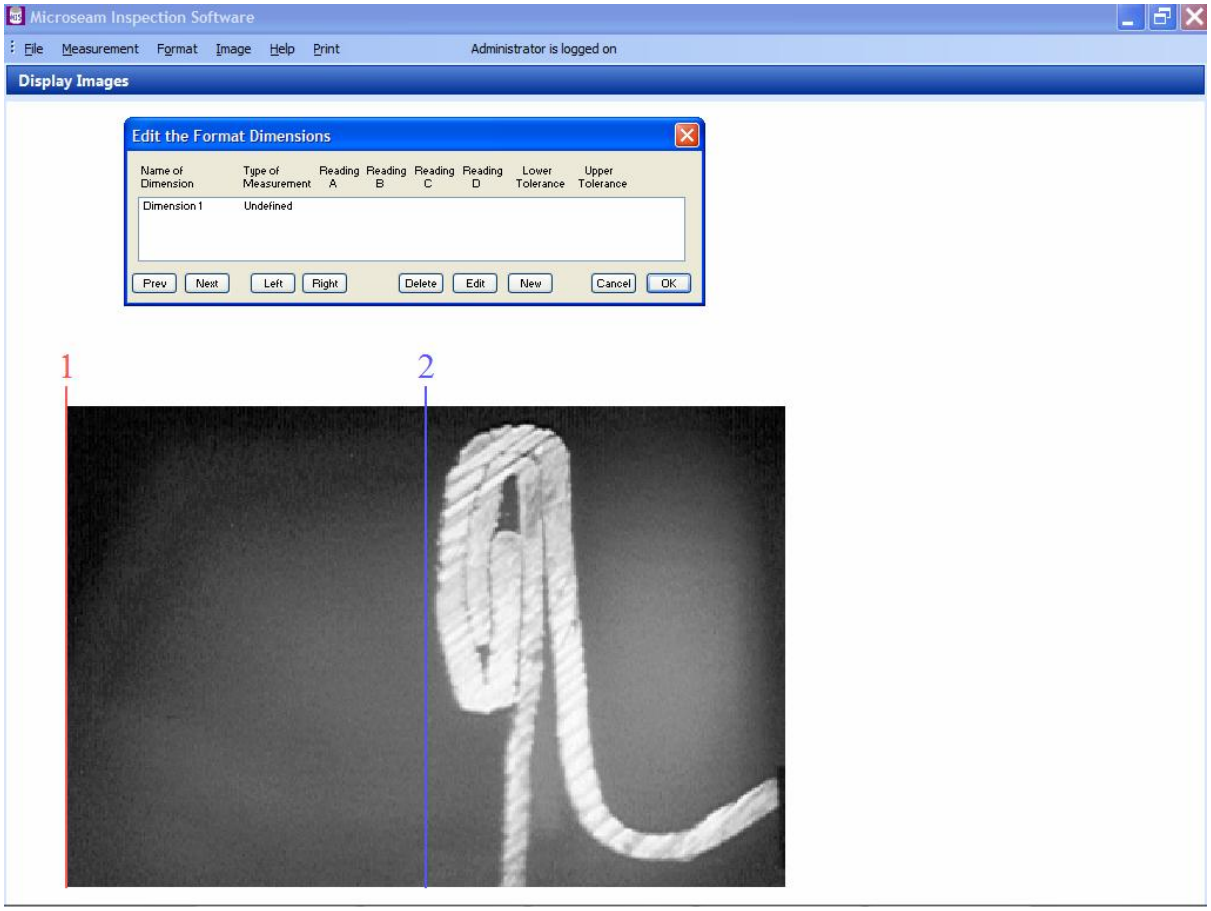
- If not satisfied, click on a dimension and then click 'Edit' to make changes, otherwise click the 'OK' button.
- A dialogue box will ask if the new format should be saved. Click the 'Yes' button.



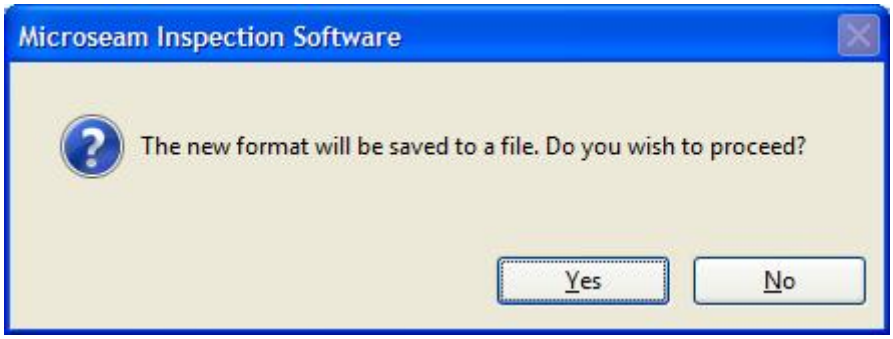
- A box appears stating that the normal image format has been saved and that the format for the rotated image can now be defined. Click the 'OK' button.



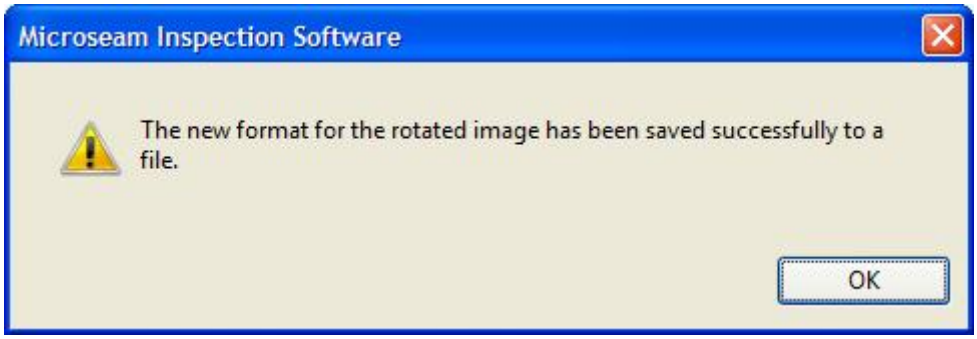
- The following screen appears containing the rotated image and the 'Edit the Format Parameters' box.



- Use the procedures described above to move cursors and to complete the 'Edit the Format Dimensions' box.
- When satisfied, click the 'OK' button in the 'Edit the Format Dimensions' box.
- A dialogue box will ask if the new format should be saved. Click the 'Yes' button.



- A box appears stating that the new format for the rotated image has been saved to a file.



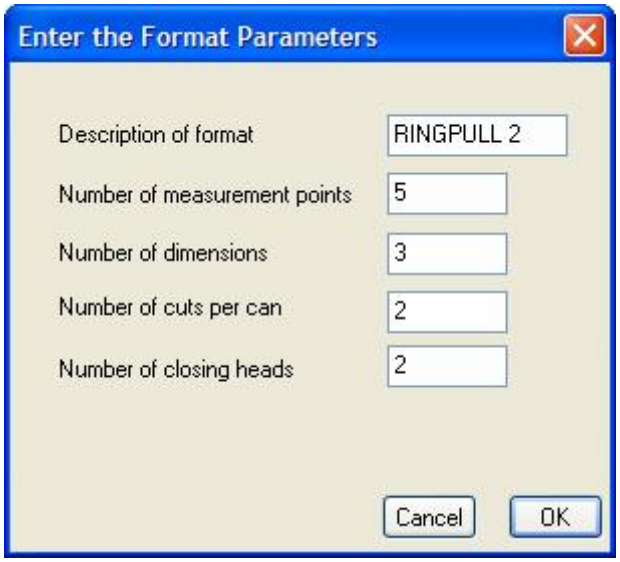
- Click the 'OK' button to return to the Display Measurements screen.

14.2.2 Normal Image

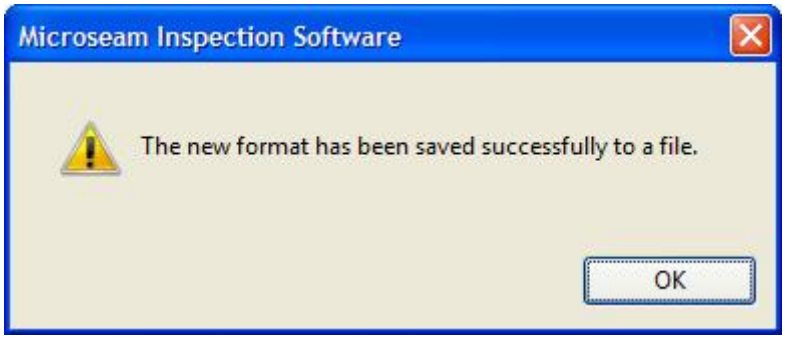
The procedure for creating a new format containing only a normal image is very similar to that described above in paragraph 14.2.1 above for a format containing both a normal and rotated image.

In general, ignore any references to the rotated image and note that some screens and information boxes are slightly different.

The 'Enter the Format Parameters' box is different with no reference to rotated image. Example below:-



The box indicating successful saving of the file is slightly different making no reference to continuing with the rotated image.

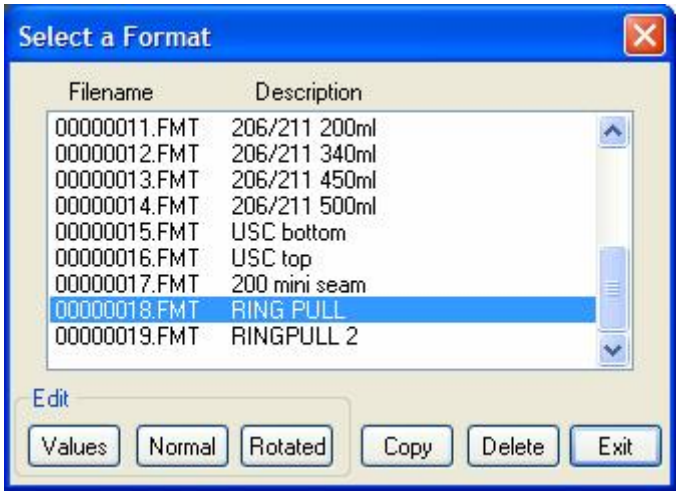


14.3 Editing an Existing Format

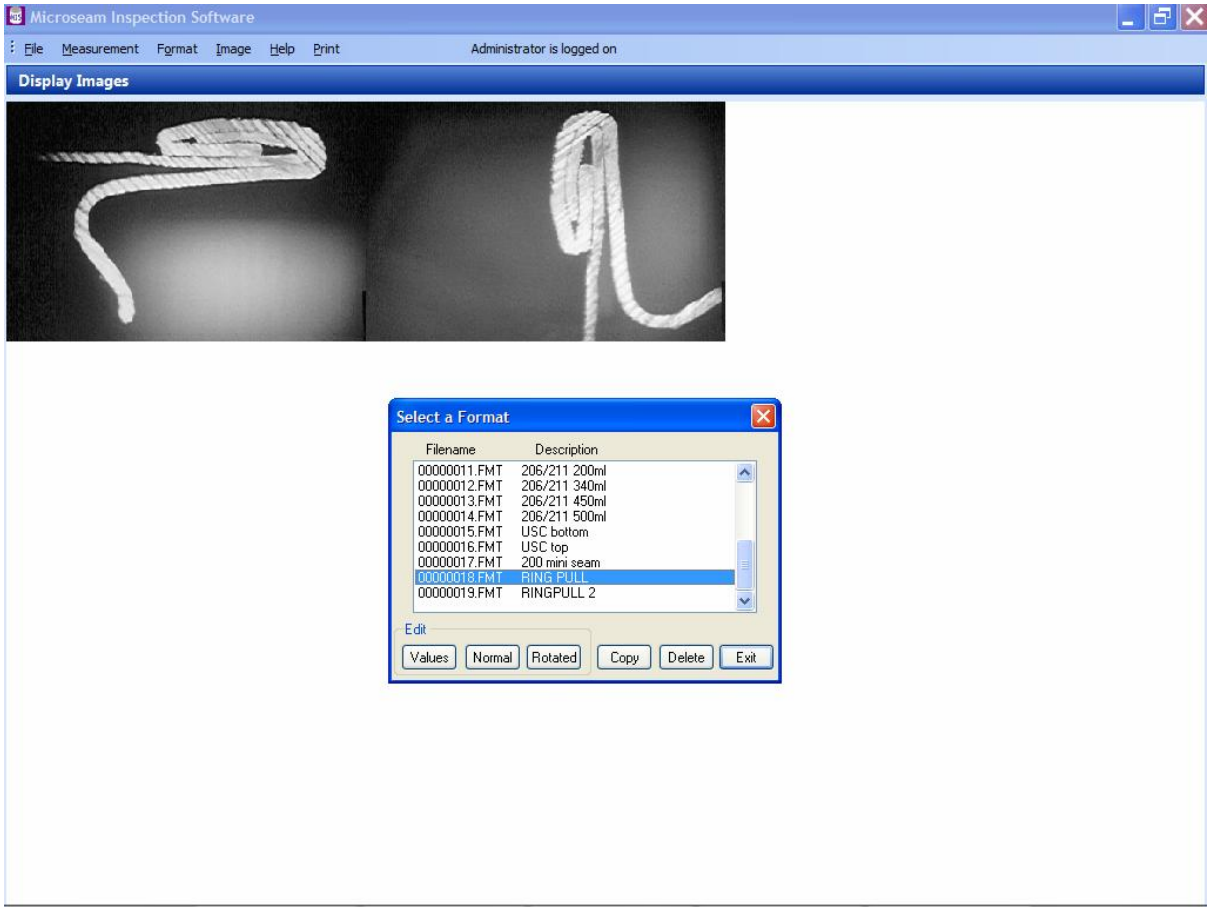
Existing formats can be edited or a copy can be made of an existing format on which to base a new format. After selecting a format to edit, the procedures and screens are identical or very similar to those described in 'Creating a New Format' in paragraph 14.2 above.

This function is restricted to a security level of 'Administrator'.

- From the 'Main Menu' select 'Format' and then 'Edit Formats' from the drop down menu. The 'Select a Format' box appears.



- Click on a format file.
- The seam image linked to the format appears on the screen and also the rotated image, if the format uses one.



- Select the required format from the list.
- Click on one of the buttons at the bottom of the 'Select a Format' box.

  'Values' button - Displays the 'Enter the Format Parameters' box allowing settings to be modified.

  'Normal' button - Adjusts positions of the cursors and to access the 'Edit the Format Dimensions' box for the normal image.

  'Rotated' button - Adjusts positions of the cursors and to access the 'Edit the Format Dimensions' box for the Rotated image.

  'Copy' button - To make a copy of the current format to a new file which can then be edited to create a new format.

  'Delete' button - To delete the highlighted format in the list. There is a Yes/No box to prevent unintentional deletion.

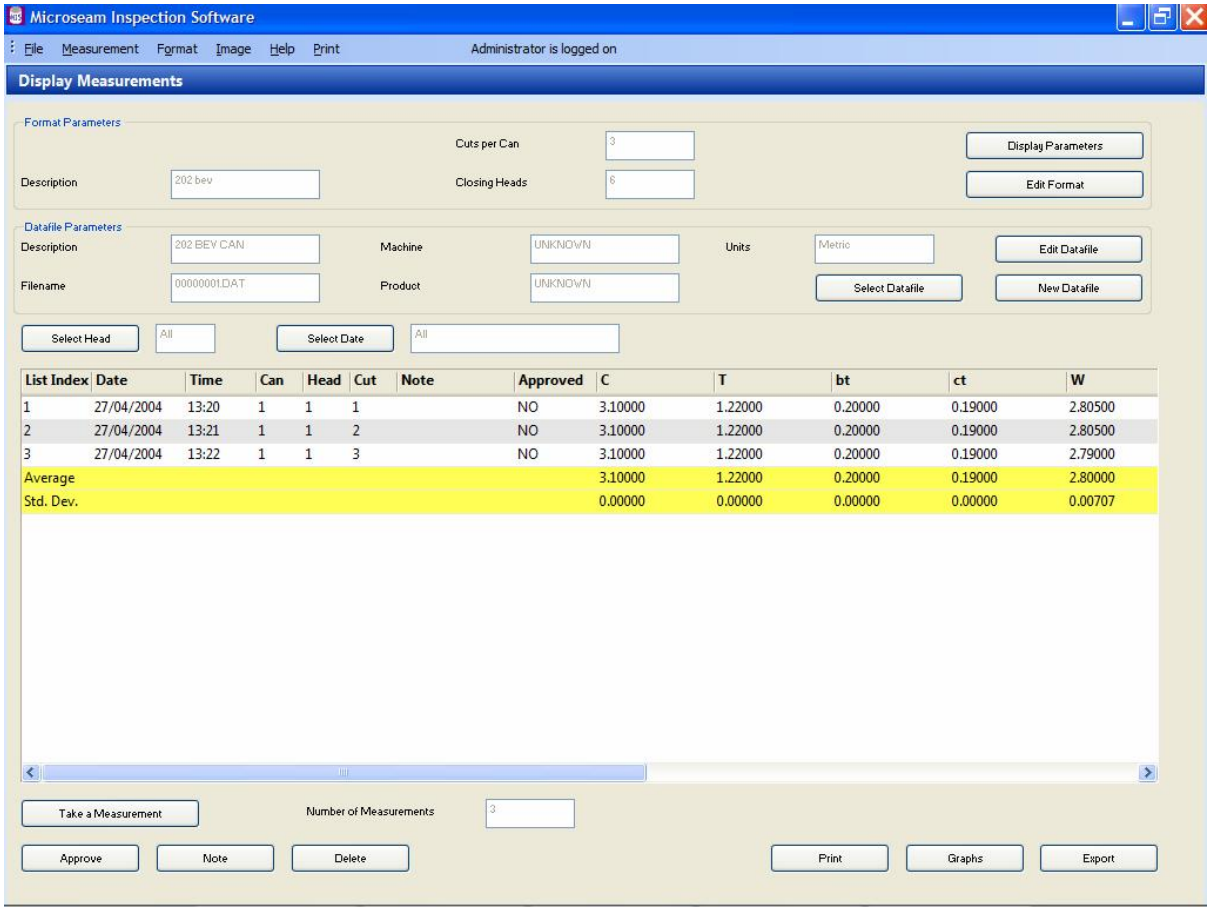
  'Exit' button - Click to return to the main screen once editing is completed.

15 DATAFILES

Datafiles are created, edited and selected to take measurements from the Display Measurements screen.

The Display Measurements screen can be reached by any operator from the main menu by selecting ‘Measurement’ and then selecting ‘Display’ from the drop down list.

An example screen is shown below, with some measurements taken:-



Before measurements can be made, the correct datafile containing the correct format and images for the can to be measured must be selected (See paragraph 15.4 below.

15.1 Parts of the Screen

The Display Measurements screen has three main areas, ‘Format Parameters’, ‘Datafile Parameters’ and ‘Data Table’.

15.1.1 Format Parameters

This area, at the top of the screen, displays brief information about the format to be used to take the measurements.

The following information is displayed:-

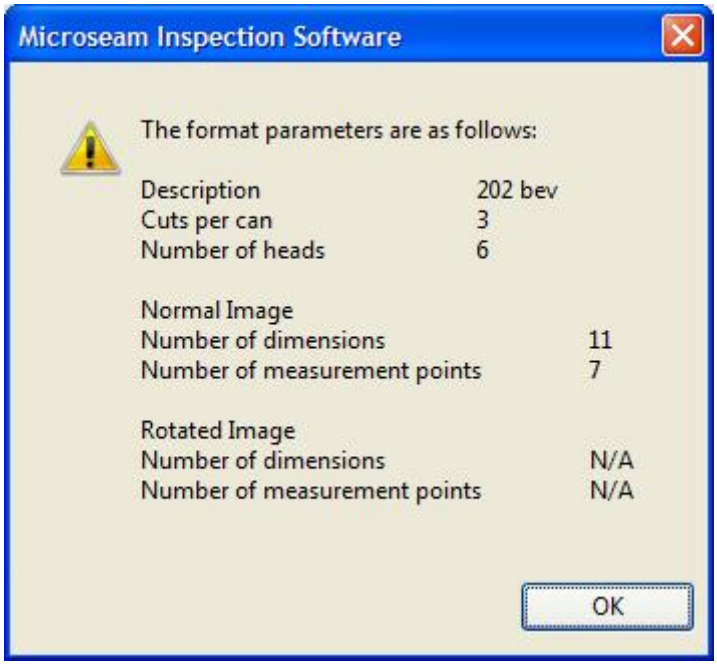
‘**Description**’ - Descriptive name for the format.

‘**Cuts per Can**’ - The number of cuts per can to be measured.

‘**Closing Heads**’ - The number of closing heads on the machine.

There are also two ‘Buttons’:-

'**Display Parameters**' - Displays an information box showing Format Parameters as per the following example:-



'**Edit Format**' - . The 'Edit Format' button is only available to 'Administrators' and allows editing of the format.

15.1.2 Datafile Parameters

This area of the screen displays brief information about the datafile to be used to take the measurements.

The datafile parameters define the closing machine to which the measurements relate, the product in the can, the units of measurement and the descriptive name of the datafile.

The following information is displayed:-

'**Description**' - Descriptive name for the datafile.

'**Filename**' - Computer generated filename e.g. 000000018.DAT

'**Machine**' - The identity of the closing machine used.

'**Product**' - The product in the can.

'**Units**' - The unit of measurement.

There are also three 'Buttons':-

'**Select Datafile**' - Allows selection of a datafile from a list of all files available.

'**Edit Datafile**' - Allows editing of a datafile (Admin only).

'**New Datafile**' - Allows creation of a new datafile into which measurements can be written (Admin only).

15.1.3 Data Table

The Data Table shows the can dimensions etc. as defined in the format file, and the date and time at which the measurements were made.

If a note has been added to the data, this will be displayed (in a truncated form) in the 'Note' column. A 'Note' is generated automatically by the system when a measured dimension is out of tolerance. An operator can add to an existing note or create a new one but a note can not be deleted.

Approved data is indicated by a 'YES' in the 'Approved' column.

If there are more dimensions than can be fitted into the width of the table, the scroll bar can be used to shift left or right.

