CREASY preliminary user manual v5.1.8

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Introduction

Congratulations! You have just acquired the portable creasing and folding analyzer CREASY. This device is the optimum tool to control the converting process of creasing. It measures the characteristics of the bead, the spine, the folding symmetry and angle in a fast and intuitive manner. The software automatically creates quality control reports.

The CREASY software is available in two versions:

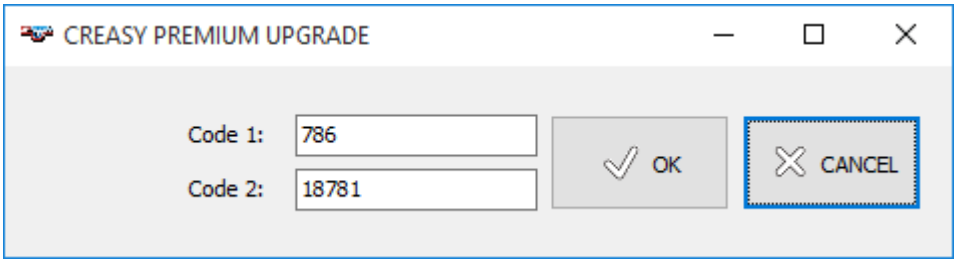
- Basic Version
- PREMIUM Version

The Help Menu offers functions to activate Software Modules by inserting License codes.

This manual will always outline functions that are available only in the premium version. The software can be upgraded from Basic to Premium by an upgrade code.

PREMIUM version

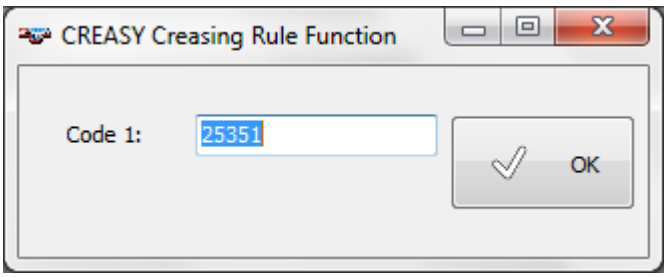
Contact your dealer to get the proper upgrade code for your device. Insert the upgrade codes by selecting the PREMIUM upgrade function from the Help menu.



In addition there are available optional function modules. These modules require the PREMIUM license.

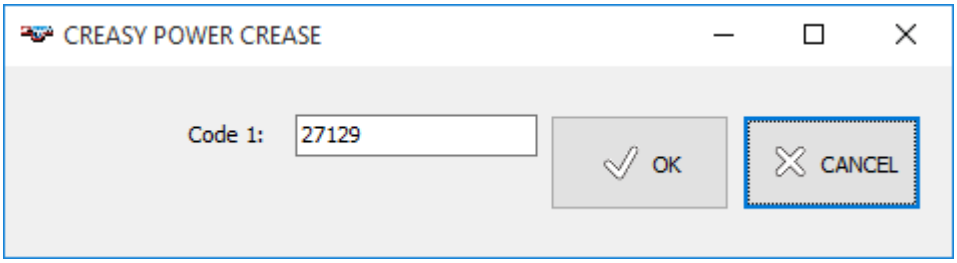
CREASING RULE

The Creasing Rule function enables you to measure the characteristics of your creasing rules. The function can be accessed only if the CREASING RULE option is enabled. Insert the CREASING RULE code by selecting the Creasing Rule License Item from the Help menu.

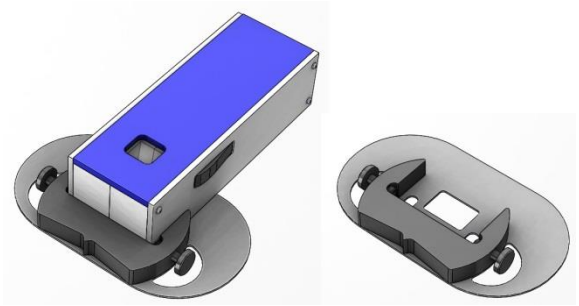


POWER CREASE

The Power Crease function offers additional job statistics for crease and embossing measurements. Additional crease profile calculations are also available with this function module. The function can be accessed only if the POWER CREASE option is enabled. Insert the POWER CREASE code by selecting the Power Crease License Item from the Help Menu.

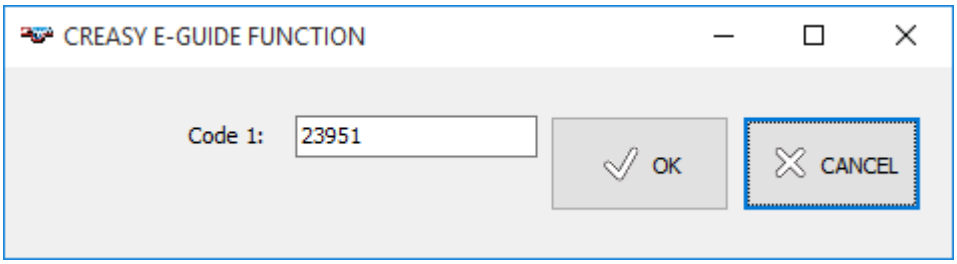


The POWER CREASE option consists of an upgrade code and a hardware tool that helps to keep the sample flat during crease or embossing measurement.

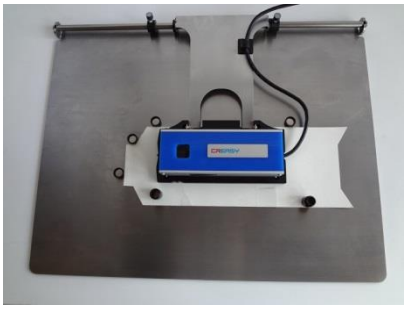


E-GUIDE

The E-GUIDE option is composed of a mechanical tool that guides you while pulling the CREASY over the embossed area. This leads to a repeatable, fast and accurate control of your embossed area. The function can be accessed only if the E-GUIDE option is enabled. Insert the E-GUIDE code by selecting the E-GUIDE License Item from the Help Menu.



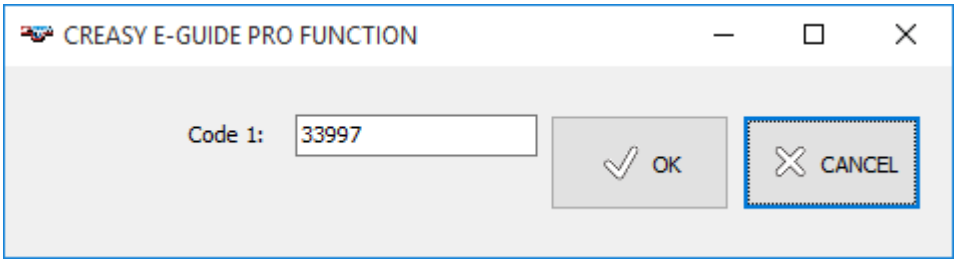
E-GUIDE is supplied with the mechanical E-GUIDE Tool



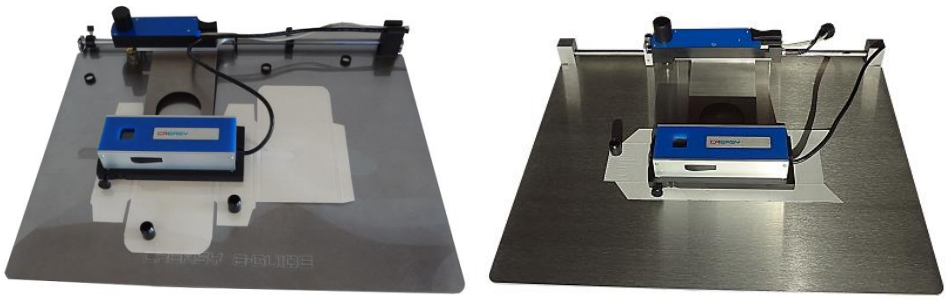
EGUIDE-PRO

The EGUIDE-PRO Option is a motorized version of the EGUIDE Option offering additional software functions. The EGUIDE-PRO Software enables you to save and load scanning images. It also highlights the deep area and the area that is as deep or deeper than the reference. In case the PowerCrease Licence is activated there can be inserted references and customized box layouts for embossing. In addition, special test patches for embossing are available in this case.

Insert the EGUIDE-PRO License code by selecting the EGUIDE-PRO Item from the Help Menu.

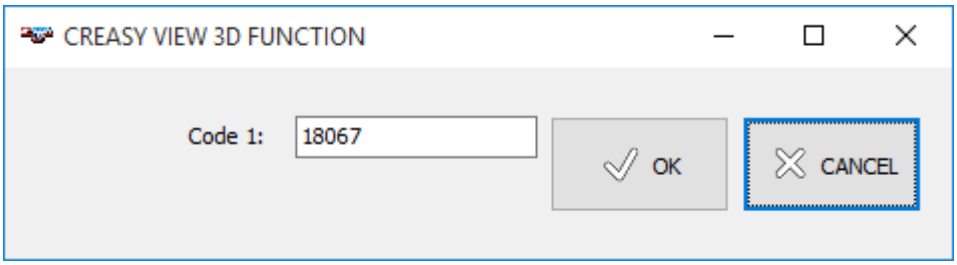


The EGUIDE-PRO is supplied with the mechanical EGUIDE-PRO2 Tool.



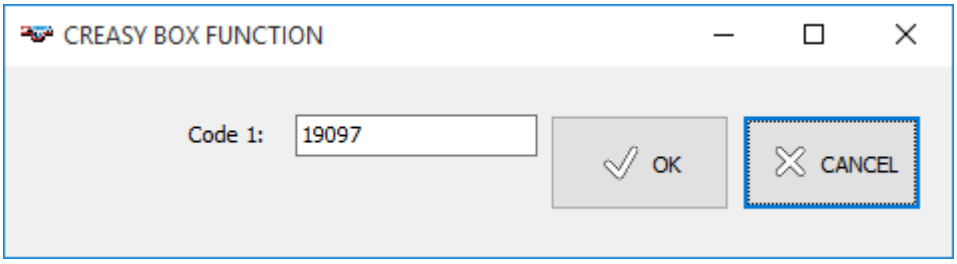
3D View

The 3D View function offers a tool to display the embossed area that has been scanned using the EGUIDE-PRO, in 3D. Insert the EMBOSS 3D License code by selecting the 3D View Item from the Help Menu.



POWER BOX

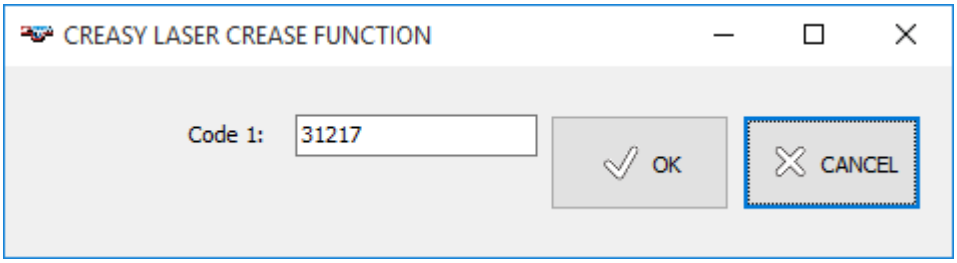
The POWER BOX function offers additional job statistics for finished boxes. Insert the POWER BOX code by selecting the Power Crease License Item from the Help Menu.



The POWER BOX Option is supplied with a mechanical tool to position and hold the finished box in an convenient and repeatable manner.

Laser Crease

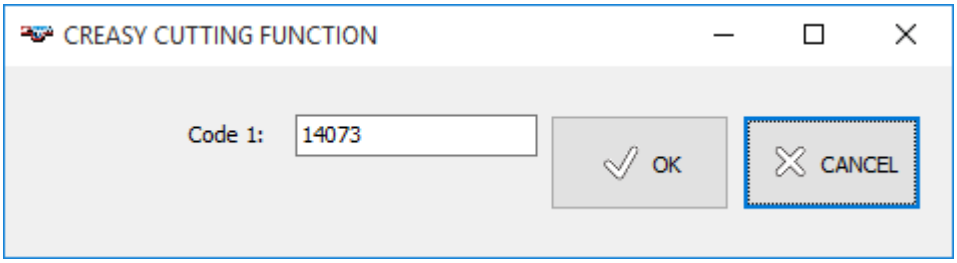
Crease lines can be created by ablating the top paper layer using a Laser. These crease lines can be measured using the Laser Crease Software Module. Activate the Laser Crease function by inserting the Laser Crease License code.



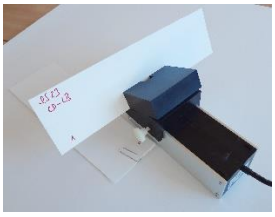
Cutting

The Module Cutting offers functions to evaluate the quality of a cutting edge. Fibers on the edge will lead to paper dust during printing and reduce print quality. In addition there can be evaluated the cross section of a crease line.

Insert the license code to activate the function.



The Module is composed of a license code and a holder to easy the positioning of the paper edge.



Important: *This manual describes the current version of the CREASY hardware and software. Future enhancements or modifications are reserved.*

Safety Instructions

Warning

For safety reasons it is absolutely necessary to read through the user's guide and all of the instructions it contains.

General safety rules

If the safety recommendations and instructions in this User Guide are not complied with, measurement errors or data loss or physical injury or property damage may result

- CREASY is not intrinsically safe. Therefore, the device cannot be used in an environment with explosive vapors where there is a risk of spark ignition.
- CREASY may not be used in an area with strong electromagnetic fields.
- Use the CREASY in ambient temperatures between 10°C (50° F) and 40°C (104°F), and do not expose the CREASY to direct sun light.
- The CREASY Sensor should never be opened as there are no user-serviceable parts. Doing so voids the guarantee. Contact your authorized dealer if repairs are necessary.
- To avoid incorrect handling, the CREASY should only be used by trained personnel
- The CREASY should only be used on dry measurement objects.
- The CREASY should be protected against chemicals, corrosive vapors, strong mechanical vibrations and impacts.
- Use original spare parts and accessories only.
- Use the original packaging exclusively when transporting.
- The CREASY casing can be cleaned with a dry cloth.

Installation

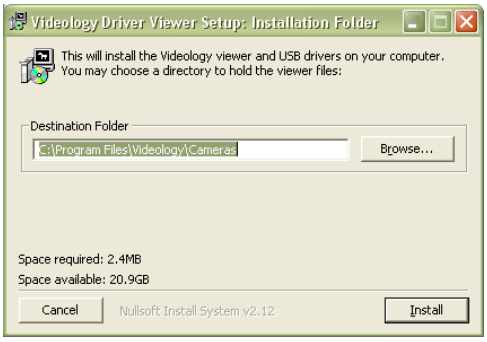
Start your Computer and wait until all boot processes have terminated and your computer is ready to operate. **Do not plug the USB cable in at this time.**

Plug the CREASY USB Memory Stick into a free USB Port and wait until Windows has recognized and registered the USB Stick as a Mass storage Device.

Install the CREASY software

The USB Memory stick contains a setup utility **'setup CREASY.exe'**, which can be run to install the CREASY Software on your PC.

Before termination the video driver installer will automatically be started. Click INSTALL.



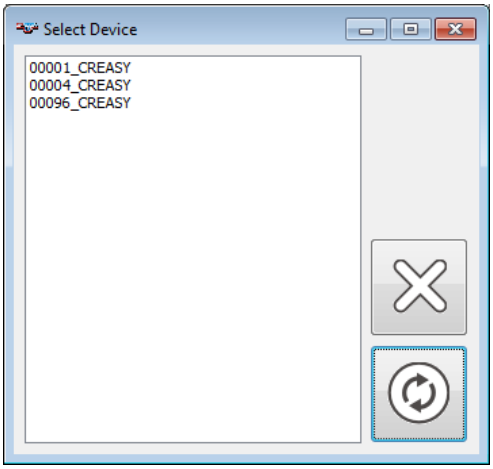
Wait until the installation of the driver is finished.

Now connect the USB cable to a free USB2.0 port. Windows will automatically detect the driver and assign it to the device.

Run the application

- Launch the CREASY.exe or
- Click the CREASY Icon on your desktop or,
- Run the CREASY from the Windows Start Menu

You can use one Software installation for multiple Hardware devices. Copy the '<serialnumber>_CREASY.INI' file from the USB Stick into the Installation directory of your computer. If more then one of those files is located at program start, than the software will promptfor Device selection:

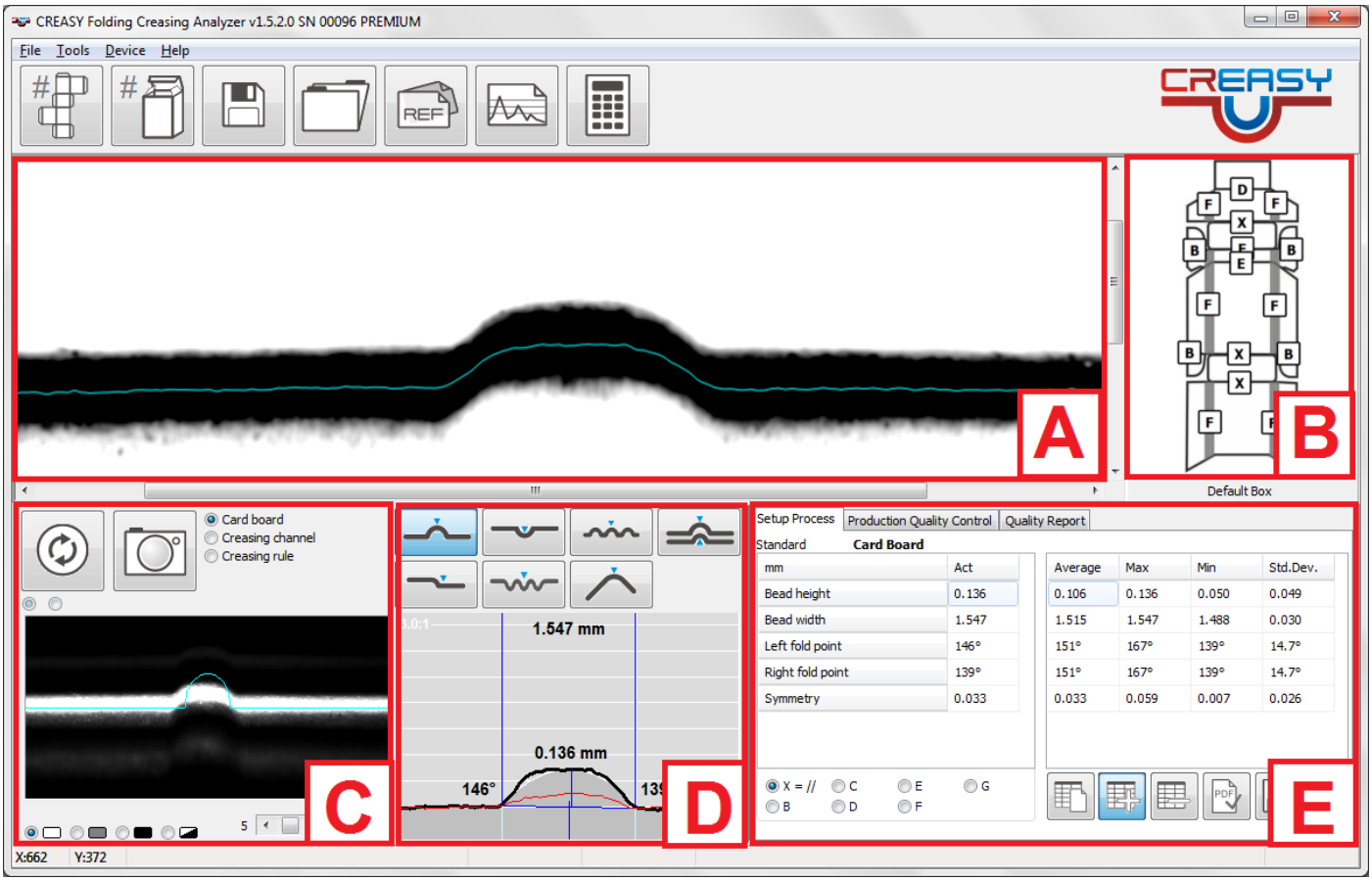


Select a device from the list and click the preview Icon.

Click the Cancel Icon to maintain the most recently used device.

You can always change the connected device by selecting the ‘Select Device’ item from the ‘Device’ Menu.

Main Window



A) Captured image for analysis
B) Box definition window
C) Live camera image
D) Analysis modes and graphical results
E) Numerical Results and Report preview

Main Window Icons

Main Menu Functions

Measure a new box in production quality control mode

Measure new embossing-debossing job (Power Crease only)

Measure embossing using the embossing patch (Power Crease only)

Measure a new finished box job (Power Box only)

Save the current image

Load Image

Open Standards Database

Open Statistics on quality reports

Analyze image

Display the EGUIDE-PRO Image in 3D (3D View only)

Camera Functions

Preview

Capture

Setup Statistics and Job Statistics Functions

Clear statistics

Automatically add most recent measurement and all subsequent measurements to statistics and re-calculate Average, Maximum and Minimum and Standard Deviation. Click this icon again to stop adding measurements to statistics.

Remove most recent measurement from Statistics

Save actual statistical data

Copy Data to Windows Clipboard (press shift to copy with titles)

Accept and save data – create PDF report

Cancel box data collection

Reference Database Functions

Add new Box reference

Remove Box reference from Database

Copy a reference

Calculate tool dimensions

Select Box Layout (PREMIUM Version only)

Measure references

Open Box Editor (PREMIUM Version only)

Get a proposal for the brightness settings

Clear the database by removing all references permanently.

Import References from another database.

Save Database and close Window

Undo changes and close Window

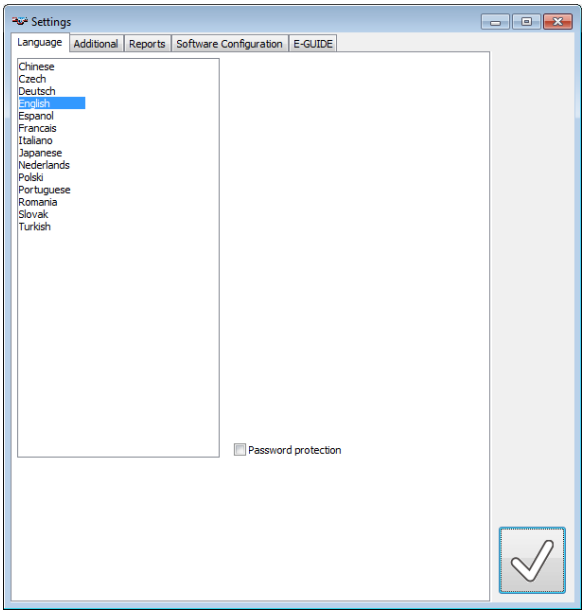
Copy Functions

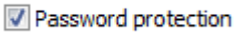
Use the key combination STRG+C to copy the bottom Area of the Main Window (C+D+E) to the Windows Clipboard. Use the PASTE function of your Windows application to paste the image.

Configure your installation

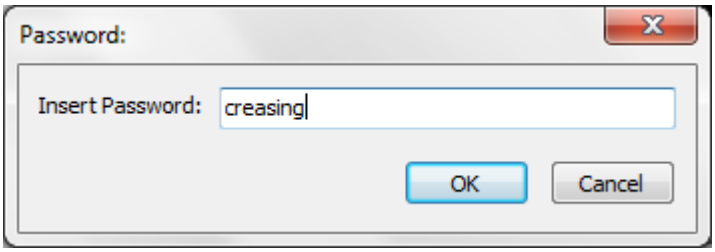
Select *Settings* from the file menu. Select your language from the *Language* page.

Select your language





You can protect additional settings by password. Check or un-check the Password protection item on the right bottom. Insert the password <*creasing*> to make your choice permanent.



The password protection will disable the modifications of all settings. Only the language can still be selected. Further modifications of references are disabled by this function.

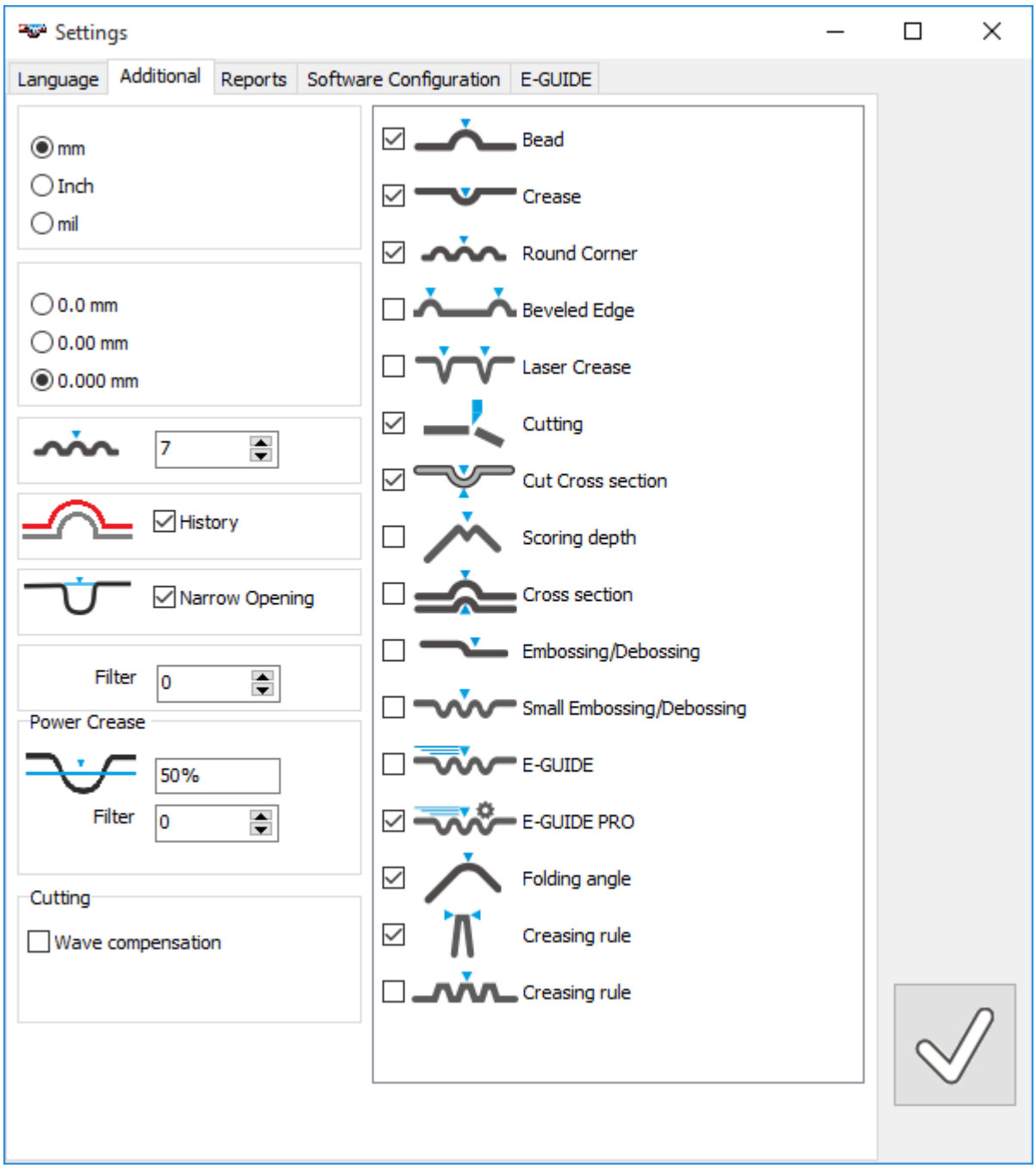
Configure data representations and functions in use

Select the *Additional* page to access additional system settings

- Change between metric system (mm) and Imperial (inch) system
- Select the number of significant digits for measurement results
- Select the number of beads in case of multi bead measurements. If 1 is selected, then the software will automatically detect the number of beads.
- Select History if the previous measurement should be displayed by a red line or the previous measurement is not displayed at all.

- Select the mathematical formula for the opening calculation of the crease measurement. Narrow opening is an alternative interpretation for the starting and ending of a creasing line cross section on the material surface. By default, Narrow Opening is checked. Unchecked Narrow opening should be used only for materials that are showing sharp edges at the top end of the crease.
- Select if a noise filter should be applied to the surface profile curve and how strong this filter should be (values 0 = no filter, 10 = very strong filter). The noise filter will reduce the impact of surface structure like fibers, print or gloss. Please note, that a noise filter always makes the curves smooth and therefore eliminates drawing details. Small differences may appear in measurement values depending on the filter setting. It is recommended to use filter setting 0 if very tiny structures should be measured (like cut score lines). On rough surfaces, glossy surfaces or printed surfaces the noise filter can help to improve the repeatability of the readings.
- Enable and disable measurement functions. The available measurement function set can differ depending on the Licenses activated in your software.

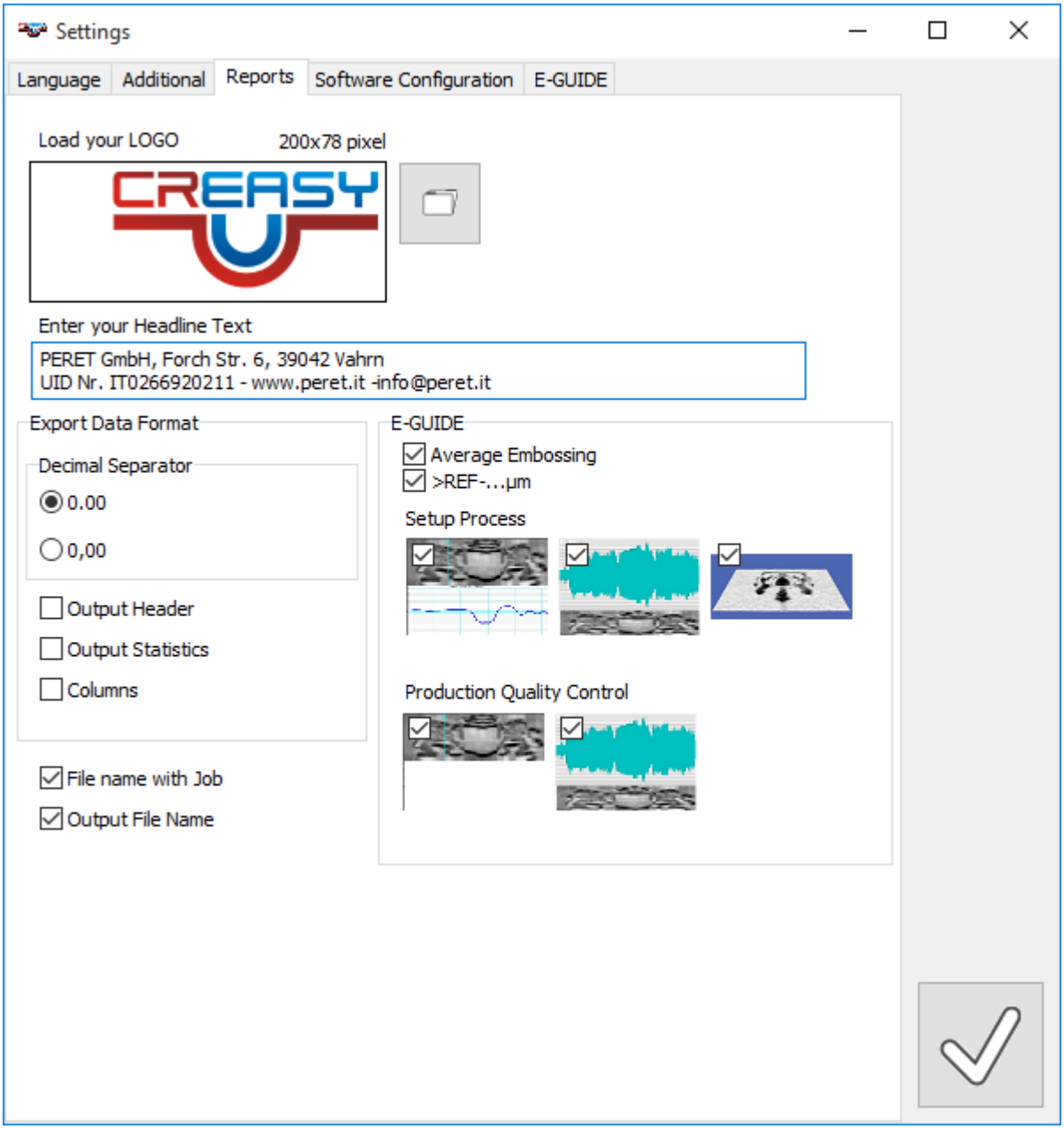
- When the Power Crease Module is activated there is a separate filter setting for crease measurements. In addition, the level for the crease width measurement can be selected. Insert a value followed by % to specify a percentage level. Insert a value without % to specify the level in microns. The level is always calculated starting from the bottom of the crease.



