

Equipment Type: Weld Check Analysis Software

Version: **4.2**

System Requirements: Windows XP/Vista/Windows V7

Memory Requirements: 144 MB

Manual Revision Date: December 22, 2011

Serial Number

This instruction manual is provided with each piece of delivered equipment.

Please read this instruction manual carefully and follow all installation, operating and safety guidelines.

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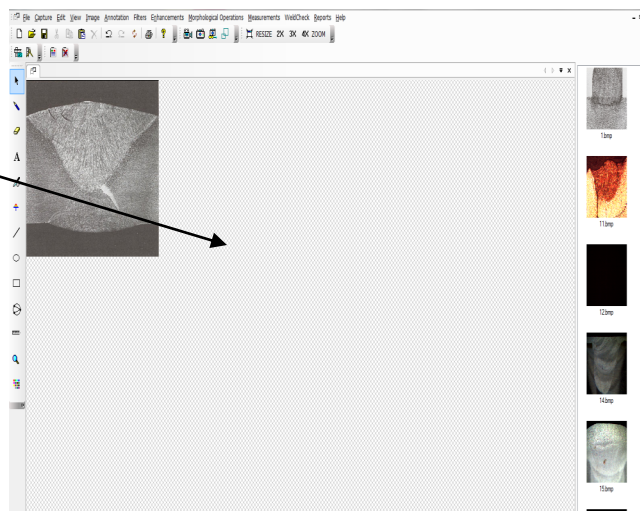
1.0 Product Description

1.1 General Description

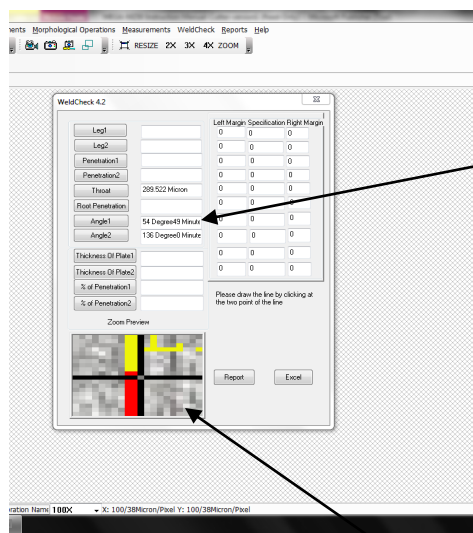
Main Interface

Weld Check is a new generation image analysis software, meant for welding inspectors, metallurgist and material scientist for analyzing weld dimensions. It is a single screen Windows based system.

The **Weld Check** software can handle both gray monochrome (8 bit) and color (24 bit) images. Multiple images of any size can be opened and displayed on the screen for analysis or comparison. The software supports the most common formats like BMP, JPEG, TIFF, PNG, GIF and PSD. Live images also can be observed and captured on the same platform. Since the system is in a Windows environment, graphs and charts displayed on the monitor can be quickly transferred into other Windows based programs such as, MS Word, MS Excel or any other commercial Windows based software for the purpose producing reports and presentations.