There are also two buttons above the Data Table:-

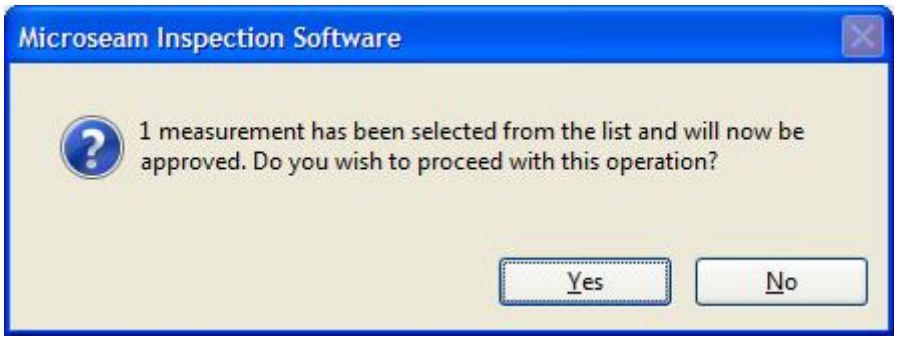
'**Select Head**' – Click here to select for which 'Head Number' measurements are displayed. Select a Head Number or All. The default is 'All' and the current selection is displayed in the adjacent box

'**Select Date**' - Click here to select for which 'Dates' measurements are displayed. The 'Select measurement dates' box appears allowing either 'All' Days, 'Particular Day' or 'Range of Days' to be selected. The default is 'All' and the current selection is displayed in the adjacent box.

There are eight 'Buttons' below the Data Table:-

'**Take a Measurement**' – Enables measurements to be made by any operator and recorded in the table (Described in detail in paragraph 15.5 below).

'**Approve**' - Allows the Administrator/Supervisor to approve a selected measurement. This will change a 'No' in the 'Approved' column to 'Yes'.



'**Note**' - Allows any operator to view and create notes . (Described in detail in paragraph 15.7 below).

'**Delete**' - Allows the Administrator/Supervisor to delete a selected measurement. (Described in detail in paragraph 15.8 below).

'**Print**' - Allows any operator to print selected dimensional data in a report (Described in detail in paragraph 15.9 below).

'**Graphs**' - Allows any operator to produce a graph of selected dimensions which can be subsequently printed (Described in detail in paragraph 15.10 below).

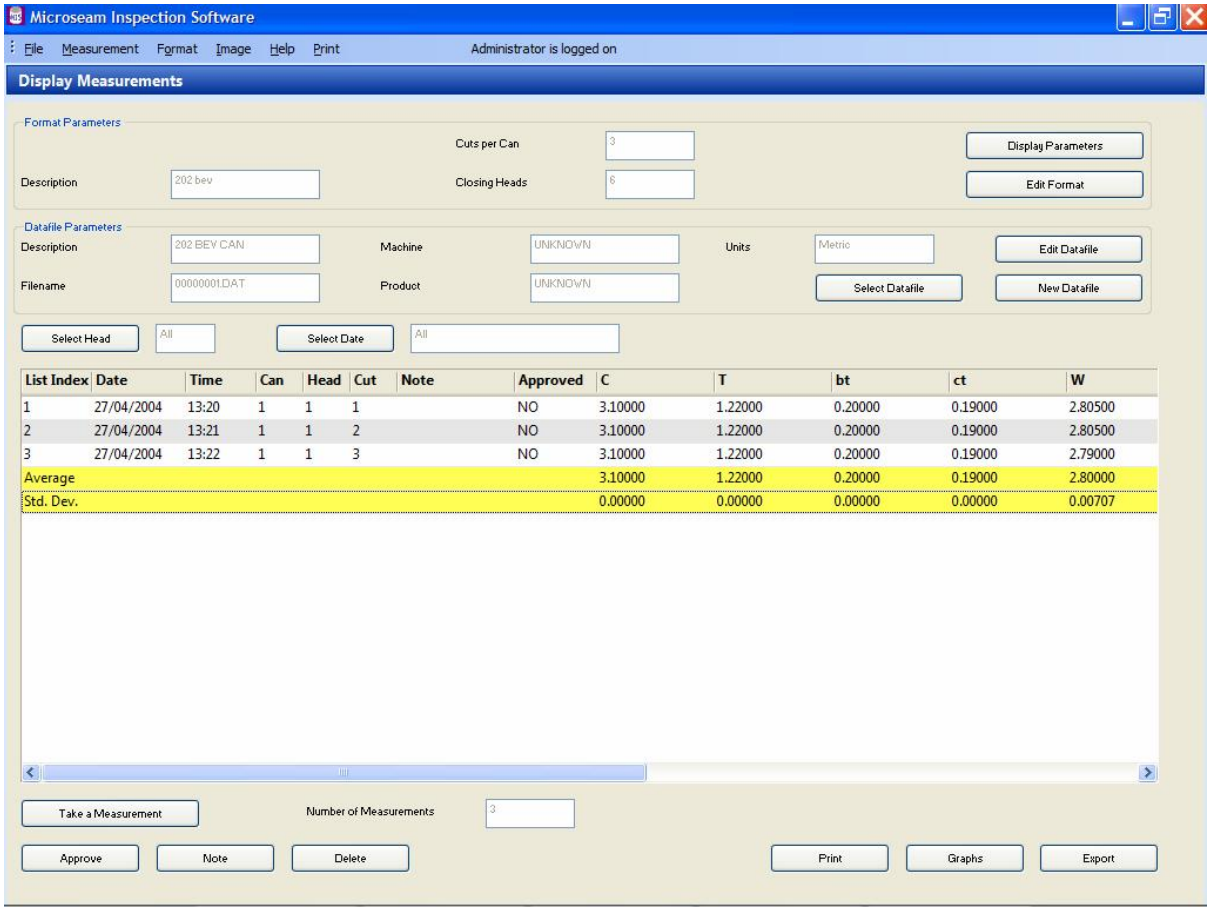
'**Export**' - Allows any operator to export selected data to a text file to be read by other database software (Described in detail in paragraph 15.11 below).

15.2 Create a New Datafile

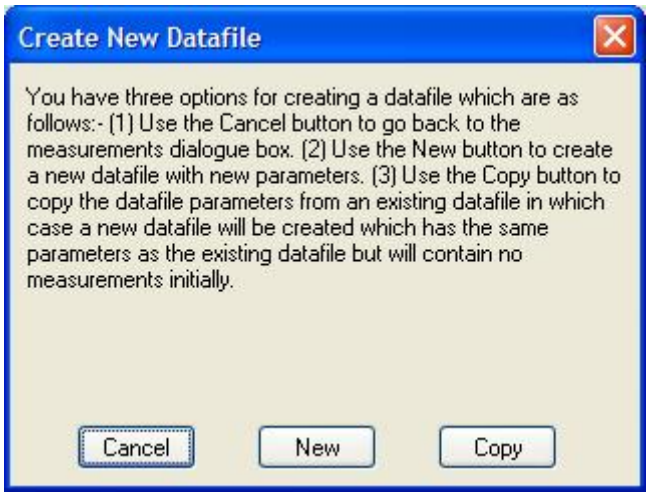
A new datafile can be created from scratch or by copying an existing datafile and editing it to suit.

A security level of Administrator is required to perform this function.

- From the main menu select ‘Measurement’ and from the drop down list select ‘Display’.
- If not already logged on the ‘Operator Logon’ box will appear. Logon as ‘Administrator’.
- The Display Measurements screen appears as shown below:-



- Click on the ‘New Datafile’ button located on the right of the ‘Datafile Parameters’ area of the screen.
- The ‘Create New Datafile’ box appears with text within the box explaining the options available.

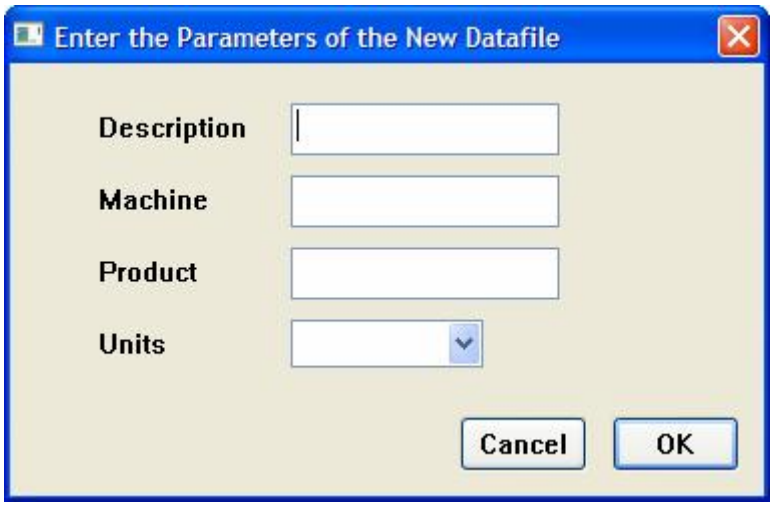


a. Use the ‘Cancel’ button to go back to the ‘Display Measurements’ screen.

b. Use the ‘New’ button to create a new datafile with new parameters.

c. Use the ‘Copy’ button to copy the datafile parameters from an existing datafile in which case a new datafile will be created which has the same parameters as the existing datafile but will contain no measurements initially.

- Click the ‘New’ button.
- The ‘Enter the Parameters of the New Datafile’ box appears.



- Complete the box with the following information:-

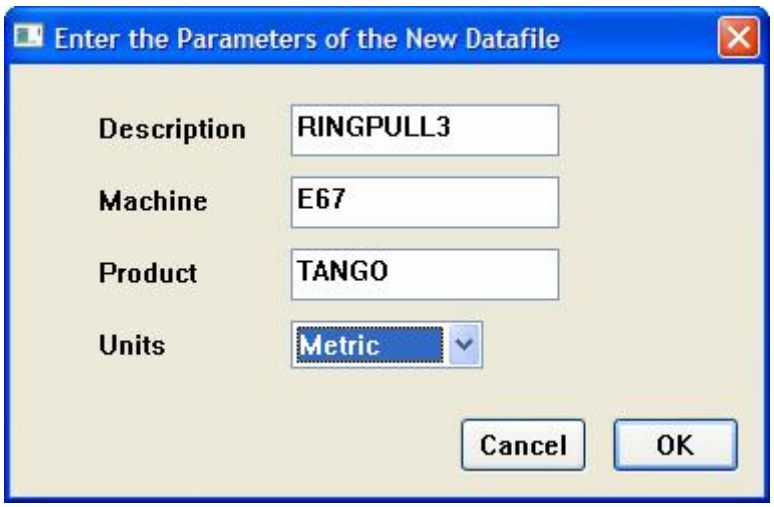
  ‘**Description**’ – Descriptive name for the datafile.

  ‘**Machine**’ – The identity of the closing machine used.

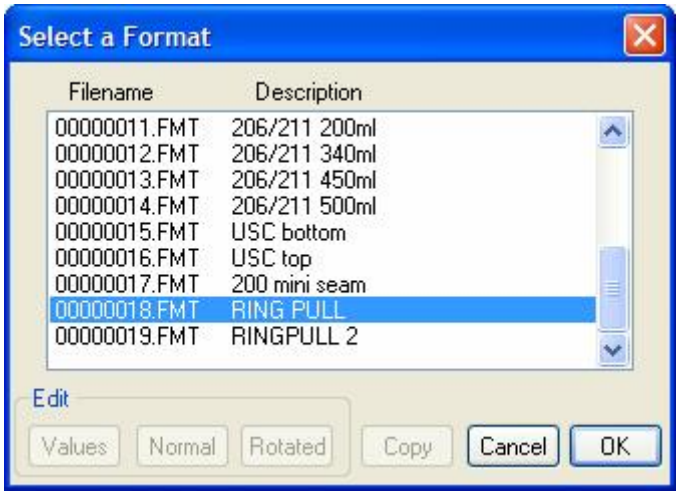
  ‘**Product**’ – The product in the can.

  ‘**Units**’ - .The unit of measurement, choose between ‘Inches’ or ‘Metric’.

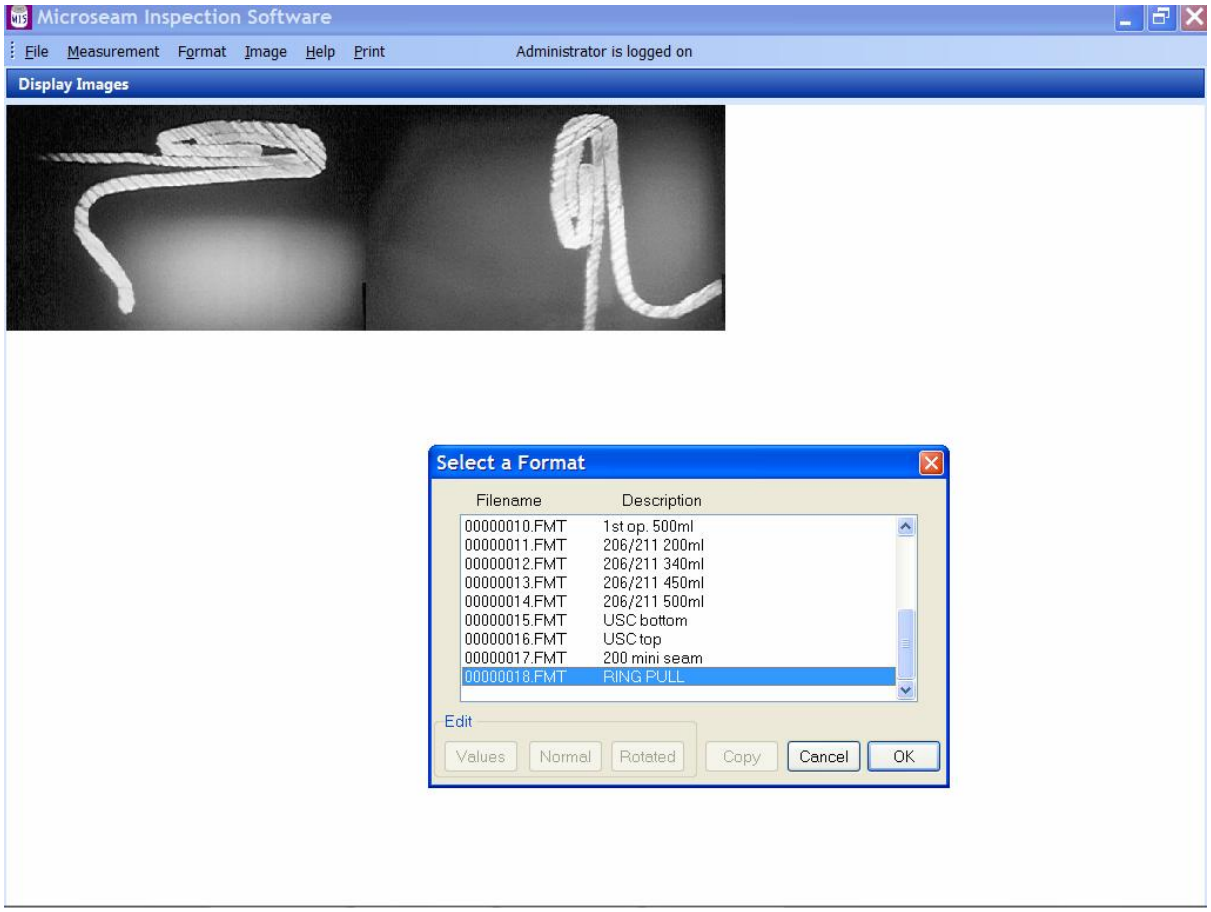
- The completed box should look something like the following:-



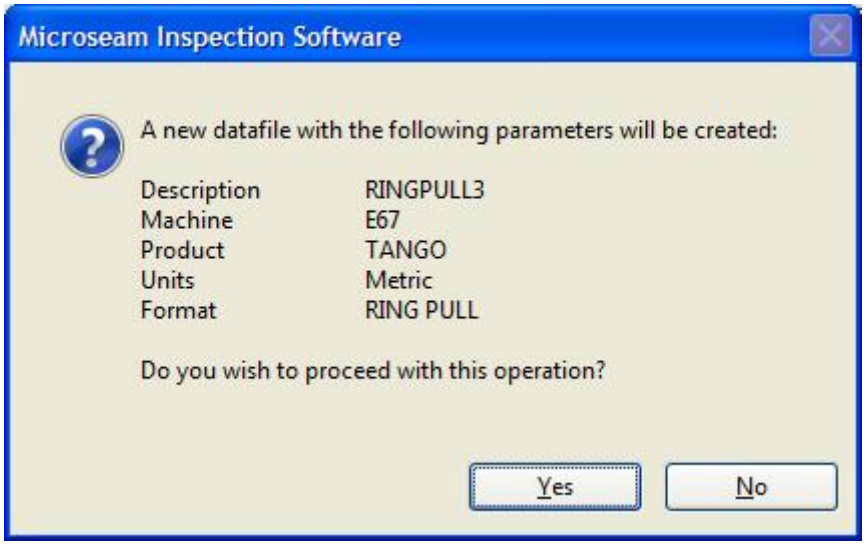
- When satisfied click the ‘OK’ button. The ‘Select a Format’ box appears:-



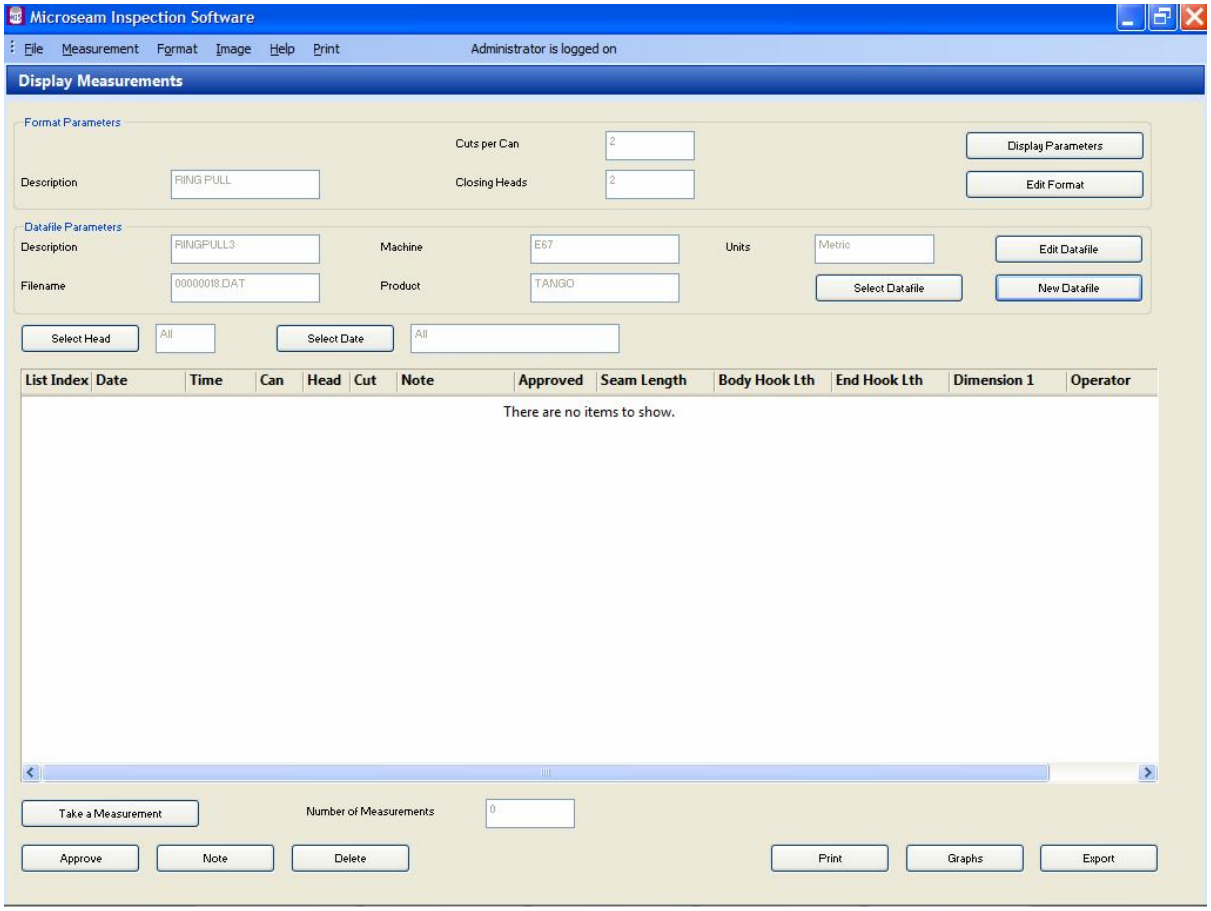
- Click on a format file.
- The images associated with the format are displayed in addition to the 'Select a Format' box.



- When satisfied, Click the 'OK' button. A confirmation box appears:-



- Click the 'Yes' button. The Display Measurements screen re-appears showing the new datafile ready for taking measurements.



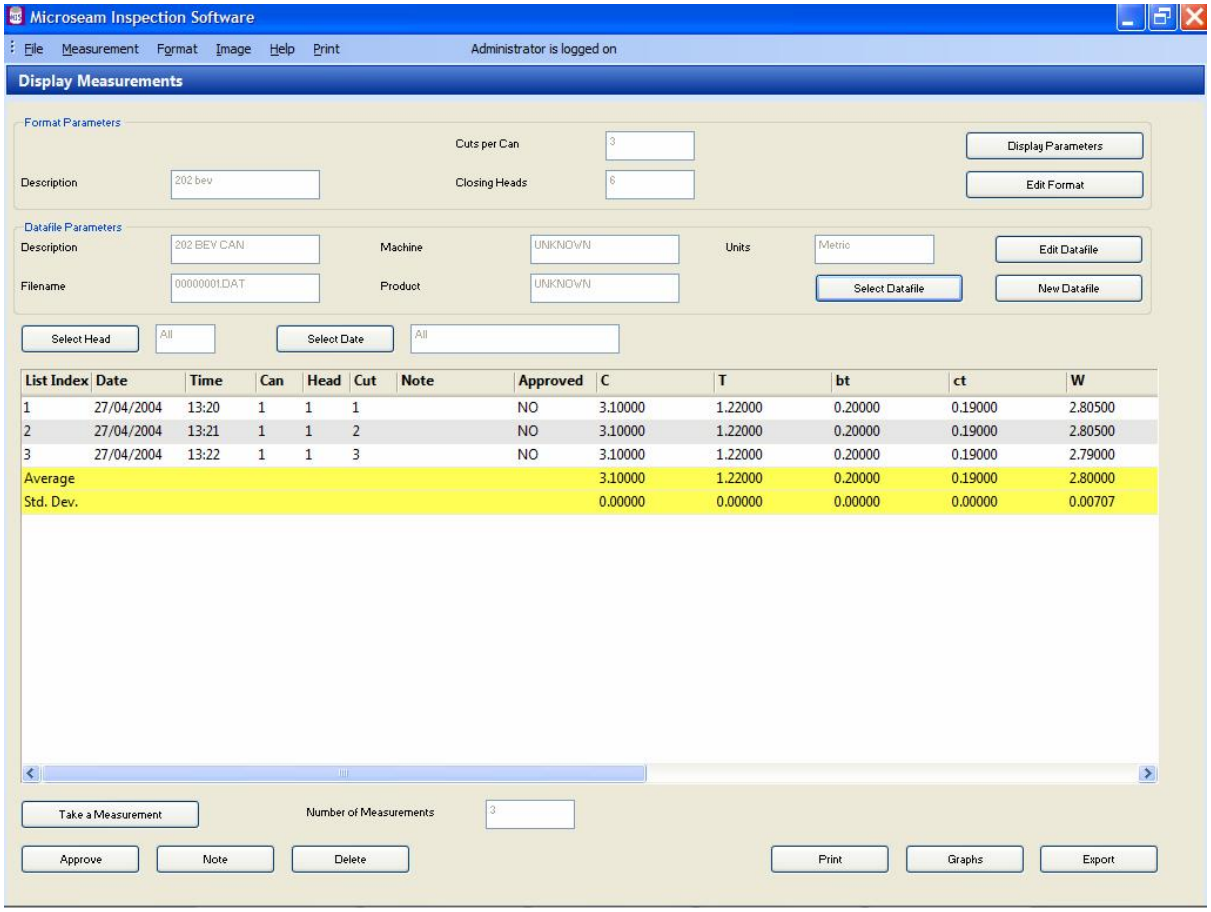
15.3 Editing an Existing Datafile

An existing datafile can be edited if required.