Configure the layout of Reports

Select the *Reports* page

Load your company Logo that will be applied to your quality reports by clicking the File Open Icon. Insert your company details below as they will appear in the header of any report. Specify the output format for tab delimited text format output.



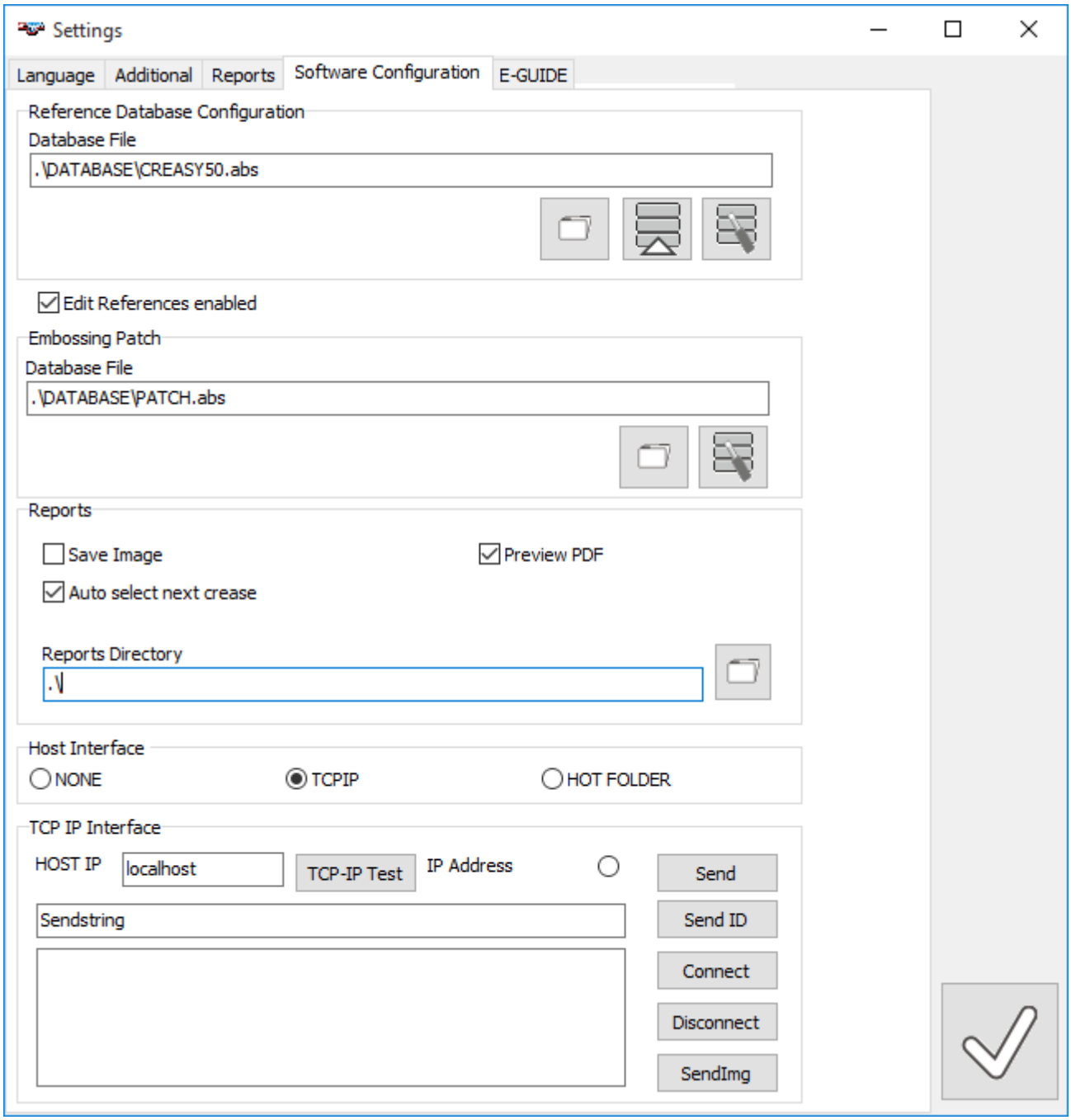
Important: in order to save and re-load setup process data the 'Output Header' flag needs to be checked.

Select if the Average Embossing Value should be calculated. Select if the percentage of embossed are deeper than a reference should be displayed.

The 3DView Option offers the possibility to output the 3D image of the actual measurement on the PDF reports. In this case the third option needs to be checked:

Select the path for database files and communication parameters

The PREMIUM version offers in addition the software configuration page.



Select the file location of the reference database. Select the database file by clicking the open Icon on the right side.

Import Data from v3.x Databases into v4.3 database.

Repair a corrupted database.

Select if the database can be modified or not. Use this flag to prevent the user from editing the database in case of multi-user installations accessing the same reference database file.

When the Power Crease Module is active, the database file for the embossing-debossing references can be selected.

When the Power Box Module is active, the database file for the finished Box references can be selected.

In addition, you can select the destination path where all PDF reports should be saved. The reports will be saved into sub-directory of the selected path. When the Power Crease Module is activated, you can save original captured images into a sub directory \SetupRep\Img by selecting the Save Image Selector.

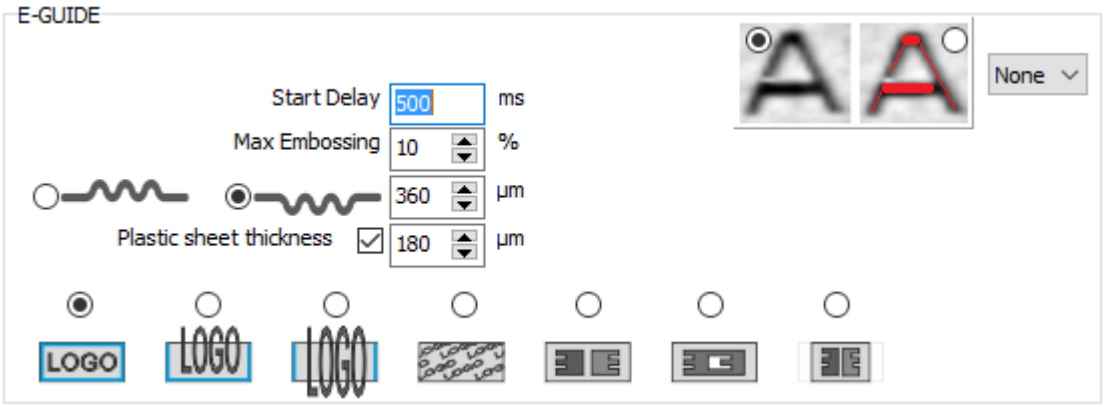
Select if the PDF report should be displayed after creation.

Select if during job measurement the next crease type is selected automatically after the number of predefined measurement positions have been measured for the current crease type.

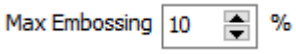
The CREASY PREMIUM can run on a network communicating with a server application based on two communication protocols: TCP-IP e HOT FOLDER. For details check the manual **CREASY Host Interface.pdf.**

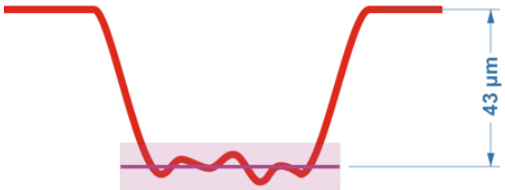
Configure the parameters of the EGUIDE-PRO device

In case the E-GUIDE *Module* is activated there are available settings on the EGUIDE Page

- 

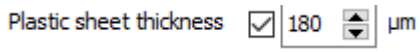
-

Before starting to scan there will appear a traffic light giving you the time to be prepared for scanning. This delay can be configured as Start Delay.
- 

Select the % of deepest or highest area that should be used to calculate the embossing depth. 10% is a reasonable value. This number can be understood as the height of the red window in below drawing.
- 

-

In order to optimize the image capture process, it is necessary to specify, if you are going to measure hills or valley and what the expected height or depth will be. Select if you are going to measure hills or valleys. The expected depth should be approx. 20%-50% higher than your target depth. If your target depth for example is 50 microns, insert 60 or 70 here.

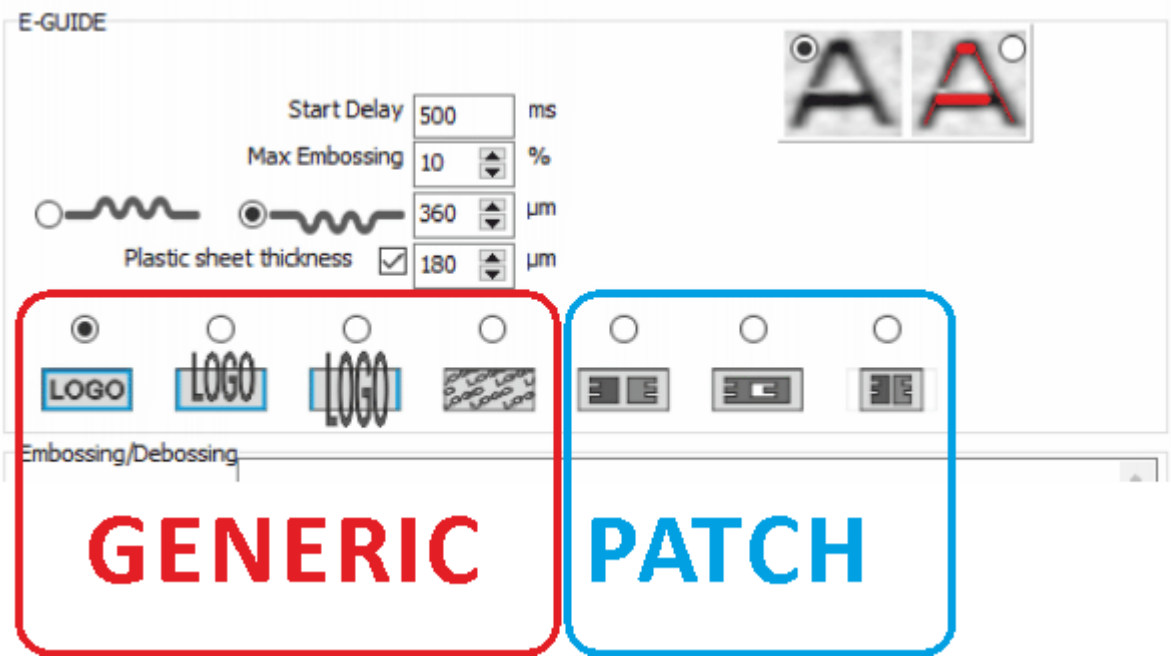
- 

EGUIDE PRO is supplied with a plastic film to be placed on top of the box blank. This will prevent the CREASY to stick during motion. Insert the thickness of the plastic film here. Default is 180 microns. If you do not use a plastic film, un-check the function.

-
The result image can highlight the embossed area in color. Select the red A in case you would like to highlight the embossed area.

Select the type of embossing

The CREASY Software can be configured to measure different types of embossing. Some are generic, where the algorithm does not have any knowledge about the layout and the measurement area can also pick only a sub-set of the entire embossing area. Some are more specific defined by a embossing patch.



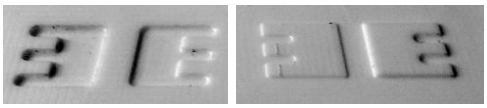
-

Generic embossing :The embossing depth calculation needs card board surface as a reference.

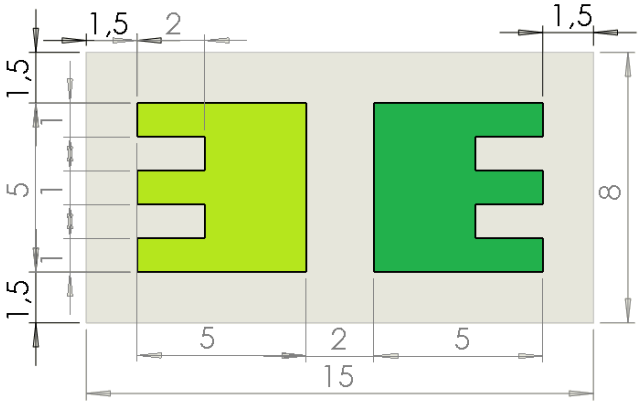
- If your embossed area fits into the viewing area of 9mm height and up to 70mm width, select the left icon. This measurement is slightly more precise as there is substrate reference available around the embossing area.
- In some cases, the embossed are does not fit into the 9mm viewing area. If the subject can be aligned such as on bottom there is still surface available, at the beginning, at the end of the scan and on bottom there will be cardboard surface available. Use the Left/Right/Bottom selection in this case.
- In some cases, the embossed are does not fit into the 9mm viewing area. In this case only at the beginning and at the end of the scan there will be cardboard surface available. Use the Left/Right selection in this case.
- Little embossed surface structures all over the area can be measured with the option at the right hand. In this case there will not be calculated nor applied a surface correction at all.

- **Embossing patch (Power Crease required):** Using embossing patches will make the process control significantly easier and less dependent on operators. The predefined patches perfectly fit into the measurement area of the device. The positioning is easy and the measurements are highly repeatable.

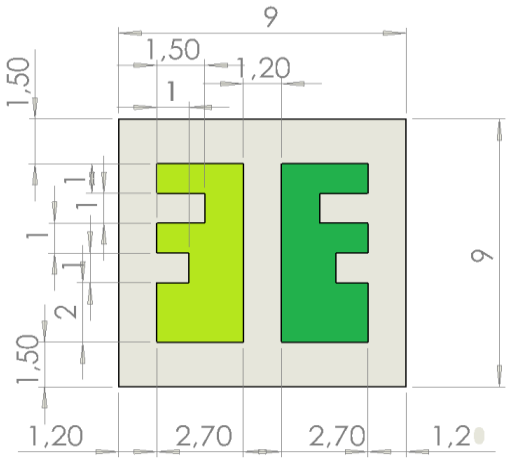
  - Embossing with two depths. This patch can be measured as embossing or de-bossing with two depths or two heights



Design the tooling according to below dimensions in mm. Select the depths/heights representative to the embossing in your layout:



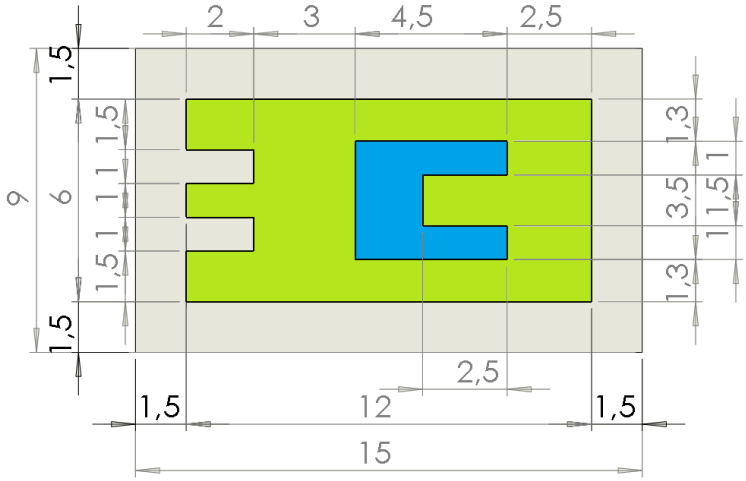
8mm x 15mm patch



9mm x 9mm patch

- Embossing De-bossing patch. This patch is used if inside an embossing area there will be also de-bossing.

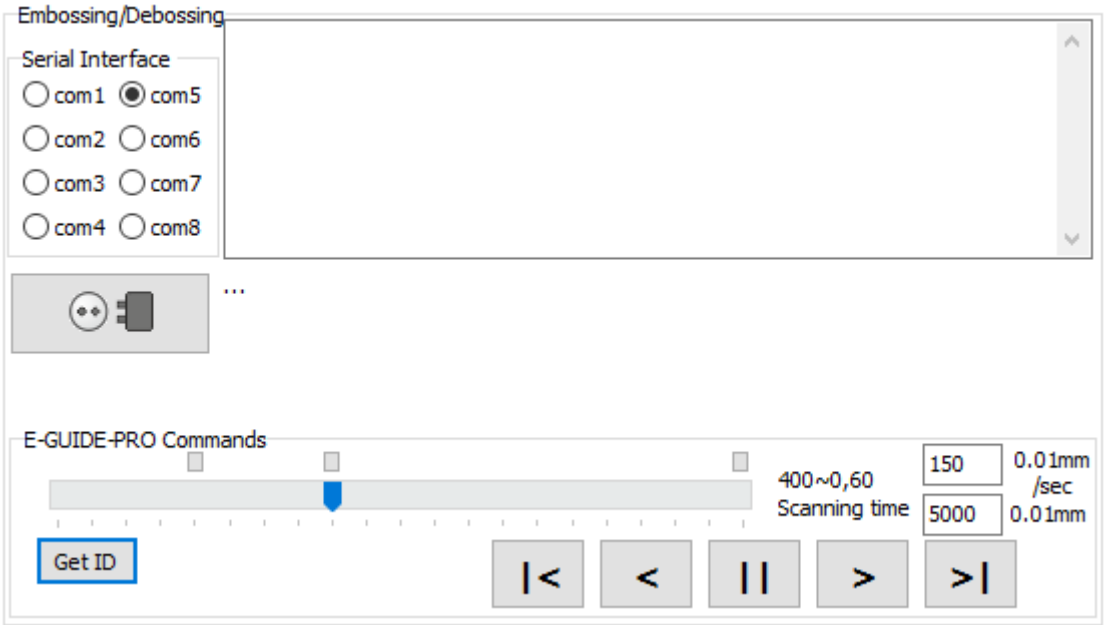
Design the tooling according to below dimensions in mm. Select the depth and height representative to the embossing in your layout:



9mm x 15mm embossing-de-bossing patch

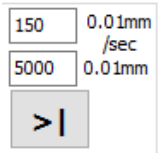
Test and calibrate the EGUIDE-PRO motion parameters

- In case the EGUIDE-PRO module is activated there are additional functions on the EGUIDE Page.



- Select the com port and click the connect button

- Click the Get ID button to check if the software connects to the device. The device will answer with E-GUIDE and Firmware version
- Use the left/Stop/right buttons to move the device
- Click the HOME Icon to move the CREASY to the home position
- Click the MOVETO Icon to move the CREASY to a specified position with a specified speed.

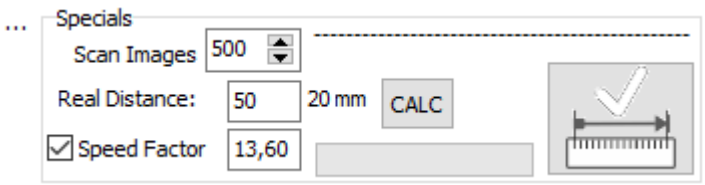


The ⋯ next to the connect button will give our support access to your hardware. Do not change any parameters here by yourself. The access is password protected.

Below actions are necessary only if you use a EGUIDE-PRO Hardware. The EGUIDE-PRO is estimating the distance to move by estimating the time needed to get to a position. The Timing of your Windows System can have an impact such as the real distance moved can show differences over time.

The EGUIDE-PRO2 Hardware is equipped with encoder and will automatically move to a requested position with a constant predefined speed. Distance and speed are independent from the timing of the Windows Operating system.

On bottom there are available Special settings that can accessed by clicking the … below the GETID button.



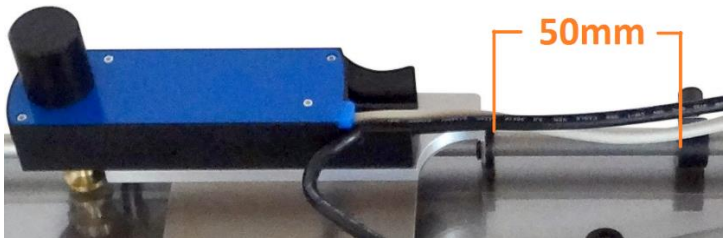
The Software does support a maximum of 500 cross section images per scan. For old/slow computers there might be a limitation in terms of memory or processing speed such as the maximum of Scan Images needs to be set to a lower number (f.e. 200).

The software will calculate the current number of images and the current motion speed based on the maximum images, the scanning distance and the minimum motion speed.

The EGUIDE-PRO will move over the scanning area until all images are captured. Therefore, slow computers will move a longer distance than fast computers. If. for example, there is any other application running in the background the scanning distance will differ from scan to scan depending on the actual work load. This will have only a minor impact on the measurement result. The EGUIDE-PRO can be matched to your PC by adjusting the Speed factor. Perform the following steps.

- Fix the left end position and move the carriage in its left home positon.
- Unscrew the right end position nob such as it can move freely and move it to the right end of the carriage
- Now set the distance to 50 in the main screen and start the scanning.
- The carriage now will move approx. 50mm capturing 500 images (or less depending on your settings). While moving it will move also the right end nob to the right. At the end of scanning the carriage will be moved to the left home position again.
- Measure the distance between the right nob and the right end of the carriage with a ruler
- Insert the measured distance into the Real Distance field
- Click the CALC button
- The Speed factor will be calculated and saved.

Version 3.0.0 does support a more accurate speed calibration system for the EGUIDE-PRO. If the new Calibration is executed once, old type calibrations are not used any more.

- Move the carriage to the left starting position.
- Fix the right blocking knob at a distance of exact 50mm from the right extend of the carriage such as the moving distance is limited to exact 50mm.
- 

- Now click the calibration Icon to start the calibration process.
- The calibration will take 10-15 minutes. Do not interrupt the calibration process. The progress bar will display the progress of the calibration.
- The calibration can be repeated at any point in time. In any case it should be repeated on a weekly basis for accurate positioning results.

Even after calibrating the Speed Factor there might be a variation of +- 2-3 mm in distance depending on processes running in the background.

If the Speed Factor is checked, the simple, linear speed calibration is applied.

Standards Database

The CREASY software offers a database with standards. The database is in Absolute Database format and stored in one single file with file extension .abs. This makes the transfer of references from on installation to another installation easy and save.

The CREASY software can handle as many databases as required.

Create a new database

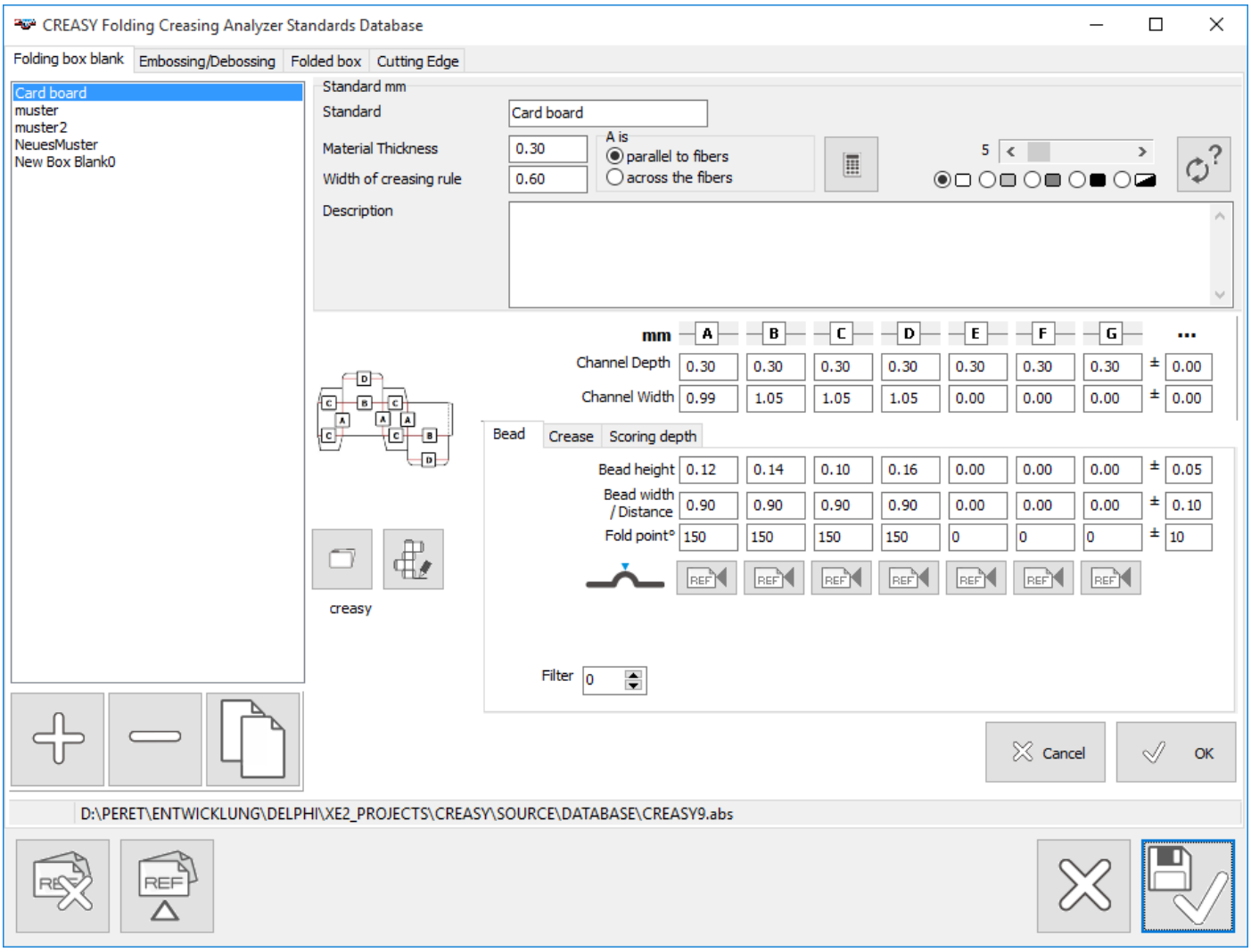
Select the ‘File/New Database’ Item from the main Menu. Enter a new File name and click OK. The Database will be created and open automatically.

Open a database

Select the ‘File/Open Database’ Item from the main Menu. Select an existing database file and click OK. The database will open and all references will be available.

Folded Box Blank reference

Click the database icon to open the database interface.



Depending on the set of enabled software modules there might appear or not appear features of above image.

The Folded Box Blank Page is used to specifiy the creasing process parameters of a box blank. The basic version of the CREASY offers up to 4 different specifications to be used, one in parallel to fibers, one across fibers, and two diagonal ones.

Bead, Round Corner, Beveled Edge, Laser Crease

The Box blank can have up to 7 different specifications A..G if the PREMIUM version is used. It is recommended to measure the bead side of the box blank (the inner side) as the bead does tell you significantly more about process variations than the crease side. The bead type now can be standard – i.e. the inner side of a single crease line. It can be a round corner application – i.e. a combination of up to seven positive and negative crease lines parallel to each other and very close to each other. There can also be specified a double bead that will build a beveled edge after folding (PowerCrease Option). Finally it can be a laser engraved crease line or up to 7 parallel lasere engrave crease lines (LaserCrease Option). There can also be specified up to 7 crease lines (PowerCrease Option) and up to 7 Scoring Lines (PowerBox Option).

You can maintain your own database by adding or removing records from the database.

Click the ADD Icon to add a new record. Compile the fields and click OK.

Select the record from the list that you would like to remove from the database. Click the delete icon to remove the record from the list.

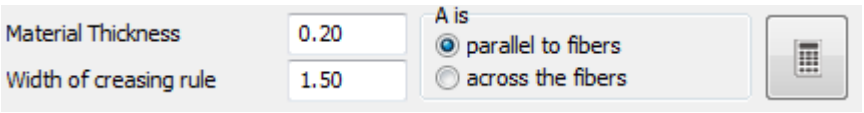
Create a new reference record and copy the data of the selected record into the new record

Select the record from the list you would like to modify. Modify the data and click OK.
The Bead and Spine dimensions as well as the requirements for the crease channel dimensions differ depending on the direction of the crease and fibers of the material. The standard database offers four different references (A), (B), (C), and (D) . In case of PREMIUM version there can be used up to 7 different references whereby the naming of the references can be selected with the box editor (see below).

The crease of type B are assumed to be perpendicular to the crease of type A.

The orienation of the package can be defined as “A” being parallel to fibers or “A” being orthogonal to fibers.

- Create a new reference by clicking the Icon.
- Insert a new name into the Standard field.
- Select the orientation of the A-crease
- Based on material thickness, tool width and fiber orientation you can calculate a proposal for the crease channel specifications for A and B by clicking the calculator Icon. If you would like to use other specifications, type the new values into the proper edit fields.



Select the camera settings to be used to measure this material:

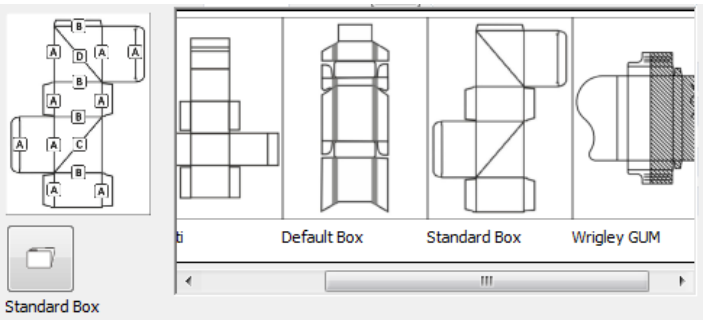
Position the Device on a typical bead of the target material. Click this icon. The Software will automatically test different settings and select the best setting for the current material. The selection will be confirmed by a beep.

There are four sets (A), (B), (C), and (D), of references for each record: one for crease parallel to fibers and one for crease perpendicular to fibers and two diagonoal crease types.

The PREMIUM version of the CREASY Software offers seven sets of references per box that can be configured by means of the box editor

In addition the PREMIUM version implements the possibility to link a specific customized Box Layout to any reference. The Basic version offers only one standard Box Layout.

Click the Box Layout selection Icon to open the list of available Box Layouts.



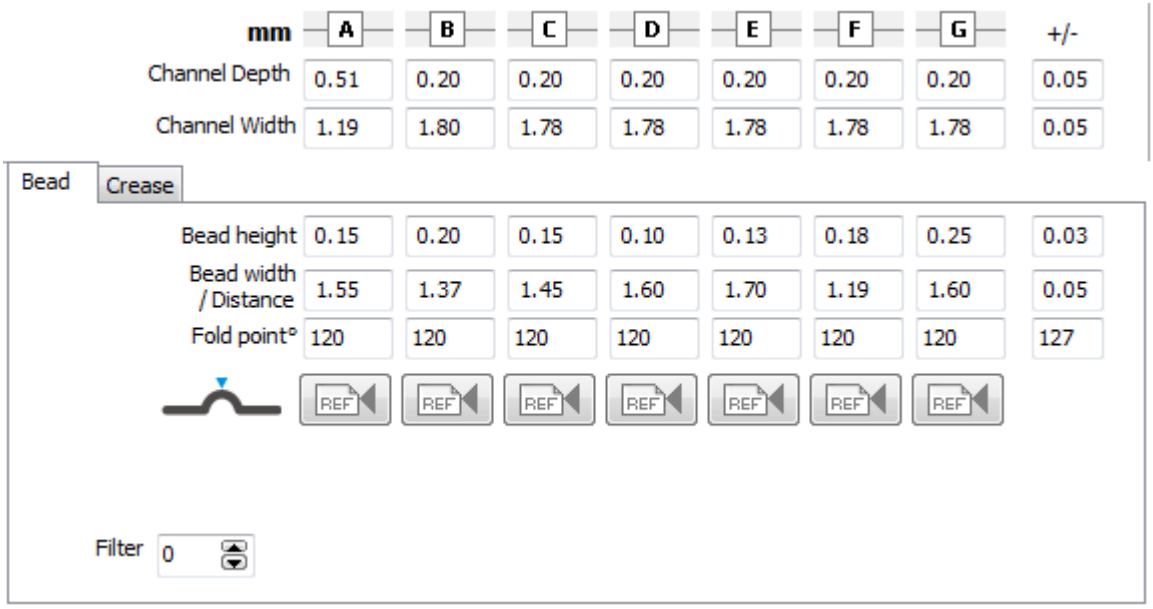
Select a Box Layout by clicking into the graphical display of the proper Box Layout. Link the selected Box Layout permanently to the actual selected refence by clicking the OK icon.