Weld Check Window

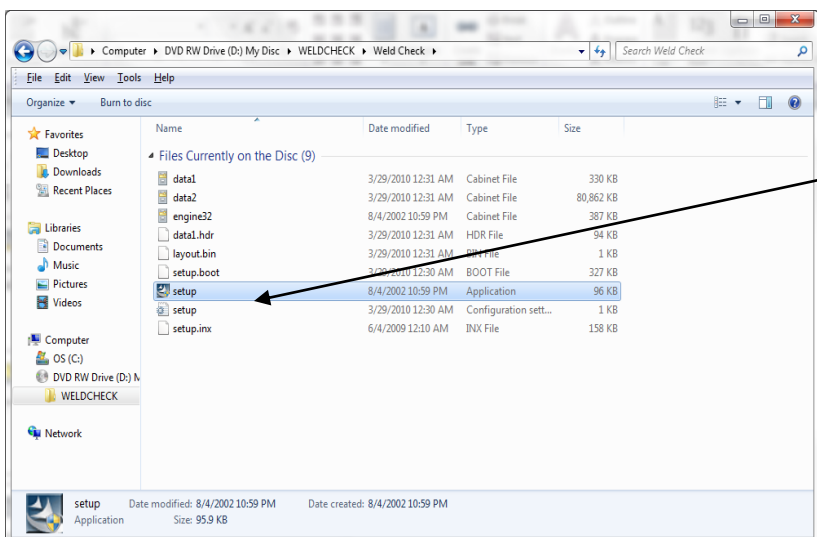


User Input

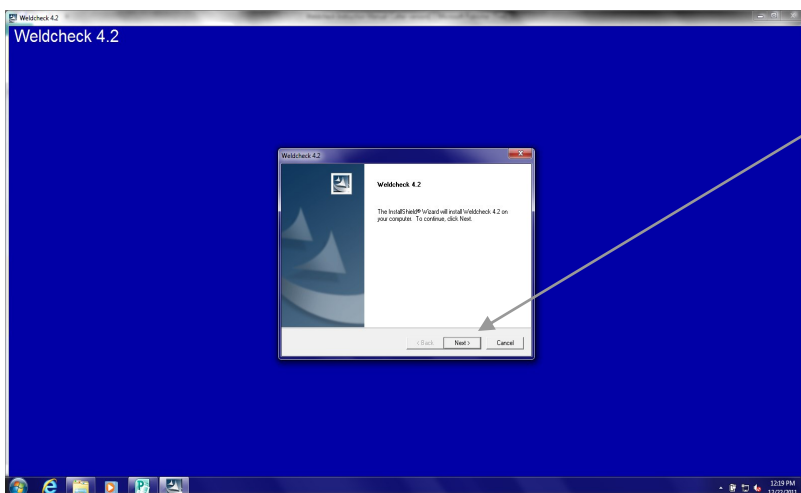
Zoom Preview

2.0 Installation of Software

To Install the Software run the software CD. Open the **WELDCHECK** folder. Click on the **Setup.exe** file. The installation window will open. Follow the steps given in the new installation window and click the **NEXT** button.