This function is restricted to a security level of 'Administrator'.

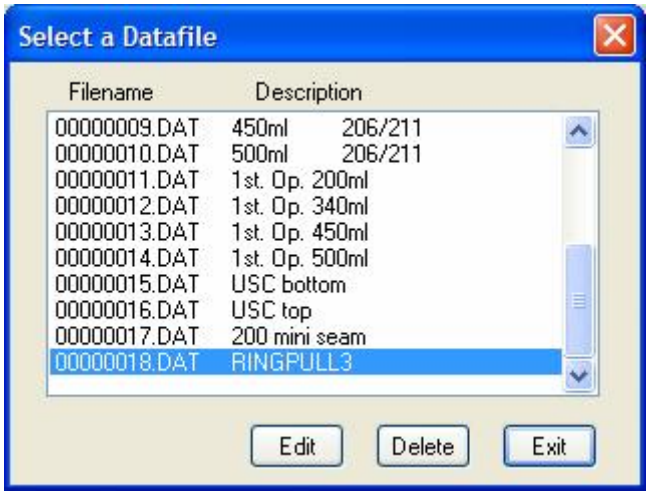
- From the main menu select 'Measurement' and from the drop down list select 'Display'.

- If not already logged on the 'Operator Logon' box will appear. Logon as 'Administrator'.
- The Display Measurements screen appears:-



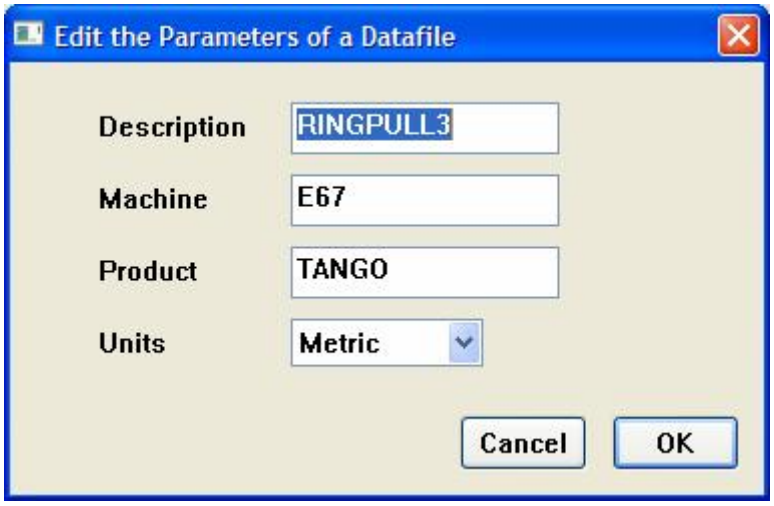
Microseam automatically displays the data from the last used datafile so measurement data may or may not be present.

- Click on the 'Edit Datafile' button located on the right of the 'Datafile Parameters' area of the screen.
- The 'Select a Datafile' box appears which has the options of Editing or Deleting a Datafile or to 'Exit' with no change.



- Click on a Datafile and click the 'Edit' button.

- The ‘Edit the Parameters of a Datafile’ box appears.



- Make required changes to the following information:-

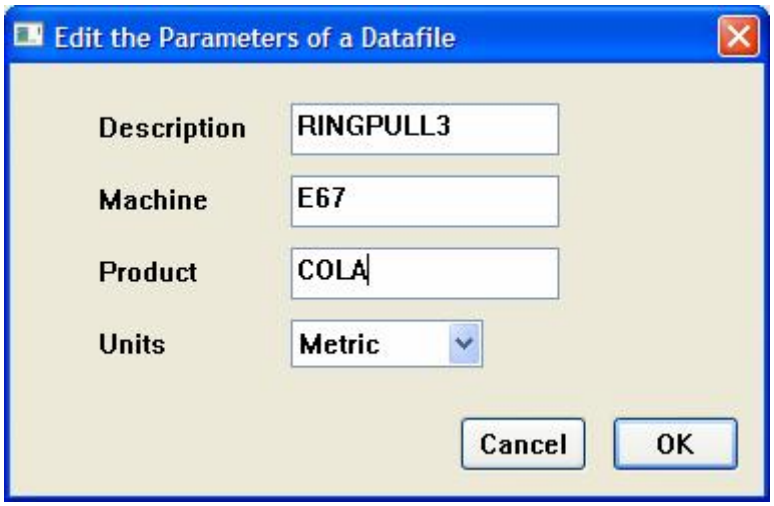
  ‘**Description**’ – Descriptive name for the datafile.

  ‘**Machine**’ – The identity of the closing machine used.

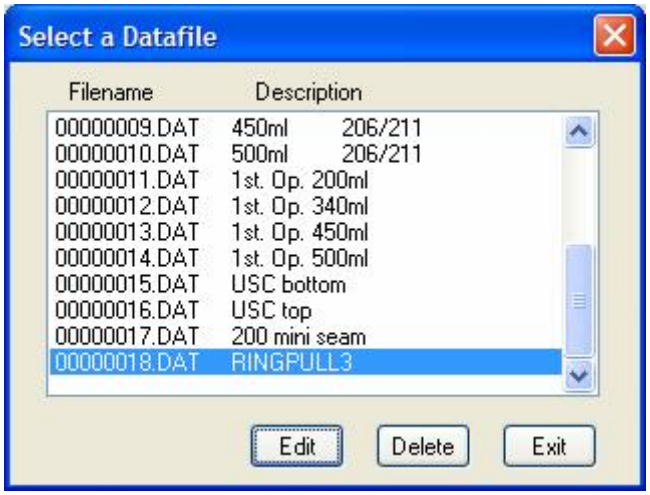
  ‘**Product**’ – The product in the can.

  ‘**Units**’ - .The unit of measurement, choose between ‘Inches’ or ‘Metric’.

- The completed box should look something like the following, with a changed Product:-



- If satisfied Click the ‘OK’ button.
- The ‘Select a Datafile’ box re-appears.

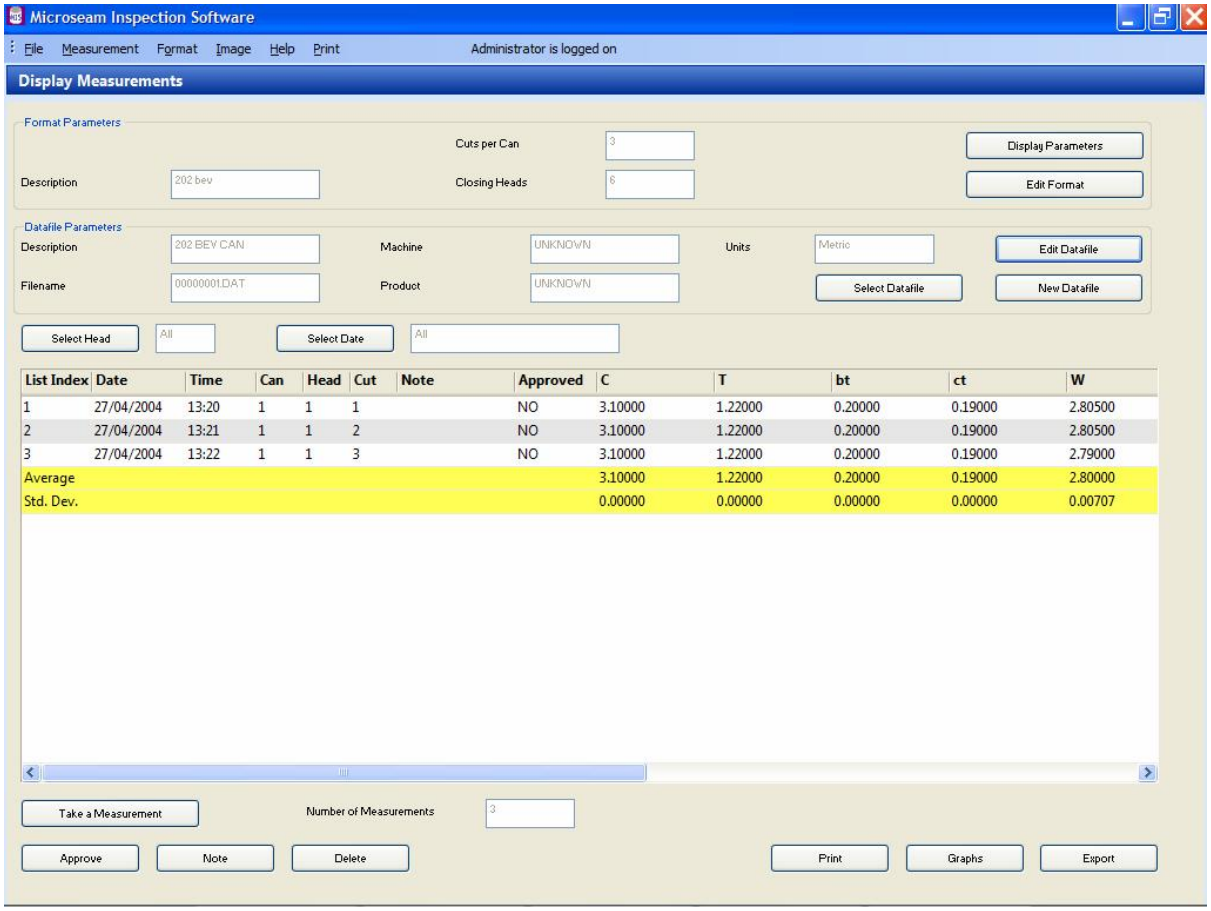


- Unless there are further Datafiles requiring editing or deleting, click the 'Exit' button.
- The Display Measurements screen re-appears.

15.4 Selecting a Datafile

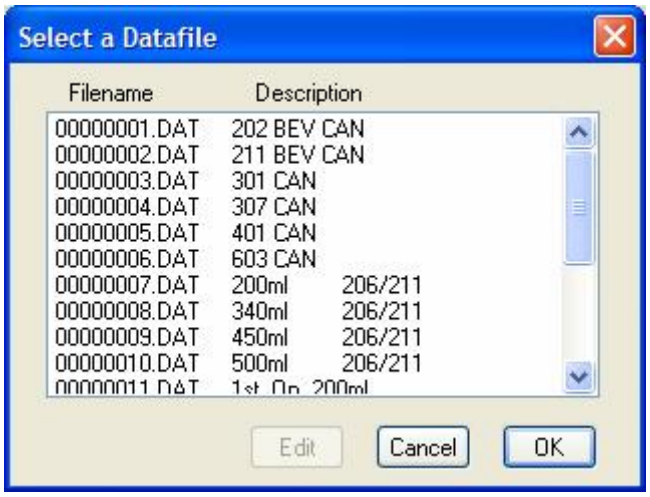
Any operator can select and view a datafile:-

- From the main menu select 'Measurement' and from the drop down list select 'Display'.
- If not already logged on, the 'Operator Logon' box will appear and will need to be completed.
- The 'Display Measurements' screen appears as shown in the example screen-shot below:-

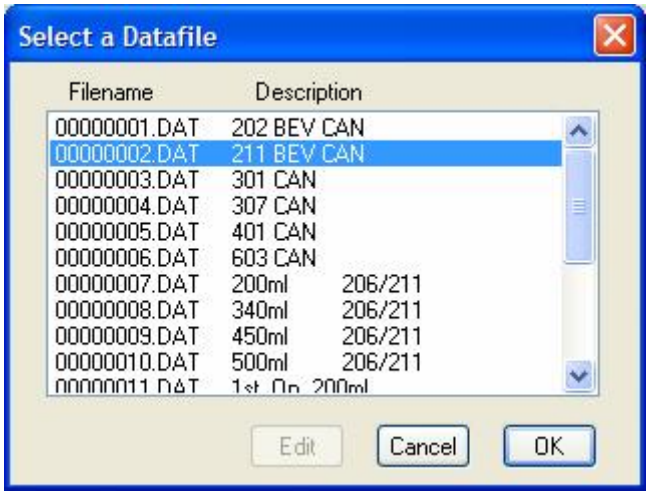


Microseam automatically displays the data from the last used datafile so measurement data may or may not be present.

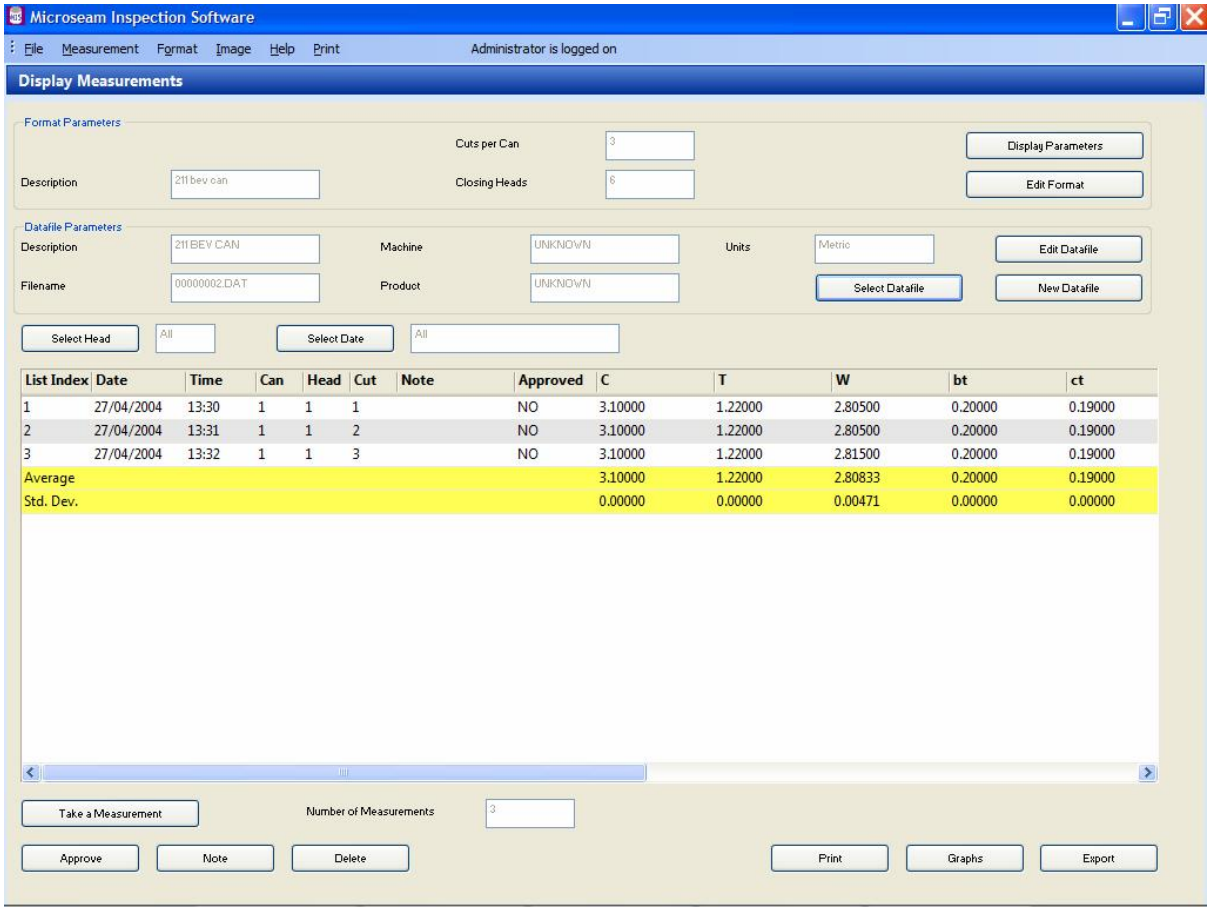
- Click on the ‘Select Datafile’ button located towards the right of the ‘Datafile Parameters’ area of the screen.
- The ‘Select a Datafile’ box appears.



- Scroll as necessary and select the Datafile.



- Click on the 'OK' button and the selected Datafile will be displayed as shown below.



15.5 Taking Measurements

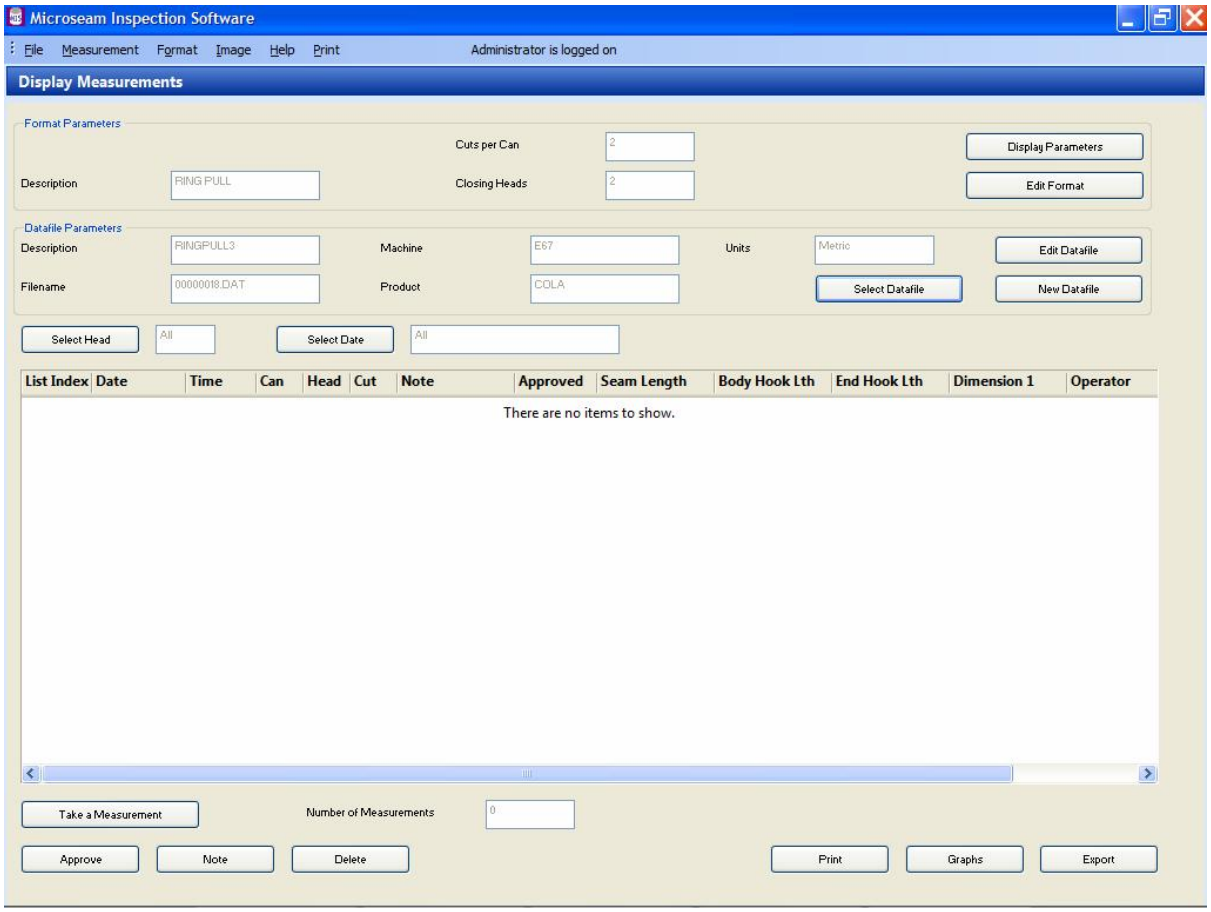
The main display for the measurements made on a can or series of cans is the Display Measurements screen which is also used for taking measurements on a can.

A User can take measurements.

A Supervisor can take measurements and delete or approve data.

The Administrator can perform all functions.

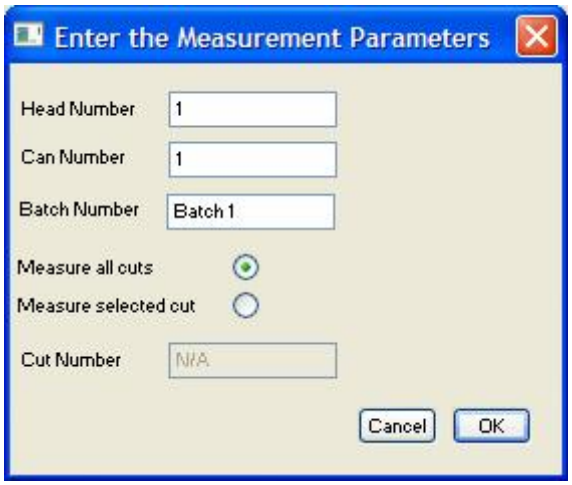
- From the main menu select ‘Measurement’ and from the drop down list select ‘Display’.
- If not already logged on the ‘Operator Logon’ box will appear. Logon as required.
- The Display Measurements screen appears as shown below:-



Microseam automatically displays the data from the last used datafile so measurement data may or may not be present. In the above example no measurement data is present as indicated by the ‘There are no items to show’ text.

- If the datafile displayed in not the one needed to take measurements then select a different datafile, as described in paragraph 15.4 above, or create a new one, as described in paragraph 15.2 above).

- Click on the 'Take a Measurement' button at the bottom left of the screen.
- The 'Enter the Measurement Parameters' box appears:-



Microseam automatically increments the head, can and cut values according to the information given when the format was created and depending on what, if any, measurements have already been made.