When a Box layout has not yet been defined a, you can open the box editor by clicking the Box editor Icon. Define a Box Layout and link it to the actual reference set as described above.

Insert reference numbers and tolerances.

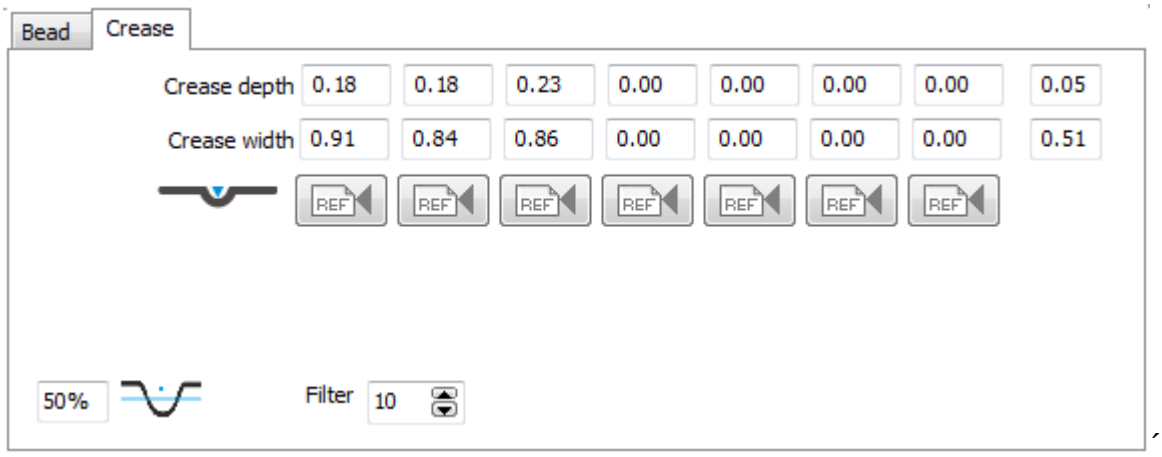
Specify the noise filter for this reference. The noise filter always removes tiny details of the measured profile that might cause small differences in measurement results between filter and no filter. It is recommended to use a filter on rough surfaces, glossy surfaces or surfaces with print. Use no filter (value = 0) in case sharp corners or very small objects such as cut scores need to be measured.

Reference values can also be defined by measuring samples. Click the Measure sample icon of the proper column to start the measurement process. Measure the bead of the samples. To finish, click OK to permanently save the new reference values.



Crease

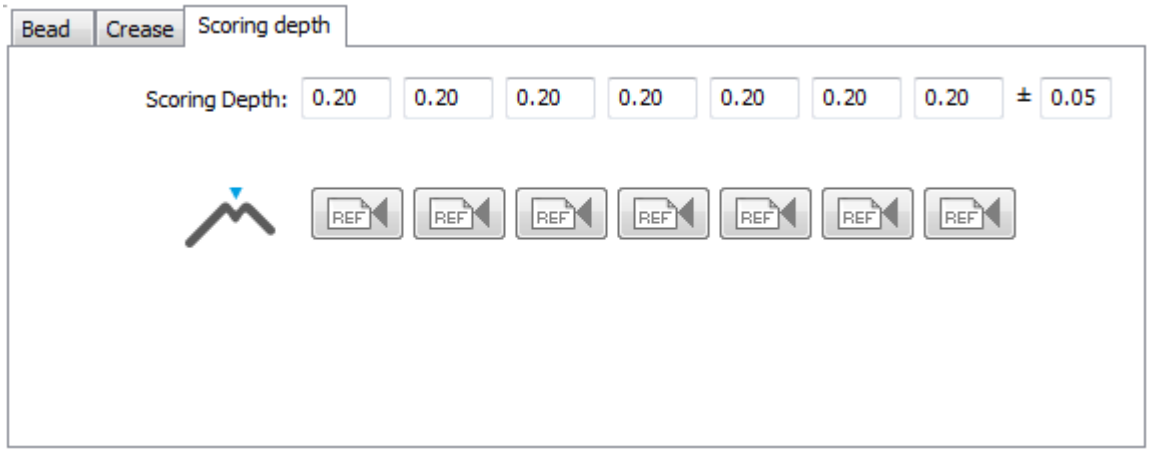
When the Power Crease Module is activated references for crease measurements can also be inserted.



In case of crease measurement insert the level of width measurement.

Scoring

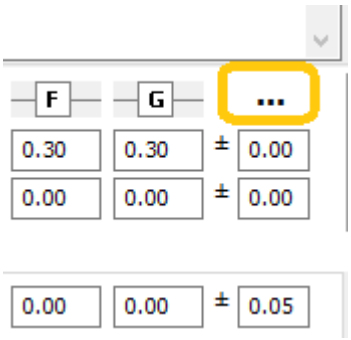
If the PowerBox Module is activated there can be inserted references for Scoring Depth measurements.



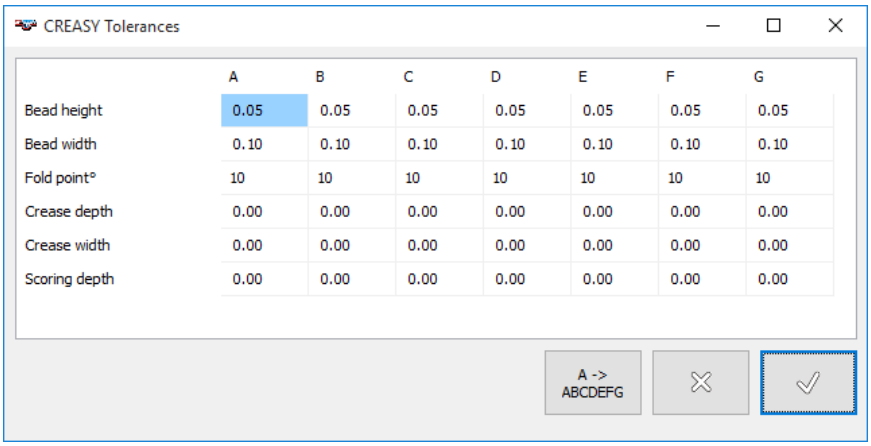
Specify individual tolerances for every single crease type.

For bead, crease and scoring there can be specified an individual tolerance. If you do not use individual tolerances, the tolerance specified for type [A] will automatically be applied to any other type [B,C,D,E,F,G]. Individual tolerances are supported by a database v4.6 or newer. If your database version is older, you need to migrate to the new version. Create a new database in this case and import all records from your current database into the new database.

Input individual tolerances by clicking the '…' next to the crease type names.

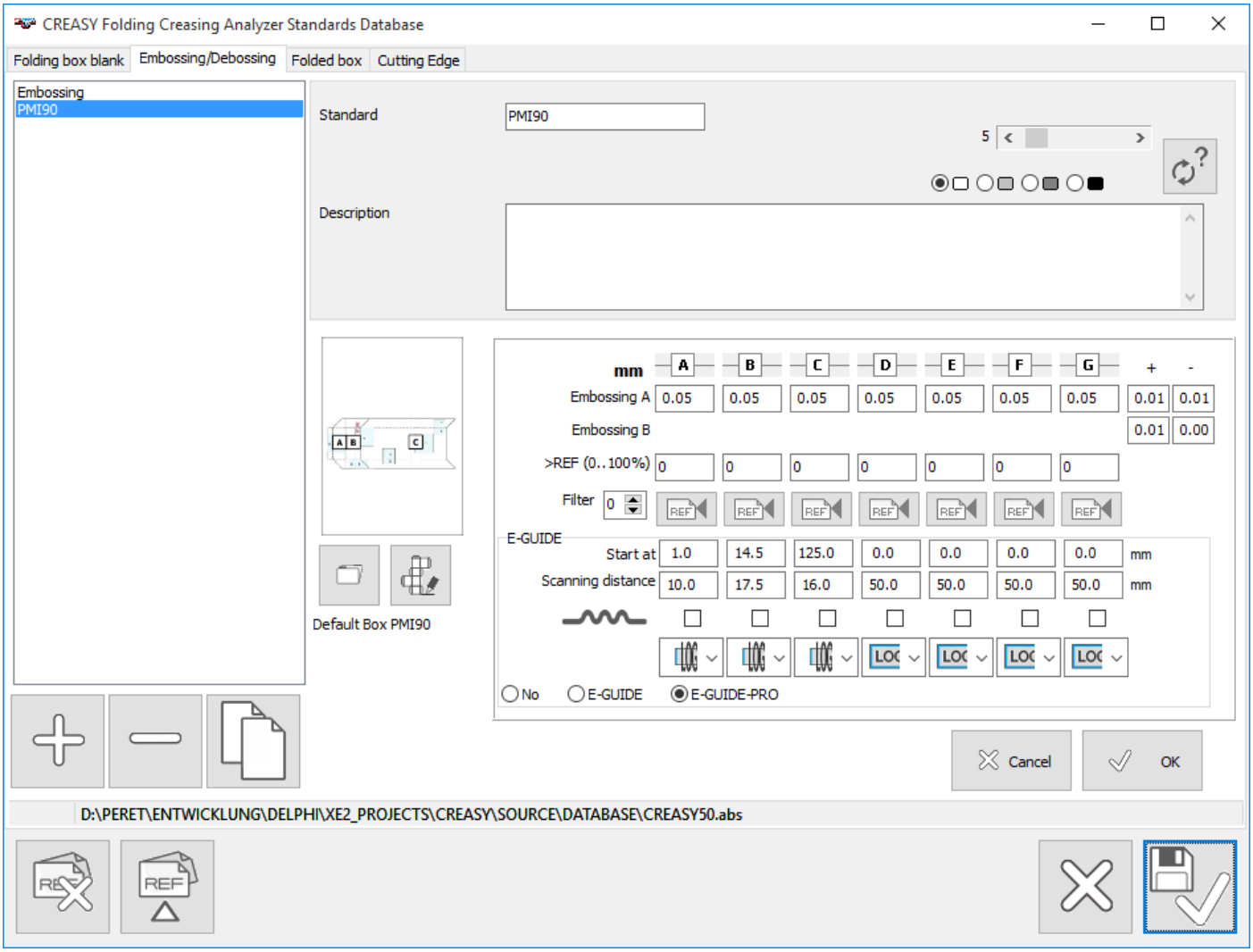


Input the tolerances and click the check icon.



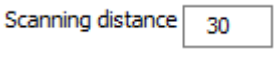
Embossing and De-bossing reference

The Power Crease Module also supports the use of references for embossing and debossing. Select the embossing/debossing page to insert references and tolerances.



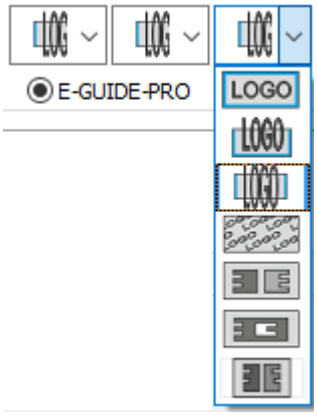
The EGUIDE and EGUIDE PRO options require more specifications to use the proper settings during measurement. They will automatically be recalled during a Job measurement process.

If you own an EGUIDE-PRO2 Hardware, you can specify the start point for the scanning as an offset from the home position. In case only one single location is defined for a reference type [A]..[F] and the *Auto select next crease* option in the settings is active, the subsequent embossing feautes will be scanned automatically during the JOB measurement function whithout the need to restart the scanning for every single feature.



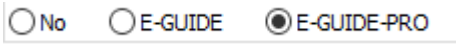
Specify the scanning distance for the embossed are.

Check this box for an embossing refernce if you are going to measure embossing (hills, being higher than the standard surface). Leave it unchecked in case you measure debossing (valleys).



Tell the system where to take the surface reference of your measurement sample or if the measurement target is an embossing patch.

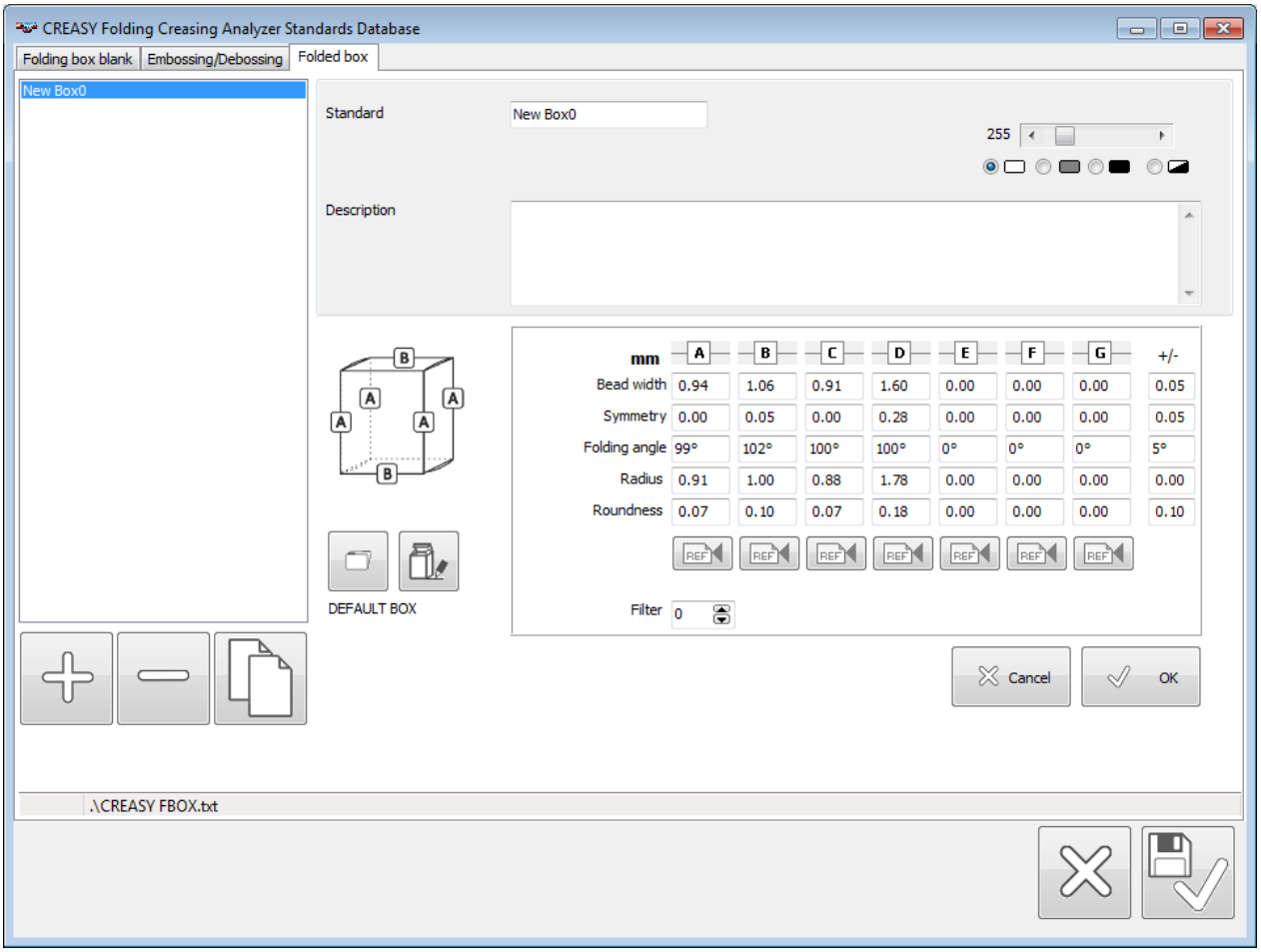
In case of embossing patch the first reference (A) per position is always linked to the deeper portion of the test patch.



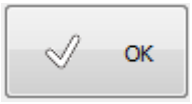
specify if you are going to use this reference definition along with an EGUIDE-PRO, with a manual EGUIDE or without any scanning support.

Folded box reference

The Power Box Module enables the Reference database for glued and folded boxes.



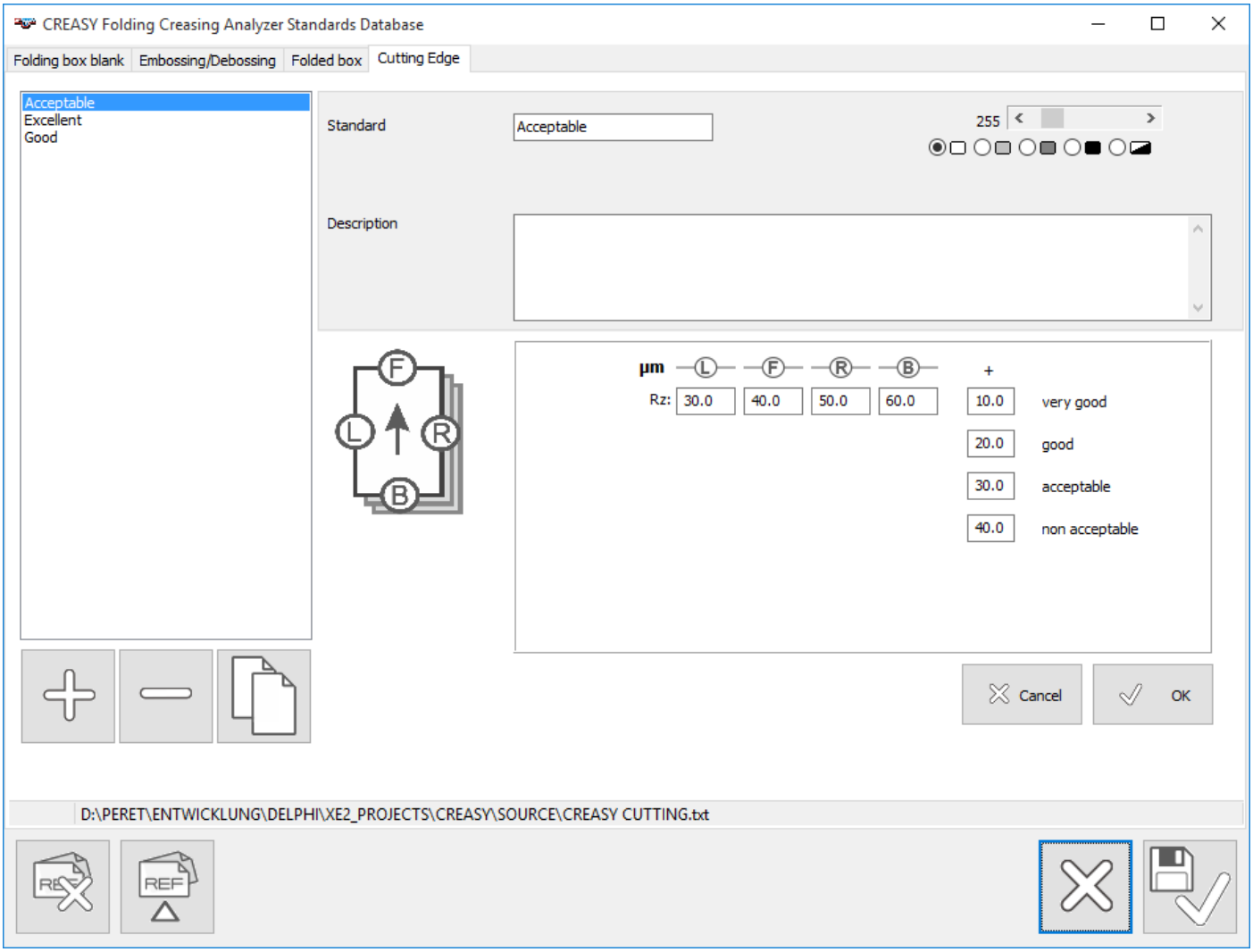
Click OK to save the current modifications.



Click the SAVE Icon to close the window and to permanently save all modifications:

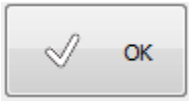
Cutting Edge Refernce

If Cutting Edge is activated you can insert references and tolerances for the 4 edges of a sheet.



4 Quality levels in terms of tolerance can be inserted.

Click OK to save the current record.



Click save to save the database and close the window.

Import References from a global Reference Database (PowerCrease only)

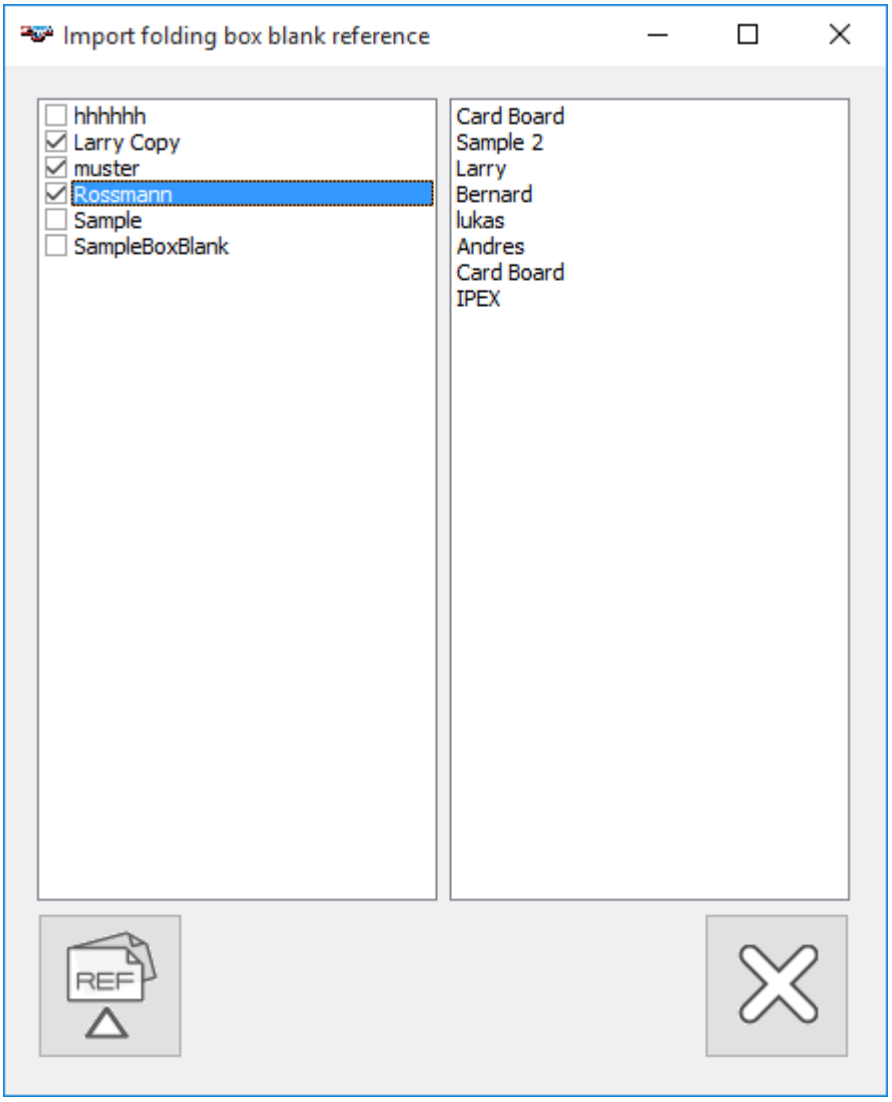
If the PowerCrease Option is activated, there are two additional Icons available in the left bottom corner of the Reference Database Window.

Click the CLEAR Icon to permanently delete all references of the actual Page (box blank, embossing, finished box).

Click this Icon to import Reference definitions from a global Reference database. The software will prompt for the file name of the global database. The database needs to be v3.0.0 or newer. If your global database is of older format, you can choose to convert it to the new format.

The references of the global database will be displayed in two lists. The list on the left side will hold all references that are not yet available in your local database – such as you can import the references if required.

The list at the right side will display all references of the global database, that are already available in your local database.



Select the references you would like to import from the global database to your local database.

Click the IMPORT Icon to import reference, click cancel to close without importing data.

The Box Layout Editor (PREMIUM Version only)

Open the Box Layout Editor by selecting the Box Editor from the Tools menu.

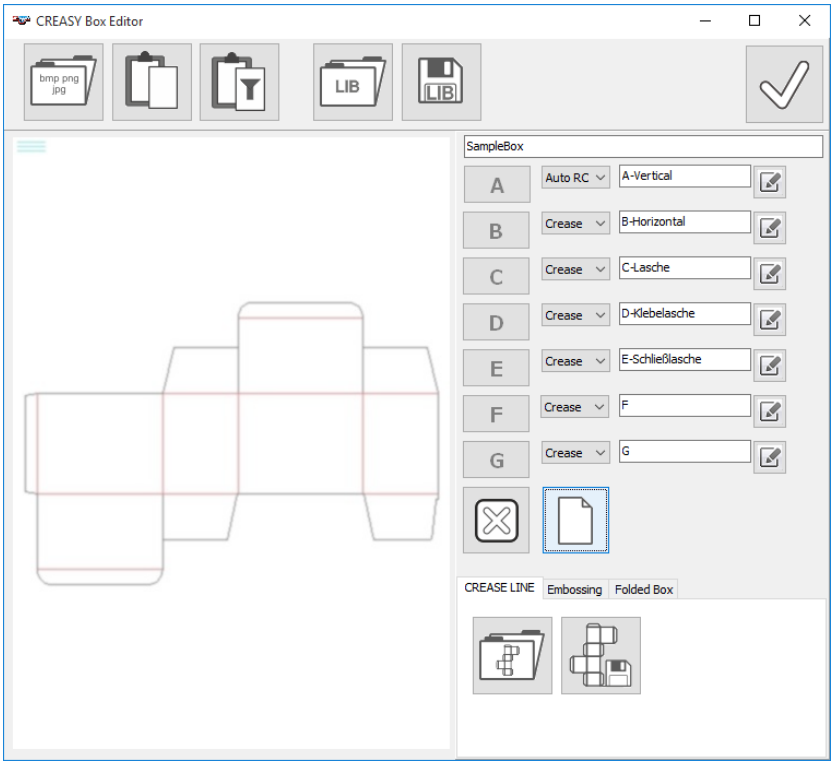
Open an existing Box Layout or import a Box Layout from any JPG, BMP or PNG File. Use this icon also to import data from a CFF2 file. Importing form CFF2 will deliver absolute coordinates and distances such as the software can support you in placing the measurement positions well centered to the crease line.

As an alternative, you can retrieve the source image by selecting it in the PDF file, copy it to the Windows clipboard and clicking the paste icon of the Box editor.

In case the source image does not show high contrast edges, the paste can be performed applying a filter. Select the proper area in the source PDF file, copy the image, and click the filtered paste Icon.

You can also load one of the predefined box layouts from the library by clicking the LIB Icon.

Reload previously defined box blank layouts by clicking the box blank Icon.

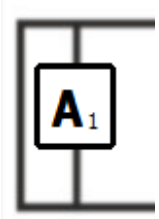


Click the Clear Icon to clear the layout of any measurement locations previously defined.

Select the type of measurement you would like to define measurement locations for.

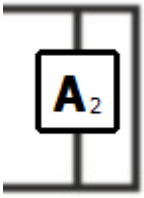
A preview rectangle will be displayed when moving the mouse arrow over the box layout.

Move the preview rectangle over the intended measurement position and click the left mouse button to store the new position.



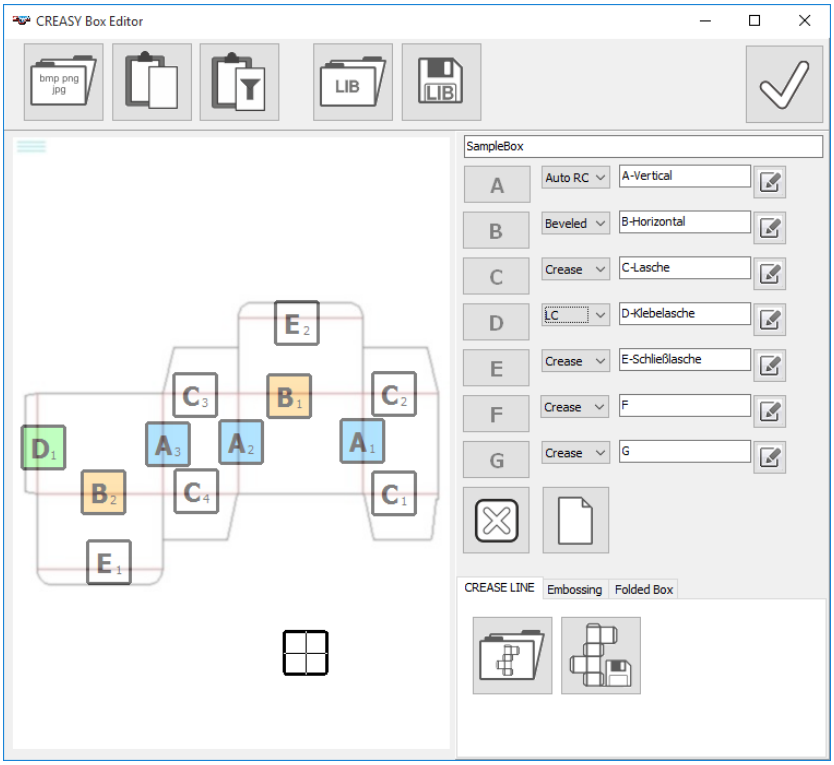
The new position is of type [A] and the (1) first measurement to be taken.

Insert the next measurement position.

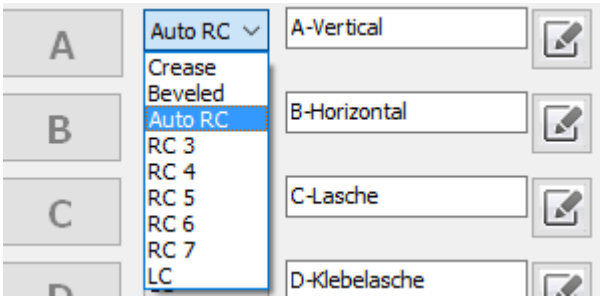


The new position is of type [A] and the (2) second measurement to be taken.

Continue to click on positions until all [A] measurement locations are set. Now select the [B] icon and proceed to define [B] measurement locations. Proceed with [C] and [D] accordingly.



Folded box blancs can have different types of crease lines like simple crease lines, round corner, beveled edges or laser engraved crease lines. Because the measurement algorithms are different and there has to be defined the type of the crease line to be measured at the proper position. The type can be selected from the drop down list below the type name:



The Positions will be displayed in color depending on the selected type

Select ‘Crease’ for standard crease lines (bead)

Select ‘Beveled’ for Beveled Edge (twin bead)

Select ‘Auto RC’ to automatically detect the number of creases for Round Corner

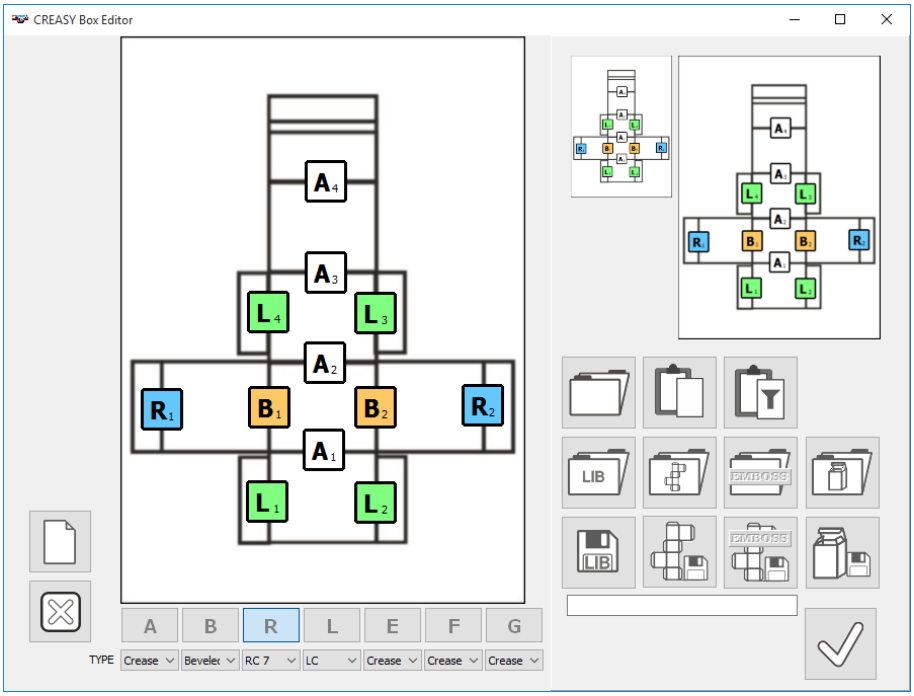
‘RC3’..’RC7’ Select the number of creases in case of multi crease for Round Corner

Select ‘LC’ for laser engraved crease lines.