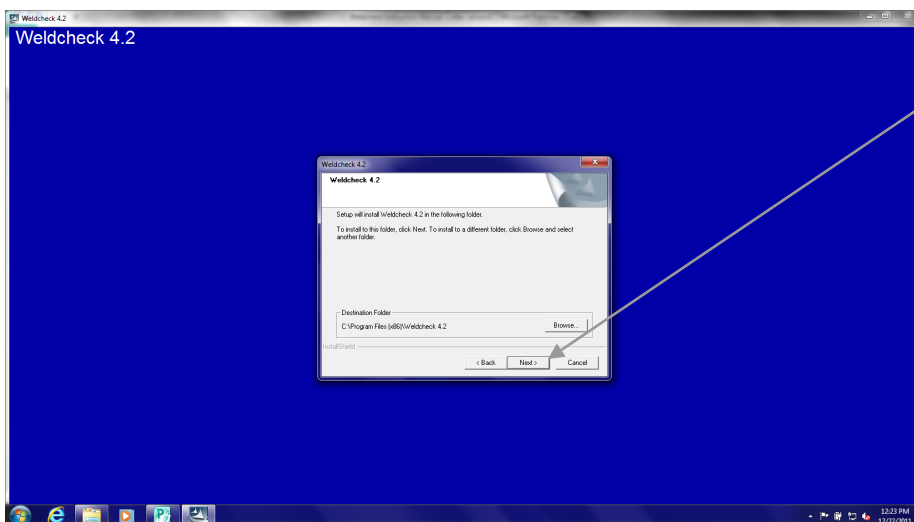


Double-Click **Setup.exe**



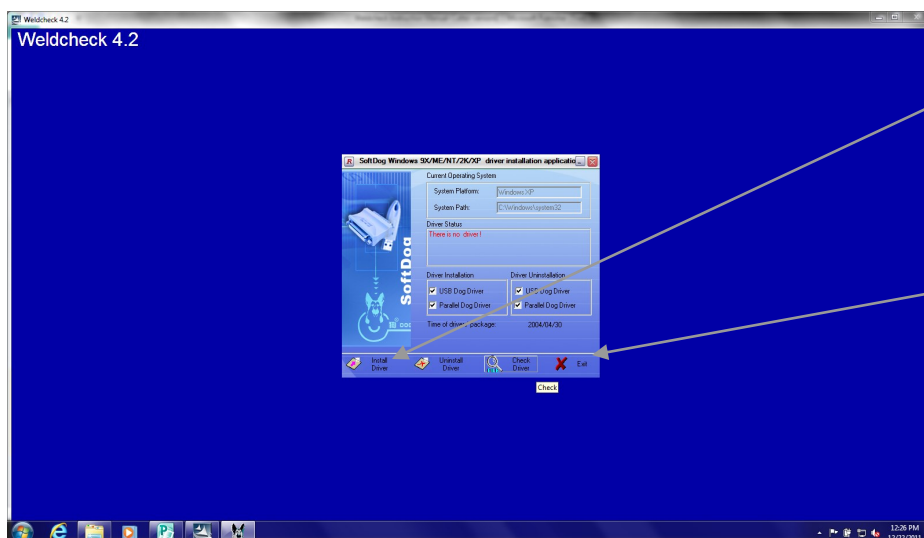
Click **NEXT**

Choose the destination folder that the software will be installed in (C://
Program Files (86x)/WeldCheck 4.2) is the default. Click **NEXT**



Click **Next**

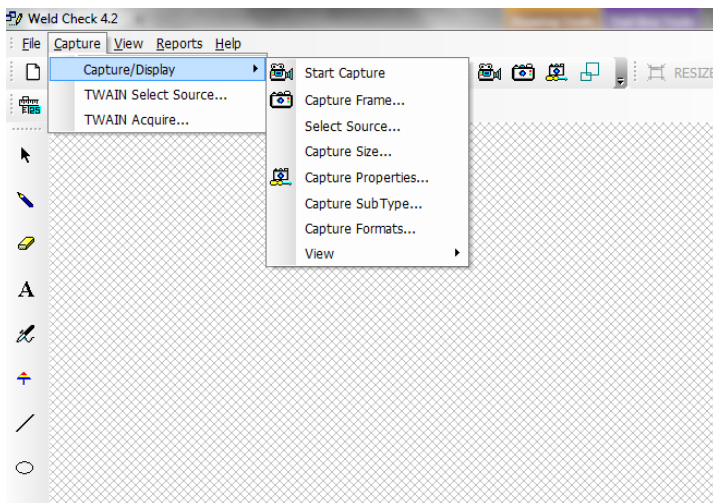
The included SafeNet Driver will need to be inserted into a USB port in order to complete installation. Click on **Install Driver**. Make sure the driver was installed successfully then click **EXIT**



Click **Install Driver**

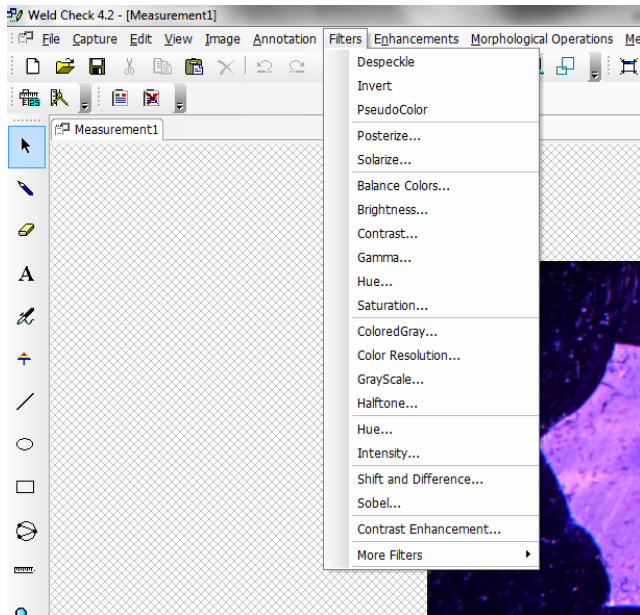
Click **EXIT**

3.0 Features



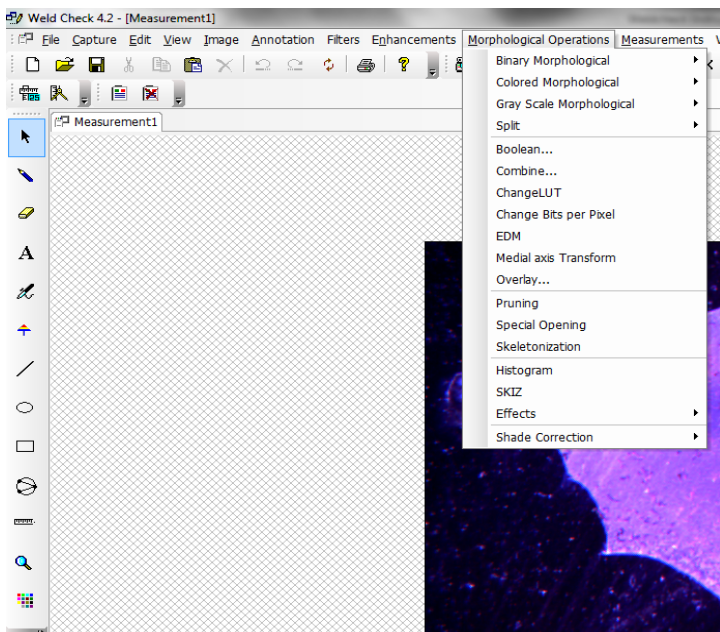
Capture:

Weld Check is equipped with a flexible platform which is able to adopt images from multiple capture cards, cameras and microscopes.

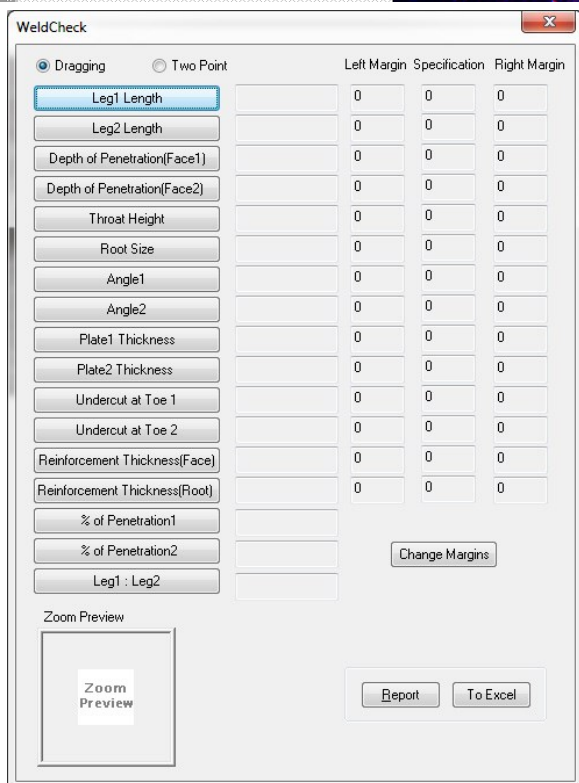


Filter:

Multiple filters can be applied to change the color and contrast of the image.



Morphological Operations:
Image analysis and
recognition options

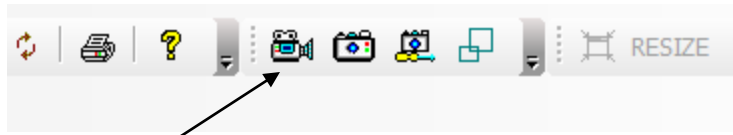


WeldCheck 4.2:

Allows the User to input dimensional parameters on the parts of a weld in order to calculate certain thicknesses of plates and percentages of penetration. Weldcheck will also export these values in a report format to MS Excel.

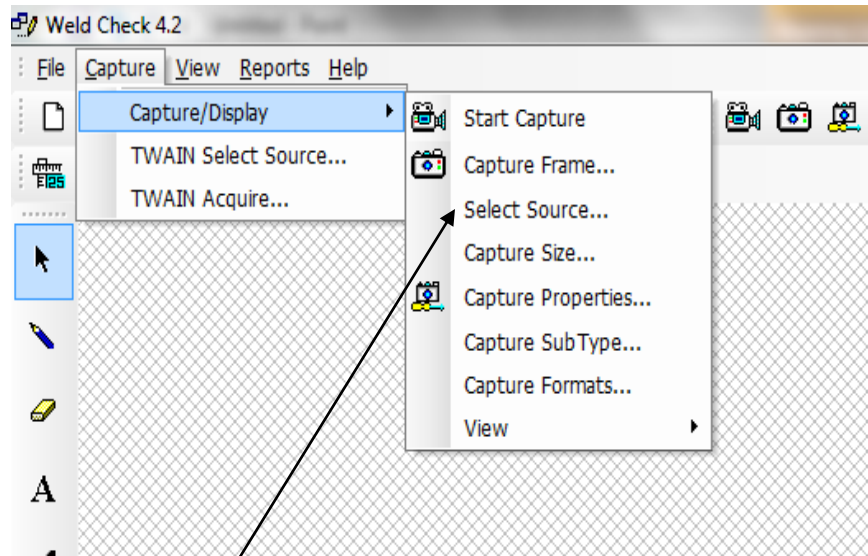
4.0 Camera selection

You must first click on the **Start Capture** button and open the live image.