If a can is to be measured out of sequence, the displayed values may be altered appropriately but Microseam issues a warning if the entered combination of values is not unique.

'**Head Number**' – The number of the closing head to be measured is displayed but can be altered. If no measurements have been taken in the datafile previously then 'Head Number' will be automatically completed with a value of '1'.

If required, enter a number within the range specified in the format for the number of closing heads.

'**Can Number**' – The number of the can to be measured is displayed but can be altered. If no measurements have been taken in the datafile previously then 'Can Number' will be automatically completed with a value of '1'.

'**Batch Number**' – This must be completed, but if not used just insert a dash.

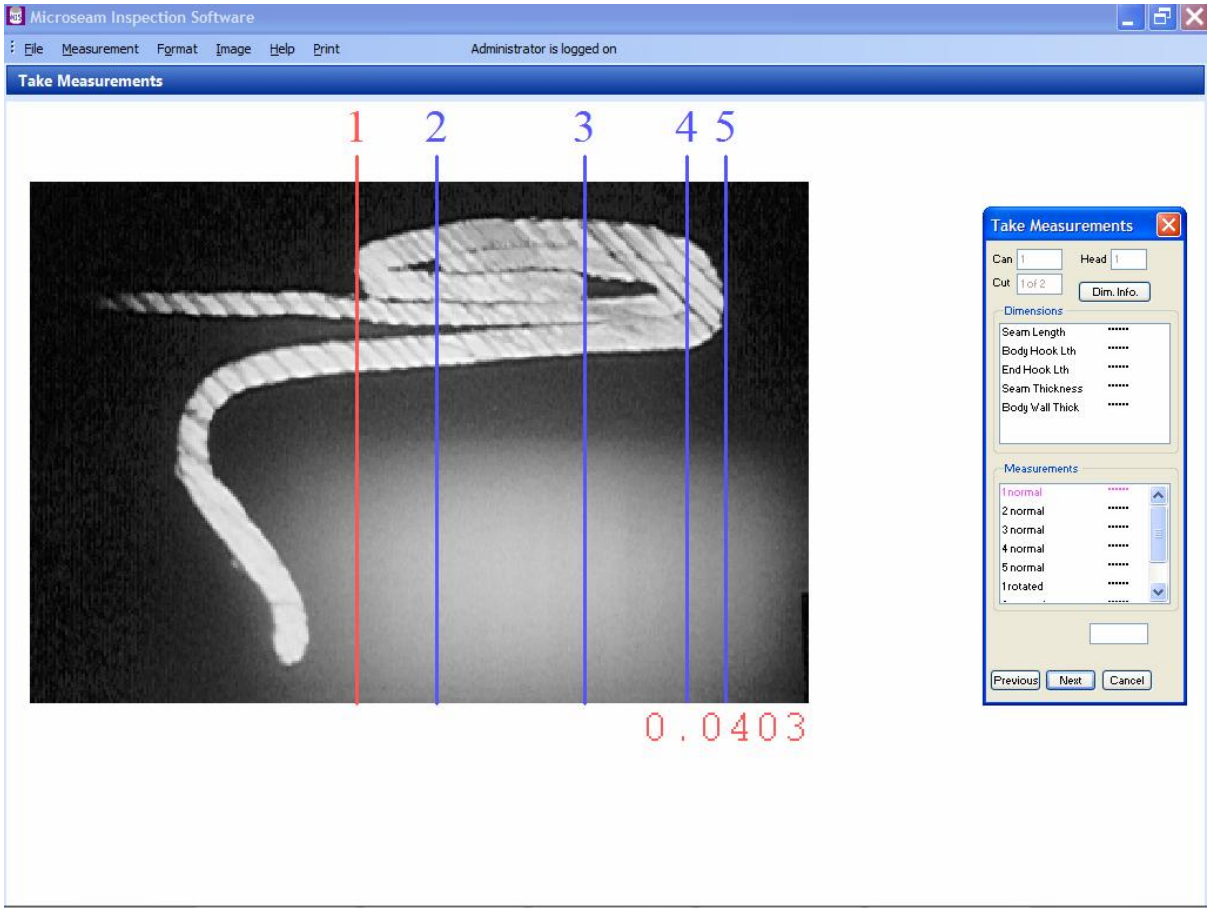
'**Measure all cuts**' – If this button is selected then all cuts will be measured.

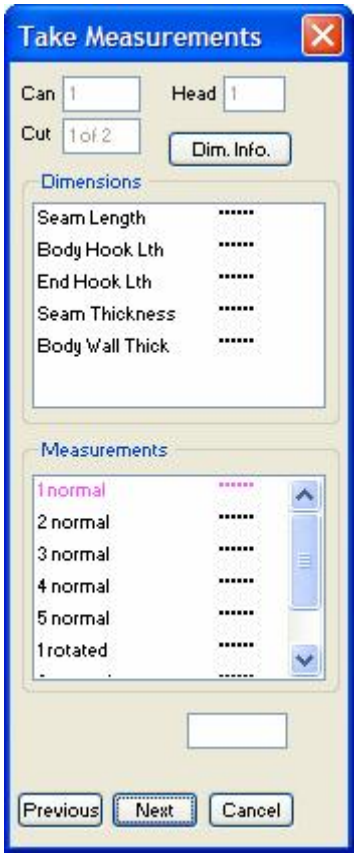
'**Measure selected cut**' – If this button is selected then a particular cut number can be selected for measurement. The 'Cut Number' box which was 'grayed out' turns white to allow a number to be entered.

'**Cut Number**' – This is normally 'grayed out' and is only enabled if the 'Measure selected cut' button above is enabled. Enter the cut number to be measured.

- Click the 'OK' button. A screen showing the normal seam image appears with a series of vertical cursors, as defined in the format. The red cursor is the current measurement point.

Also displayed is the 'Take Measurements' box. Under the seam image is displayed, in red, the current reading from the seam gauge.



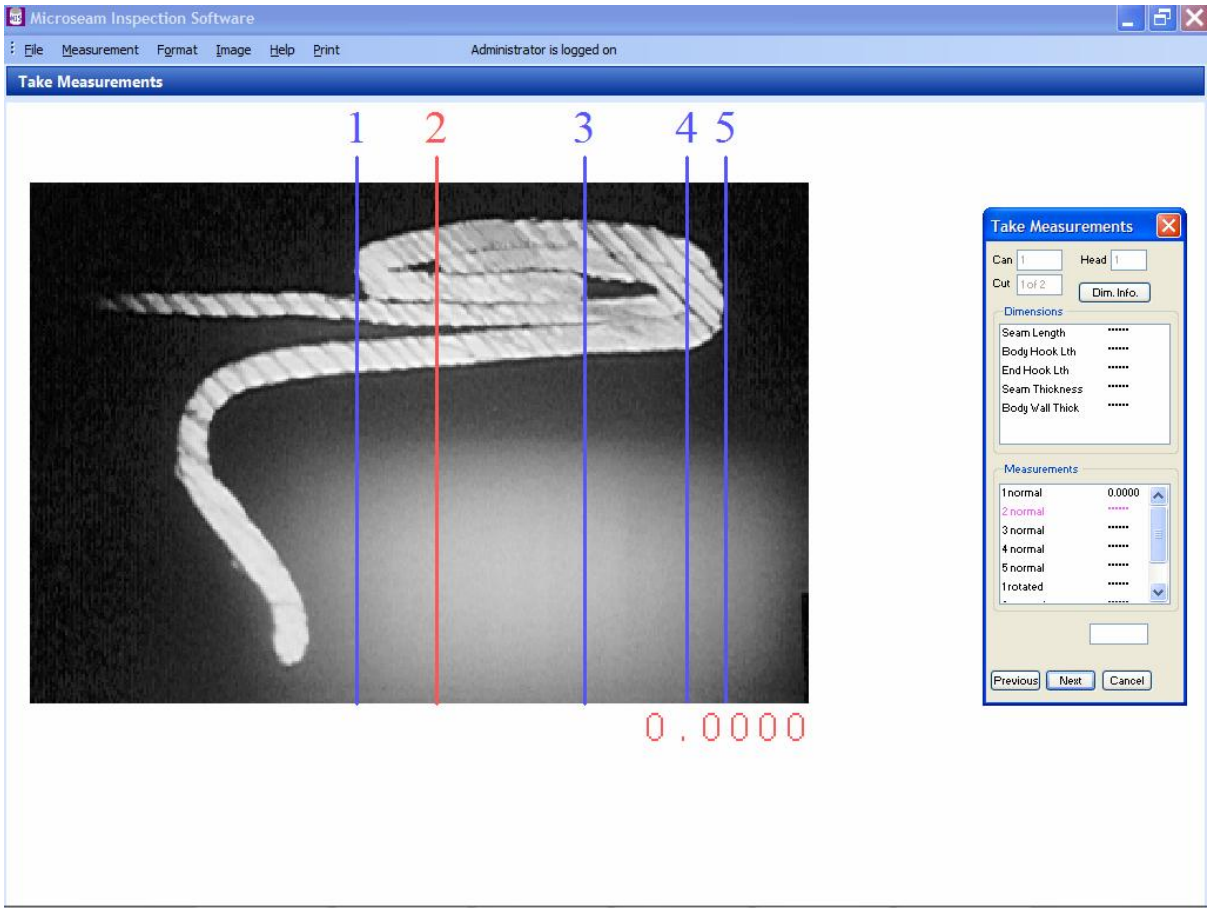


The 'Take Measurements' box, at the top, shows the Can, Head and Cut numbers.

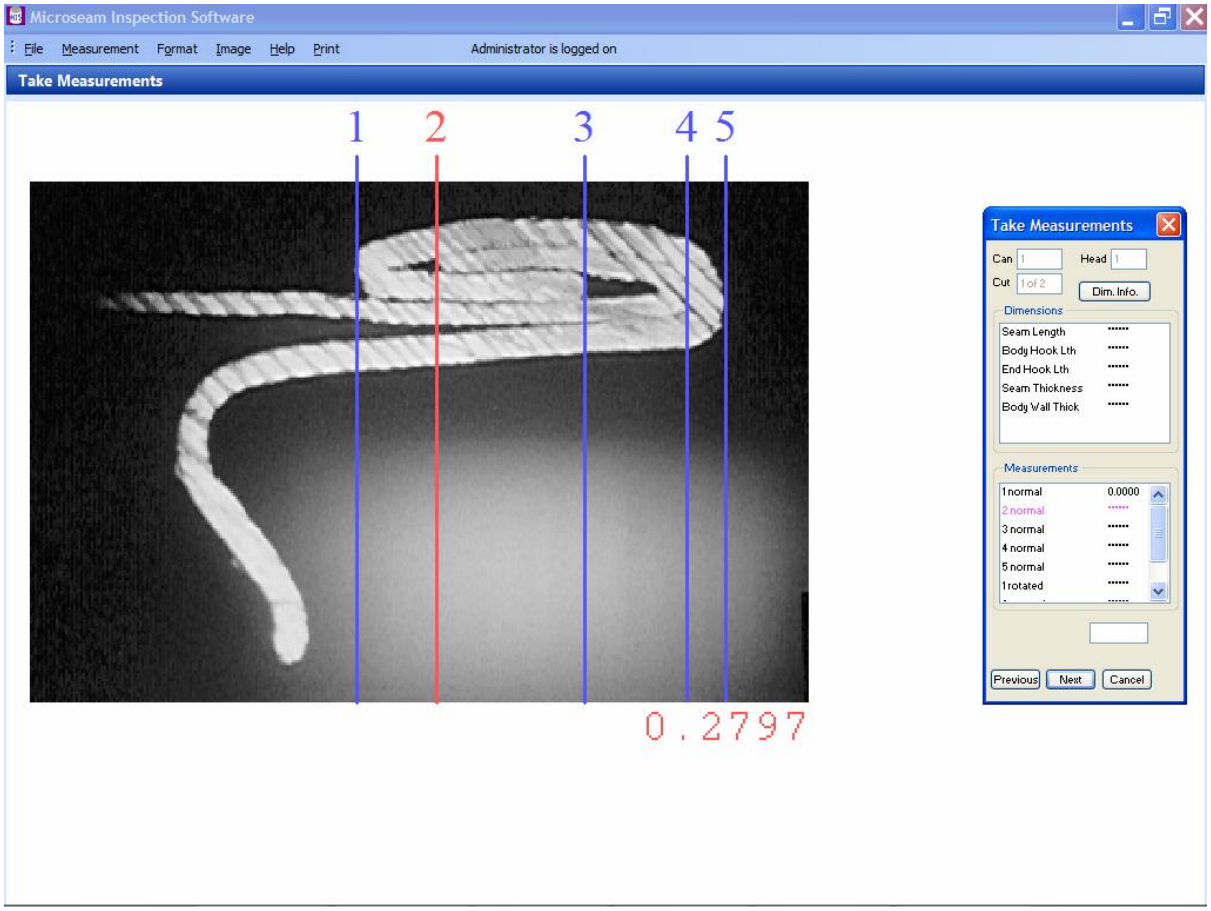
In the box headed 'Dimensions' are the names of the dimensions to be measured as defined in the format. Also as measurement progresses, the actual dimensions will appear also.

In the box headed 'Measurements' are the cursor measuring points in number order as defined in the format. Each cursor number is also notated with the word 'normal' or 'rotated' depending on whether the format has a rotated image or not.

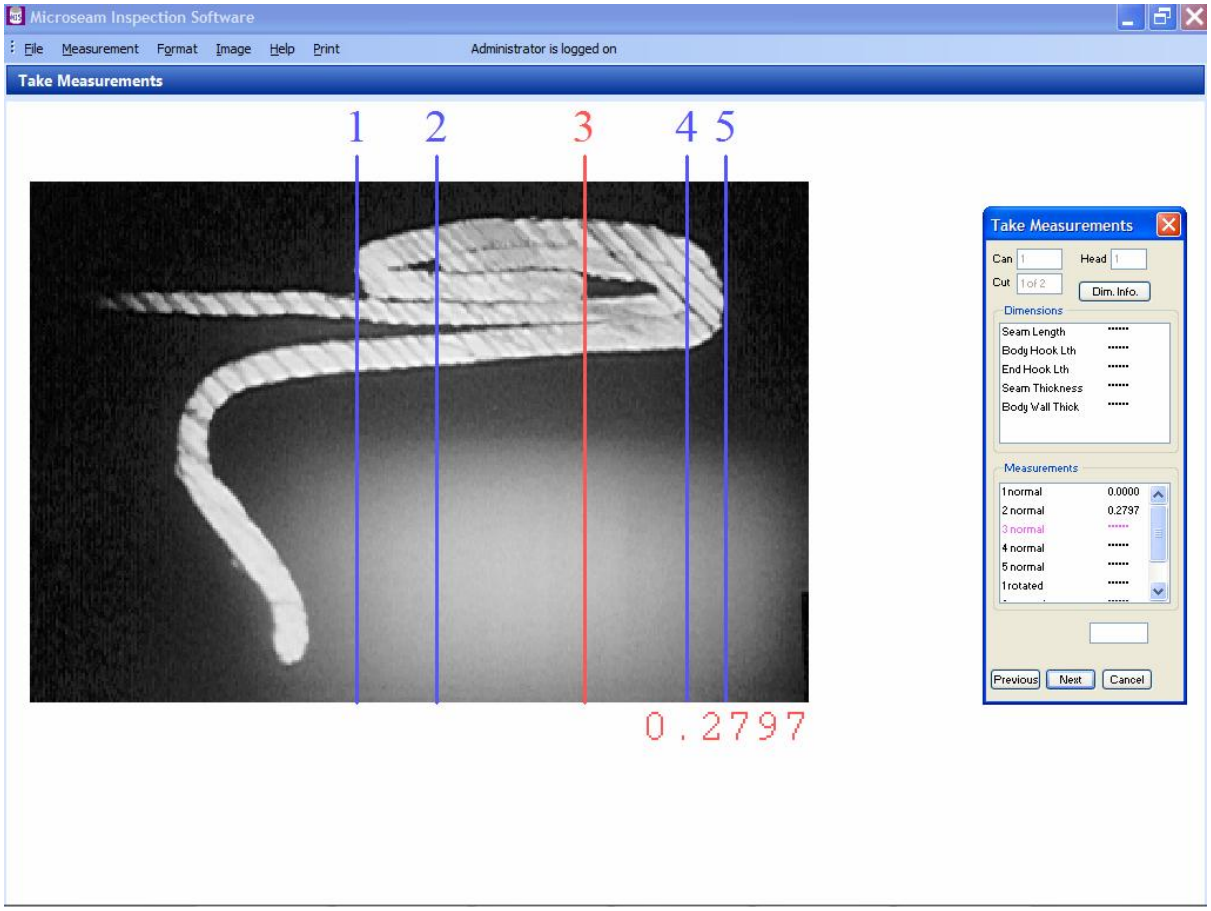
- Zero the seam gauge.
- The reading on screen should change to 0.0000.
- Click the 'Next' button in the 'Take Measurements' box. The reading 0.0000 will appear next to '1 normal' and the next dimension will turn pink. Cursor 2 will turn red.



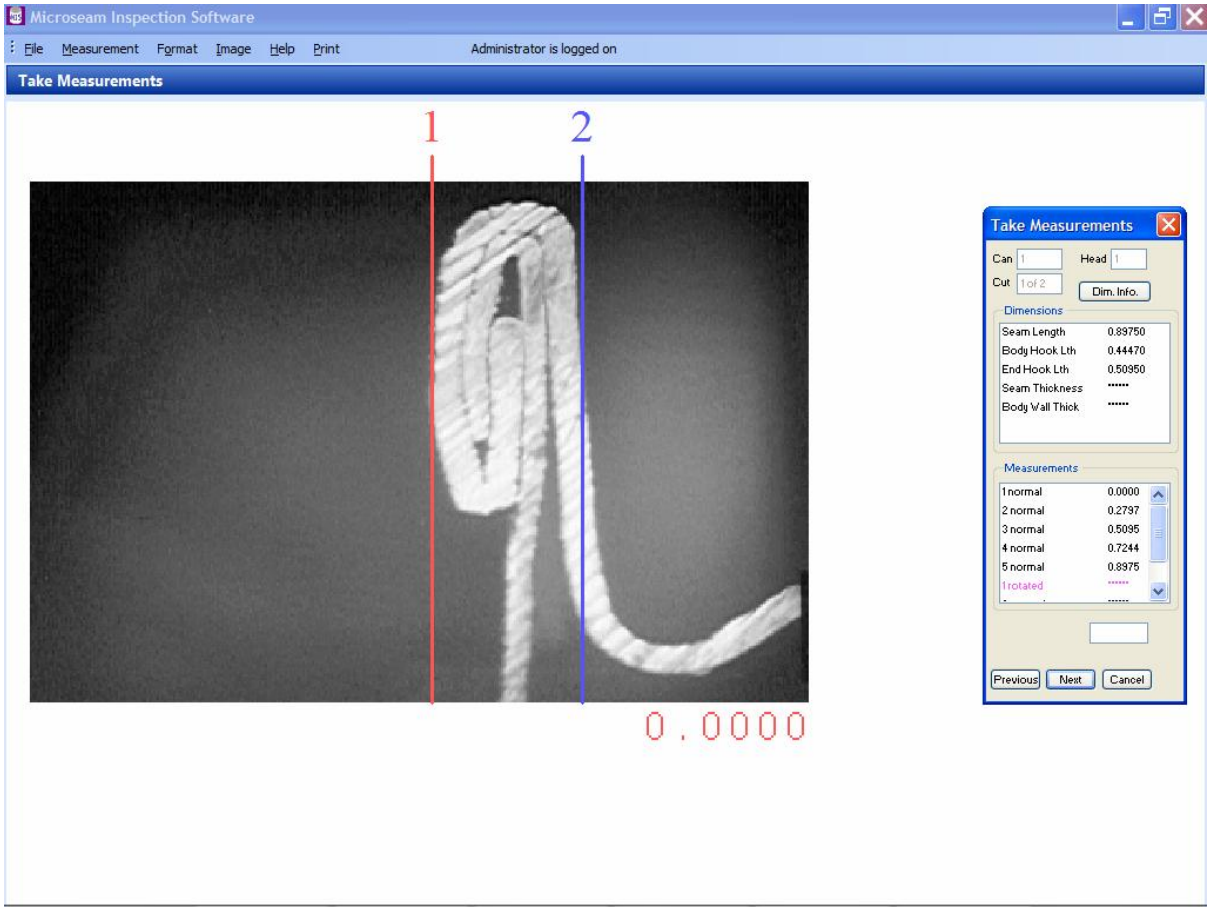
- Adjust the seam gauge to take a reading at cursor position 2.



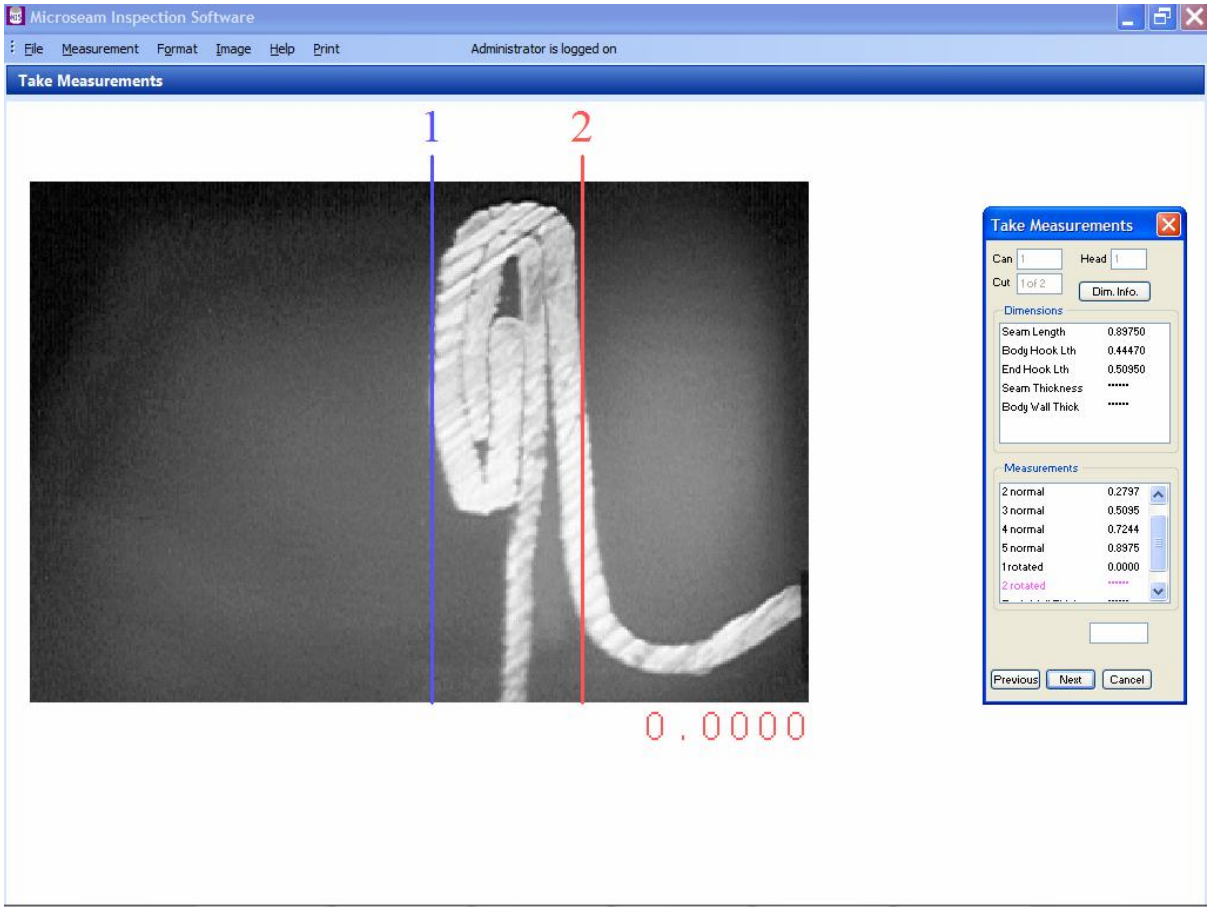
- Click the 'Next' button in the 'Take Measurements' box. The reading will appear next to '2 normal' and the next dimension will turn pink.
  Cursor 3 will turn red.
  If an error is made it is possible to go back and re-measure a point using the 'Previous' button.