Remove a single measurement position by selecting the Remove Icon and clicking with the left mouse button into the proper position.

Rename a position by double inserting a text and confirming clicking the confirm icon.

All positions that have already been inserted will be renamed automatically by the first character of the entered position type name.

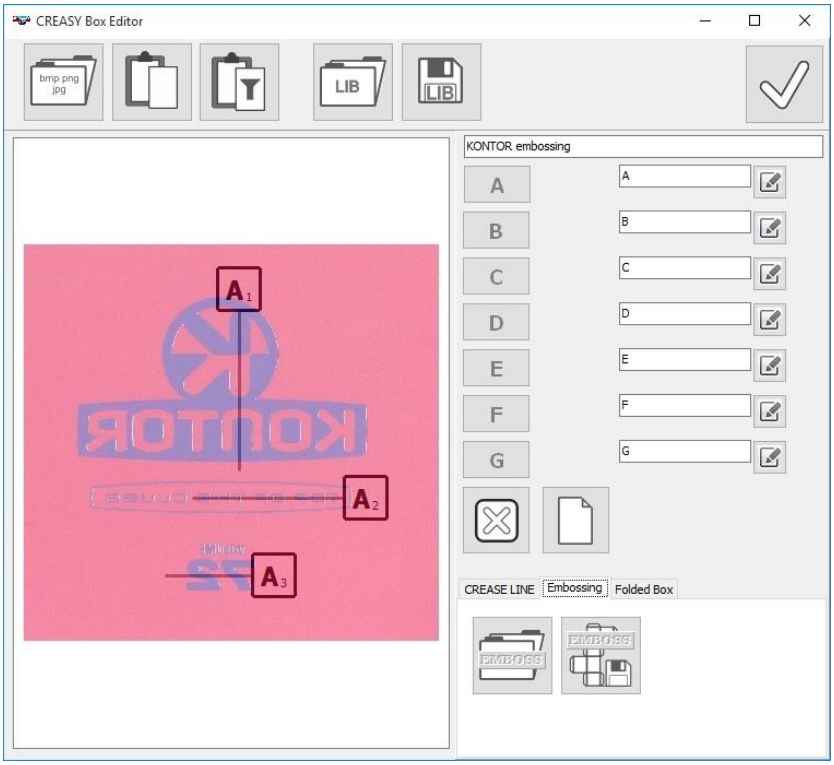


Save the Current Box definition

Define measurement locations for embossing (Power Crease only)

The reference locations for embossing measurements are inserted the same way as you did for crease and bead measurement locations. Select a box blank layout and insert A..G locations as needed.

In order to add also the scanning direction, press the left mouse button and keep it depressed while dragging the mouse across the requested direction. If the CTRL key is depressed only vertical and horizontal directions are accepted.

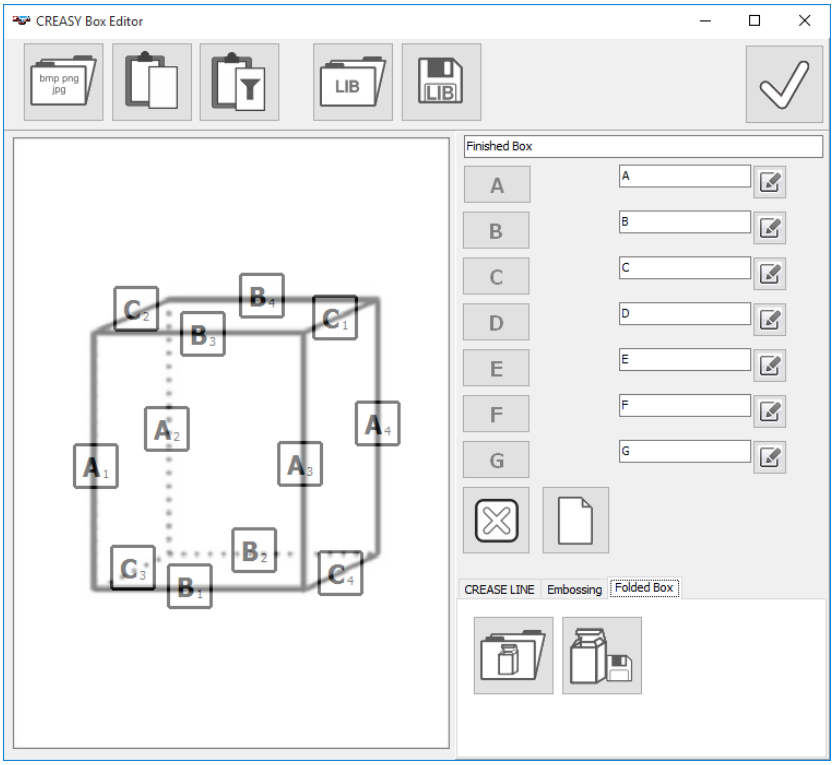


Save the layout as Embossing Reference

Open an existing Embossing Reference.

Define Measurement positions for the finished box (Power Box only)

The reference locations for finished box measurements are inserted the same way as you did for crease and bead measurement locations. Select a box layout and insert A..G locations as needed.



Open an existing folded box layout

Save the layout as folded box layout

Typical procedure to define new standard

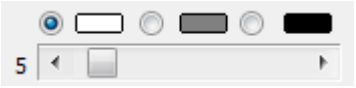
- Open the standards library window
- Create a new empty standard
- Insert the standard Identifier
- Insert material thickness and knife width and calculate the tool dimensions.
- Create a new Box Layout if required by using the Box Editor.
- Link the new Box Layout to the standard by selecting it from the list.
- Get a proposal for the brightness settings.
- Measure reference boxes that perform properly on the packaging line for any single crease type.
- Insert tolerances
- Save the standard permanently into the database.

Initialize the camera

Click Preview to start the Live Image of the camera

A flashing left dot shows that the camera is active. A steady right dot shows that the key at the device has been pressed, a new image has been captured, and the software is analyzing the image.

Select the substrate brightness type (white, gray, black) of the substrate. Use the scroll bare to fine tune the brightness. White (or light gray) card board can be analyzed with the standard setting shown below.



Measurement functions:

Measure bead characteristics

Measure crease characteristics

Measure twin bead (Beveled Edge)

Multi Crease measurement (Round Corner)

Laser Crease measurement

Measure Scoring Depth

Measure subsequently bead and crease characteristics and overlay images to obtain cross section image

Measure embossing or de-bossing areas

Measure fine structured embossing or de-bossing areas as for example text.

Measure embossing using E-GUIDE

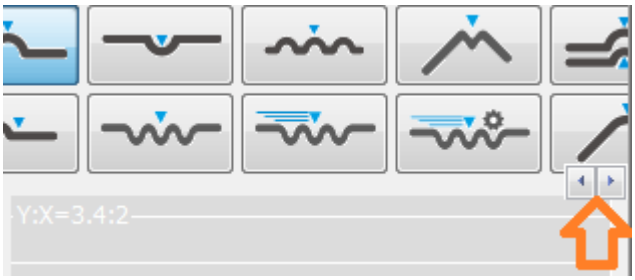
Measure embossing using EGUIDE-PRO

Measure the folding characteristics of the finished box.

Measure the cutting edge

Measure the cross section of a crease line

If there are more than 8 functions enabled you can scroll additional functions into the window by clicking the arrow icons.



Execute a measurement

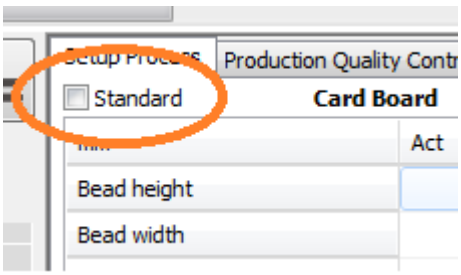
- Click Preview if no Live Image is displayed inside the preview window
- Select the measurement function
- Position the device parallel to the crease (or bead) to be measured. The crease image must be centered in relation to the blue guide line overlaid on the PREVIEW image.
- Press and release the button of the device and hold the device in position until the captured image appears in the Analysis Window.

The software automatically calculates the dimensions and displays the results graphically inside the result window and the numbers in the table window

Setup Process

Setup your embosser by measuring various locations of beads and collecting the data in the statistics area. Based on this data you can determine the best settings for your process by comparing data of well-performing boxes versus poorly-performing boxes.

When testing in a new box or material, there will not be any pre-defined standard available. Make sure the proper selector is un-checked.



Once a reference for a card board material or a box blank is available it is still necessary to setup the embosser before starting production. In this case check the Standard selector to compare actual readings with reference numbers. If the current readings are out of tolerance, the numbers will be displayed in red.

Clear statistics, start new statistics

Measure the first sample

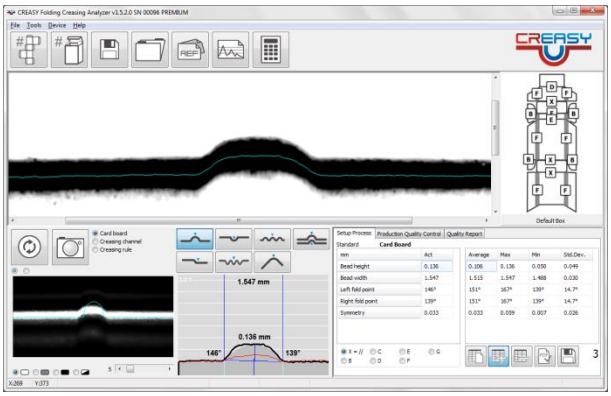
Add the first sample measurement to the statistics. All subsequent measurements are automatically added to the statistics until this Icon is clicked again.

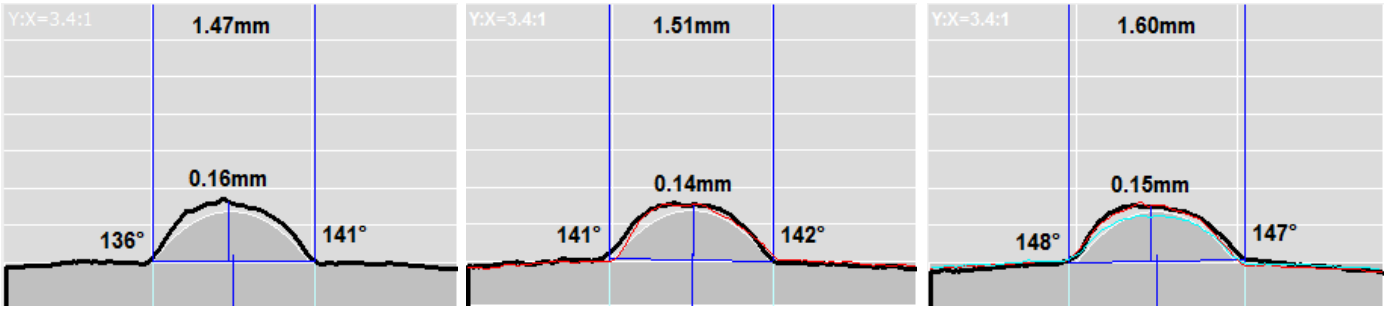
Delete the most recent measurement from the statistics.

Click the OK Icon to create a PDF report of the current statistics. The report is automatically saved and may be printed.

Click the Save Icon to save all measurement data into a tab delimited text file. Important: in order to re-load the data to continue adding readings it is necessary to have checked the option ‘Output Header’ in the settings window. Reload the data by clicking the ‘Load measurement data’ Item in the File menu.

Bead measurements



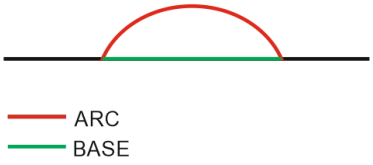


The vertical axis (Y) of graphical display is zoomed by a factor displayed in the left top corner of the graph (Y:X = 3.4 : 1 in above example). This makes it easy to identify minor differences in shape and height of the Bead or Spine.

The optimum bead is drawn as a gray background based on the reference values of the active reference. The current bead curve is displayed in black. The bead width is displayed at the top of the window (1.47, 1.51, 1.60). The bead height is displayed on top of the curve (0.16, 0.14, 0.15). Left and right angles are displayed at the left folding point and right folding point respectively.

Symmetry is measured as the horizontal distance from the vertical centerline at the maximum height of the bead to the center of bead. The numerical symmetry value in microns displayed in the table can be used to adjust the alignment of creasing rule and crease channel.

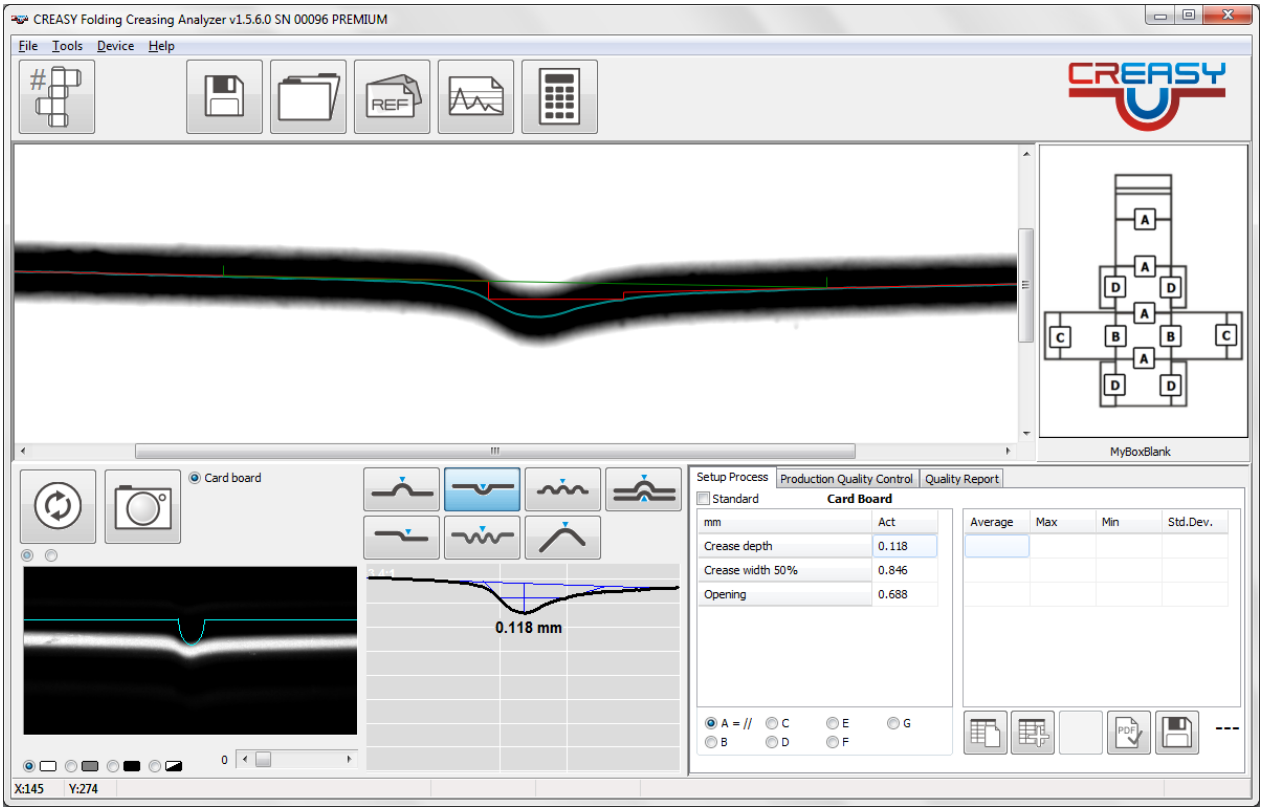
The paper overhead produced by the creasing process is measured as Arc Length % and calculated as follows:



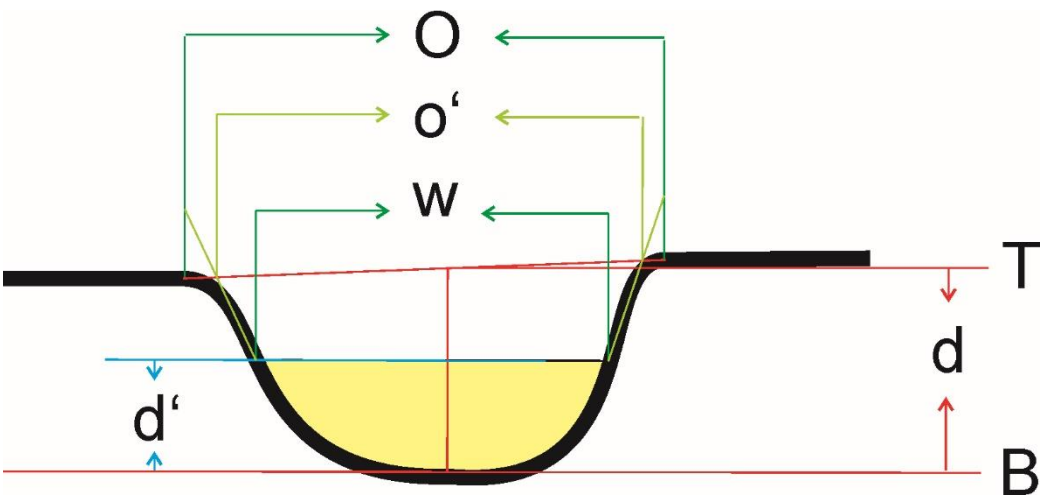
$$\text{Arc Lenght \%} = 100 \times \frac{(\text{ARC-BASE})}{\text{BASE}}$$

The previous measurement displays as a red line. The average bead is displayed as a blue line.

Crease measurement

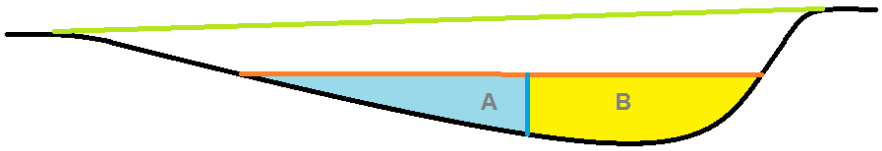


Crease depth measurements are showing the deformation of the substrate.
The crease width is measured at half depth (50%) as the crease cross section function is quite smooth at the substrate ends.
Opening expresses the difference between the width at half depth and the width at substrate level.
The interpretation of a narrow or wide opening can be made in the Settings menu.

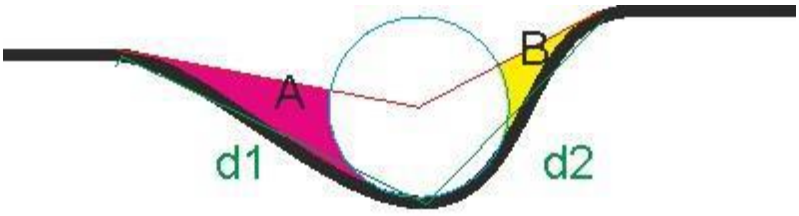


Crease depth = d
Half crease depth = d*50% = d’
Crease width = W
Crease opening narrow interpretation = o’-W
Crease opening wide interpretation = O-W

The Power Crease Module offers additional measurements.

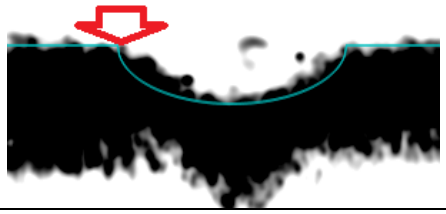
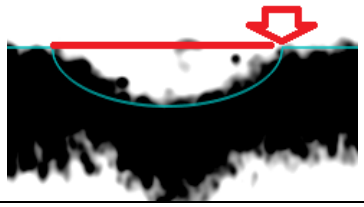


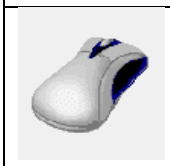
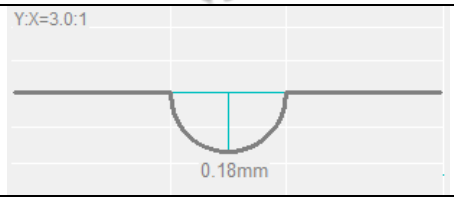
Section = A+B
Symmetry = B/(A+B)



f1 = A/d1 f2 = B/d2
Profile = max(f1,f2)-min(f1,f2)

Manual measurement of bead and crease

		Move the mouse pointer to first position in your crease (or bead)
		Press the left mouse button down and keep it depressed
		Move the mouse pointer to the second position in your crease (or bead) .
		Click the right mouse button while the left mouse button is still depressed

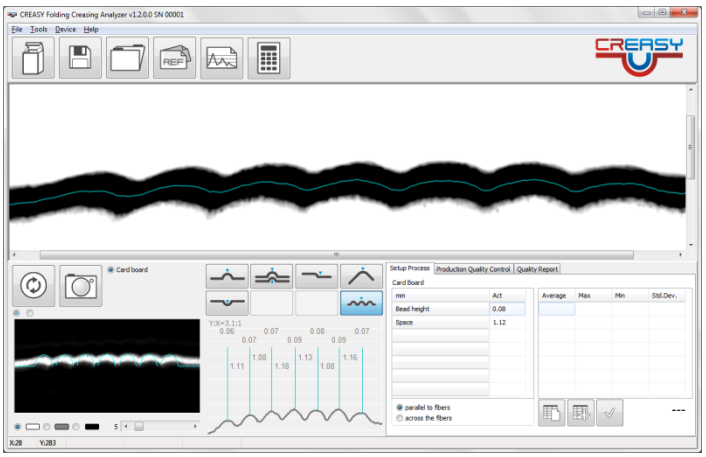
		Move the mouse pointer with left mouse button still depressed to the bottom of the crease (or to the top of the bead respectively)
		Release the left mouse button. The analysis is displayed in terms of crease depth (or bead height and bead width)

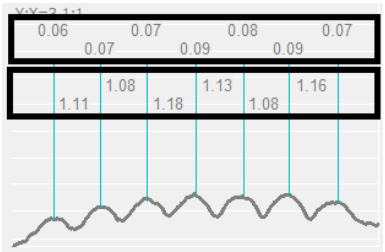
Multi Crease measurements (Round Corner)

Rounded corners are obtained by using multi crease technology. In this case several creases are produced with small distance between them. Select the number of creases in the settings Window.

Select 1 to let the software automatically determine the number of available creases or beads and their distances.

Position the CREASY well centered on the multi crease and press the measurement button.





Bead height

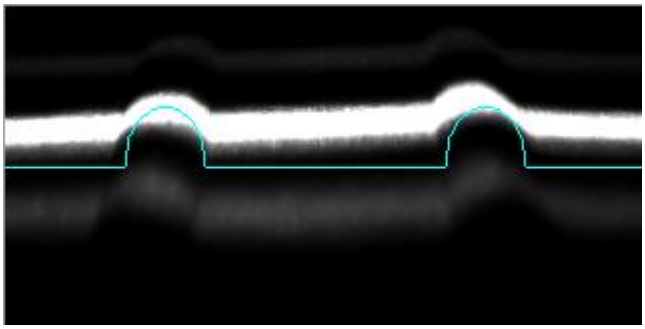
Single Bead distance

The Statistics displays the average bead height and the average distance.

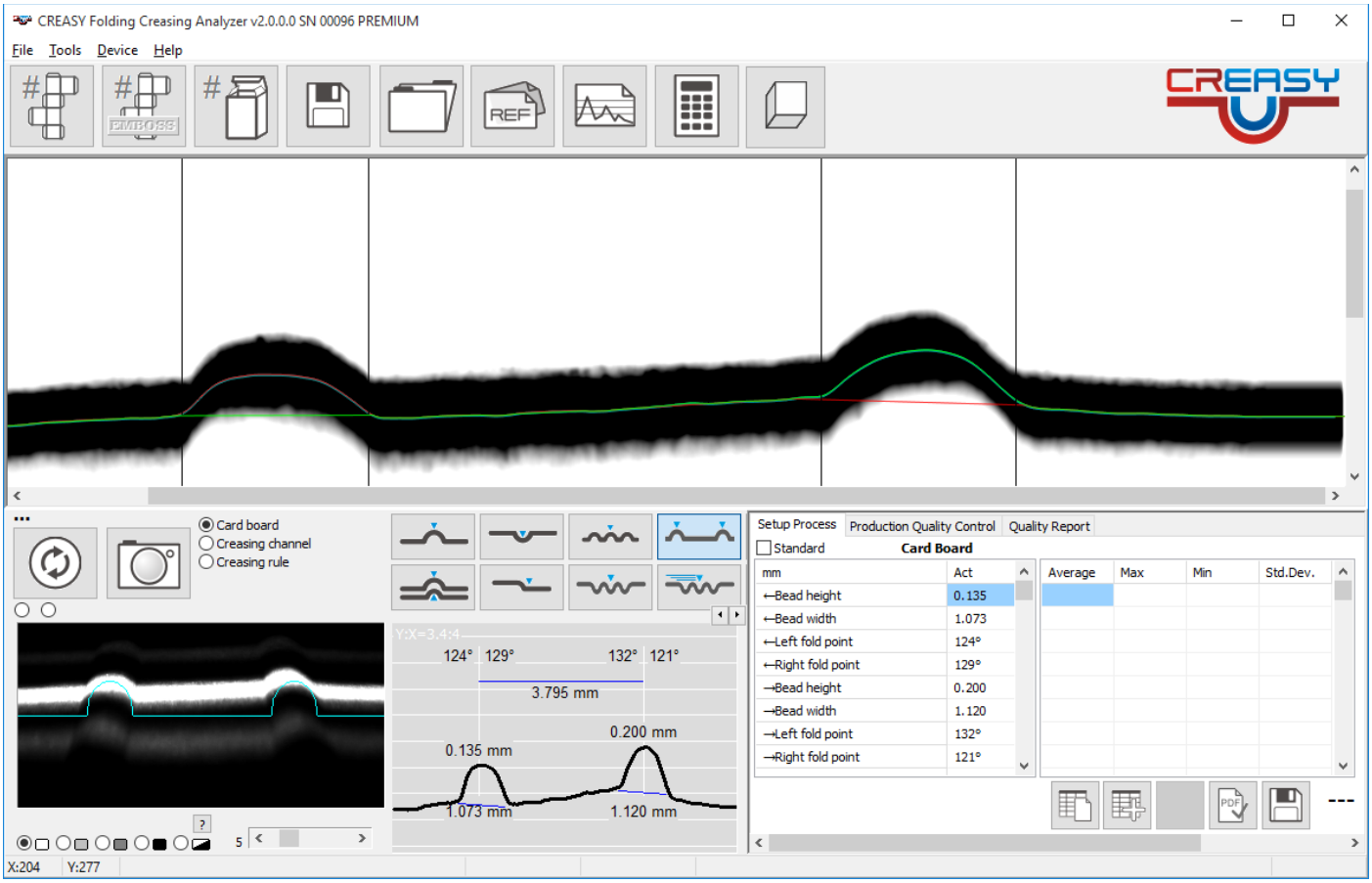
Beveled Edge measurement

In order to create a beveled edge there are used two crease lines close to each other. The twin crease line can be measured with one single measurement as long as the distance of the two beads is less than 4mm.

Center the twin bead line such as both beads are showing a similar distance to the extreme left and extreme right of the preview Window.



Press the measurement key to capture and analyze an image and to calculate the beveled edge measurement values.



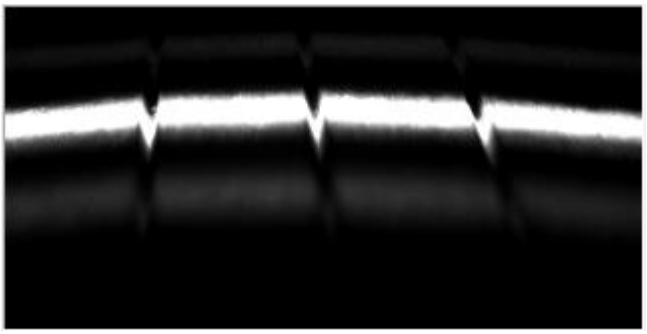
Scroll the list down using the scroll bar to display additional measurement data.

mm	Act
←Left fold point	124°
←Right fold point	129°
→Bead height	0.200
→Bead width	1.120
→Left fold point	132°
→Right fold point	121°
Distance	3.795
Symmetry	0.037

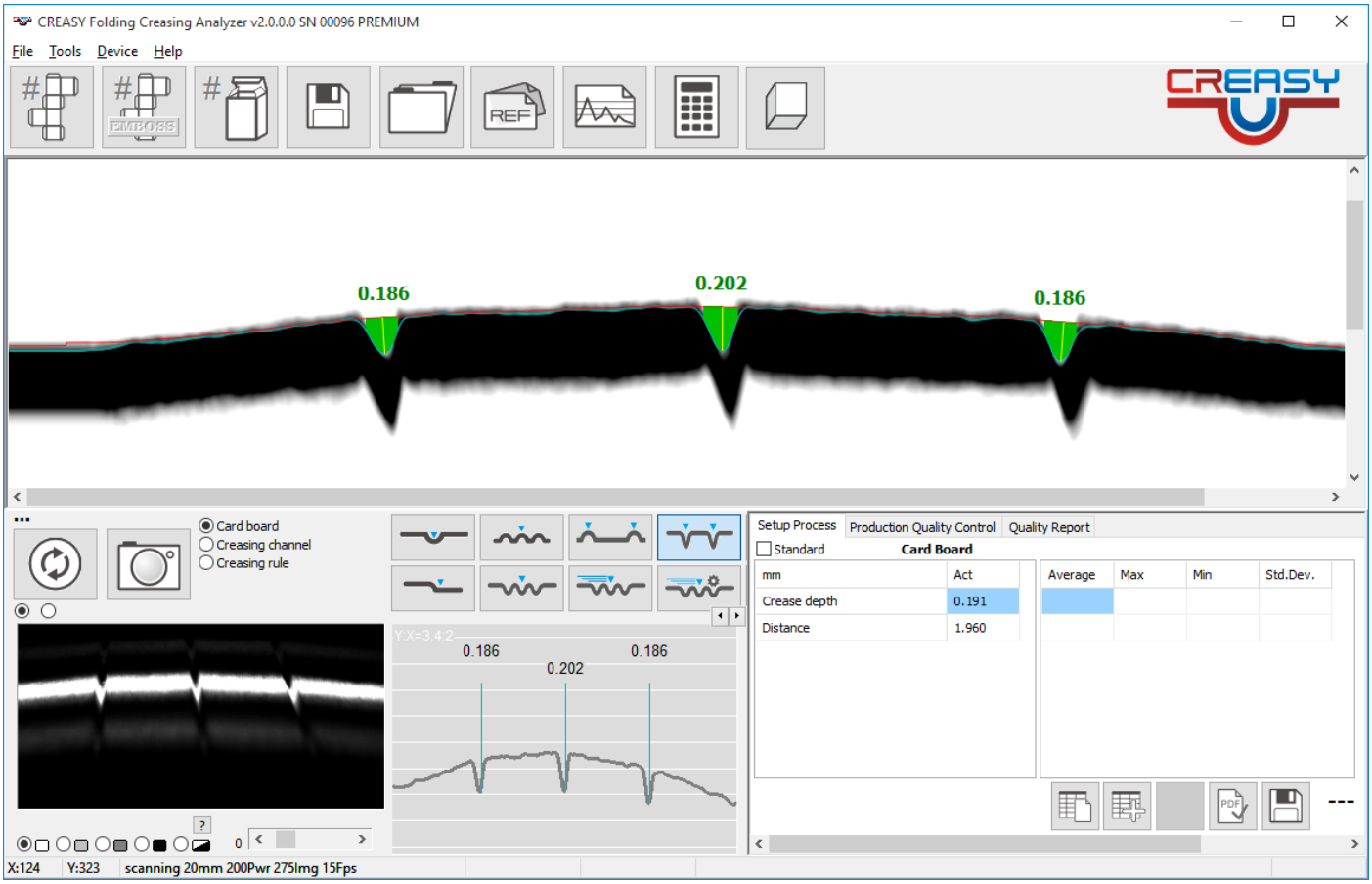
The Software does calculate height, width, folding angles for both bead lines. In addition, a distance and a symmetry is calculated and displayed.

