# DIGITAL DATASHEET

Documentation

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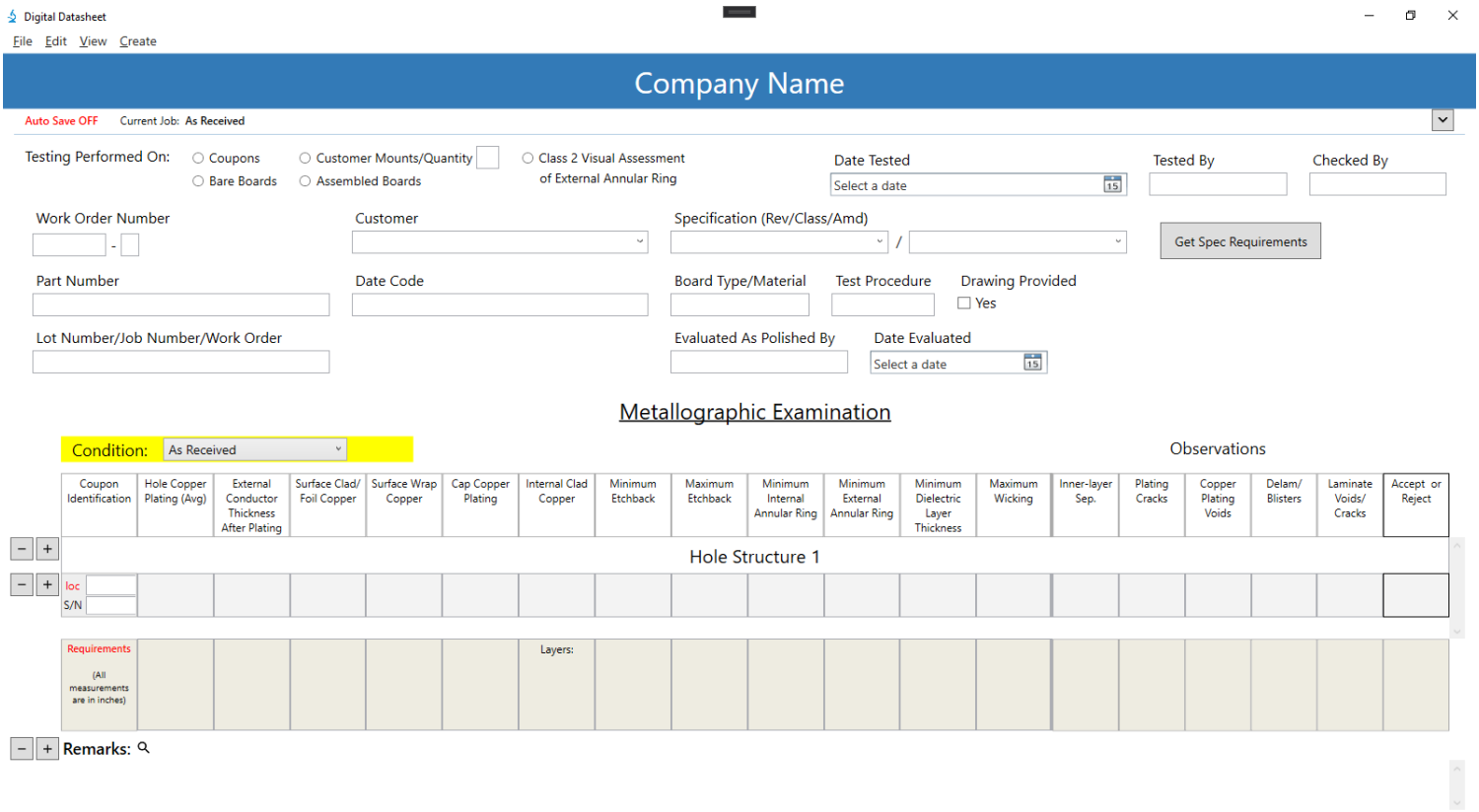
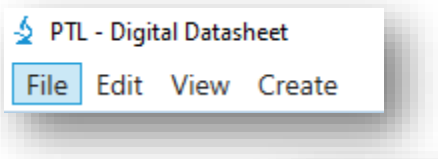
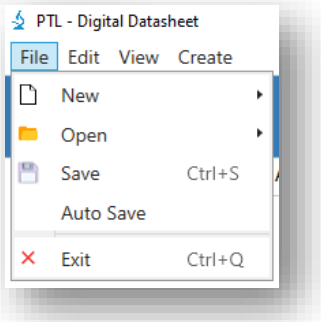
# Digital Datasheet