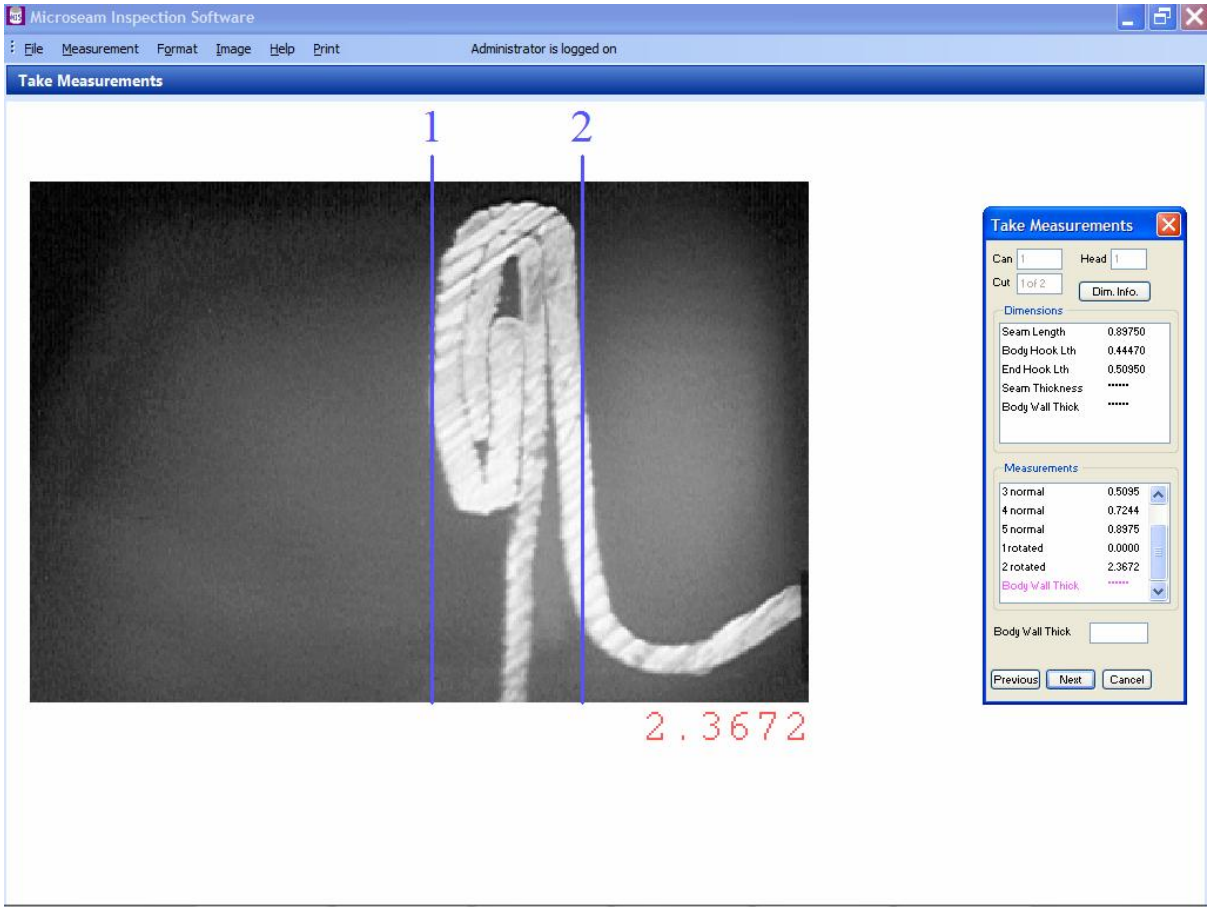
- Continue in the same way until all the 'normal' measurements are taken. At this point the seam image will change to the rotated image.
- Zero the seam gauge. The reading on screen should change to 0.0000.



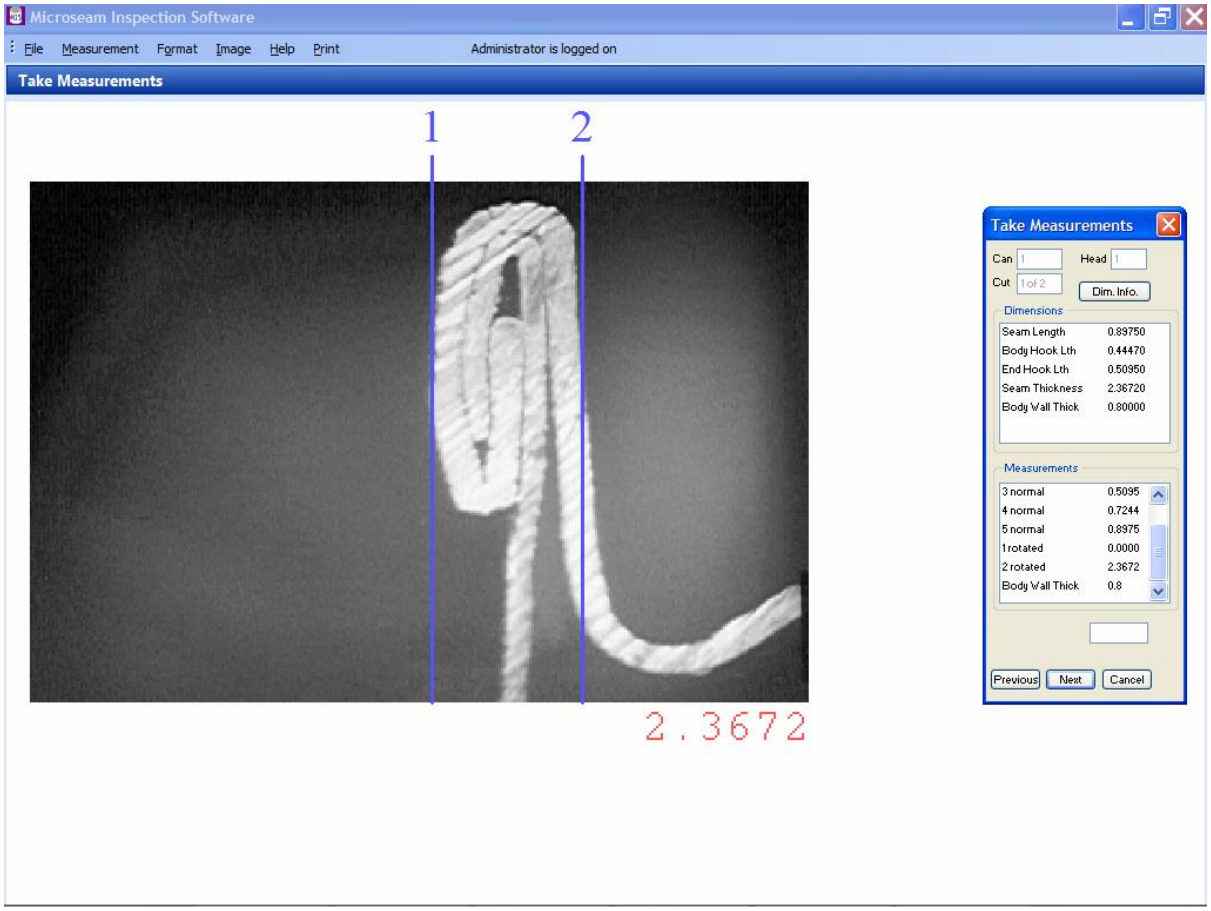
- Click the 'Next' button. The reading 0.0000 will appear next to '1 rotated' and the next dimension will turn pink. Cursor 2 will turn red.



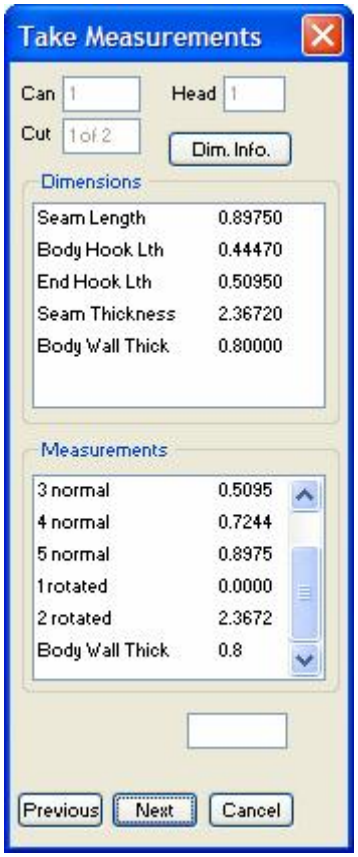
- Adjust the seam gauge to take a reading at cursor position 2.
- Click the ‘Next’ button. The reading will appear next to ‘2 rotated’ and the next dimension will turn pink. Because the next dimension is entered with the keyboard, an insertion point flashes in the ‘Body Wall Thick’ box.



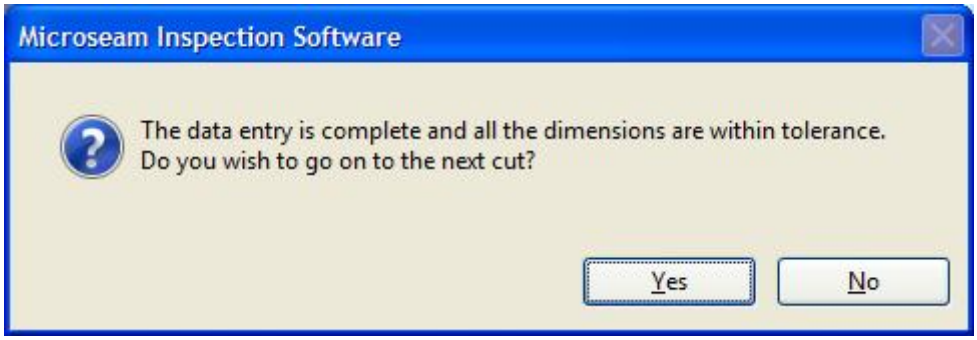
- Enter a dimension via the keyboard e.g. 0.8 and click the ‘Next’ button. All measurements are now complete.



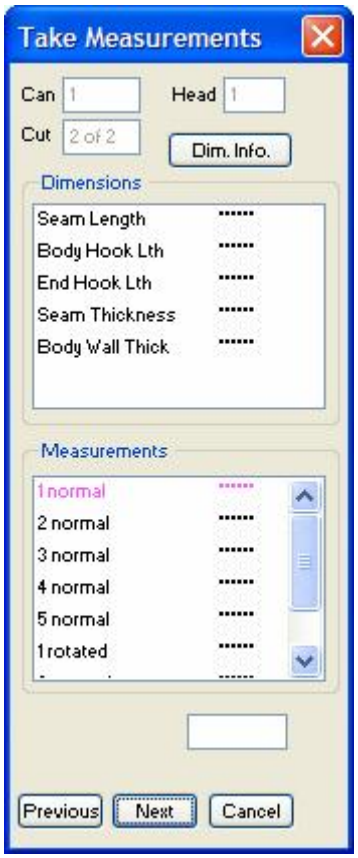
- If all dimensions were within tolerance the dimensions in the 'Dimensions' box will all be black. If any are red they are out of tolerance.



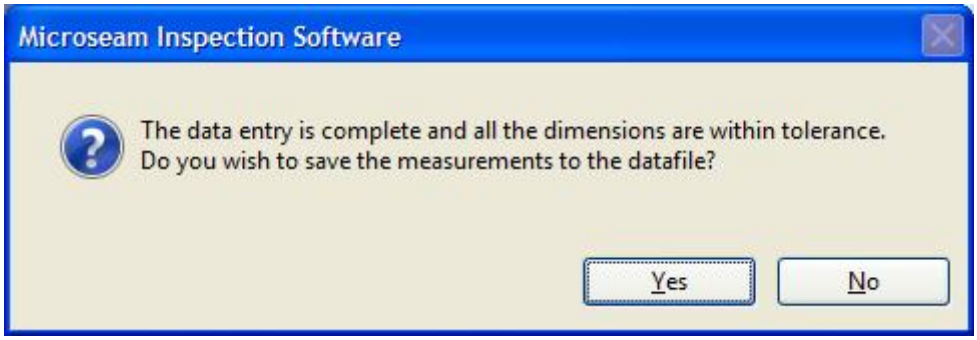
- Click the 'Next' button. A box appears stating that data entry is complete and within tolerance and asking 'Do you wish to proceed to the next cut?'.



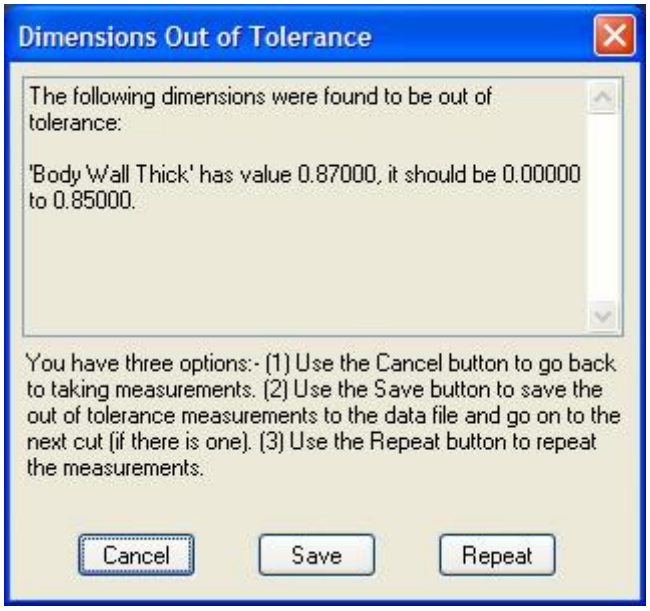
- Click the 'Yes' button.
- At this point the 'Take Measurements' box will show cut 2 of 2 and the same procedure can be followed to take dimensions of cut 2.



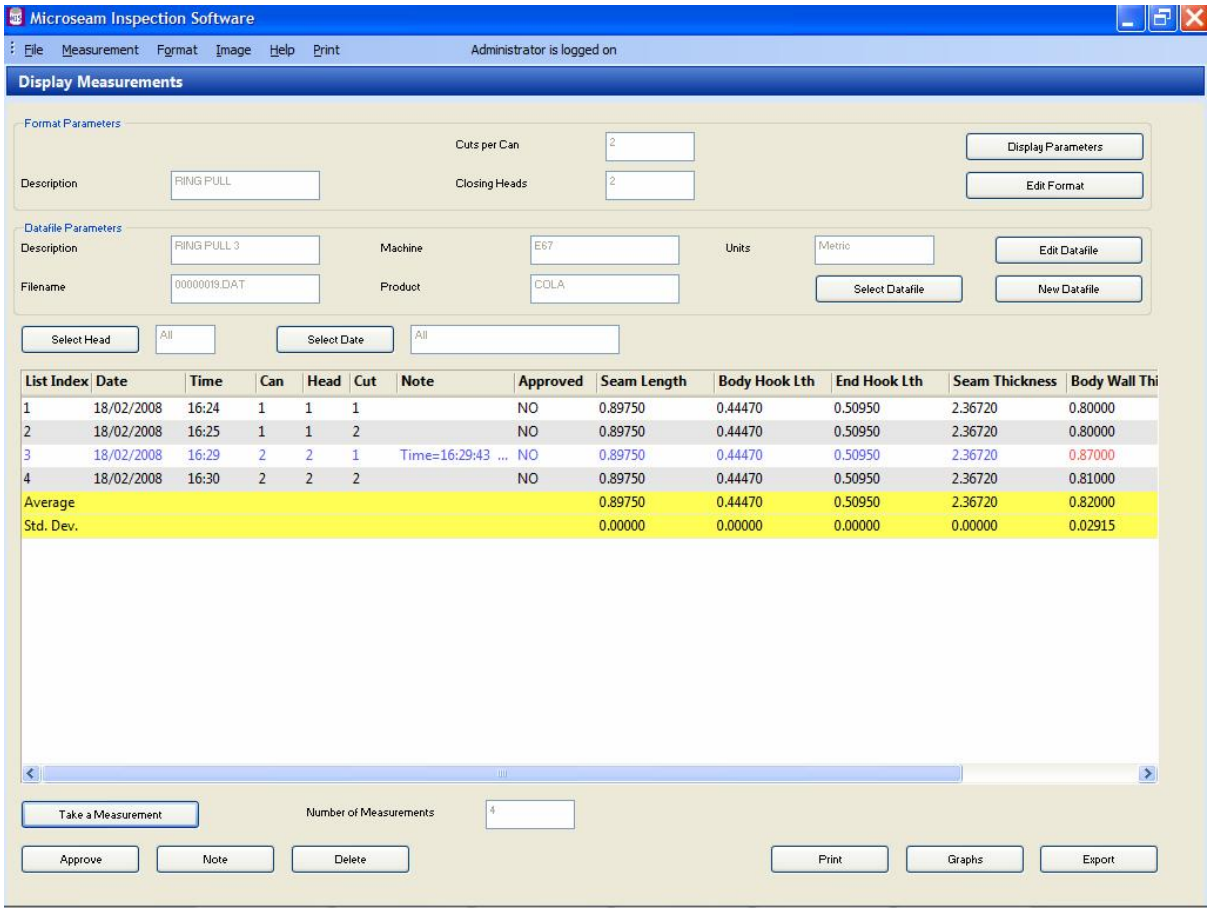
- When all the measurements for cut 2 are completed, the following box will appear if there are no errors:-



- Click Yes to save the measurements. The 'Display Measurements' screen will appear with the completed measurements shown. (see below).
- If there are out of tolerance errors then the following box will appear:-



If it is thought the out of tolerance dimension is caused by a measurement error then click the 'Repeat' button and repeat the measurements, otherwise click the 'Save' button and the 'Display Measurements' screen will appear with the completed measurements shown.



The above screen shows the measurements similar to those just taken. Lines with no errors are shown in black and lines containing out of tolerance dimensions are shown in blue with the offending dimensions highlighted in red and with the 'Note' column explaining the error.

15.6 Approving Measurements

At the bottom of the 'Display Measurements' screen is an 'Approve' button which can be used by the Administrator and Supervisor to approve measurements.

More than one measurement can be approved at one time by selecting the measurements required using the standard Windows selection technique i.e.

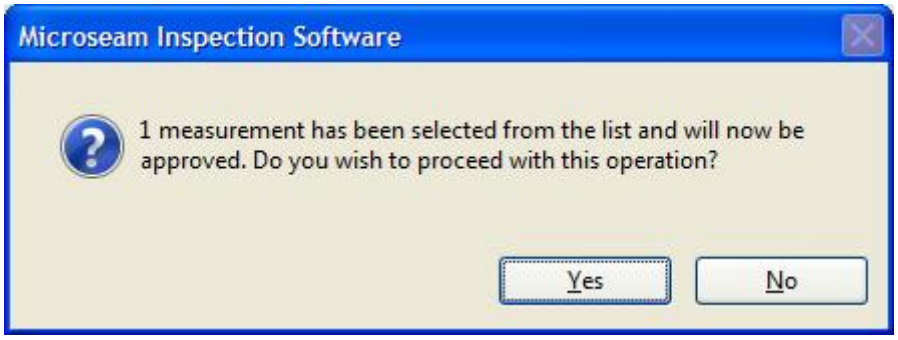
Click and drag.

Select first item, hold shift, select last.

Hold Ctrl and click each measurement individually.

To Approve a measurement proceed as follows:-

- Select the measurement/measurements which are to be approved.
- Click the 'Approve' button at the bottom of the screen. A confirmation box appears:-



- Click 'Yes' to save the approval or 'No' to quit.
- The 'Display Measurements' screen will re-appear. There will now be a 'Yes' in the 'Approved' column.

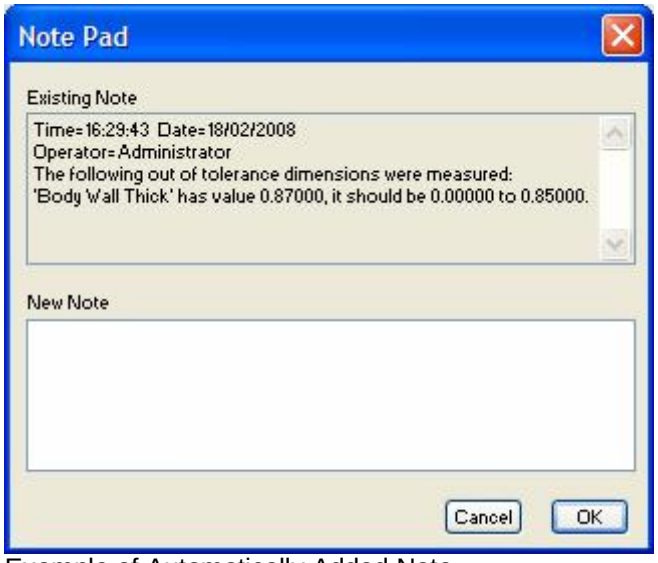
15.7 Notes

A note can be added, by any operator, to a measurement to hold any information that may be thought to be relevant.