Laser Crease Measurement

Due to the special shape of laser crease line there is a special function available to measure depth and distance. Center the lines such as at the left and right side of the preview window are approx.. the same size of flat surface remaining.



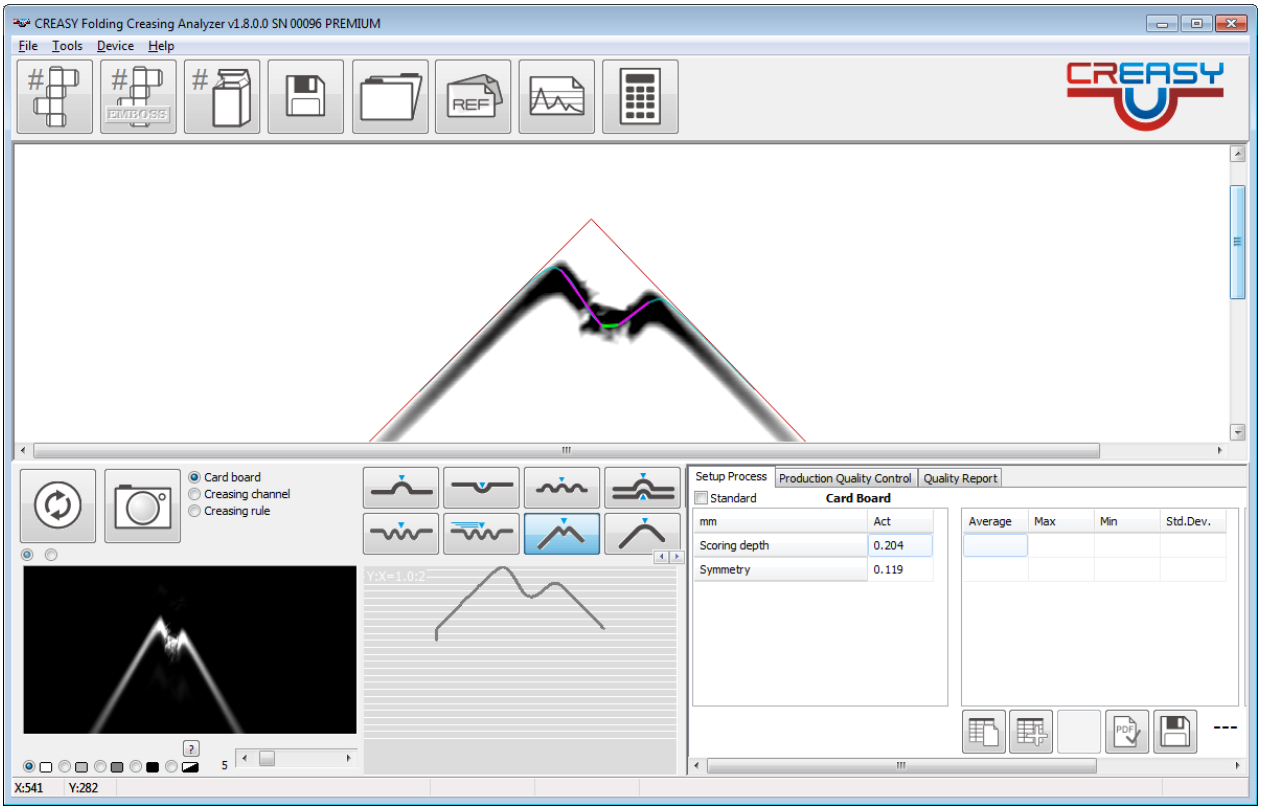
Press the measurement button of the device to execute a measurement.



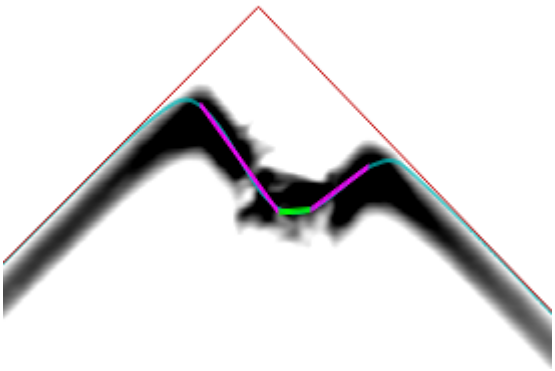
Measure Scoring Depth

Scoring or half cut cannot be measured flat as the card board is partially re-closing the cut line. Therefore, the sample is folded by 45° using the optional PowerBox holder. Insert the sample into the holder and fix it with the metallic cube.

Folding needs to be done carefully such as the card board is not destroyed.



Now the scoring depth can be measured as the minimum of the straight portions of the two resulting shoulders (pink colored lines in below image)

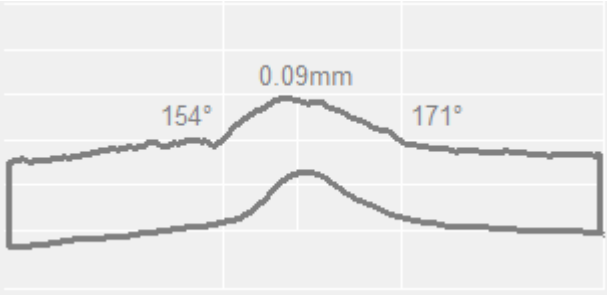


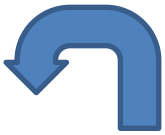
If folding is not done carefully, the card board could break slightly apart, making the flat portion between the two shoulders larger or making fibers visible in the middle of the scoring line. Further the two lines will be very different from each other. The quality of folding is measured in terms of symmetry (equal to the difference between the two line lengths).

Bad folding leads to invalid measurement values!

Cross Section measurement

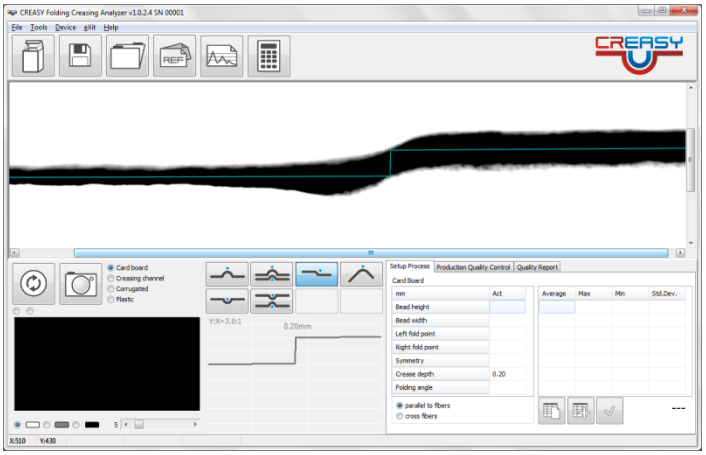
Measure the bead, turn the sample over to the opposite side and measure the spine of the same crease. The software displays the overlaid image.



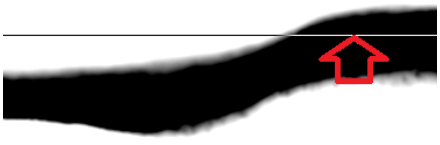


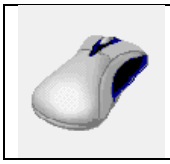
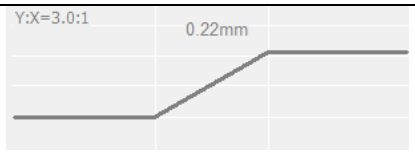
Measure embossing or debossing on large areas

Select the embossing-debossing tool to measure embossing or debossing depth

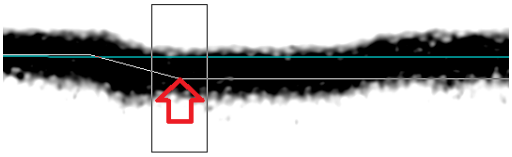
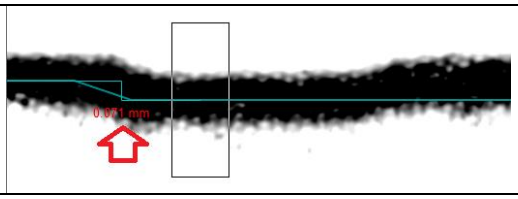
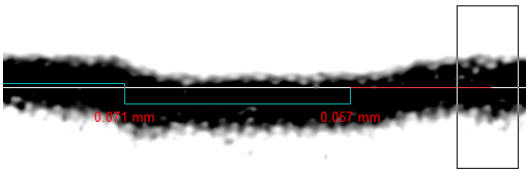
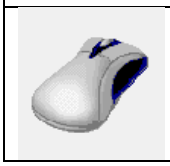
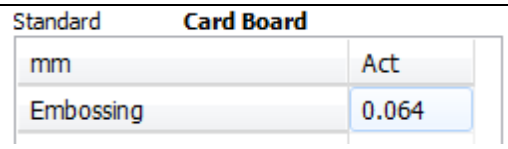


Manual measurement of height differences:

		Move the mouse pointer to the upper corner of the embossing area. A horizontal line is drawn when moving the mouse.
		Press the left mouse button down and keep it depressed
		Move the mouse pointer to the second level of your embossing area. .

		Release the left mouse button to obtain the measurement result

Manual measurement of multiple height differences

		Move the mouse pointer to the upper corner of the embossing area. A horizontal line is drawn when moving the mouse.
		Press the left mouse button down and keep it depressed
		Move the mouse pointer to the second level of your embossing area. .
		Confirm the second level with a click on the right mouse button while the left mouse button is still depressed. The height difference is calculated and displayed in the main window.
		Continue to insert levels with right mouse clicks until all height differences are calculated. .
		Release the left mouse button to obtain the average measurement result

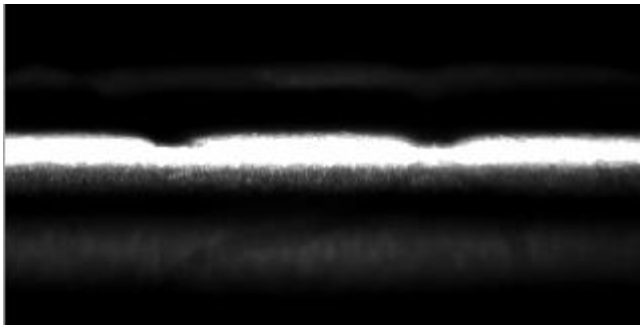
Fine structured Embossing or Debossing

In many cases the embossing and debossing is composed only by small lines or characters, such as there can be several embossed or debossed areas inside the captured image of the device.

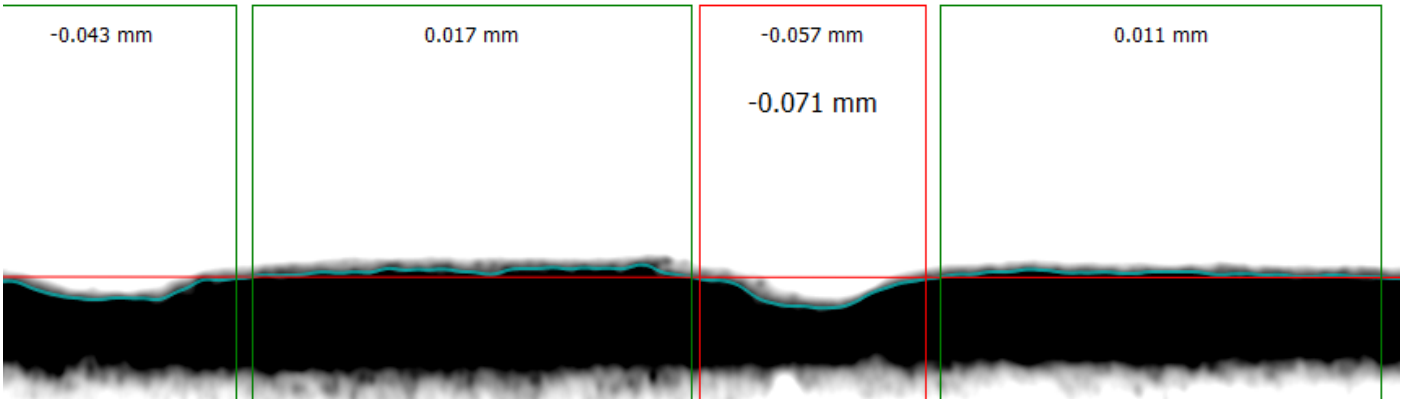
Moreover the embossed or debossed areas are not necessarily uniform straight lines but they are composed of curves, lines are wider and smaller. This makes a simple edge height measurement impossible.

Version 1.5.0 of the software implements an additional tool to measure random height deviations due to embossing or debossing.

Position the aperture over the embossed or debossed icon, text, or drawing. Make sure the embossed or debossed areas are quite visible inside the preview window. By slightly moving the device, maximize the visible difference between surface and embossed or debossed area.



Press the measurement button on your device. The software will capture the image and automatically detect upper and lower areas. The software will automatically measure height deviations and calculate the maximum embossing or debossing. The maximum will be highlighted in red.



The small numbers on top represent the height difference between the actual surface and the average surface height of the selected area (red line).

The physical depth of above example is -0.071mm and is calculated as the level difference between its neighbor's height and the own depth:

$$-0.071mm = -0.057 - \frac{0{,}017mm + 0.011mm}{2}$$

This maximum embossing or debossing value is added to the table.

Standard **Card Board**

mm	Act
Embossing	-0.071

Measure on several locations and calculate the statistics:

Standard **Card Board**

mm	Act
Embossing	-0.078

Average	Max	Min	Std.Dev.
-0.072	0.000	-0.078	0.005

In case of embossing (negative numbers) the MIN value is the most appropriate to control your manufacturing process.
In case of debossing (positive numbers) the MAX value is the most appropriate to control your manufacturing process.

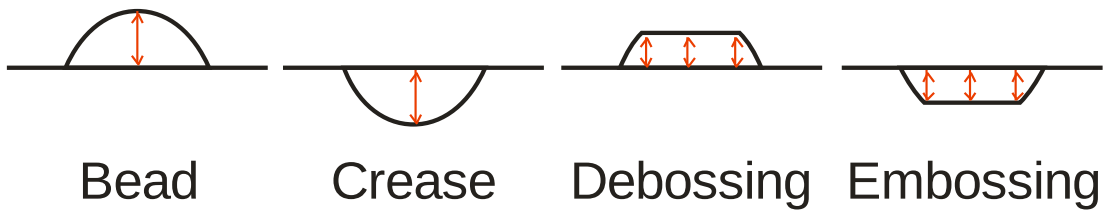
In general it is recommended to measure the inner side of the boxes to reduce the impact of print to the measurement results.

CAUTION: The calculation of embossing and debossing differs from the calculation of bead height and crease depth.

The bead and crease are assumed to have more or less round shapes. The height and depth therefore are calculated as the distance from the maximum peak to the surface of the material.

The embossing and debossing are assumed to have a flat surface on top or bottom of the line. The embossing and debossing are calculated as the Average depth or height of the center area.

As a result the embossing/debossing value is typically lower than the bead/crease value.

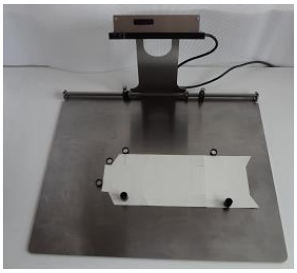


Measure Embossing using E-GUIDE

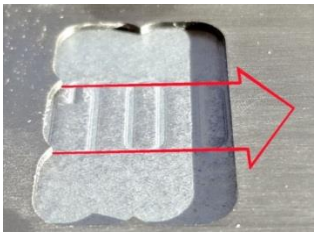
The E-GUIDE does support a 100% control of the embossed area.

Setup the measurement position for embossing measurement with EGUIDE

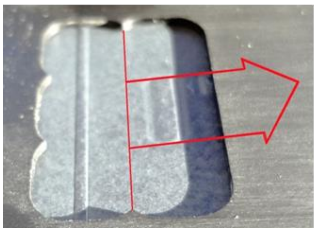
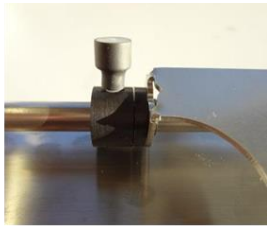
Position the box blank onto the table and fix it slightly with magnets. Take the CREASY device out of the holder and move the holder down.



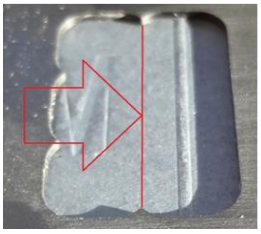
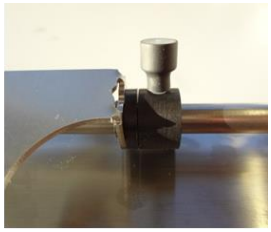
Move the box blank below the holder until the embossing area is well centered.



Move the holder to the starting point of the embossed area and fix the position with the screw

Move the holder to the end point of the embossed area and fix the position with the screw.

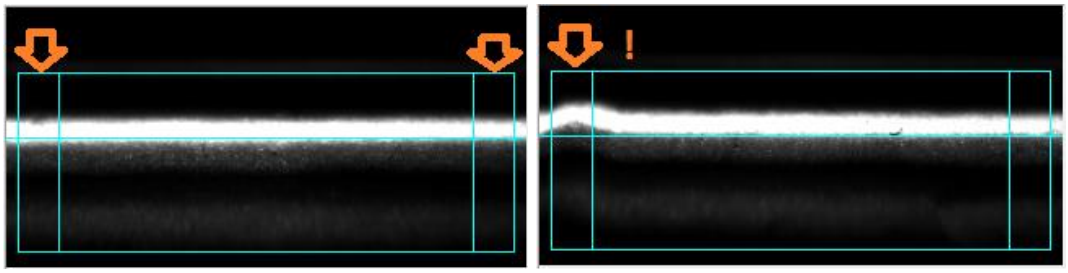



Fix the box blank position with the magnets to easily position the next box blank sample in exactly the same place.

Insert the CREASY into the holder.

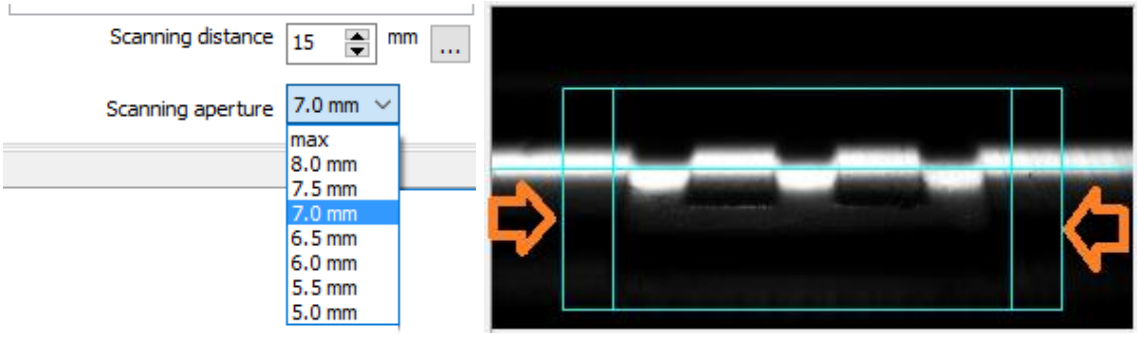
Use the preview Window to check the correct positioning of the embossed area.

At the starting position and the end position the Window should show a flat line without any embossed area

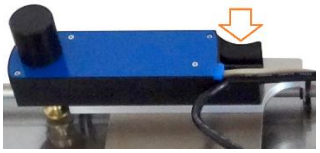


OK not OK

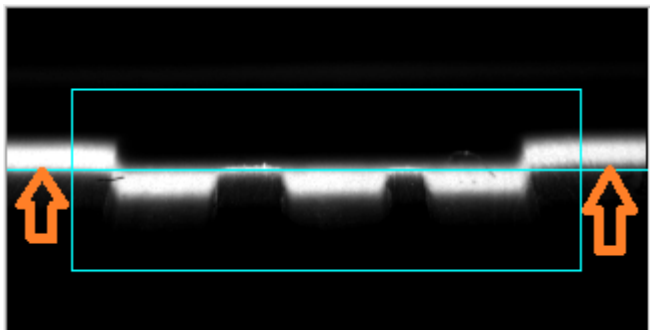
In case there is not enough flat carton surface on top and bottom of the embossing feature, there can be selected a more narrow aperture size from the drop down list:



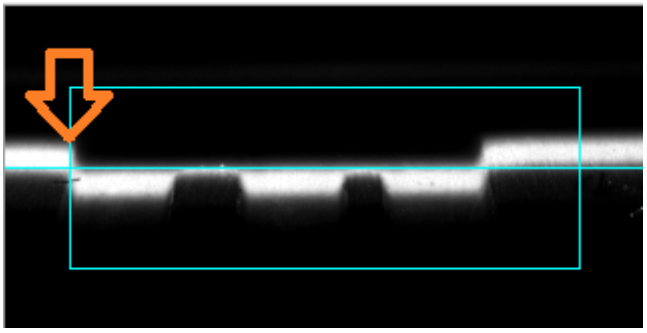
Now move the carriage with CREASY mounted manually over the embossed are and check if the embossed area is well positioned. The carriage can be moved manually by pressing the UNLOCK button



In case the logo is smaller than the aperture or you measure a special embossing test patch , while moving the embossed area needs to stay inside the blue frame. The area at the left and the area at the right are taken as surface reference and should be flat all over the scanning area.

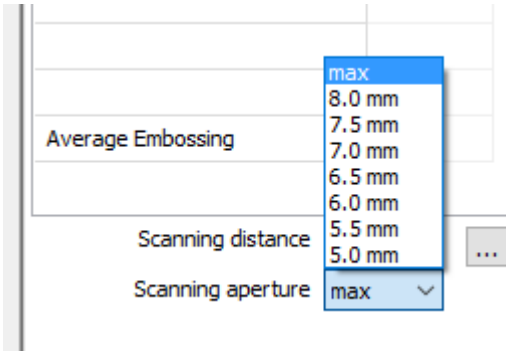


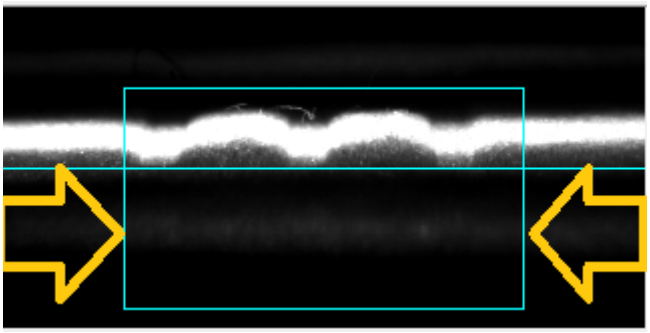
In case the surface reference is taken only at the beginning and at the end of the scan, there is no need that the left and right areas are flat all over the scanning distance. In any case, for easy finding the same position again it helps to position the embossed area such as the embossing matches the left side of the blue frame.



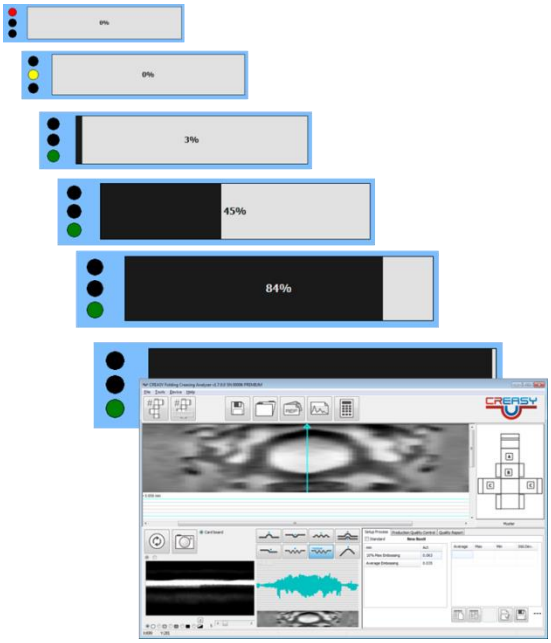
Define the Measurement Aperture

The measurement aperture of the CREASY device can be limited by selecting the proper item from the Scanning aperture size list.

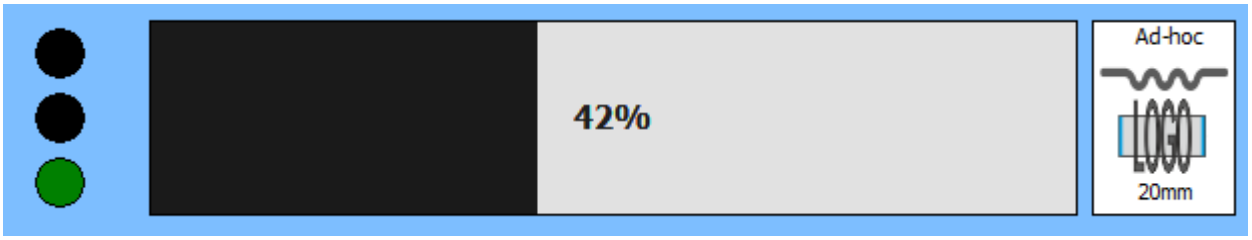




Measure Embossing with E-GUIDE



- Position the box blank
- Move the device to the start position.
- Press the measurement button to start the measurement process. Release the button.
- Wait until the traffic light turns green.
- E-GUIDE: Move the device over the box blank according to the bar on the screen.
- EGUIDE-PRO: The CREASY is moved automatically over the embossed area capturing images. The Scroll bar will display also the actual settings i.e.
    - Ad-hoc measurement or REF in use
    - Hills or valleys
    - Where the surface reference for depth calculation will be taken from
    - Scanning distance (approximative)



    - In case of an error the scanning can be interrupted by clicking the left top black circle with the mouse. After scanning has been finished (i.e. the CREASY is moving back to home) no interrupt is any more possible.

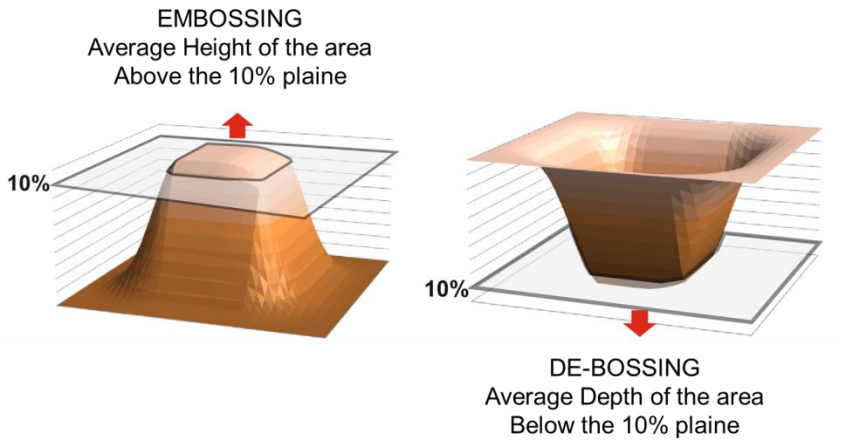
- EGUIDE-PRO2: The CREASY is moved to the home position or to the starting position of the embossed feature if defined. The CREASY is moved with a constant speed over the embossed feature such as the sampling rate for cross images is 0.05mm for short

distances < 25mm, 0.1mm for medium distances between 25mm and 50mm and Distance/500mm for long distances between 50mm and 100mm.

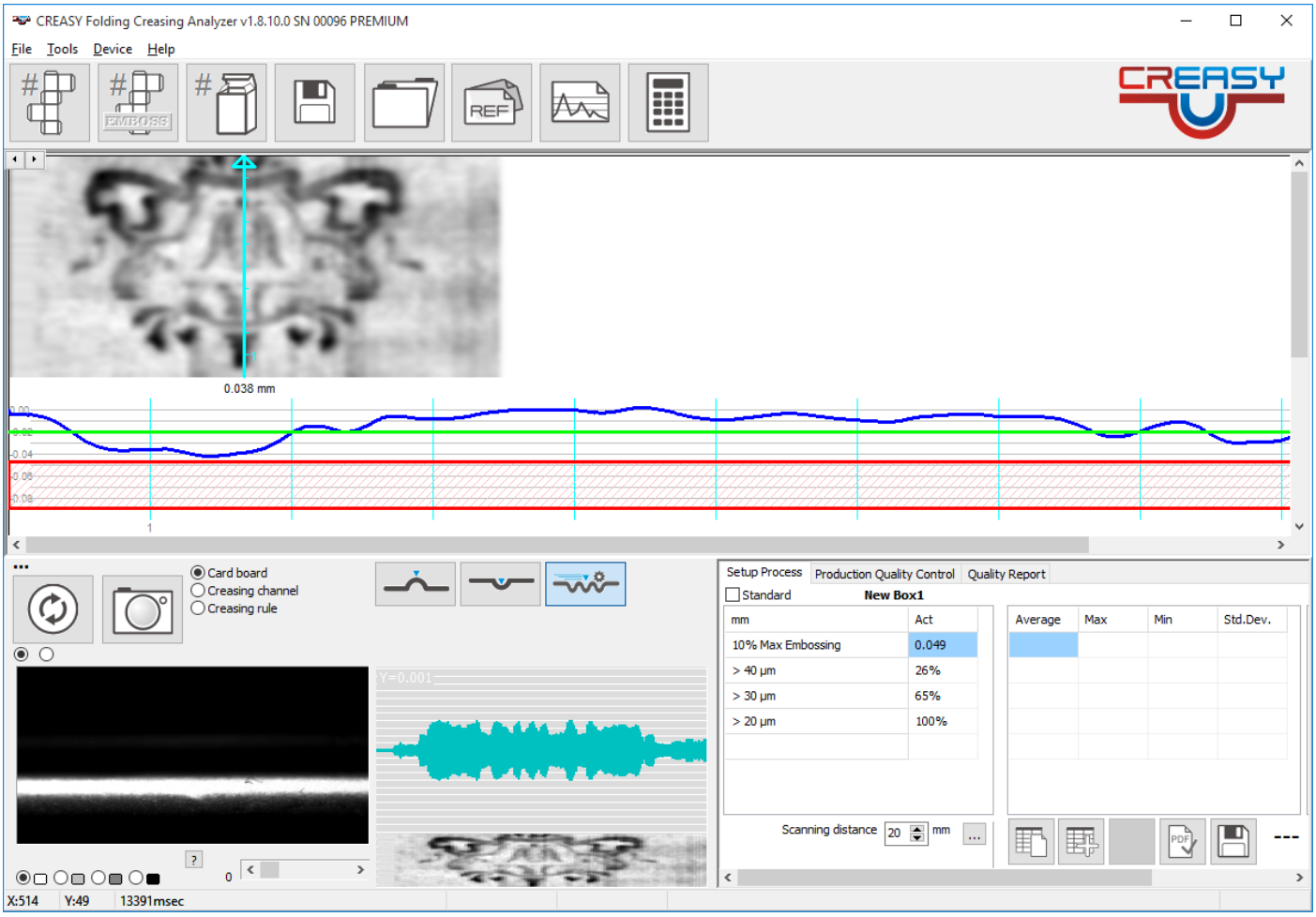
- The software automatically;
  - creates a 3D image based on 200 cross sections with 1280 measurements each
  - calculates the Embossing value as the average of the 10% highest (deepest) areas

IMPORTANT: Don't press down the CREASY while pulling. Pull it without pressure to make sure you do not flatten the embossing area.