1. Click the **Start Capture**

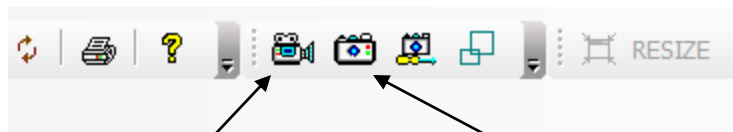
Select the **Capture** drop down menu. Then click **Select Source** and choose from the available sources.



2. Click **Select Source**

2.1 Capture Through Camera


Click **Start Capture**.
Focus the image and
Click the **Capture** button.



1. Click **Start Capture**

2. Click **Capture**

5.0 Calibration

1. Focus a stage micrometer under the first objective of your microscope in the X-Direction. Capture the image and give it a proper name, e.g. if an objective is 4X, save the image as 4X-X. Move the stage micrometer in the Y-Direction. Capture this image and save it as 4X-Y.
2. Repeat the procedure for the other objectives.
3. Open the image of the stage micrometer for the first objective.
4. Click on the  Calibration icon.
5. The dialogue box will appear. (fig. 3.1)
6. Provide a calibration name for the objective being used.
7. Select the measurement unit of the stage micrometer being used. Micro measurements are usually done in micron and Macro in mm.
8. Click on
9. Click and drag the pointer from the left side of the stage micrometer to a given measurement and in the **Scale X** window type in the distance of measurement given by the stage micrometer. (zoom feature can be used for pixel by pixel)
10. Next open the Y-Direction scale for the first objective.
11. Click on
12. Repeat steps 9 and 10 for Y axis calibration.
13. Click save. This is now the calibration for your first objective lens.
14. Repeat steps 1-13 for all of your objectives.