Notes can be added to any measurements displayed on the 'Display Measurements' screen.

15.7.1 Adding Notes

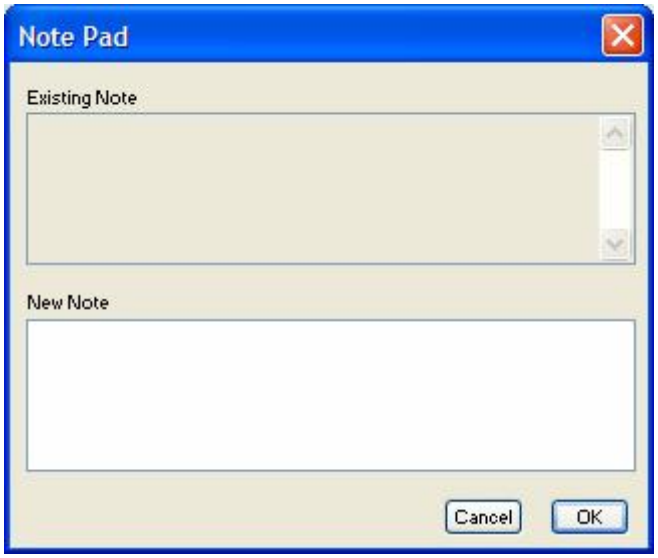
A note can be added in two ways, automatically by the system when a dimension is out of tolerance as per the following example, or by any operator:-



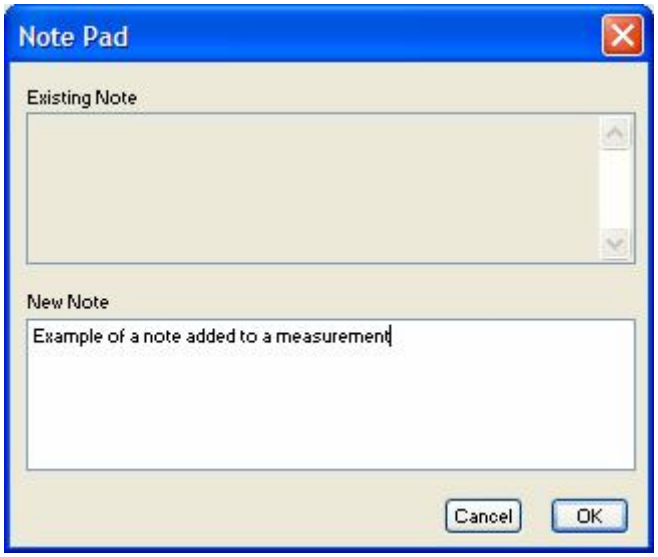
Example of Automatically Added Note

Each time a new note is added, the information is appended to the existing note. The system also automatically adds the time, date and operator to the top of the note.

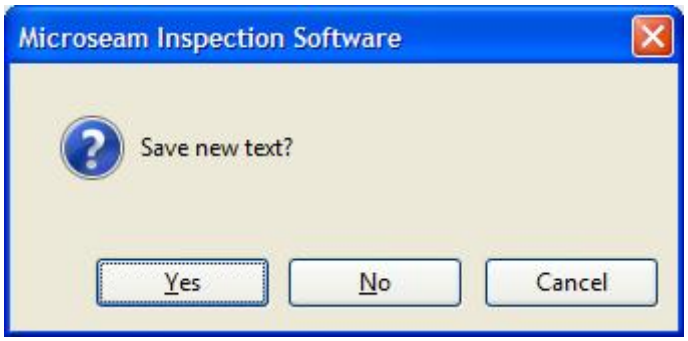
- Select the measurement to which to add the note.
- Click the 'Note' button. The 'Note Pad' box appears:-



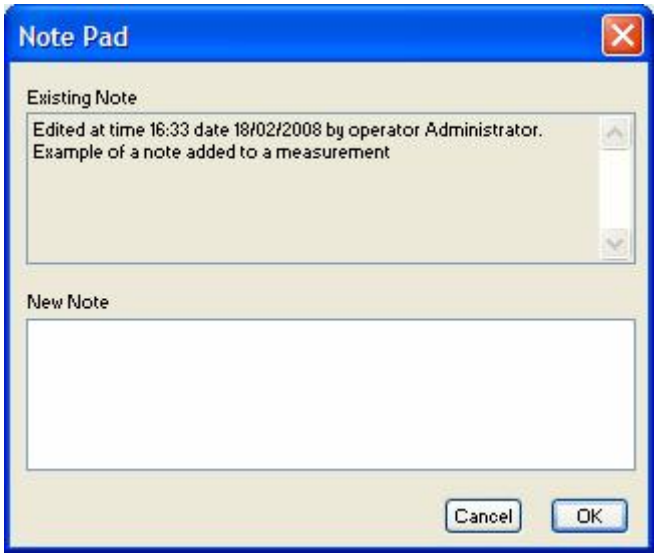
- Enter the required note in the area identified as ‘New Note’ as in the example below:-



- When satisfied, click the ‘OK’ button. A confirmation box appears.



- Click ‘Yes’ to save the note. (‘Cancel’ will return to adding the note text and ‘No’ will quit the note altogether.)
- The ‘Display Measurements’ screen will re-appear. There will now be a ‘Yes’ in the ‘Note’ column.
- Check the note by clicking ‘Note’ again. See the example below:-



- Click the ‘Cancel’ button.

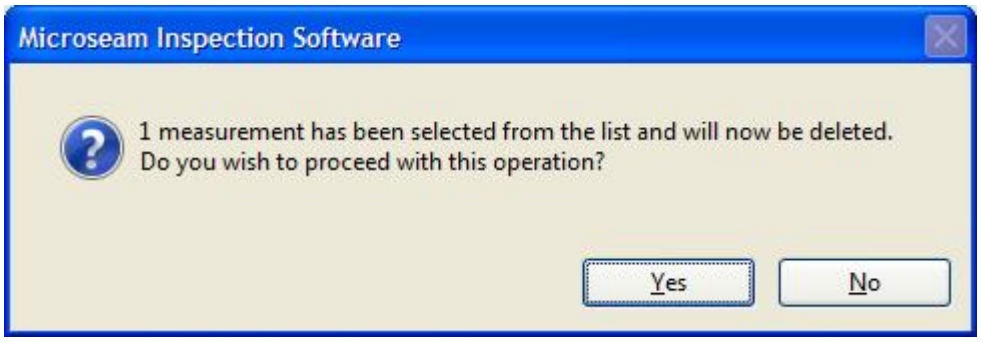
15.7.2 Reading a Note

To read a note, proceed as shown above for adding a note but do not add any information. When finished click the 'Cancel' button to exit the 'Note Pad'.

15.8 Deleting Measurements

From time to time it may be necessary to delete a measurement. This is achieved as follows and is restricted to Administrator/Supervisor.

- Select the measurement line it is required to delete.
- Click the 'Delete' button. The following confirmation box appears.



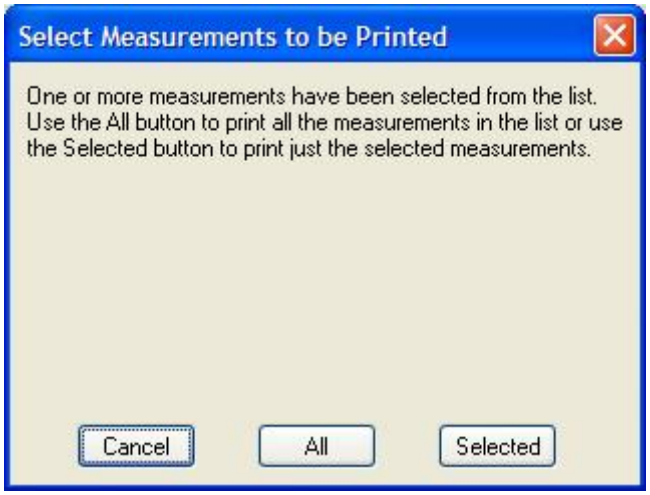
- Click 'Yes' button to complete the deletion or 'No' button to abort the process.

15.9 Printing Measurement Data

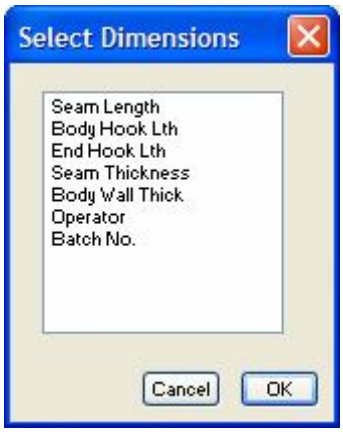
It is possible for any operator to print measurement data by following the procedure below:-

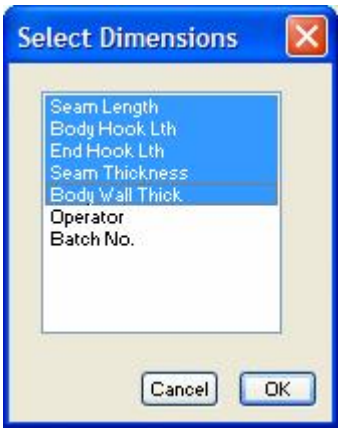
From the Display Measurements screen:-

- Select the lines to be printed. If no selection is made all lines will be printed and the 'Select Measurements to be Printed' box will not be displayed.
- Click the 'Print' button.
- The 'Select Measurements to be Printed' box appears with the following buttons:-
  'Cancel' will abort the process, 'Selected' will print only the selected measurement lines and 'All' will print all lines irrespective of what was selected.

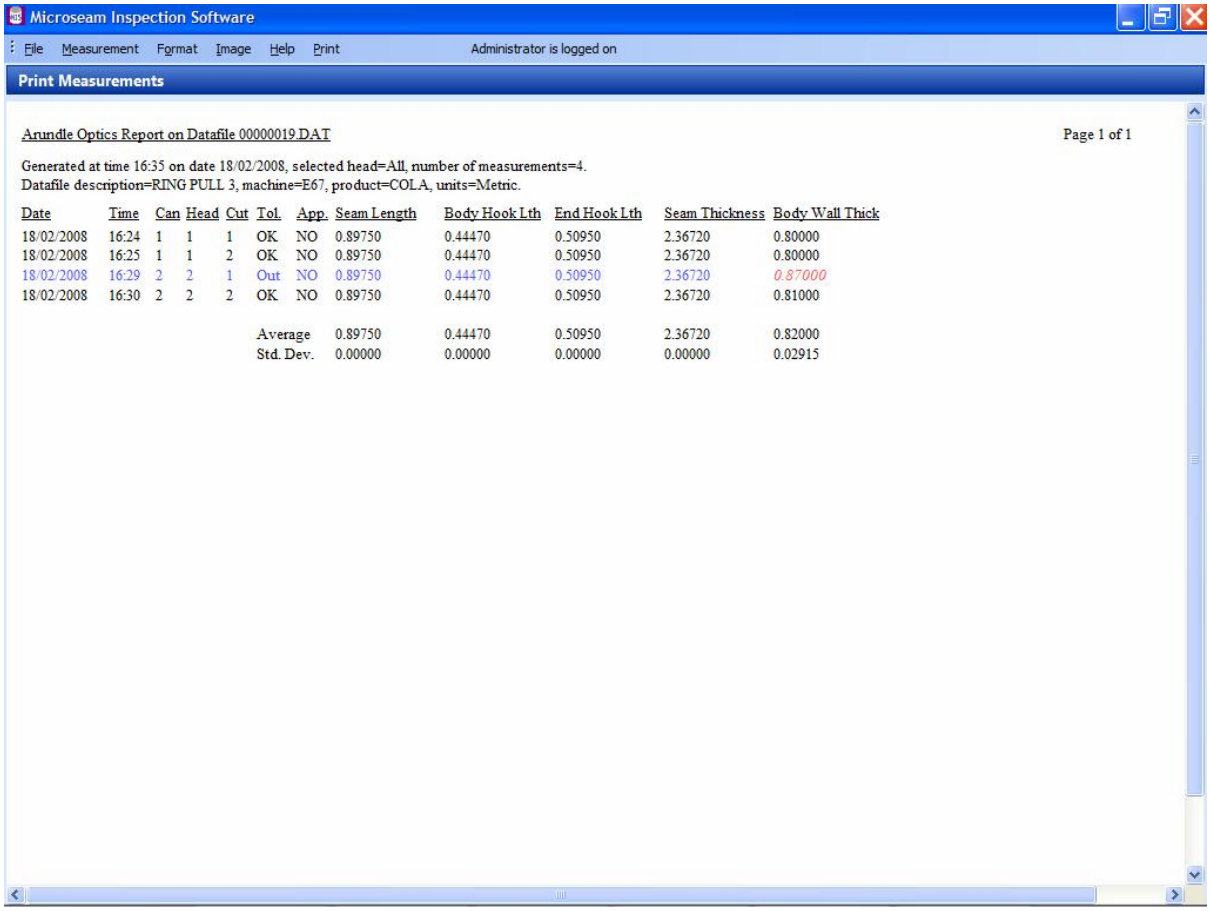


- Click the ‘All’ or ‘Selected’ button.
- The ‘Select Dimensions’ box appears. This has a list of individual dimensions which can be selected to appear on the print.

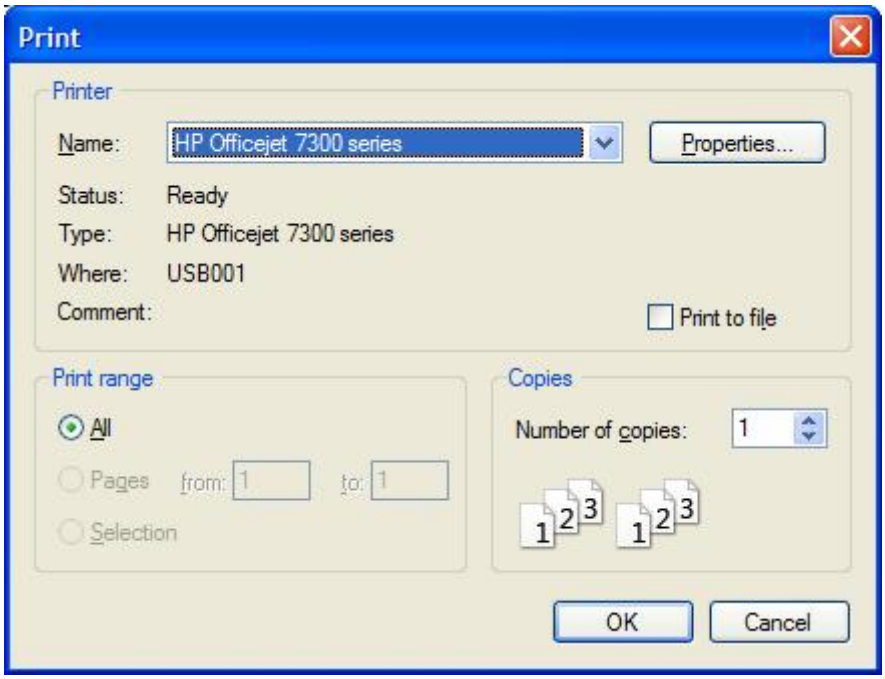




- Select one or more dimensions from the list and click the ‘OK’ button.
- A screen appears showing a table of the selected dimensions together with other information concerning the Datafile parameters. See example below. Note that for this example only one page is required to display the data as indicated by the “Page 1 of 1” text. If more than one page is required then the pages can be scrolled using the Page Up and Page Down keys on the computer keyboard.



- From the main menu select the ‘Print’ option and from the drop down list select ‘Print’. The Windows print box appears as shown below.



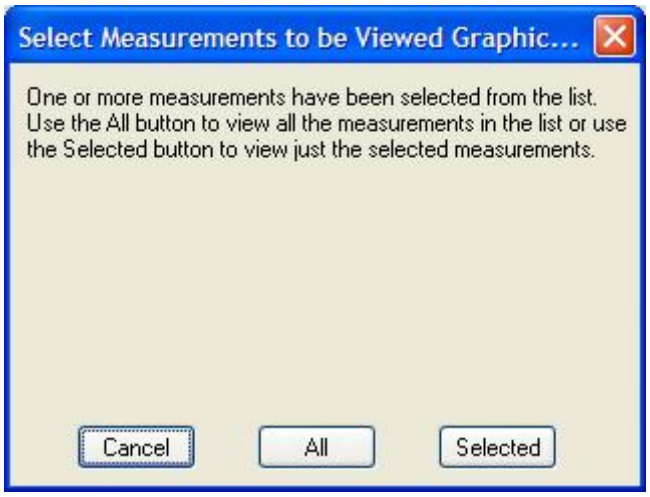
- Click the 'OK' button and the print should be produced.
- The print can be previewed by selecting 'Print' from the main menu and selecting 'Print Preview' from the drop down list.
- The page can be copied to the Windows Clipboard by selecting 'Print' from the main menu and selecting 'Copy to Clipboard' from the drop down list. This allows the page to be pasted into other applications running on the computer.

15.10 Producing Graphs of Measurement Data

It is possible for any operator to print graphs of measurement data.

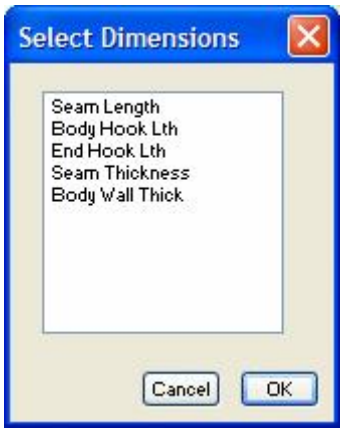
From the Display Measurements screen:-

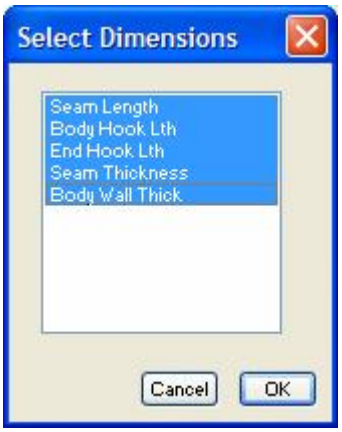
- Select the lines to be displayed graphically. If no selection is made all lines will be plotted and the 'Select Measurements to be Viewed Graphically' box will not appear.
- Click the 'Graph' button.
- The 'Select Measurements to be Viewed Graphically' box appears:-



'Cancel' will abort the process, 'Selected' will graph only the selected measurement lines and 'All' will graph all lines irrespective of what was selected.

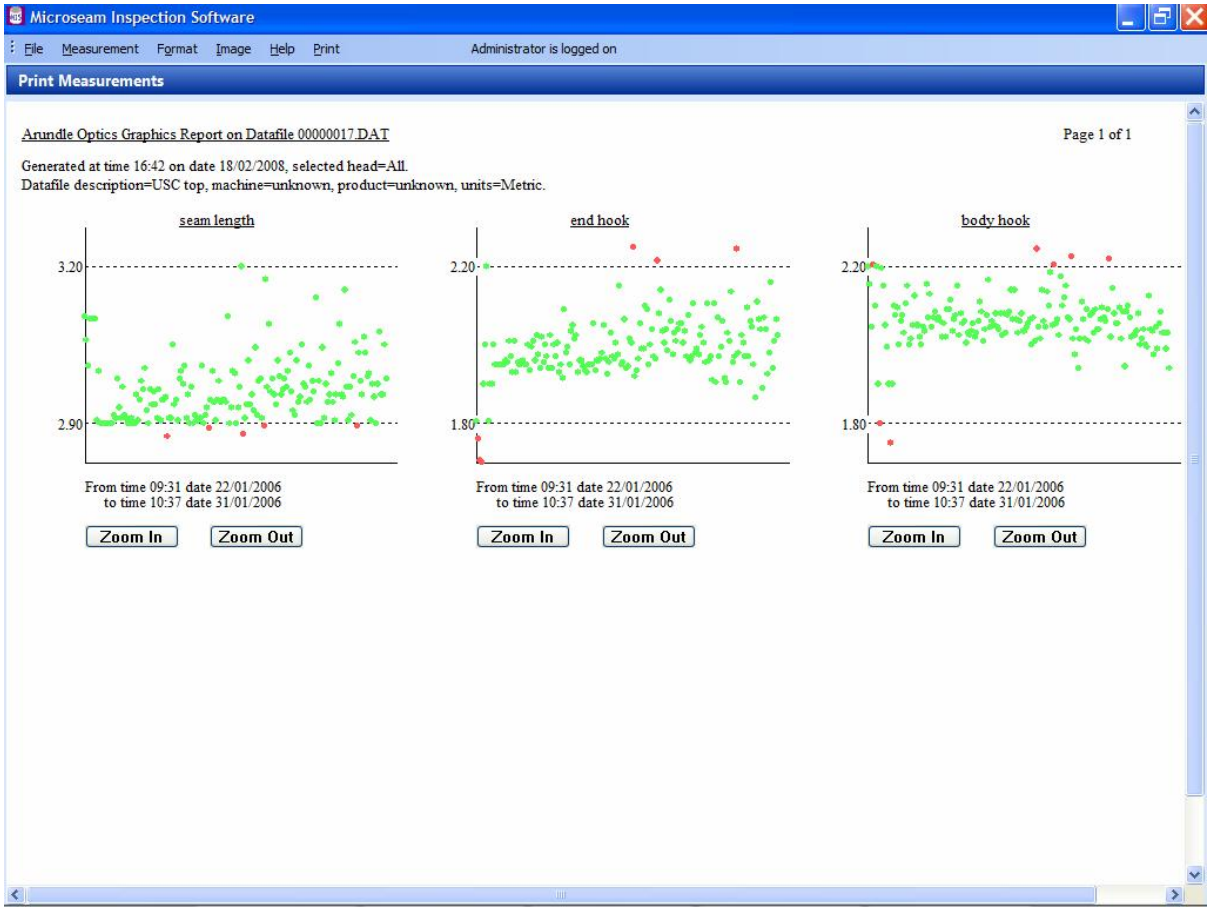
- Click the 'All' or 'Selected' button. The 'Select Dimensions' box appears. This has a list of individual dimensions which can be selected to appear in each graph.





- Select one or more dimensions from the list and click the 'OK' button.

- A screen appears showing a series of graphs for the selected dimensions containing points representing the actual measurements together with other information concerning the Datafile parameters. See example below. Note that for this example only one page is required to display the data as indicated by the “Page 1 of 1” text. If more than one page is required then the pages can be scrolled using the Page Up and Page Down keys on the computer keyboard.