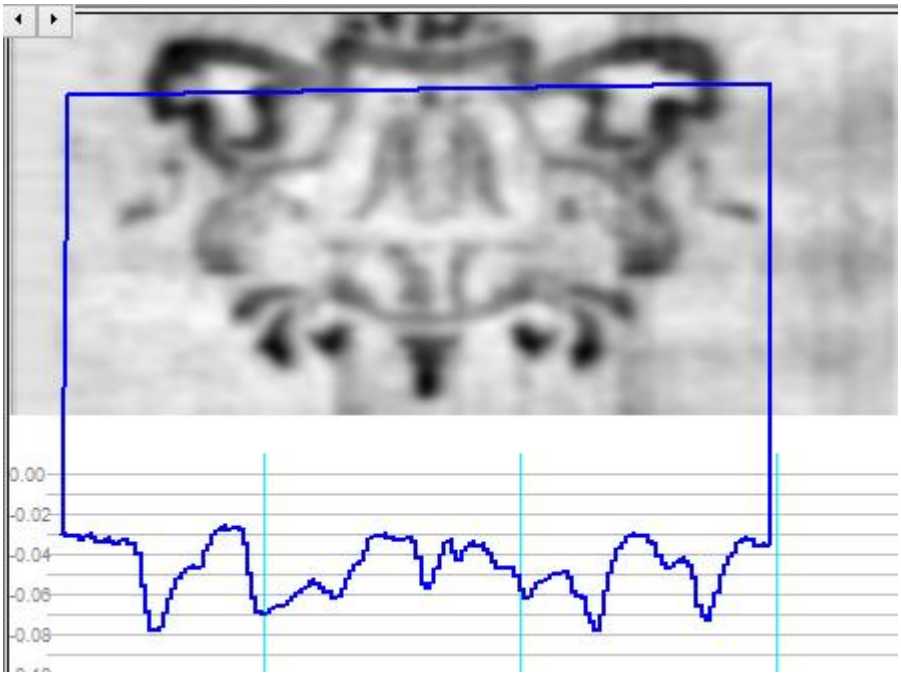
100% Embossing control – what does this mean



Click inside the gray scale image to visualize a cross section. Click the left right Icon to move from one cross section to the next.

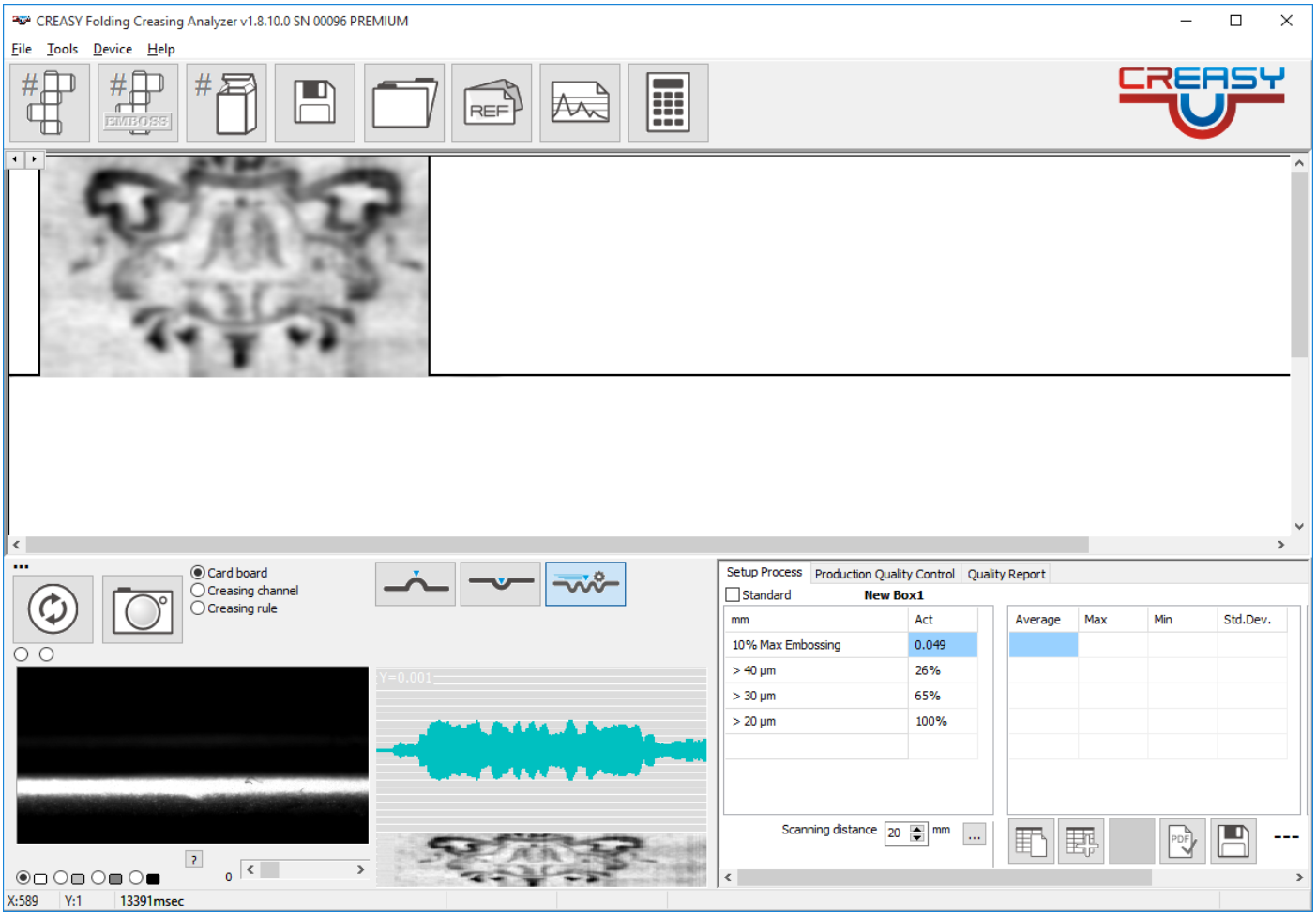


The red area displays the 10% max plain level. The green line displays the reference or the 20 micron level if no reference is selected.



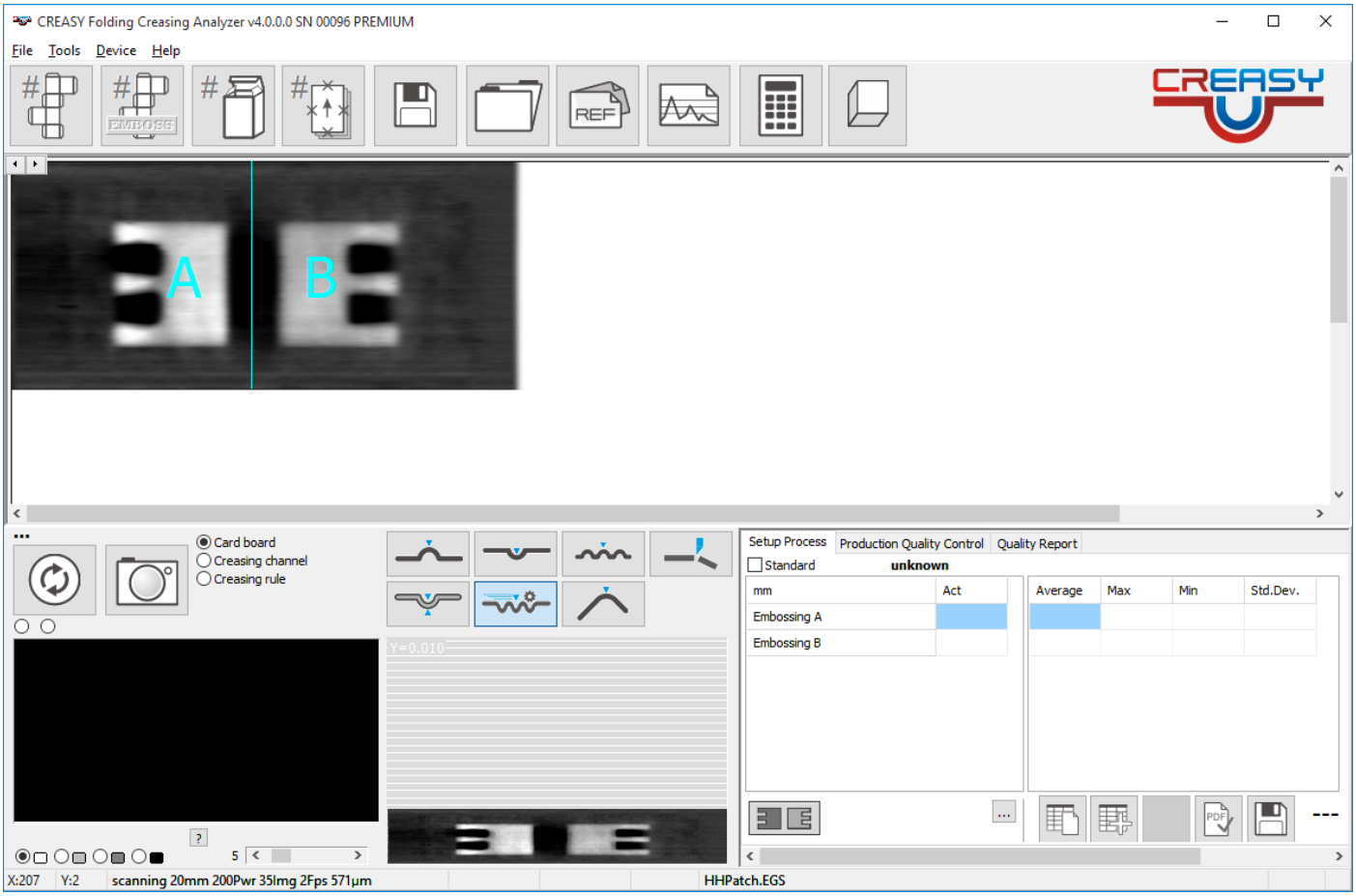
Move the mouse to the starting point, press the left mouse button and keep it depressed while dragging the mouse to the right. Release the left mouse button to display the cross section in the opposite direction.

By the same way you can select the area that should be used to re-calculate the measurement result. Click the calculate Icon to recalculate the result excluding areas outside the cross section area. Please note: a minimum of 100 real cross section images is required for the calculation. If less images are selected, the entire image is used for recalculation.



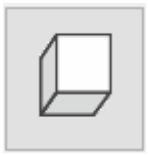
The measurement of embossing test patches does not require the specification of scanning parameters at all.

All parameters are selected Automatically. The Software will automatically detect the two embossing areas and calculate depth or height.

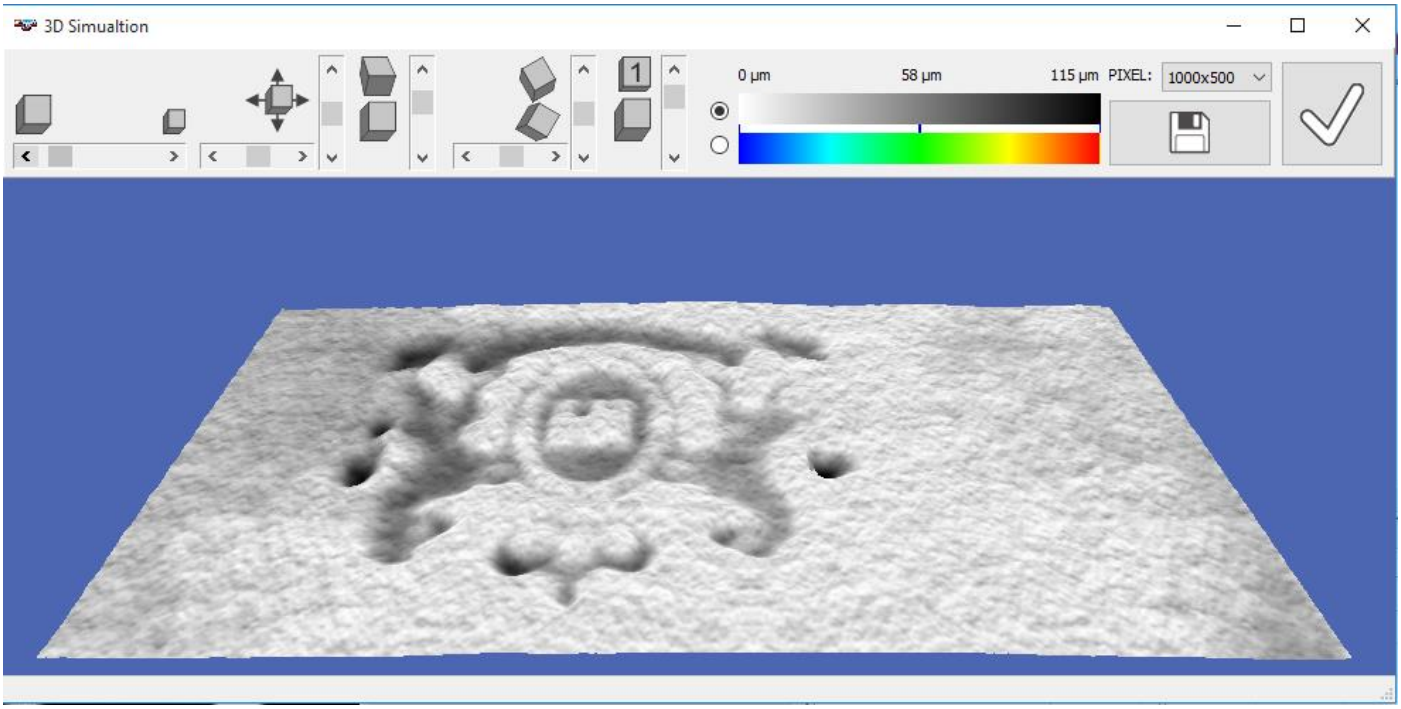


View 3D

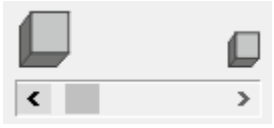
The option View 3D can be accessed by clicking the 3D Icon of the main menu bar after a valid embossing measurement



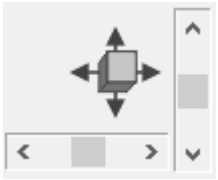
There will open a Window displaying the 3D image of the most recent scan



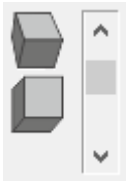
Use the adjust functions to adjust viewing angle, viewing distance and depth zoom.



Change the size of the 3D object

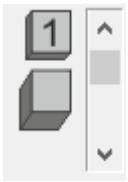


Move the object to the left, right top or bottom



Rotate the object back and forward

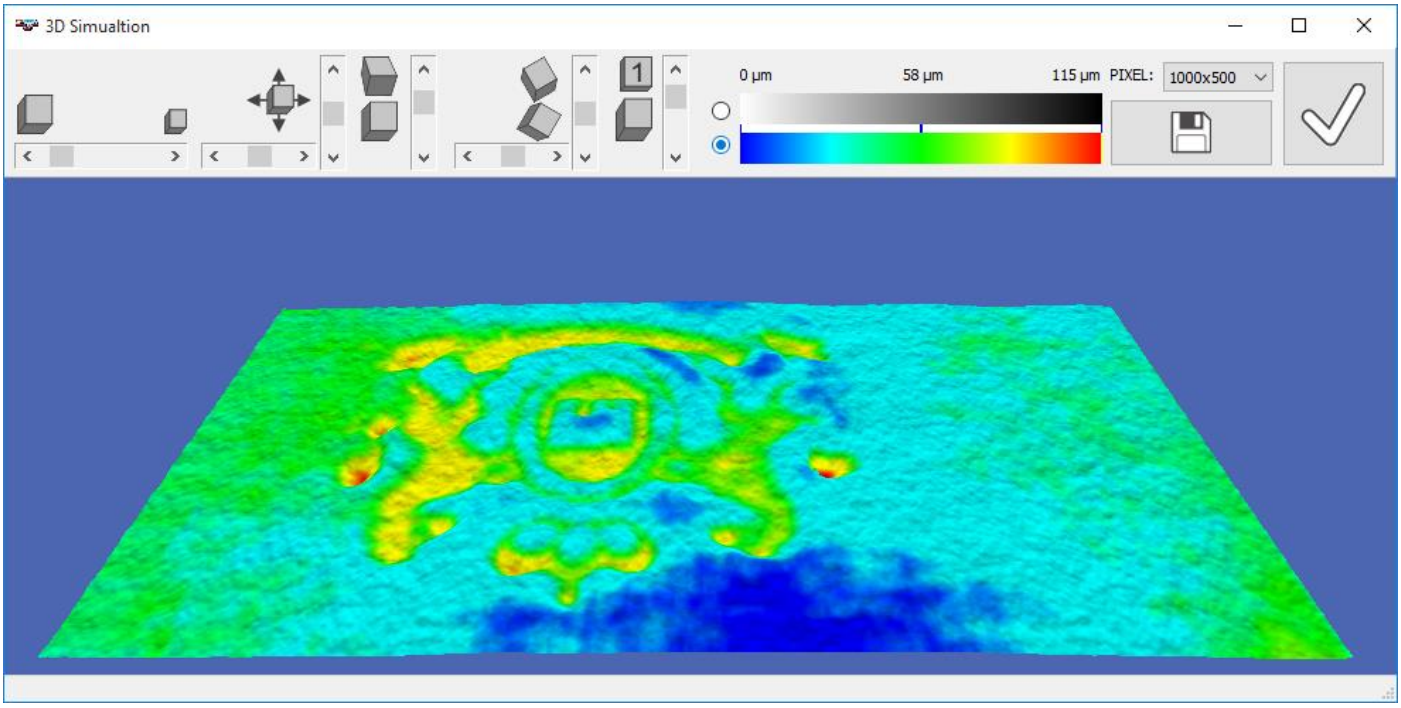
Rotate the object to the side



Zoom in depth to see more details

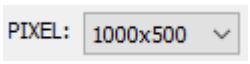
Click the proper symbol to reset the settings to default.

The 3D image can be displayed in gray scales or in color, whereby the color tells about the depth from the absolute top location.



The current image can be saved as JPG or PNG or BMP file to use it in reports and presentations.

Select the size of the output file from the list

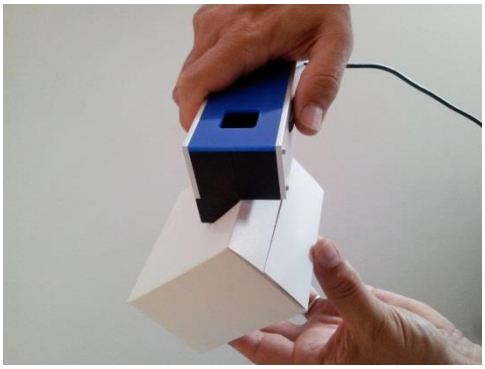


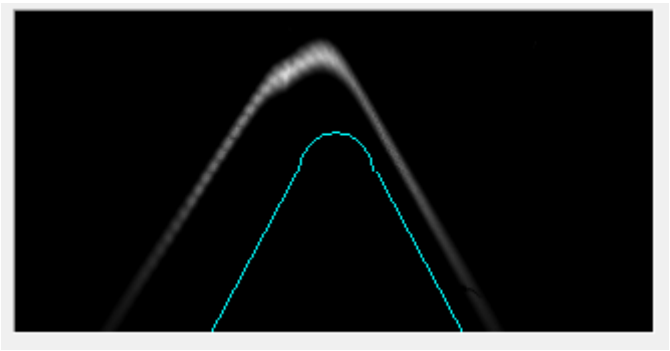
Click the save icon, insert a file name, select file format and click OK.

Close the window by clicking the OK Icon

Finished box control

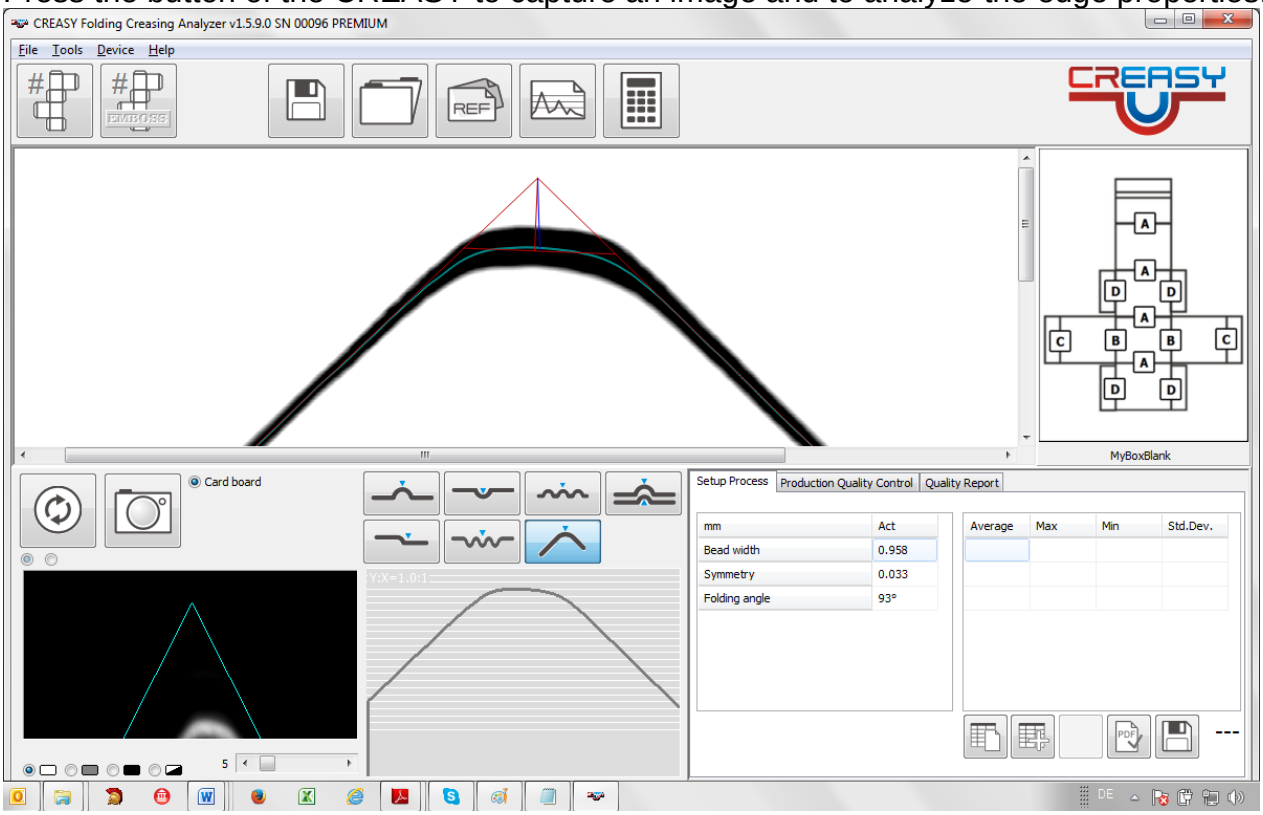
Attach the angle tool accessory to the CREASY device in order to have a 45° reference. Hold the finished box with one side parallel to the 45° plane of the Angle accessory

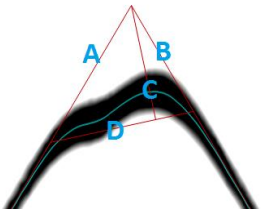




Check the preview window and make sure the spine is visible inside the window. Please note that for higher measurement accuracy the vertical resolution of the image is higher than the horizontal resolution. Therefore a 90° opening angle will look like approximately 60°.

Press the button of the CREASY to capture an image and to analyze the edge properties.



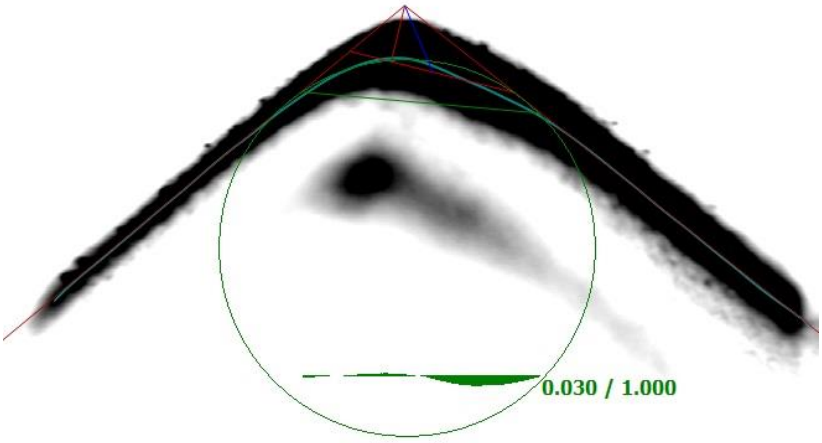


Bead width = length of line D
Symmetry = line C:D intersection point position compared to the center point of line D
Folding angle = real world angle between line A and B corrected for all projections

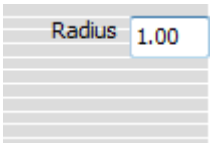
Measure the finished Box with Power Box

Power box offers additional measurement values

- Radius
- Roundness



The Radius can be pre-defined by inserting the value into the proper field.



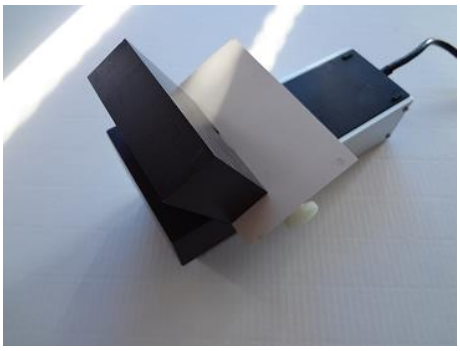
If no value is inserted, then the radius will be calculated automatically as the radius of the circle that fits best between the two sides. Whenever a reference definition is selected the radius will be taken from the reference.

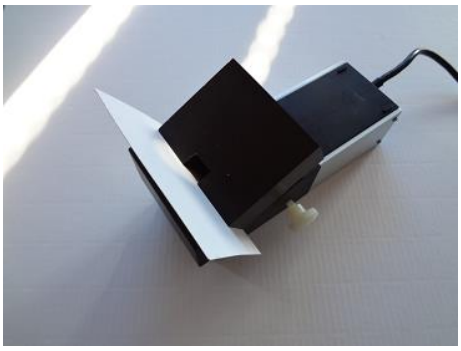
The roundness is the area difference between the perfect circle and the actual shape of the box (see green histogram in above example).

Measure the cutting-edge quality

Sharp cutting knifes will lead to clean cutting edges. Non-clean cutting edges will have an impact on paper dust in subsequent production processes like printing. Therefore, the cutting edge should be as clean as possible.

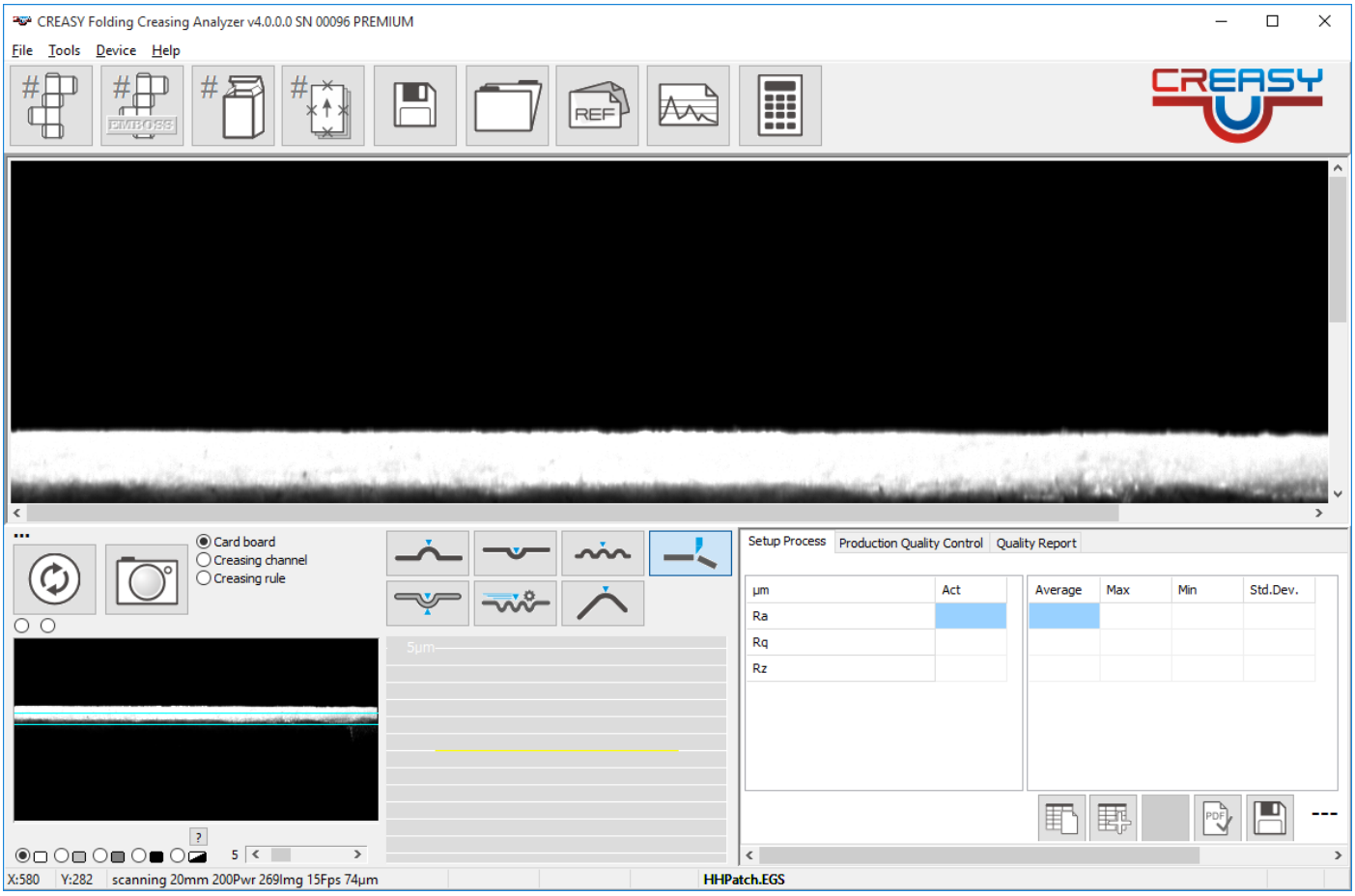
Select the cutting tool from the tool panel.



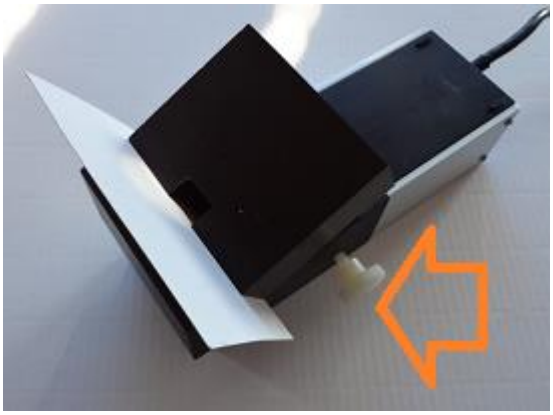


There are two approches to look at the edge. From top (left picture) and from front (right picture). It is important that you use always the same approach to obtain repeatable and comparable measurement results.