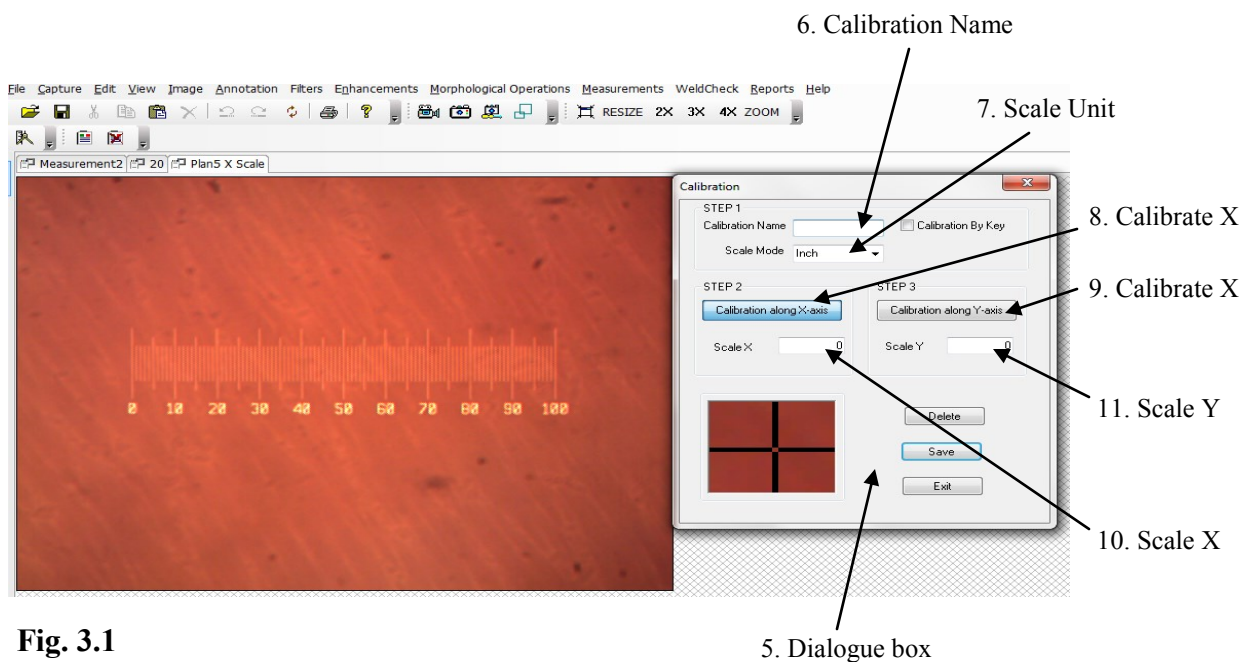


Fig. 3.1

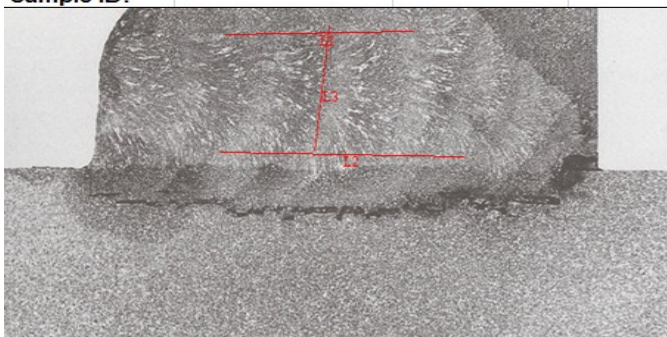
6.0 Opening a Report

Report tool is an integrated module used for viewing reports of the analysis done and saved by the user in main software.

6.1 Open a New Report

To Open a new weld check report, generate a weld check analysis. Then click on the EXCEL button. This will generate a Weld penetration analysis file in a Microsoft Excel format. (see below)

Company:
Department:
User Name:
Sample ID:



		Measured	Specification	Passed or Failed	
	Leg1:	103.806 Micron	0	Fail	
	Leg2:	339.514 Micron	0	Fail	
	Penetration1:		0	Pass	
	Penetration 2:		0	Pass	
	Throat:	1156.222 Micron	0	Fail	
	Material 1:		0	Pass	
	Material 2:		0	Pass	
	Root Penetration:		0	Pass	
	Angle1 :	64 Degree41 Mi	0	Fail	
	Angle2 :		0	Pass	
				Percentage1 :	
				Percentage2 :	

7.0 Weld Check

1. Load the image to be analyzed
2. Click on [WeldCheck](#)
3. Select OPEN and the following Weld Check window will appear

From this menu the user can input the weld dimensions by clicking on both ends of the weld parameter. (see pg. 14 for the parts of a weld)

To obtain the value of percentage of penetration, click on the % of Penetration button after parameters have been inserted.

Drag or click start and click end to determine length

WeldCheck

☒ Dragging ☐ Two Point

	Left Margin	Specification	Right Margin
Leg1 Length	0	0	0
Leg2 Length	0	0	0
Depth of Penetration(Face1)	0	0	0
Depth of Penetration(Face2)	0	0	0
Throat Height	0	0	0
Root Size	0	0	0
Angle1	0	0	0
Angle2	0	0	0
Plate1 Thickness	0	0	0
Plate2 Thickness	0	0	0
Undercut at Toe 1	0	0	0
Undercut at Toe 2	0	0	0
Reinforcement Thickness(Face)	0	0	0
Reinforcement Thickness(Root)	0	0	0
% of Penetration1			
% of Penetration2			
Leg1 : Leg2			

Change Margins

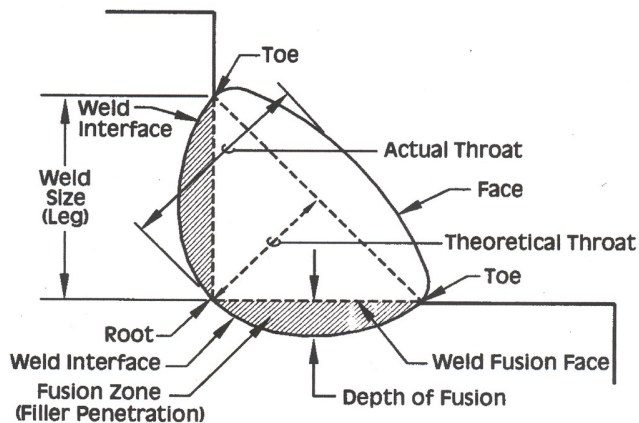
Zoom Preview

Zoom Preview

Report To Excel

8.0 Parts of a Weld

Parts of a Fillet Weld



Parts of a Groove Weld