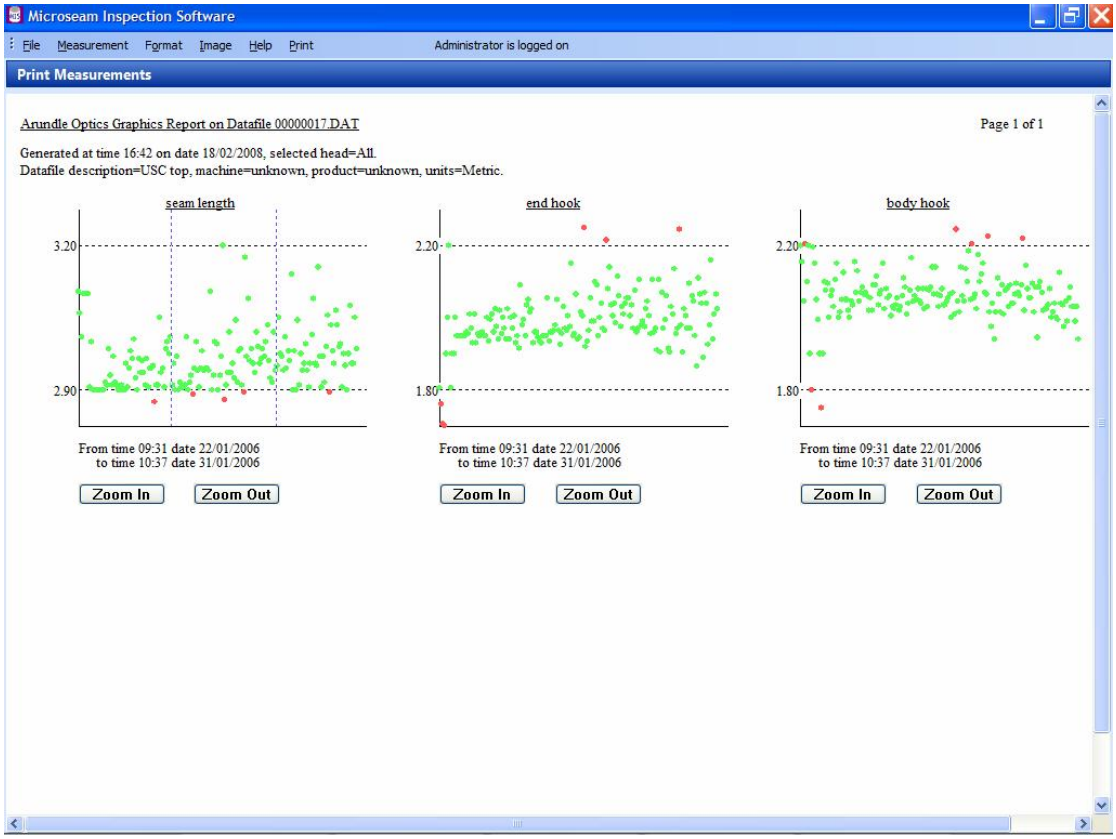


Points that are within tolerance are shown in green and points outside tolerance are shown as red. The high and low tolerance dimensions are shown on the ‘Y’ axis and dashed lines from these dimensions across the graph shows the tolerance band.

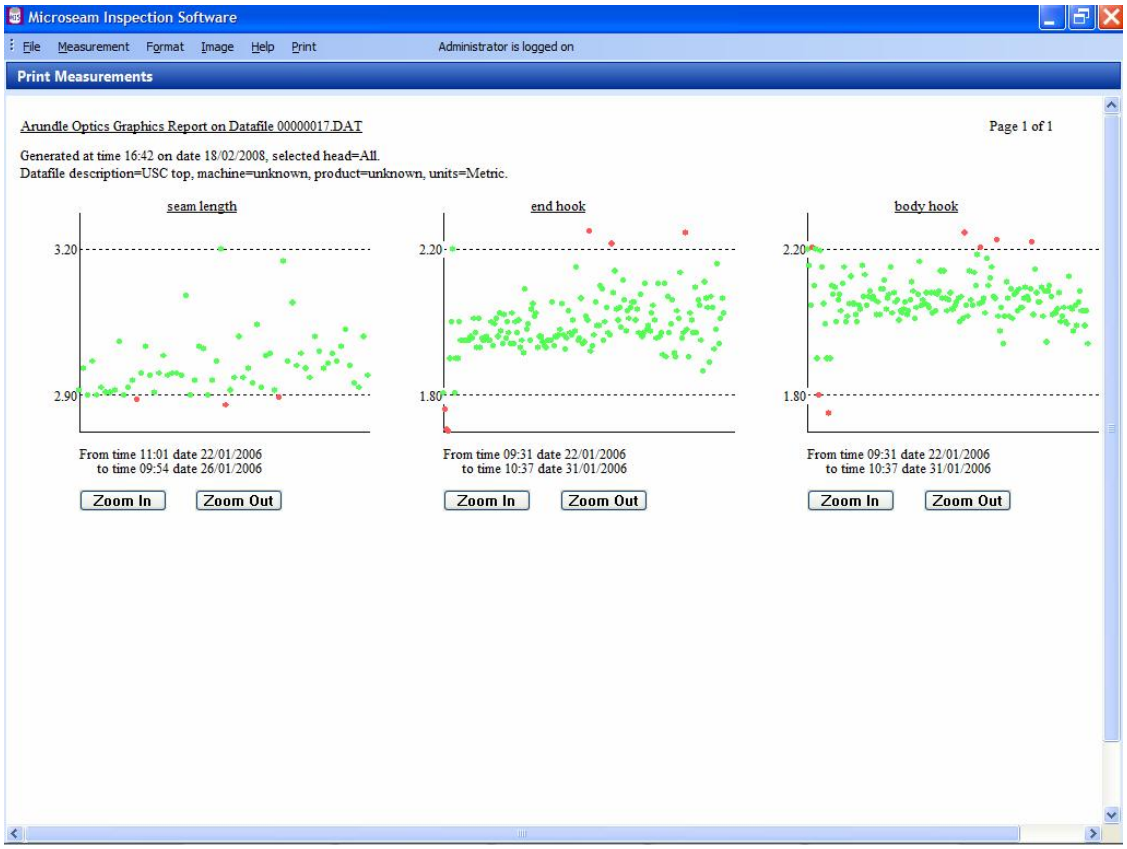
The ‘X’ axis is designated with the range of times and dates displayed.

If there is a large amount of data on a graph such that it is not possible to see the detail, a Zoom facility is available as follows:-

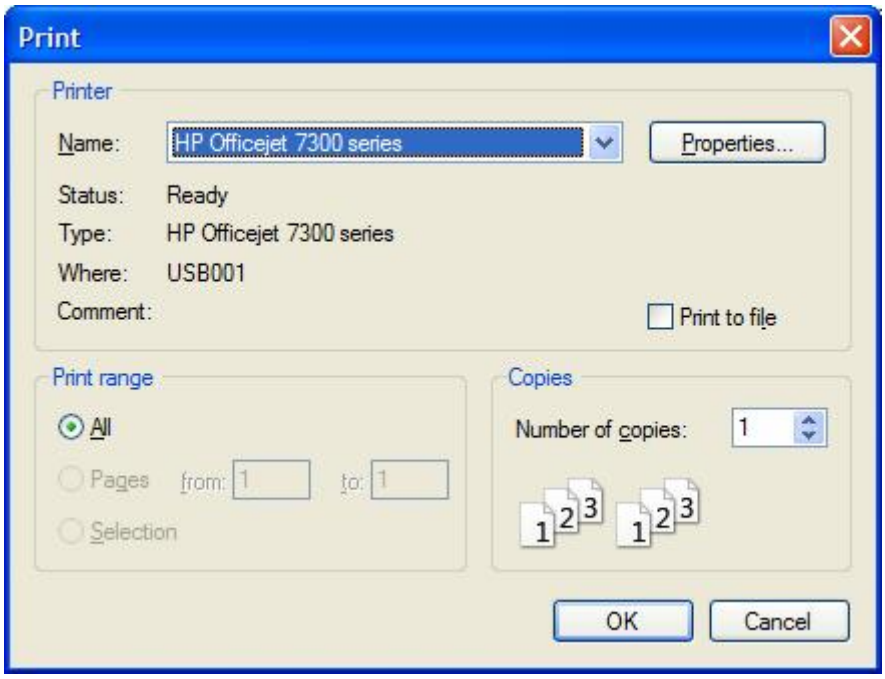
- Place the mouse cursor on the left of the area of interest on the graph and click the left mouse button. A vertical cursor is drawn.
- Place the mouse cursor on the right of the area of interest and click the left mouse button. A vertical cursor is drawn. See example below:-



- Press the 'Zoom In' button. The graph is expanded so that the area of interest fills the x-axis. The axis legend displays the new time period represented on the graph.



- The graph can be expanded further if required. Pressing 'Zoom Out' progressively returns through the zoomed stages until the full period is displayed.
- To print the graphs, at the top of the screen click on 'Print' and from the drop down list select 'Print'. The Windows print box appears as shown below.

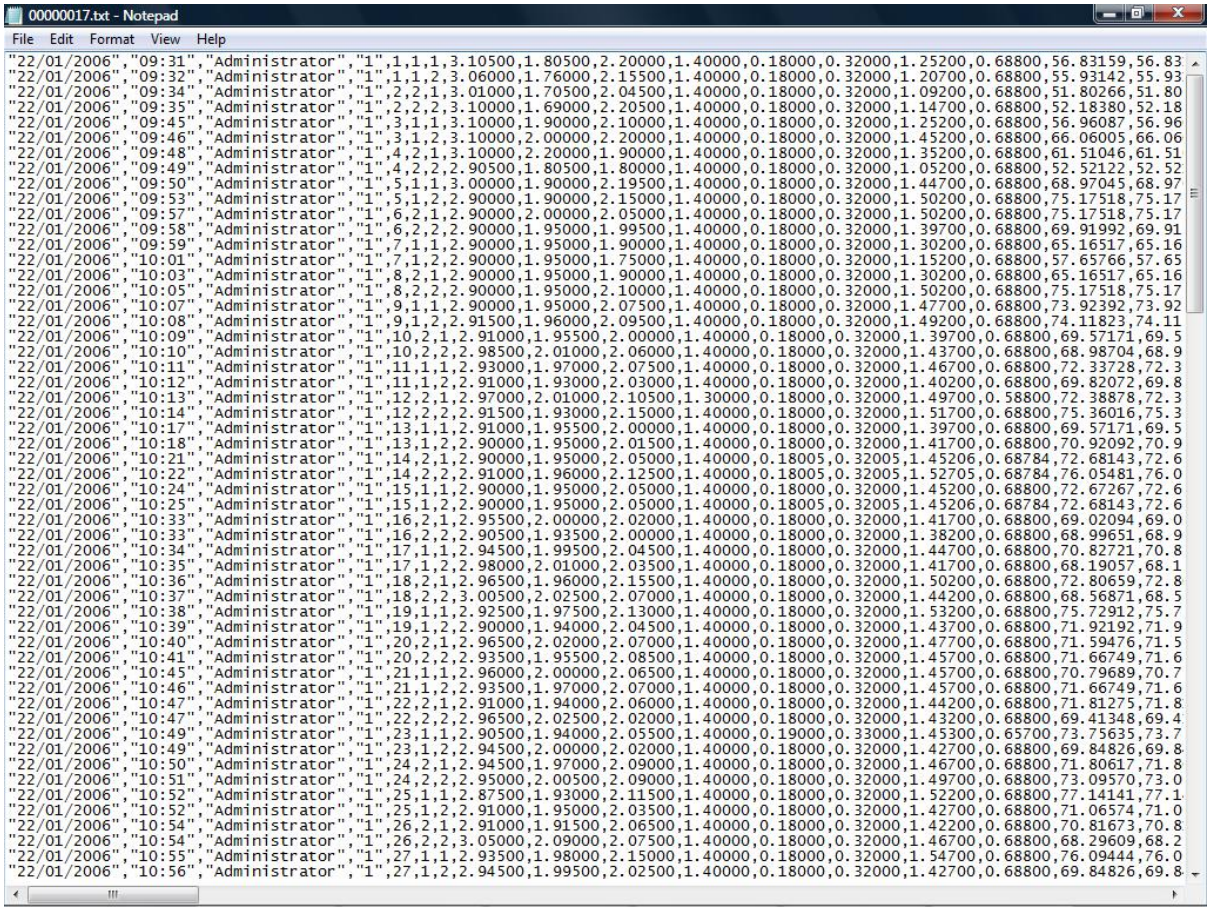


- Click the 'OK' button and the print should be produced.
- The print can be previewed by selecting 'Print' from the main menu and selecting 'Print Preview' from the drop down list.
- The page can be copied to the Windows Clipboard by selecting 'Print' from the main menu and selecting 'Copy to Clipboard' from the drop down list. This allows the page to be pasted into other applications running on the computer.

15.11 Exporting Measurement Data to Other Applications

It is possible for any operator to export selected measurement data for use by other spreadsheet, database, or word processing applications.

Data can be exported as a comma delimited text file (*.txt) or as an XML file (*.xml) which can be imported into Spreadsheet and Database applications or it can be exported as an HTML file which can be imported in word processing applications.

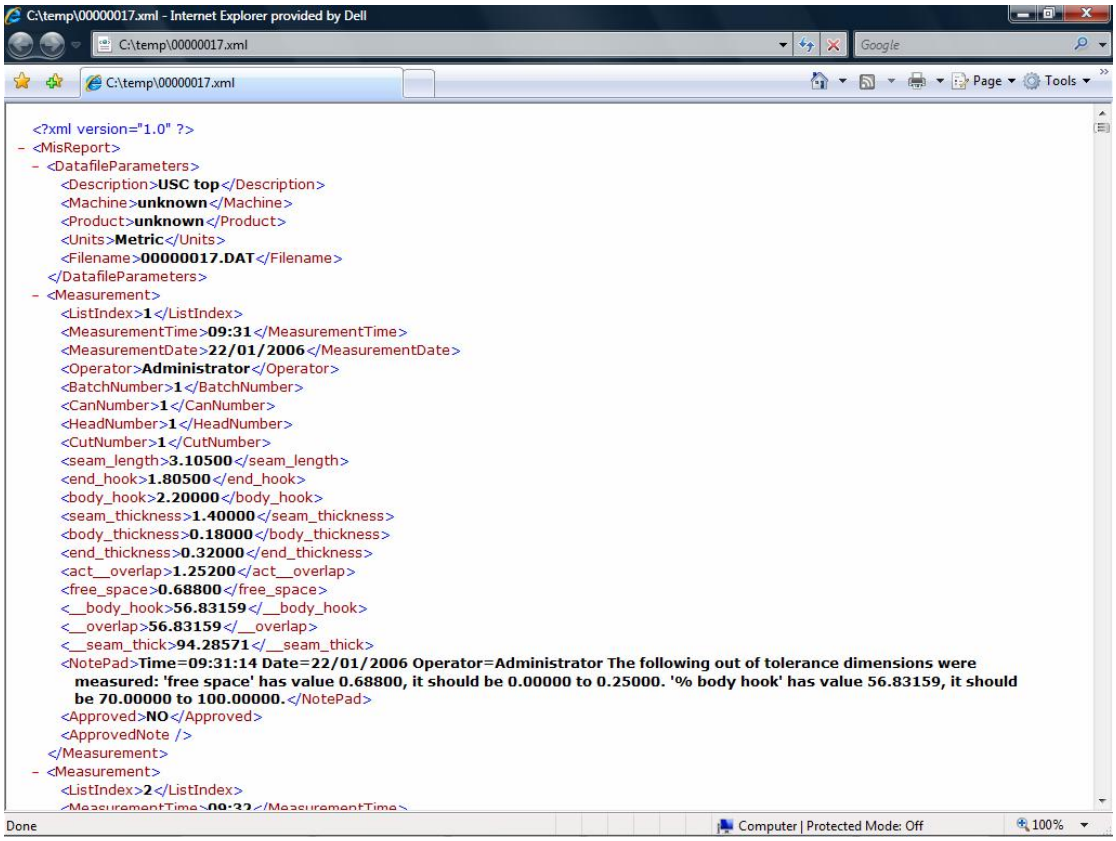


00000017.txt - Notepad

File Edit Format View Help

```
"22/01/2006","09:31","Administrator","1",1,1,1,3.10500,1.80500,2.20000,1.40000,0.18000,0.32000,1.25200,0.68800,56.83159,56.83
"22/01/2006","09:32","Administrator","1",1,1,2,3.06000,1.76000,2.15500,1.40000,0.18000,0.32000,1.20700,0.68800,55.93142,55.93
"22/01/2006","09:34","Administrator","1",2,2,1,3.01000,1.70500,2.04500,1.40000,0.18000,0.32000,1.09200,0.68800,51.80266,51.80
"22/01/2006","09:35","Administrator","1",2,2,2,3.10000,1.69000,2.20500,1.40000,0.18000,0.32000,1.14700,0.68800,52.18380,52.18
"22/01/2006","09:45","Administrator","1",3,1,1,3.10000,1.90000,2.10000,1.40000,0.18000,0.32000,1.25200,0.68800,56.96087,56.96
"22/01/2006","09:46","Administrator","1",3,1,2,3.10000,2.00000,2.20000,1.40000,0.18000,0.32000,1.45200,0.68800,66.06005,66.06
"22/01/2006","09:48","Administrator","1",4,2,1,3.10000,2.20000,1.90000,1.40000,0.18000,0.32000,1.35200,0.68800,61.51046,61.51
"22/01/2006","09:49","Administrator","1",4,2,2,2.90500,1.80500,1.80000,1.40000,0.18000,0.32000,1.05200,0.68800,52.52122,52.52
"22/01/2006","09:50","Administrator","1",5,1,1,3.00000,1.90000,2.19500,1.40000,0.18000,0.32000,1.44700,0.68800,68.97045,68.97
"22/01/2006","09:53","Administrator","1",5,1,2,2.90000,1.90000,2.15000,1.40000,0.18000,0.32000,1.50200,0.68800,75.17518,75.17
"22/01/2006","09:57","Administrator","1",6,2,1,2.90000,2.00000,2.05000,1.40000,0.18000,0.32000,1.50200,0.68800,75.17518,75.17
"22/01/2006","09:58","Administrator","1",6,2,2,2.90000,1.95000,1.99500,1.40000,0.18000,0.32000,1.39700,0.68800,69.91992,69.91
"22/01/2006","09:59","Administrator","1",7,1,1,2.90000,1.95000,1.90000,1.40000,0.18000,0.32000,1.30200,0.68800,65.16517,65.16
"22/01/2006","10:01","Administrator","1",7,1,2,2.90000,1.95000,1.75000,1.40000,0.18000,0.32000,1.15200,0.68800,57.65766,57.65
"22/01/2006","10:03","Administrator","1",8,2,1,2.90000,1.95000,1.90000,1.40000,0.18000,0.32000,1.30200,0.68800,65.16517,65.16
"22/01/2006","10:05","Administrator","1",8,2,2,2.90000,1.95000,2.10000,1.40000,0.18000,0.32000,1.50200,0.68800,75.17518,75.17
"22/01/2006","10:07","Administrator","1",9,1,1,2.90000,1.95000,2.07500,1.40000,0.18000,0.32000,1.47700,0.68800,73.92392,73.92
"22/01/2006","10:08","Administrator","1",9,1,2,2.91500,1.96000,2.09500,1.40000,0.18000,0.32000,1.49200,0.68800,74.11823,74.11
"22/01/2006","10:09","Administrator","1",10,2,1,2.91000,1.95500,2.00000,1.40000,0.18000,0.32000,1.39700,0.68800,69.57171,69.5
"22/01/2006","10:10","Administrator","1",10,2,2,2.98500,2.01000,2.06000,1.40000,0.18000,0.32000,1.43700,0.68800,68.98704,68.9
"22/01/2006","10:11","Administrator","1",11,1,1,2.93000,1.97000,2.07500,1.40000,0.18000,0.32000,1.46700,0.68800,72.33728,72.3
"22/01/2006","10:12","Administrator","1",11,1,2,2.91000,1.93000,2.03000,1.40000,0.18000,0.32000,1.40200,0.68800,69.82072,69.8
"22/01/2006","10:13","Administrator","1",12,2,1,2.97000,2.01000,2.10500,1.30000,0.18000,0.32000,1.49700,0.58800,72.38878,72.3
"22/01/2006","10:14","Administrator","1",12,2,2,2.91500,1.93000,2.15000,1.40000,0.18000,0.32000,1.51700,0.68800,75.36016,75.3
"22/01/2006","10:17","Administrator","1",13,1,1,2.91000,1.95500,2.00000,1.40000,0.18000,0.32000,1.39700,0.68800,69.57171,69.5
"22/01/2006","10:18","Administrator","1",13,1,2,2.90000,1.95000,2.01500,1.40000,0.18000,0.32000,1.41700,0.68800,70.92092,70.9
"22/01/2006","10:21","Administrator","1",14,2,1,2.90000,1.95000,2.05000,1.40000,0.18005,0.32005,1.45206,0.68784,72.68143,72.6
"22/01/2006","10:22","Administrator","1",14,2,2,2.91000,1.96000,2.12500,1.40000,0.18005,0.32005,1.52705,0.68784,76.05481,76.0
"22/01/2006","10:24","Administrator","1",15,1,1,2.90000,1.95000,2.05000,1.40000,0.18000,0.32000,1.45200,0.68800,72.67267,72.6
"22/01/2006","10:25","Administrator","1",15,1,2,2.90000,1.95000,2.05000,1.40000,0.18005,0.32005,1.45206,0.68784,72.68143,72.6
"22/01/2006","10:33","Administrator","1",16,2,1,2.95500,2.00000,2.02000,1.40000,0.18000,0.32000,1.41700,0.68800,69.02094,69.0
"22/01/2006","10:33","Administrator","1",16,2,2,2.90500,1.93500,2.00000,1.40000,0.18000,0.32000,1.38200,0.68800,68.99651,68.9
"22/01/2006","10:34","Administrator","1",17,1,1,2.94500,1.99500,2.04500,1.40000,0.18000,0.32000,1.44700,0.68800,70.82721,70.8
"22/01/2006","10:35","Administrator","1",17,1,2,2.98000,2.01000,2.03500,1.40000,0.18000,0.32000,1.41700,0.68800,68.19057,68.1
"22/01/2006","10:36","Administrator","1",18,2,1,2.96500,1.96000,2.15500,1.40000,0.18000,0.32000,1.50200,0.68800,72.80659,72.8
"22/01/2006","10:37","Administrator","1",18,2,2,3.00500,2.02500,2.07000,1.40000,0.18000,0.32000,1.44200,0.68800,68.56871,68.5
"22/01/2006","10:38","Administrator","1",19,1,1,2.92500,1.97500,2.13000,1.40000,0.18000,0.32000,1.53200,0.68800,75.72912,75.7
"22/01/2006","10:39","Administrator","1",19,1,2,2.90000,1.94000,2.04500,1.40000,0.18000,0.32000,1.43700,0.68800,71.92192,71.9
"22/01/2006","10:40","Administrator","1",20,2,1,2.96500,2.02000,2.07000,1.40000,0.18000,0.32000,1.47700,0.68800,71.59476,71.5
"22/01/2006","10:41","Administrator","1",20,2,2,2.93500,1.95500,2.08500,1.40000,0.18000,0.32000,1.45700,0.68800,71.66749,71.6
"22/01/2006","10:45","Administrator","1",21,1,1,2.96000,2.00000,2.06500,1.40000,0.18000,0.32000,1.45700,0.68800,70.79689,70.7
"22/01/2006","10:46","Administrator","1",21,1,2,2.93500,1.97000,2.07000,1.40000,0.18000,0.32000,1.45700,0.68800,71.66749,71.6
"22/01/2006","10:47","Administrator","1",22,2,1,2.91000,1.94000,2.06000,1.40000,0.18000,0.32000,1.44200,0.68800,71.81275,71.8
"22/01/2006","10:47","Administrator","1",22,2,2,2.96500,2.02500,2.02000,1.40000,0.18000,0.32000,1.43200,0.68800,69.41348,69.4
"22/01/2006","10:49","Administrator","1",23,1,2,2.90500,1.94000,2.05500,1.40000,0.19000,0.33000,1.45300,0.65700,73.75635,73.7
"22/01/2006","10:49","Administrator","1",23,1,2,2.94500,2.00000,2.02000,1.40000,0.18000,0.32000,1.42700,0.68800,69.84826,69.8
"22/01/2006","10:50","Administrator","1",24,2,1,2.94500,1.97000,2.09000,1.40000,0.18000,0.32000,1.46700,0.68800,71.80617,71.8
"22/01/2006","10:51","Administrator","1",24,2,2,2.95000,2.00500,2.09000,1.40000,0.18000,0.32000,1.49700,0.68800,73.09570,73.0
"22/01/2006","10:52","Administrator","1",25,1,1,2.87500,1.93000,2.11500,1.40000,0.18000,0.32000,1.52200,0.68800,77.14141,77.1
"22/01/2006","10:52","Administrator","1",25,1,2,2.91000,1.95000,2.03500,1.40000,0.18000,0.32000,1.42700,0.68800,71.06574,71.0
"22/01/2006","10:54","Administrator","1",26,2,1,2.91000,1.91500,2.06500,1.40000,0.18000,0.32000,1.42200,0.68800,70.81673,70.8
"22/01/2006","10:54","Administrator","1",26,2,2,3.05000,2.09000,2.07500,1.40000,0.18000,0.32000,1.46700,0.68800,68.29609,68.2
"22/01/2006","10:55","Administrator","1",27,1,1,2.93500,1.98000,2.15000,1.40000,0.18000,0.32000,1.54700,0.68800,76.09444,76.0
"22/01/2006","10:56","Administrator","1",27,1,2,2.94500,1.99500,2.02500,1.40000,0.18000,0.32000,1.42700,0.68800,69.84826,69.8
```