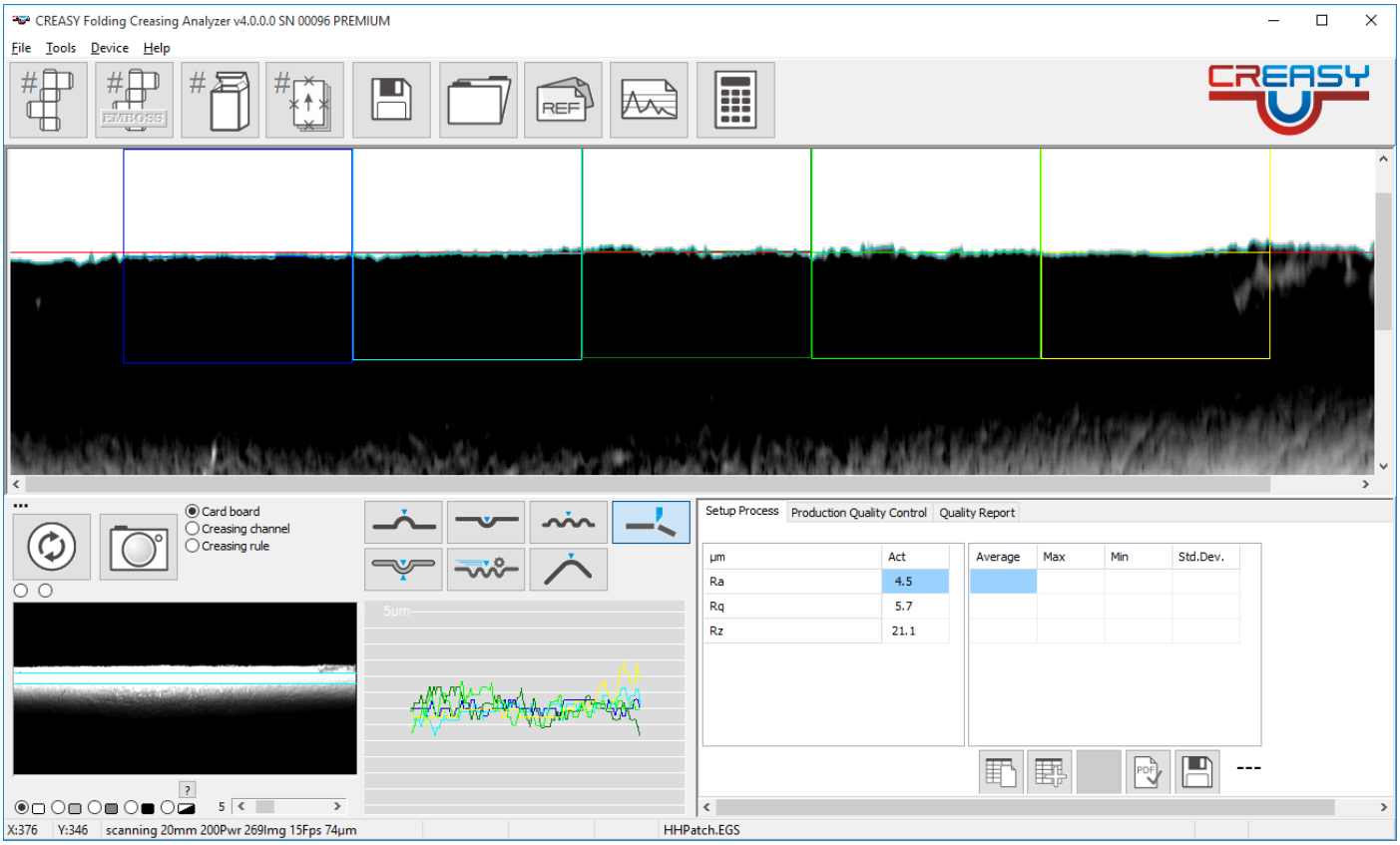
Mount the paper holding block on the bottom side of the CREASY. Move it to the front and back until the cutting edge is displayed sharply.



Fix the block using the screw on the side.



Click the measurement button on the device or execute a measurement using the capture Icon of the Software.



The Software will calculate three measurement values:

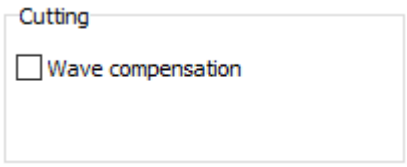
$$Ra = \frac{1}{n}\sum_{k=1}^{n}(|z_k - D_k|)$$

$$Rq = \sqrt{\frac{1}{n}\sum_{k=1}^{n}(z_k - D_k)^2}$$

$$Rz = \frac{1}{5}\sum_{i=0}^{4}(\max(z_k) - \min(z_k))\left\langle k = i * \frac{n}{6} + \frac{n}{12} \middle| (i+1) * \frac{n}{6} + \frac{n}{12} \right\rangle$$

D is the base line.

The base line can be selected as the linear regression line through the measurement points or as the real paper edge including occasional warp. Select the base line type to be used in the settings.

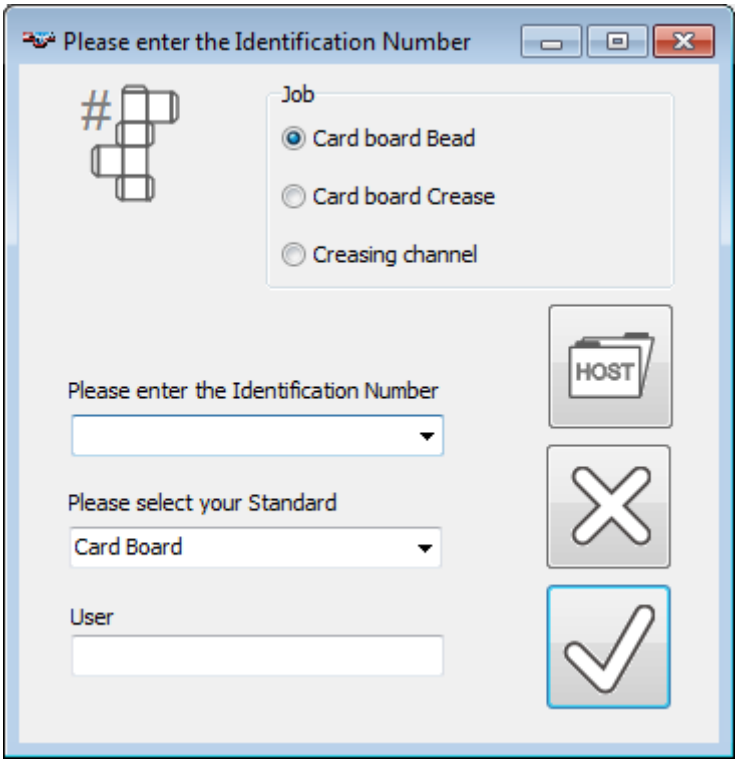


If wave compensation is selected the real edge is used as base line and the label of the measurement values will show (w).

Daily production quality control of creasing

Start the measurement of a new box blank in production quality control by clicking the new job icon.

Enter the Job Identification number, select the standard you want to work with, and enter the name of the operator.



Click the OK Icon to continue

Click the CANCEL Icon to abort

The Bead measurement function is selected automatically and the Job table appears in the Result Window.

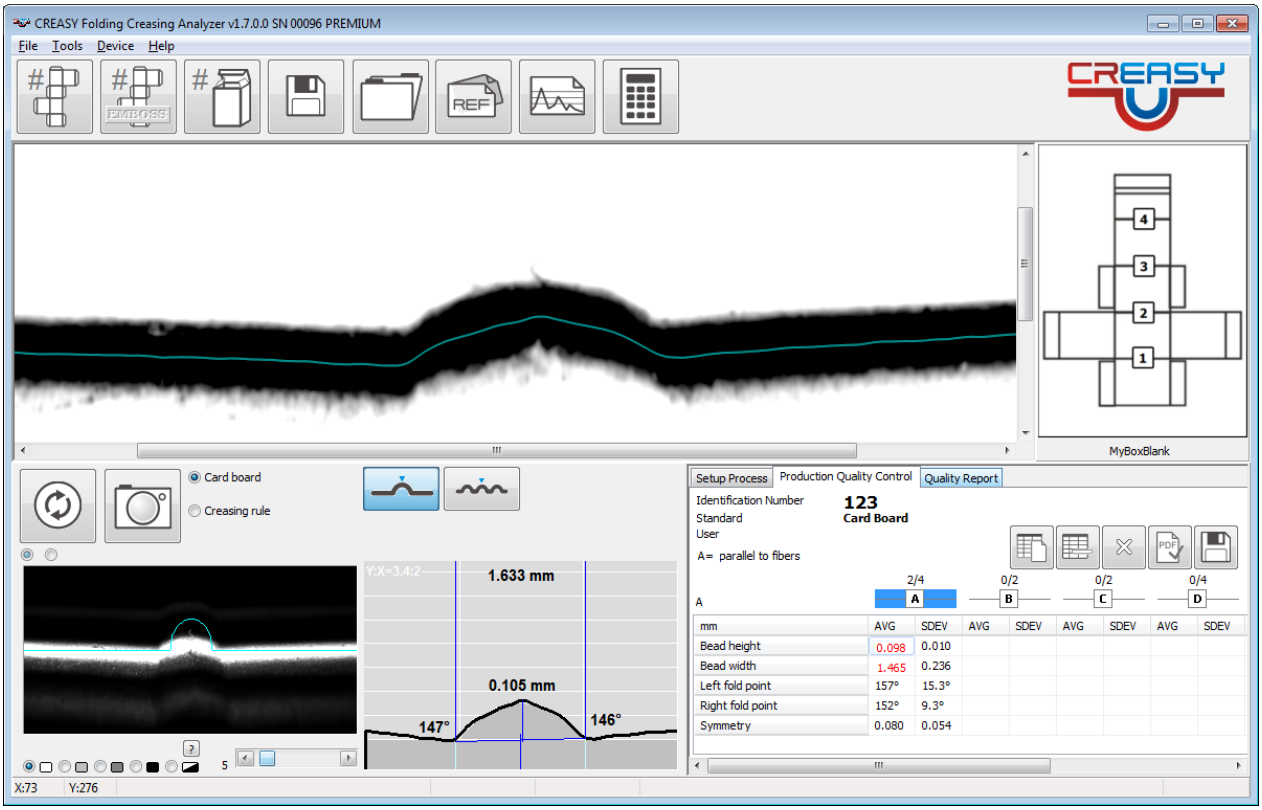
If you would like to measure the crease, select Card board Crease (Power Crease only)

If you would like to measure the Creasing channel select Creasing Channel (BOBST version only)

Select A type measurements by clicking on the A on top of the table.

The Basic version of the creasy software always shows just the standard box layout.

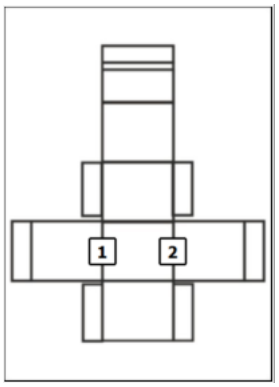
The PREMIUM Version of the software now displays the Box Layout that has been assigned to the active reference containing all [A] measurement locations. Measurements of type [B],[C], and [D] are hidden.



Measure as many type [A] locations as required. The Average and Standard Deviation are calculated automatically.

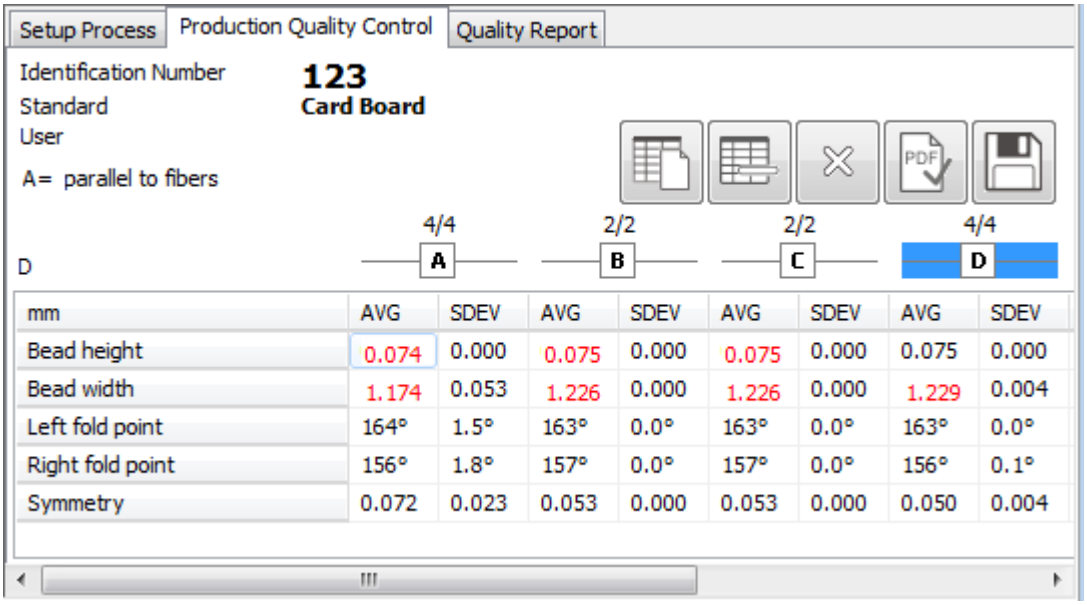
Select [B] type measurements by clicking on the [B] on top of the table.

The PREMIUM version now displays the [B] locations.



Measure as many type [B] locations as required. Average and Standard Deviation are calculated automatically

Continue by selecting [C] and [D] and measuring the proper creases. The PREMIUM version supports seven crease types. Use the scroll bar on bottom to scroll additional crease types into view.



mm	AVG	SDEV	AVG	SDEV	AVG	SDEV	AVG	SDEV
Bead height	0.074	0.000	0.075	0.000	0.075	0.000	0.075	0.000
Bead width	1.174	0.053	1.226	0.000	1.226	0.000	1.229	0.004
Left fold point	164°	1.5°	163°	0.0°	163°	0.0°	163°	0.0°
Right fold point	156°	1.8°	157°	0.0°	157°	0.0°	156°	0.1°
Symmetry	0.072	0.023	0.053	0.000	0.053	0.000	0.050	0.004

Out-of-tolerance values are highlighted in red.

Click this Icon to restart the measurement of the current Box

Click the Delete Icon to remove the most recent measurement

Click the OK Icon to create a report

Click the Cancel Icon to exit without creating a report

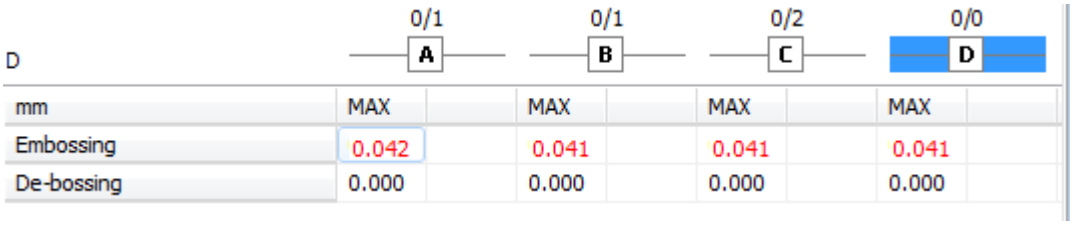
Click the Save Icon to save all measurement data into a tab delimited text file.

The measurement procedures for crease and crease channel are basically the same as for the bead measurement. Select the crease option or the crease channel option in the starting window. The tables will than contain measurement data for crease or crease channel measurements in place of measurement data for bead measurements. Only the measurement values obtained are as required.

Daily production quality control of embossing (Power Crease)

Start the measurement of a new box blank in production quality control mode by clicking the New Job Icon. Enter the Job Identification number, select the standard you want to work with, and enter the name of the operator.

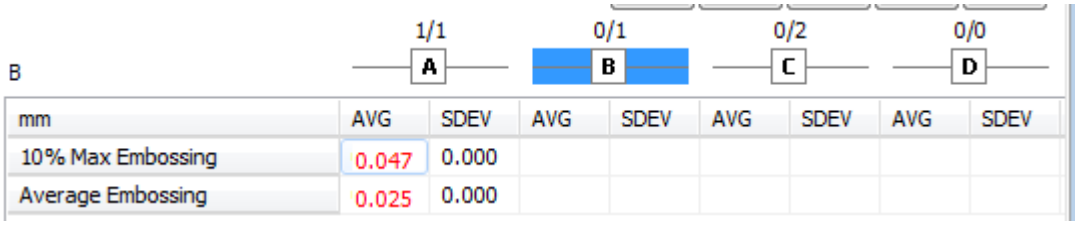
Proceed the same way you did for crease and bead measurements. Select the measurement position A..F and take readings. In case of Embossing or De-Bossing the maximum is collected.



D

	0/1 A	0/1 B	0/2 C	0/0 D
mm	MAX	MAX	MAX	MAX
Embossing	0.042	0.041	0.041	0.041
De-bossing	0.000	0.000	0.000	0.000

If E-GUIDE is activated and the reference selected is an E-GUIDE embossing reference, then the E-GUIDE measurement data is collected in the table.



B

	1/1 A		0/1 B		0/2 C		0/0 D	
mm	AVG	SDEV	AVG	SDEV	AVG	SDEV	AVG	SDEV
10% Max Embossing	0.047	0.000						
Average Embossing	0.025	0.000						

Click this Icon to restart the measurement of the current Box

Click this Icon to delete the most recent measurement

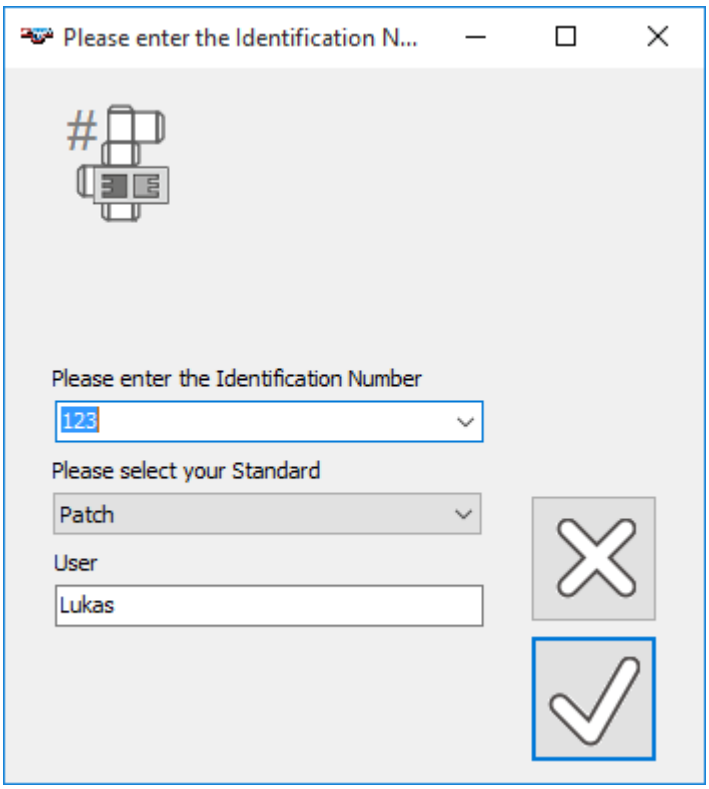
Click the OK Icon to create a report

Click the Cancel Icon to exit without creating a report

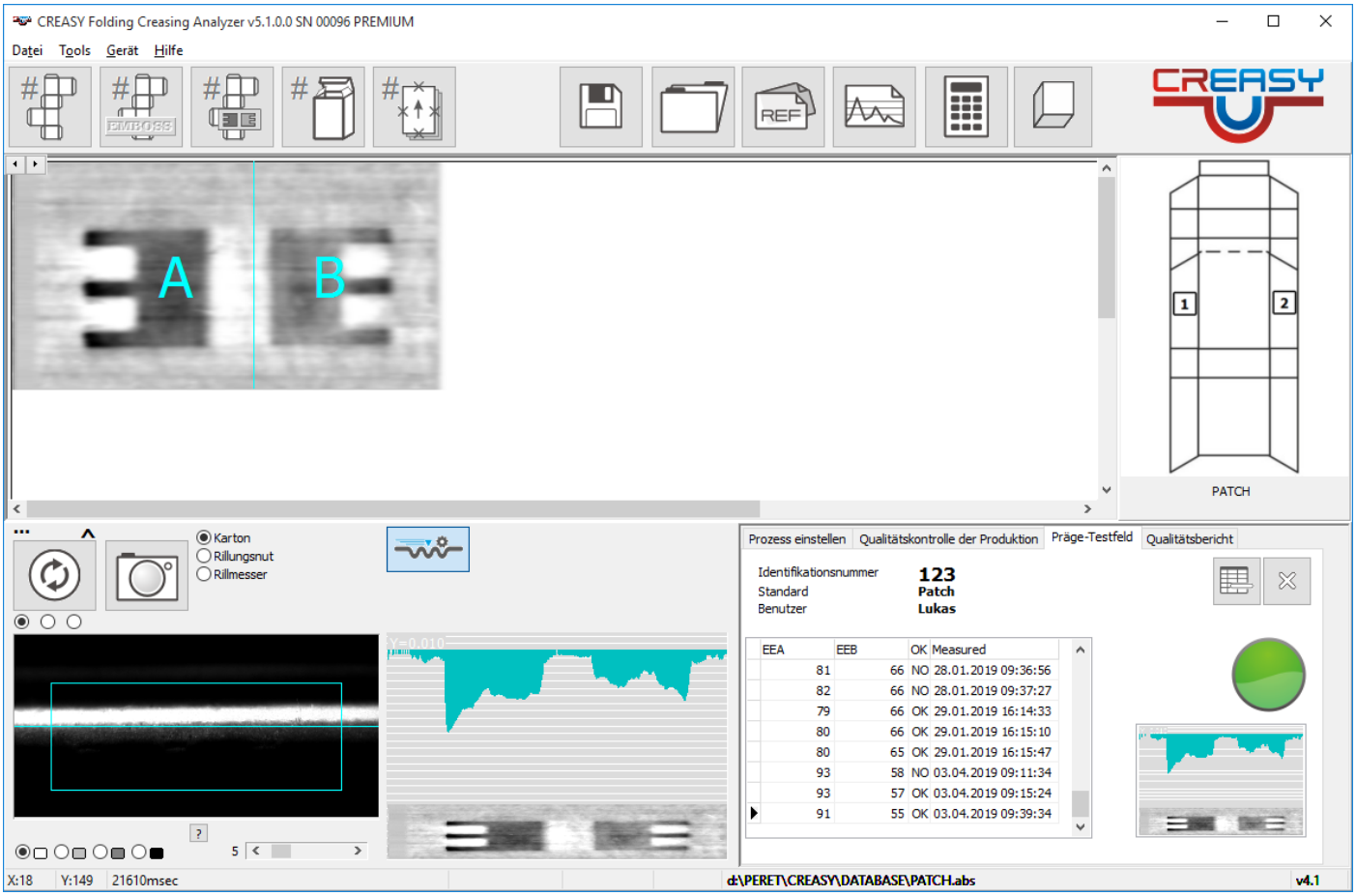
Click the Save Icon to save all measurement data into a tab delimited text file

Dayily production quality control using the embossing patch (Power Crease)

Start the measurement of a new box blank in production quality control mode by clicking the New Job Icon. Enter the Job Identification number, select the standard you want to work with, and enter the name of the operator.

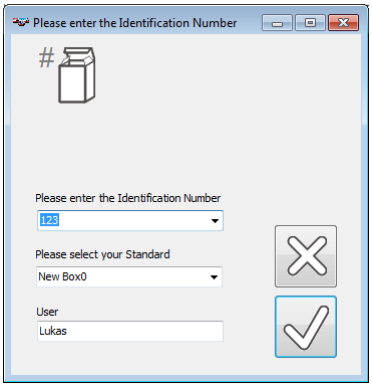


Position the test patch and take a reading. The software automatically inserts the data into the database such as the deeper area value is inserted in column A and the flat area value is inserted in column B. The software will display a green flag if the readings are in tolerance and a red flag in case they are out of tolerance.

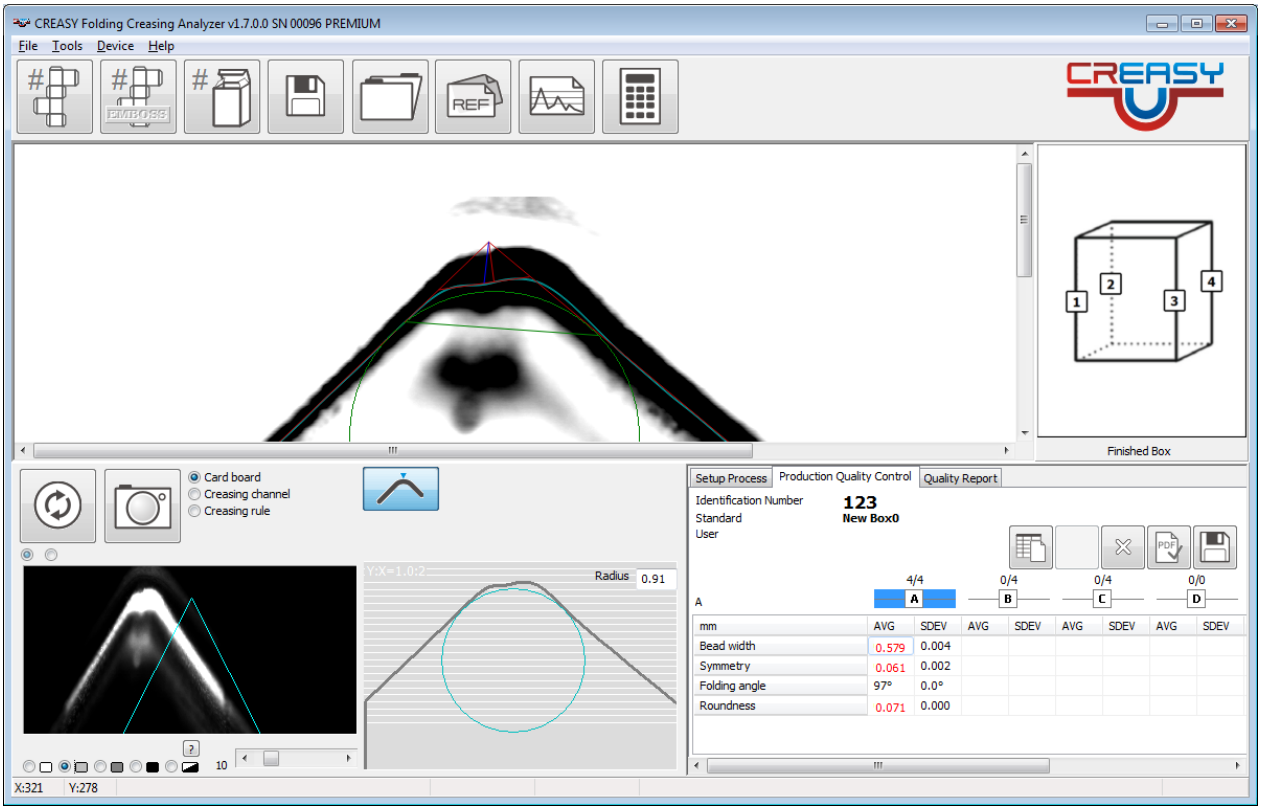


Daily production quality control of finished boxes (Power Crease + Power Box required)

Start the measurement of a new box blank in production quality control by clicking the New Job Icon. Enter the Job Identification number, select the standard you want to work with, and enter the name of the operator.



Measure the corners as requested by the software:



Click this Icon to restart the measurement of the actual Box

Click this Icon to delete the most recent measurement

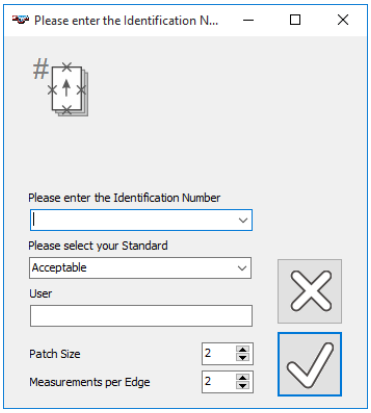
Click the OK Icon to create a report

Click the Cancel Icon to exit without creating a report

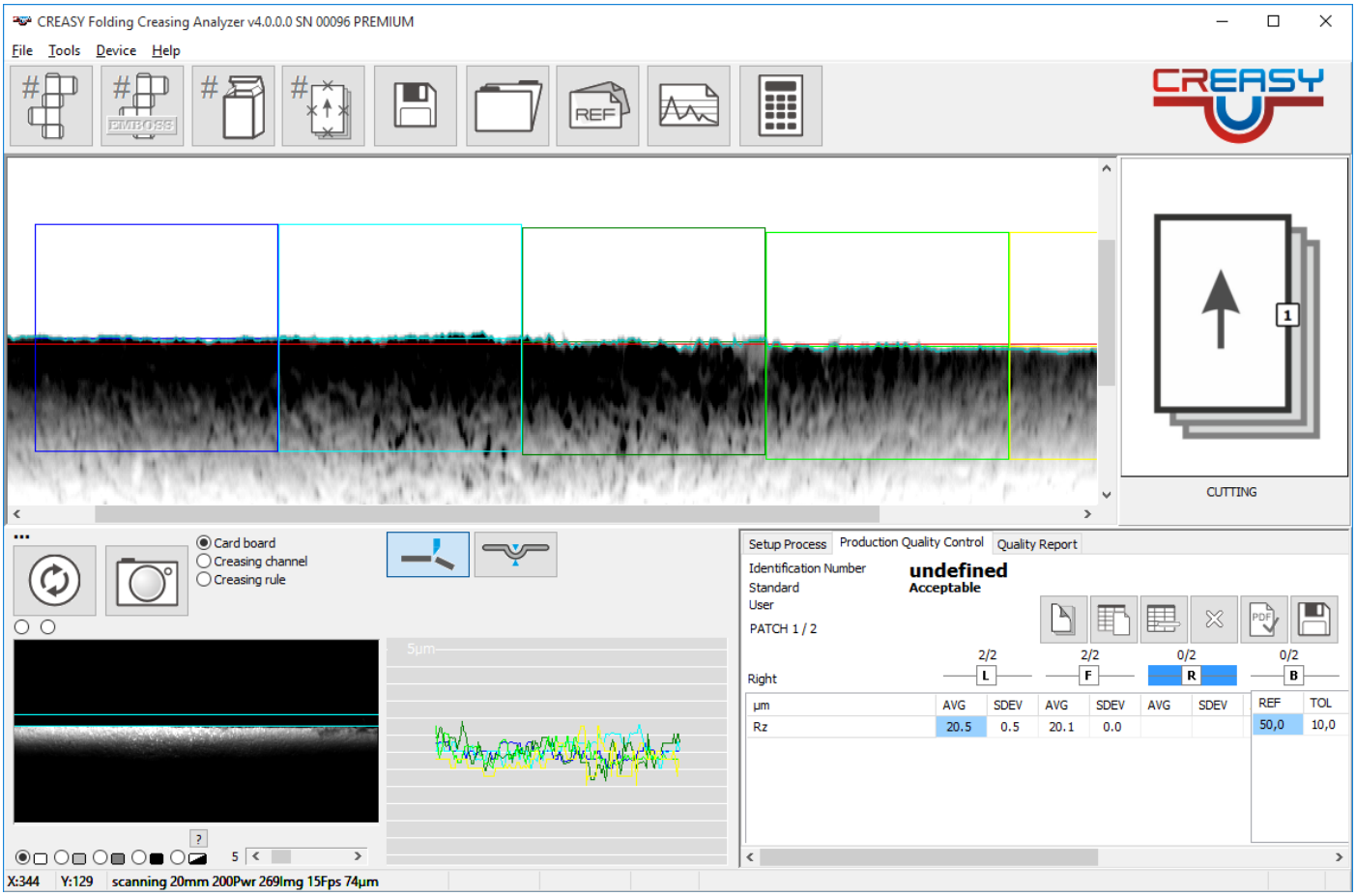
Click the Save Icon to save all measurement data into a tab delimited text file

Daily production quality control of cutting (Power Crease + Cutting required)

Start the measurement of a series of sheets in production quality control by clicking the New Job Icon. Enter the Job Identification number, select the standard you want to work with, and enter the name of the operator. Insert the number of sheets (Patch Size) and the number of measurements to take per edge.