EXAMPLE OF COMMA DELIMITED TEXT FILE



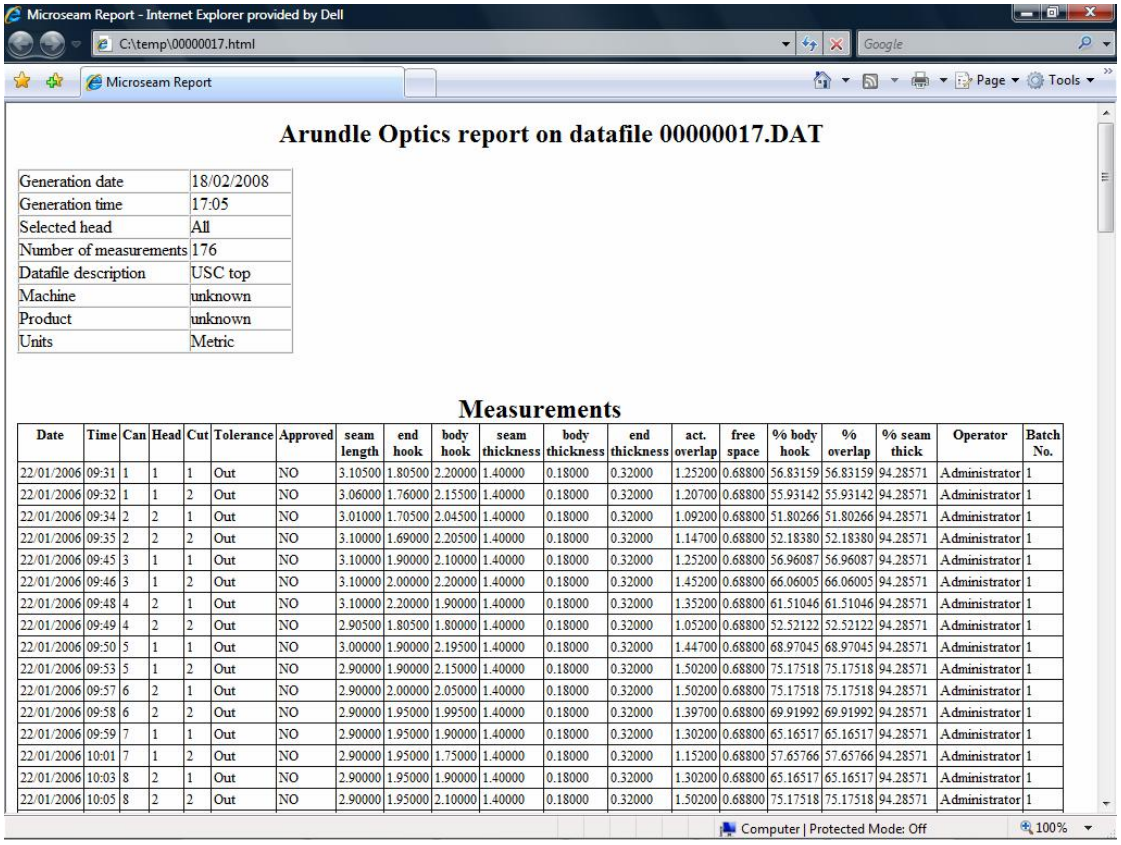
C:\temp\00000017.xml - Internet Explorer provided by Dell

C:\temp\00000017.xml

```
<?xml version="1.0" ?>
- <MisReport>
  - <DatafileParameters>
      <Description>USC top</Description>
      <Machine>unknown</Machine>
      <Product>unknown</Product>
      <Units>Metric</Units>
      <Filename>00000017.DAT</Filename>
    </DatafileParameters>
  - <Measurement>
      <ListIndex>1</ListIndex>
      <MeasurementTime>09:31</MeasurementTime>
      <MeasurementDate>22/01/2006</MeasurementDate>
      <Operator>Administrator</Operator>
      <BatchNumber>1</BatchNumber>
      <CanNumber>1</CanNumber>
      <HeadNumber>1</HeadNumber>
      <CutNumber>1</CutNumber>
      <seam_length>3.10500</seam_length>
      <end_hook>1.80500</end_hook>
      <body_hook>2.20000</body_hook>
      <seam_thickness>1.40000</seam_thickness>
      <body_thickness>0.18000</body_thickness>
      <end_thickness>0.32000</end_thickness>
      <act__overlap>1.25200</act__overlap>
      <free_space>0.68800</free_space>
      <__body_hook>56.83159</__body_hook>
      <__overlap>56.83159</__overlap>
      <__seam_thick>94.28571</__seam_thick>
      <NotePad>Time=09:31:14 Date=22/01/2006 Operator=Administrator The following out of tolerance dimensions were
        measured: 'free space' has value 0.68800, it should be 0.00000 to 0.25000. '% body hook' has value 56.83159, it should
        be 70.00000 to 100.00000.</NotePad>
      <Approved>NO</Approved>
      <ApprovedNote />
    </Measurement>
  - <Measurement>
      <ListIndex>2</ListIndex>
      <MeasurementTime>09:32</MeasurementTime>
```

Done | Computer | Protected Mode: Off | 100%

EXAMPLE OF XML FILE



Microseam Report - Internet Explorer provided by Dell

C:\temp\00000017.html

Microseam Report

Arundle Optics report on datafile 00000017.DAT

Generation date	18/02/2008
Generation time	17:05
Selected head	All
Number of measurements	176
Datafile description	USC top
Machine	unknown
Product	unknown
Units	Metric

Measurements

Date	Time	Can	Head	Cut	Tolerance	Approved	seam length	end hook	body hook	seam thickness	body thickness	end thickness	act. overlap	free space	% body hook	% overlap	% seam thick	Operator	Batch No.
22/01/2006	09:31	1	1	1	Out	NO	3.10500	1.80500	2.20000	1.40000	0.18000	0.32000	1.25200	0.68800	56.83159	56.83159	94.28571	Administrator	1
22/01/2006	09:32	1	1	2	Out	NO	3.06000	1.76000	2.15500	1.40000	0.18000	0.32000	1.20700	0.68800	55.93142	55.93142	94.28571	Administrator	1
22/01/2006	09:34	2	2	1	Out	NO	3.01000	1.70500	2.04500	1.40000	0.18000	0.32000	1.09200	0.68800	51.80266	51.80266	94.28571	Administrator	1
22/01/2006	09:35	2	2	2	Out	NO	3.10000	1.69000	2.20500	1.40000	0.18000	0.32000	1.14700	0.68800	52.18380	52.18380	94.28571	Administrator	1
22/01/2006	09:45	3	1	1	Out	NO	3.10000	1.90000	2.10000	1.40000	0.18000	0.32000	1.25200	0.68800	56.96087	56.96087	94.28571	Administrator	1
22/01/2006	09:46	3	1	2	Out	NO	3.10000	2.00000	2.20000	1.40000	0.18000	0.32000	1.45200	0.68800	66.06005	66.06005	94.28571	Administrator	1
22/01/2006	09:48	4	2	1	Out	NO	3.10000	2.20000	1.90000	1.40000	0.18000	0.32000	1.35200	0.68800	61.51046	61.51046	94.28571	Administrator	1
22/01/2006	09:49	4	2	2	Out	NO	2.90500	1.80500	1.80000	1.40000	0.18000	0.32000	1.05200	0.68800	52.52122	52.52122	94.28571	Administrator	1
22/01/2006	09:50	5	1	1	Out	NO	3.00000	1.90000	2.19500	1.40000	0.18000	0.32000	1.44700	0.68800	68.97045	68.97045	94.28571	Administrator	1
22/01/2006	09:53	5	1	2	Out	NO	2.90000	1.90000	2.15000	1.40000	0.18000	0.32000	1.50200	0.68800	75.17518	75.17518	94.28571	Administrator	1
22/01/2006	09:57	6	2	1	Out	NO	2.90000	2.00000	2.05000	1.40000	0.18000	0.32000	1.50200	0.68800	75.17518	75.17518	94.28571	Administrator	1
22/01/2006	09:58	6	2	2	Out	NO	2.90000	1.95000	1.99500	1.40000	0.18000	0.32000	1.39700	0.68800	69.91992	69.91992	94.28571	Administrator	1
22/01/2006	09:59	7	1	1	Out	NO	2.90000	1.95000	1.90000	1.40000	0.18000	0.32000	1.30200	0.68800	65.16517	65.16517	94.28571	Administrator	1
22/01/2006	10:01	7	1	2	Out	NO	2.90000	1.95000	1.75000	1.40000	0.18000	0.32000	1.15200	0.68800	57.65766	57.65766	94.28571	Administrator	1
22/01/2006	10:03	8	2	1	Out	NO	2.90000	1.95000	1.90000	1.40000	0.18000	0.32000	1.30200	0.68800	65.16517	65.16517	94.28571	Administrator	1
22/01/2006	10:05	8	2	2	Out	NO	2.90000	1.95000	2.10000	1.40000	0.18000	0.32000	1.50200	0.68800	75.17518	75.17518	94.28571	Administrator	1

Computer | Protected Mode: Off 100%

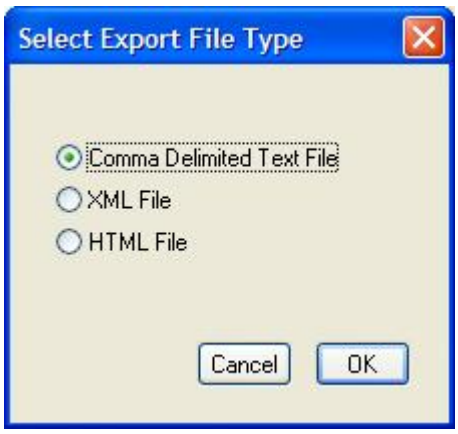
EXAMPLE OF HTML FILE

From the Display Measurements screen:-

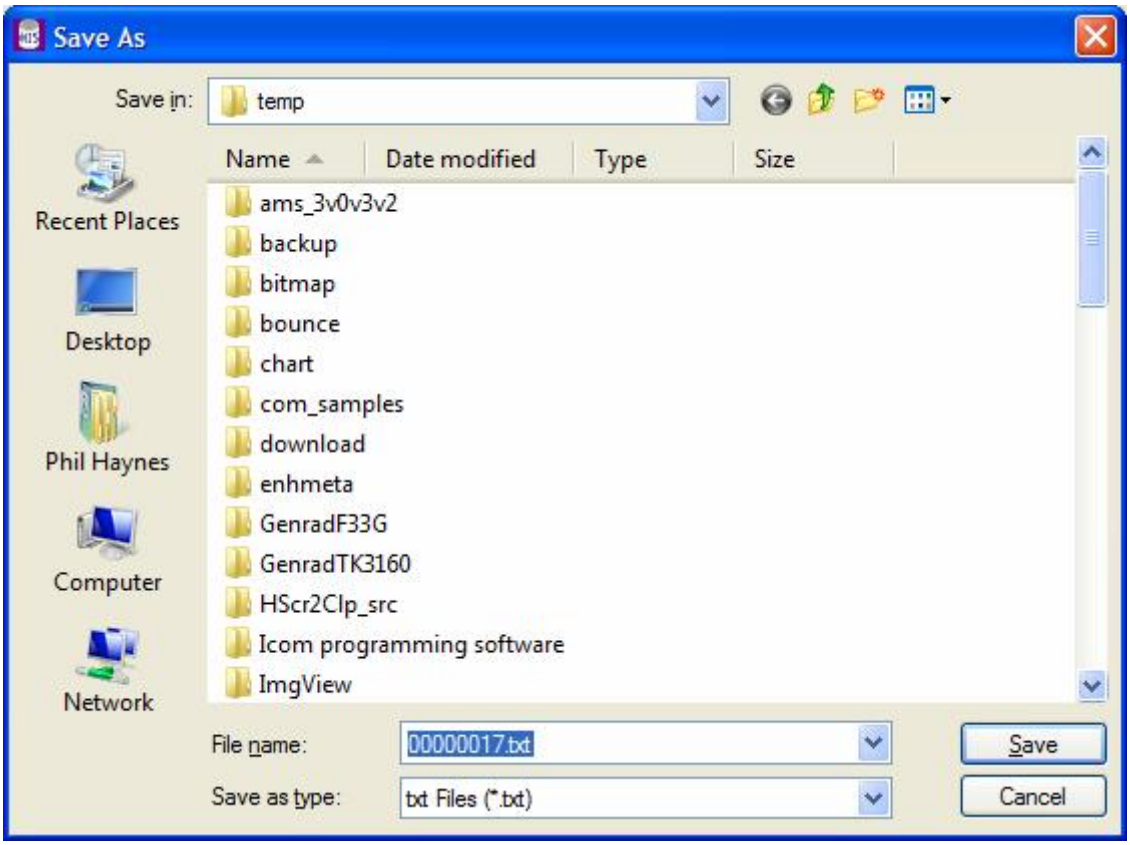
- Select the lines containing data to be exported. If no selection is made all lines will be exported and the 'Select Measurements to be Exported' dialogue box will not be displayed.
- Click the 'Export' button.
- The 'Select Measurements to be Exported' box appears:-

'Cancel' will abort the process, 'Selected' will export only the selected measurement lines and 'All' will export all lines irrespective of what was selected.

- Click the All or Selected button and the Select Export File Type box is displayed.



- Select one of the file types and the Windows 'Save As' box appears showing files in the last folder used.



- Use the 'Save in' area to navigate to a folder to store the exported data. Use the create new folder icon if required to make a new folder.
- In the 'File name' area provide a meaningful filename for the exported data.
- Click 'Save' to save the file. The data is exported and the 'Save As' box disappears.

16 ADMINISTRATOR PROCEDURES

The System Administrator will have access to all functions within Microseam and can create new users or modify/delete existing users and allocate the security level at which they can operate.

The Administrator should be logged on in order to perform the following tasks.

16.1 Create a New User/Supervisor

Each User/Supervisor of the system should be allocated an ID and Password.

- From the main menu select 'File'.
- From the drop down list select 'Operators'.
- The 'Operator Setup' box will appear.

- Click 'Add'.
- A blank 'Operator Edit' box will appear.

- Enter an 'Operator ID', which can be alpha numeric with a maximum length of between 7 and 12 characters depending on the characters used i.e. upper or lower case. If an attempt is made to enter more than 12 characters, an error message will appear after selecting 'OK' below.

- Enter a ‘Security Level’ from the drop down list.
  Choices are Administrator, Supervisor and User.
- Enter a ‘Password’ in the ‘Password’ field.
  ‘Password’ can be alpha numeric up to 16 characters and is not case sensitive i.e. PASSWORD, password or Password are all the same. The password appears as a series of asterisks *.
- Enter the password again in the ‘Password (Repeat)’ field.
- The completed box should look something like that below.

- Click the ‘OK’ button.
- The ‘Operator Setup’ box re-appears with the new entry shown.

17 USER PROCEDURES

All operators will have an 'Operator ID' and 'Password' initially allocated by the Administrator. The password can be changed later as described in paragraph 17.2 below.

An 'Operator' defined as a 'User', may only take measurements.

17.1 User Logon

Authorised operators will logon as follows:-

- Run Microseam.
- From the main menu select 'File'.
- From the drop down list select 'Logon'.
- The 'Operator Logon' box will appear.

- Select the 'Operator ID' from the drop down list.
- Enter the password then click the 'OK' button.

17.2 User Password Change

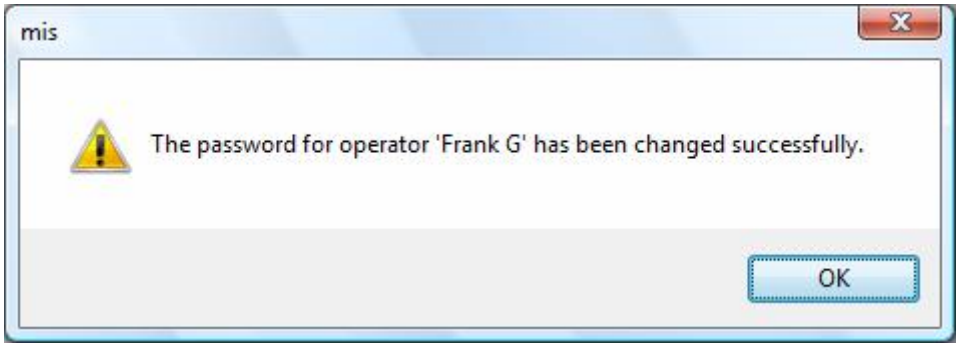
A user may change his/her password at any time. Clicking 'Cancel' at any time in the following procedure will abort the procedure and retain the old password:-

- From the main menu select the 'File' option.
- From the drop down list select 'Change Password'.
- The 'Enter a New Password' box will appear.

- Enter an new password of up to 16 characters and click the 'OK' button. The password can be alpha numeric up to 16 characters and is not case sensitive i.e. PASSWORD, password or Password are all the same.
- The 'Re-type the New Password' box will appear and the password should be entered again.

If the password was re-typed incorrectly then an error message will appear to that effect and the procedure will have to be repeated from scratch.

- Click the ‘OK’ button.
- A password changed success box will appear similar to that below:-

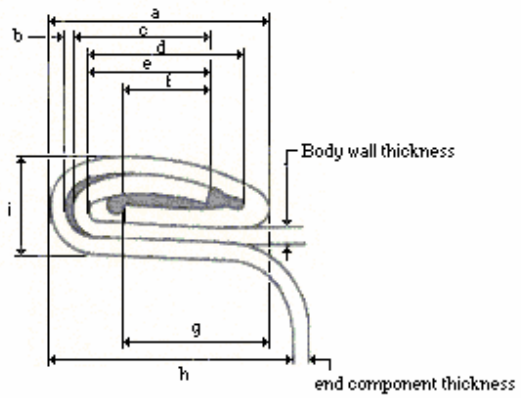


- Click the ‘OK’ button.

18 MICROSEAM DOUBLE SEAM DIMENSIONS

This section contains figures showing the typical dimensions used for a double can seam.

Microseam double seam dimensions.



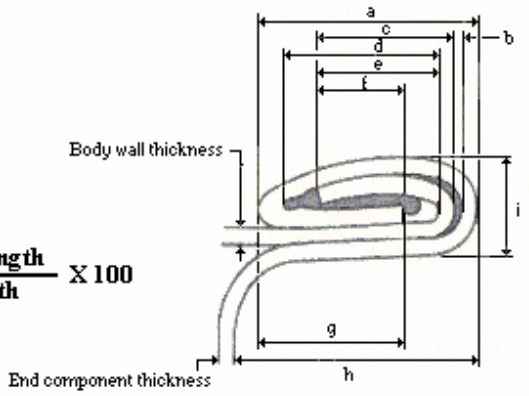
Key.

a= Seam length
b= Seam gap
c= Body hook length
d= Internal seam length
e= Internal body hook length
f= Overlap
g= End hook length
h= Countersink depth
i= Seam thickness

$$\%\text{Body hook butting} = \frac{\text{Internal body hook length}}{\text{Internal seam length}} \times 100$$

Rotary Microseam double seam dimensions.

Key.

a= Seam length
b= Seam gap
c= Body hook length
d= Internal seam length
e= Internal body hook length
f= Overlap
g= End hook length
h= Countersink depth
i= Seam thickness

$$\%\text{Body hook butting} = \frac{\text{Internal body hook length}}{\text{Internal seam length}} \times 100$$