Start to measure the cutting edges. The software will show the current edge to measure graphically.



Once all positions of a sheet have been measured click the next sheet icon to start with the next sheet.

Click this Icon to restart the measurement of the series of sheets

Click this Icon to delete the most recent measurement of the current sheet

Click the OK Icon to create a report

Click the Cancel Icon to exit without creating a report

Click the Save Icon to save all measurement data into a tab delimited text file

Statistics

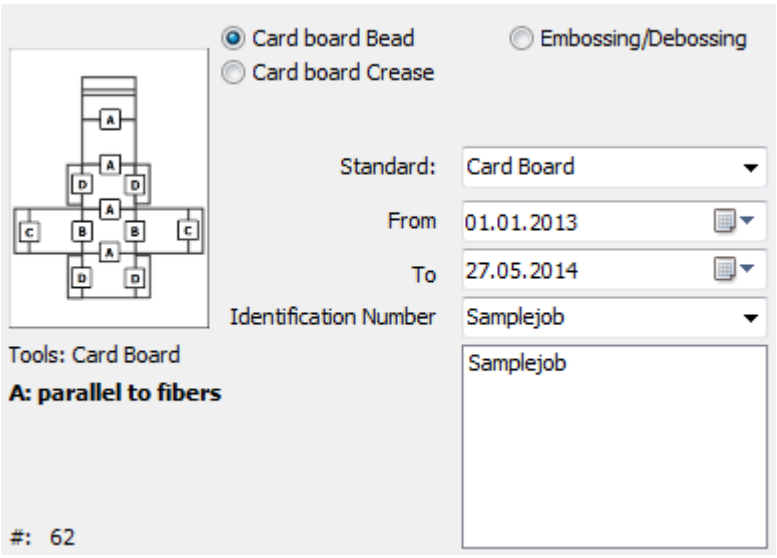
Open Statistics on quality reports

Select the sample type (Card board Bead, Card board Crease, Embossing/Debossing)

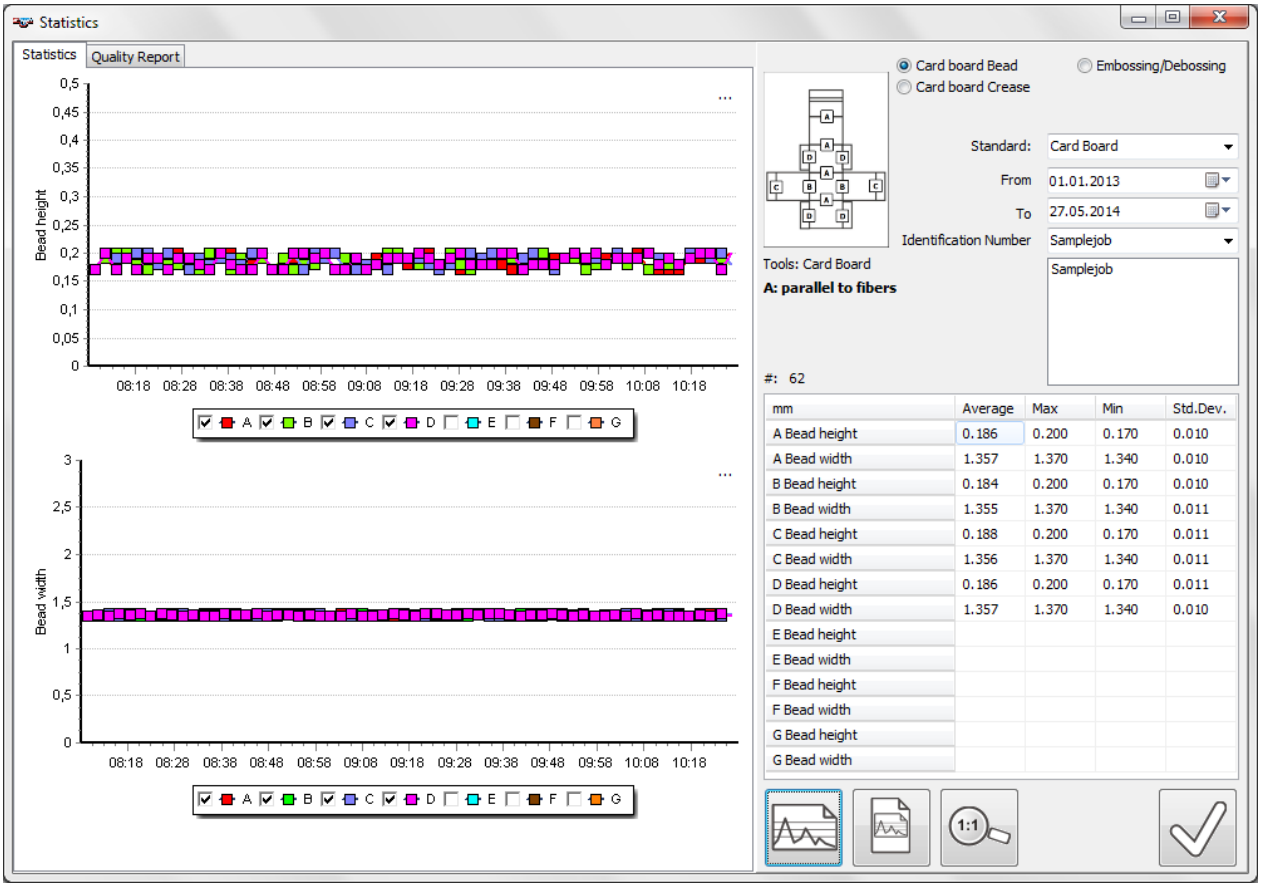
Select the Standard from the list of available Standards

Select the time frame by selecting the FROM date and the TO date appropriately

Select the Job Identification number. You can select a specific job identification number to calculate a statistics over all measurements of this job. You can also use wild cards like '*' to select similar job numbers.

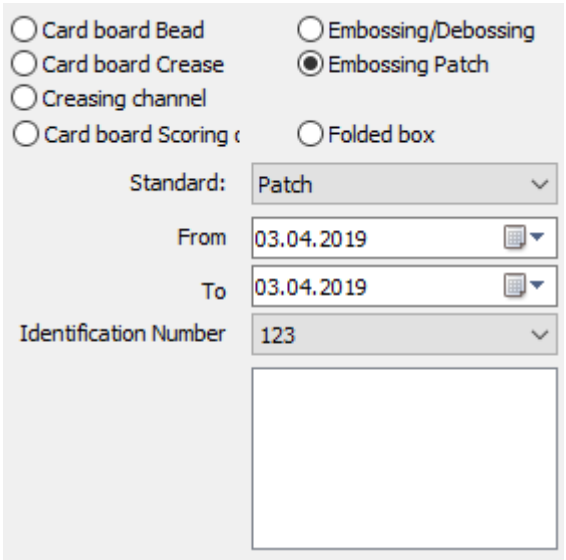


Click the Statistics Icon to calculate the statistics. All selected jobs will be listed. The overall Average, the Standard Deviation, the maximum and the minimum are calculated and displayed in a table. The measurement results of the selected quality reports will be displayed graphically.



Embossing Test Patch statistics

Select Embossing Patch, select Standard, Time Frame, and ID number and click the Statistics Icon to calculate the statistics on Embossing Patch readings.



This function calculates and displays compliance values:

PATCH B Compliance:	
$\bar{x}$:	64,1µm
σ:	6,7µm
($\bar{x}$ + 1.8 σ):	76,2µm
($\bar{x}$ - 1.8 σ):	52,0µm
Count:	41

Export the measurement data to a text file or to an excel file.

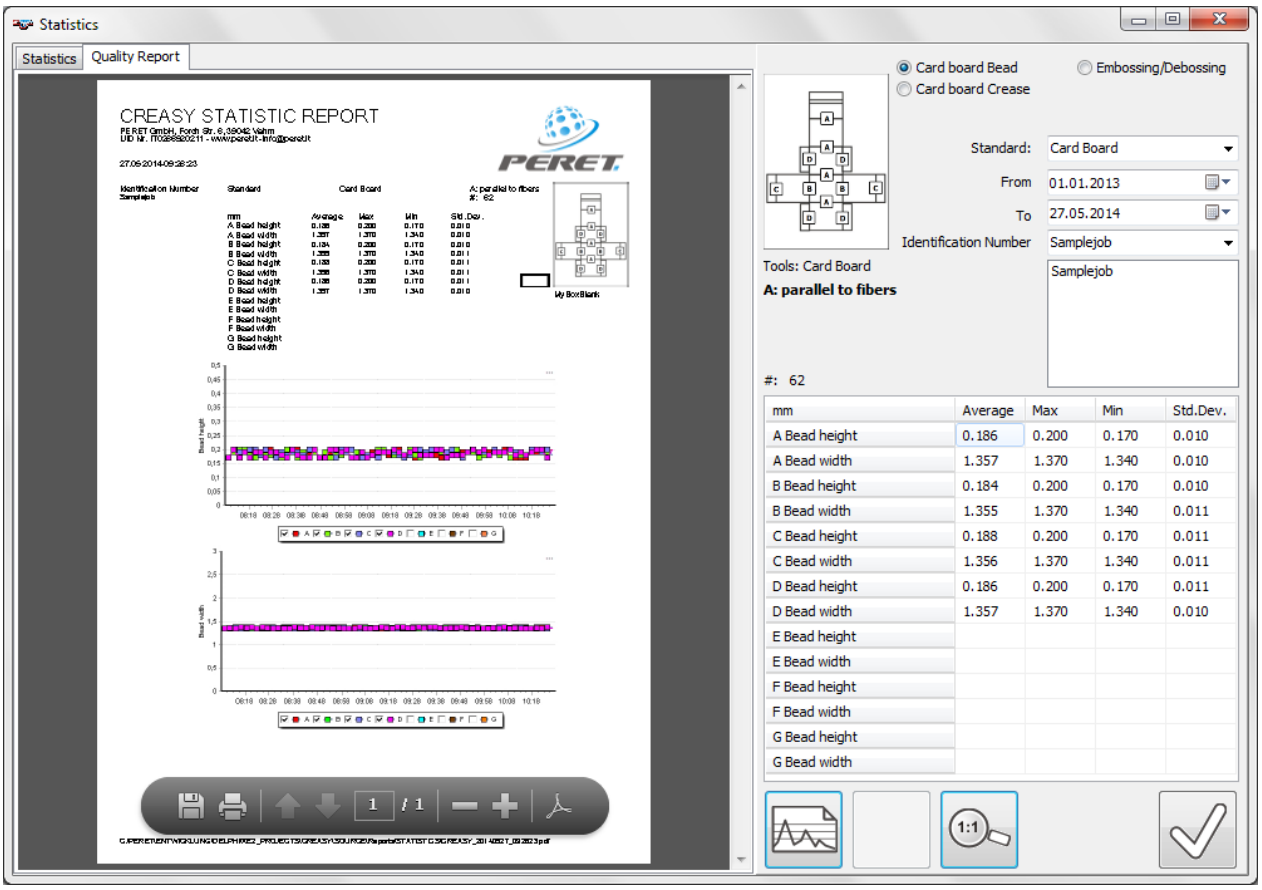
Select and display a report

Move the mouse pointer on one of the squares on one of the curves.

Click the left mouse button.
The associated report will be displayed automatically and can be printed.

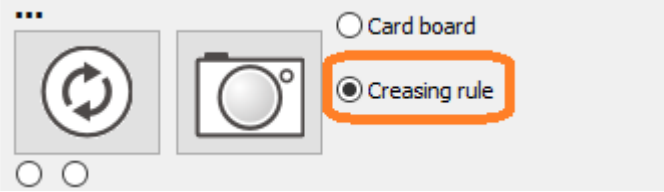
Create a job summary report

Click the Job Summary Icon to create a summary report of the selected job



CREASING RULE measurement

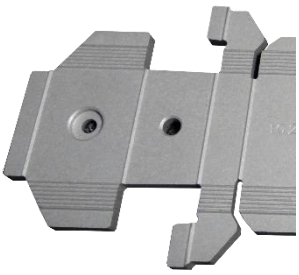
If the CREASING RULE option is activated there can be selected the CREASING RULE function by clicking the selector.



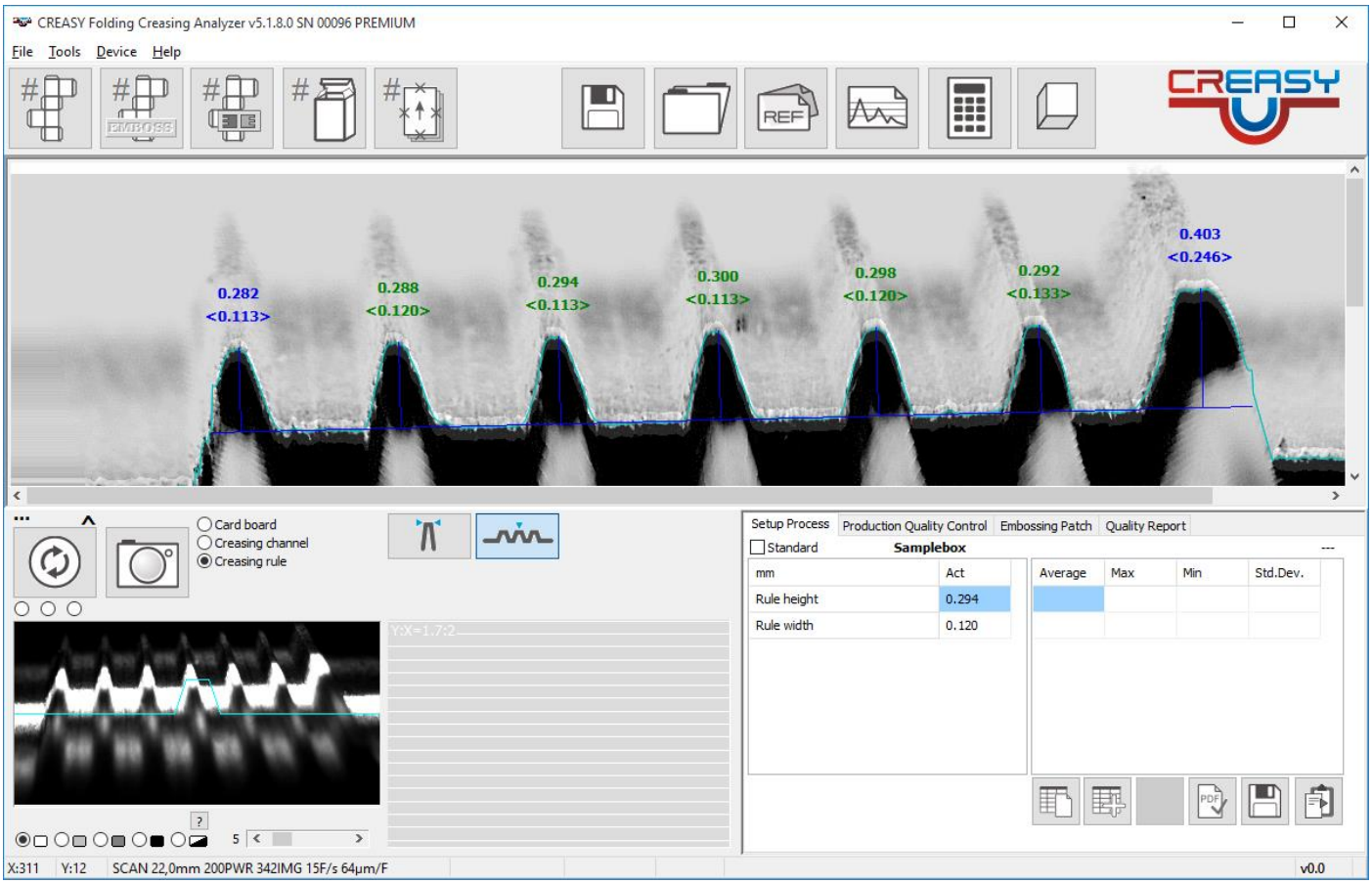
This will make available two additional measurement functions, optimized to measure steel creasing rules.

Select this function to measure high steel creasing rules for example on web creasing tools.

Use this function to measure lower creasing rules.



In case of parallel creasing rules for round corner applications all single rules are measured. The measurement data is displayed on top of the rule in the main Window. The value on top is the height of the rule. The value between brackets <> is the width of the rule measured at 95% of its height. If there are more than 2 rules in parallel, the rule dimensions in the middle highlighted with green values are averaged and the average number is added to the measurement table. In case of two parallel rules, the average of the two is taken. In case of a single rule, the measurement values of the single rule are copied to the table.



Both functions have to be activated in the settings.

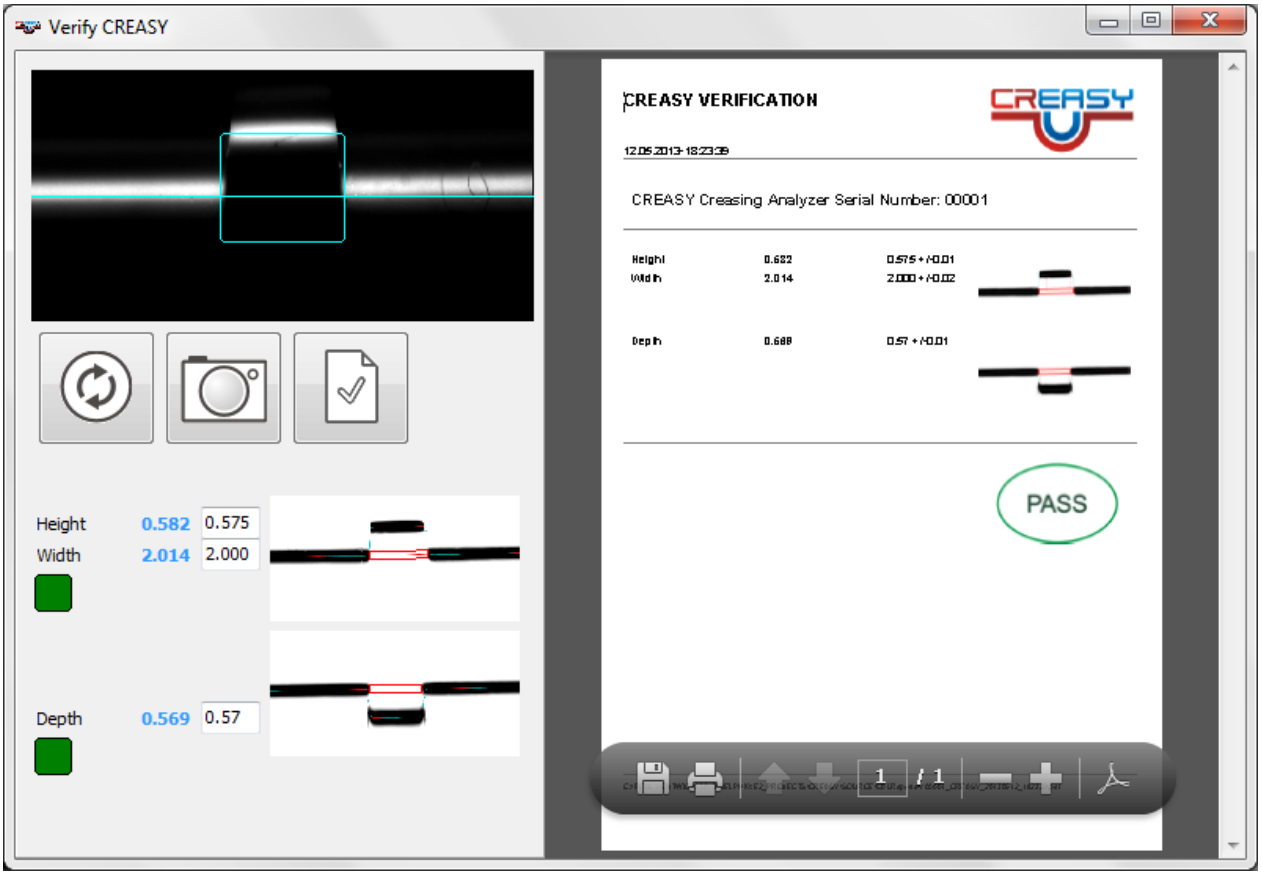
Device verification

The CREASY comes with the CREASY target reference plaque that can be used for internal Device verification.

Open the Verification Tool by selecting the Verify Menu Item from the Device menu.

Type the reference numbers written on the reference plaque into the proper edit fields for bead and crease verification

Position the device on the Bead side of the plaque and press the measurement button. Now rotate the plaque and measure the crease. If both measurements are in tolerance, you can create a PDF report and print the report using the PDF functions on bottom.



High resolution verification (PREMIUM Version only)

The CREASY STEP WEDGE can be acquired as an option to perform high resolution verification of the CREASY device. Based on a Look-Up table this feature can be used to match one CREASY device perfectly to another over very long time periods.

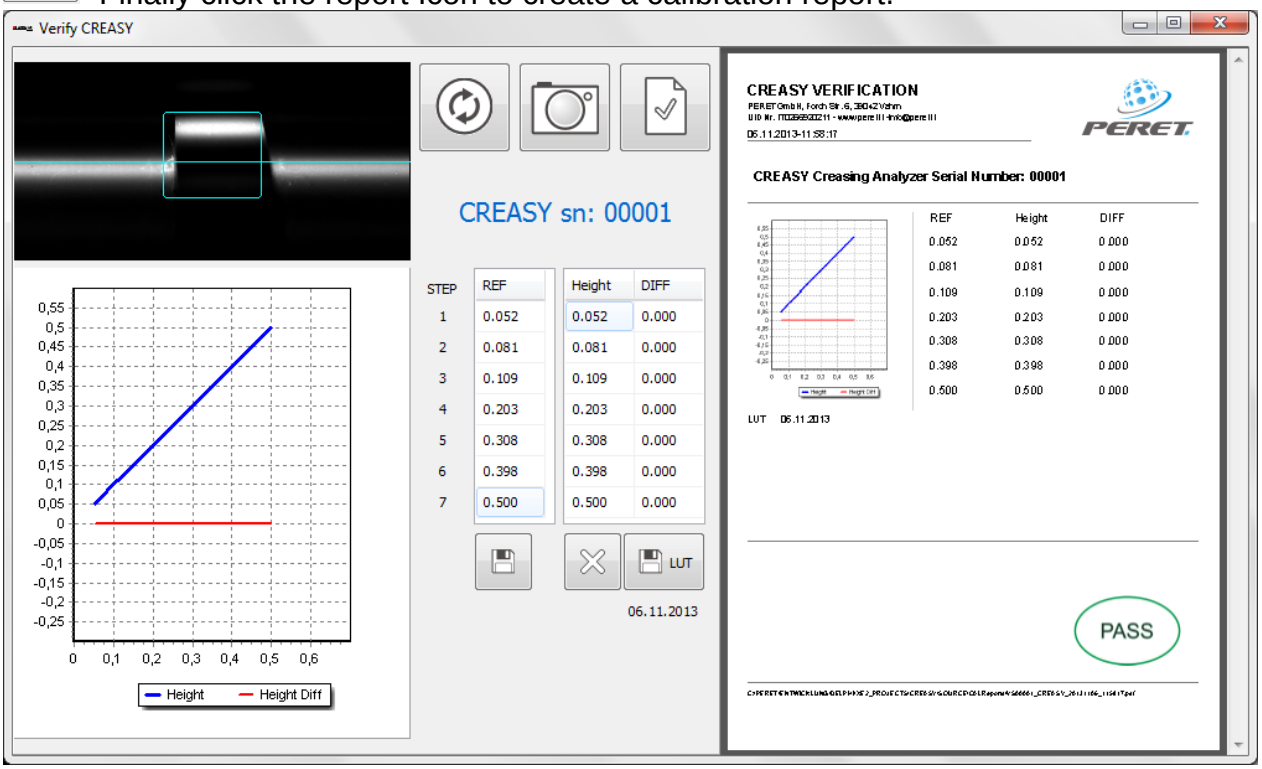
Open the high resolution function by selecting the ‘Verify Scale’ Item from the main menu ‘Device’.

Insert the reference values from the CREASY STEP WEDGE label into the reference column of the table. Make sure to insert the lowest value on top. Click the SAVE Icon to save the reference values.

Click the CLEAR Icon to clear the table. Now start measuring each level starting with the lowest level. The absolute height will be displayed in blue color and the difference in red color in real time inside the graph.

In case the differences are out of tolerance you can calculate a LUT (Look-Up Table) by clicking the LUT Icon. The LUT will be automatically stored and applied on all future measurements until a new LUT is created. The LUT improves the Inter-instrument Agreement of the devices.

Finally click the report Icon to create a calibration report.

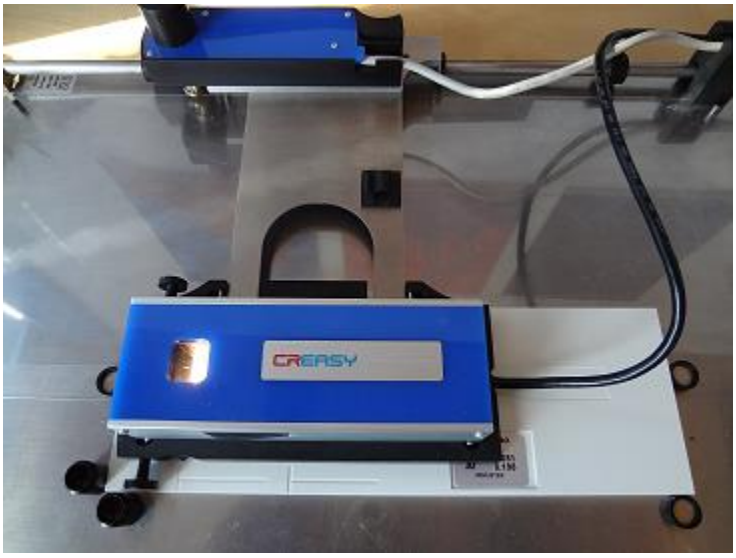


EGUIDE-PRO Embossing measurement verification

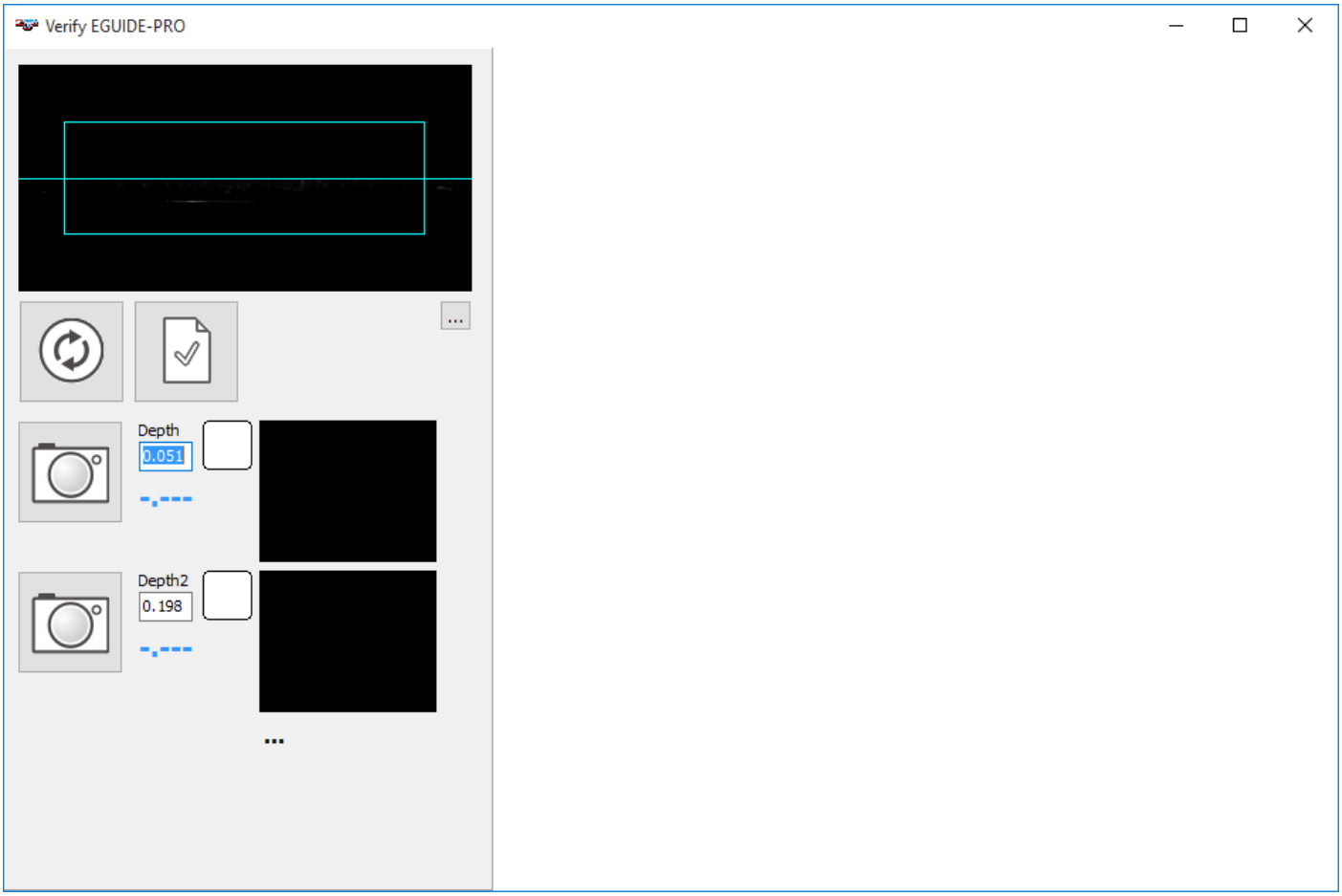
The EGUIDE-PRO TARGET can be acquired as an option to the EGUIDE-PRO device. The EGUIDE-PRO TARGET is used to check the inter instrument agreement in terms of embossing between devices in the field. The EGUIDE-PRO TARGET offers two engraved EGUIDE text fields that are going to be measured one after the other and a report is created. There is also a password protected function to adjust the device to the numbers printed on a label on the EGUIDE-PRO Target.

Before executing an EGUIDE-PRO Embossing verification there should be executed the EGUIDE-PRO Distance Calibration.

Make sure the EGUIDE-PRO Target is clean. Place the Target as displayed on below Window.



Select the Verify EGUIDE-PRO Item from the Device menu.

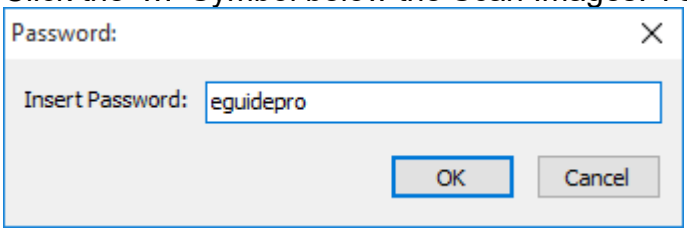


Insert the reference numbers displayed on the EGUIDE-PRO Target. Move the Device to the starting positon of the first engraved area.

- Start Scanning by clicking the capture icon next to the reference on top. The Device will now move 40mm. Make sure that in any case it will move to a position between the right end of the horizontal line and the starting point of the second engraved area.
- Now move the device manually to the starting point of the second engraved area. Click the capture Icon again and wait until the measurement is finished. In case your device is in tolerance you can create a report.

If your device shows red-flag Icons, repeat the verification and make sure the positioning is correct. If you still do not get green-flag results, you can perform an adjustment of the device.

Click the '…' Symbol below the Scan Images. You will get prompt for a password.



This now makes available two new functions.

Click the RESET Icon to reset your device to Factory default.
Perform a verify test as described above. Don't care about red-or green flags.
Click the TARGET icon to perform the adjustment.
Perform a verify test as described above. Now you should see only green-flags any more.
Create a PDF report.

CREASY VERIFICATION
EGUIDE-PRO Embossing

CREASY Serial Number: 00096

Depth	0.051	0.051 +/-0.004	
Depth2	0.199	0.198 +/-0.004	

D:\PERET\ENTWICKLUNG\DELPHIXE2_PROJECTS\CREASY\SOURCE\CALReports\00096_EGUIDE_20160620_095055.pdf