# 1 Menu



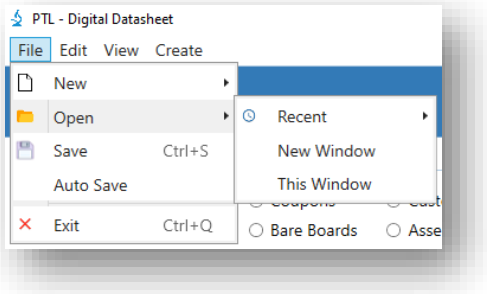

## 1.1 File



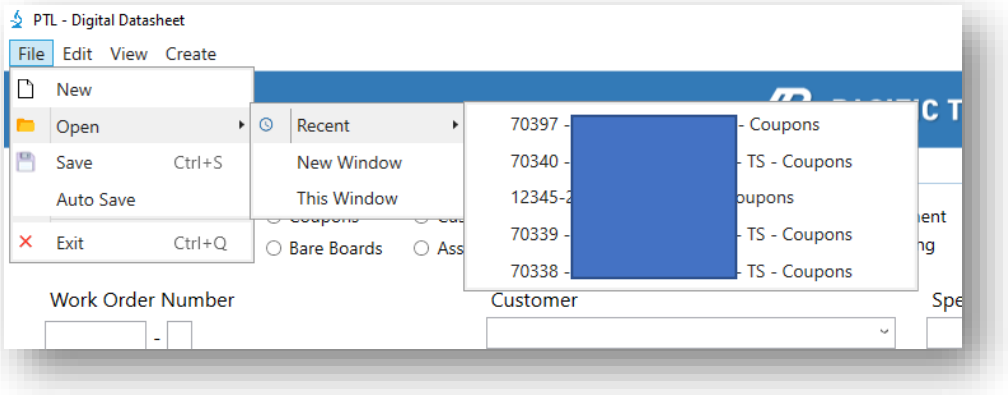

### 1.1.1 New

- Creates and opens a new empty job template window.

### 1.1.2 Open



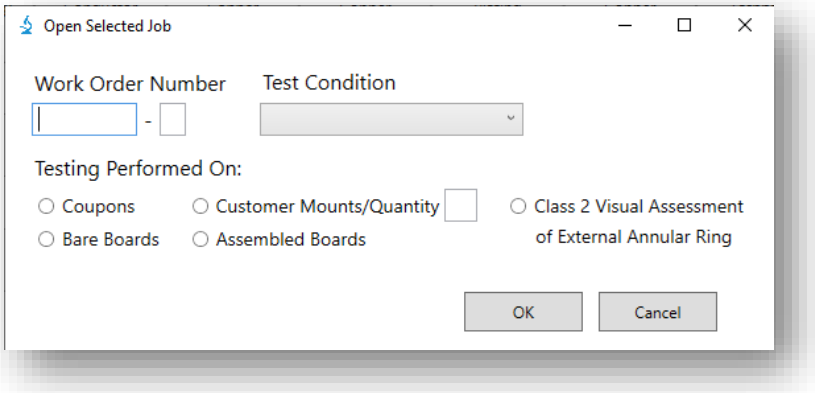

#### *1.1.2.1 Recent*




- Hovering the mouse over this option will show a list of the most recent jobs worked on (anything saved within the last 14 days).
    - Selecting one will open that job in the current window.

#### *1.1.2.2 New Window, This Window*

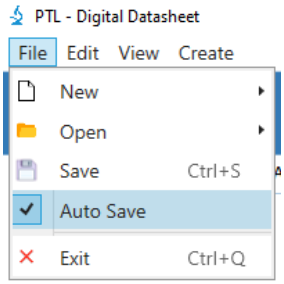
- Opens the “Open Job” window to select desired job to open (complete information in 4.1 Open Job Window section).



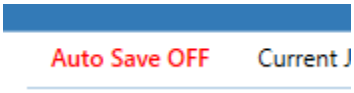
### 1.1.3 Save

- Save current job data.

### 1.1.4 Auto Save




- Selecting this option allows you to have your data automatically saved while measuring.
    - When selected, the automatic save occurs while the measurement zoom section is open and the user changes any information in the job and then moves to either the next or previous row or closes the zoom window.

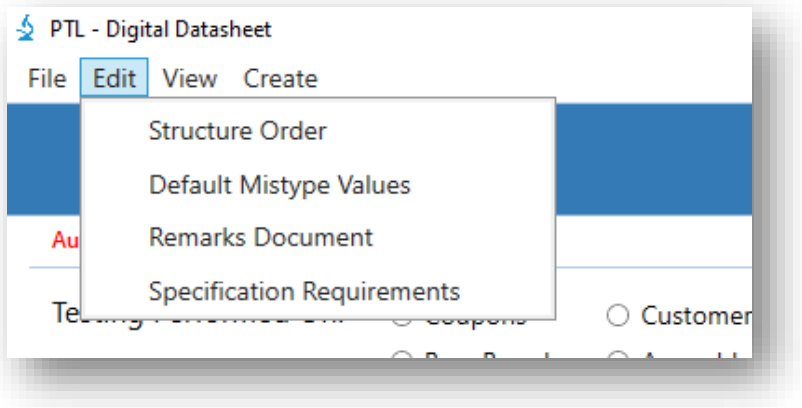



- There are two ways to see whether the Auto Save feature is on or off.
    - When it is off, there will be no checkmark within the menu next to “Auto Save” and the header directly above the form will display “Auto Save OFF” in red.
    - When it is on, there will be a checkmark within the menu next to “Auto Save” and the header directly above the form will display “Auto Save ON” in green.

### 1.1.5 Exit

- Closes job window.

## 1.2 Edit



### 1.2.1 Structure Order (IP)

### 1.2.2 Default Mistype Values

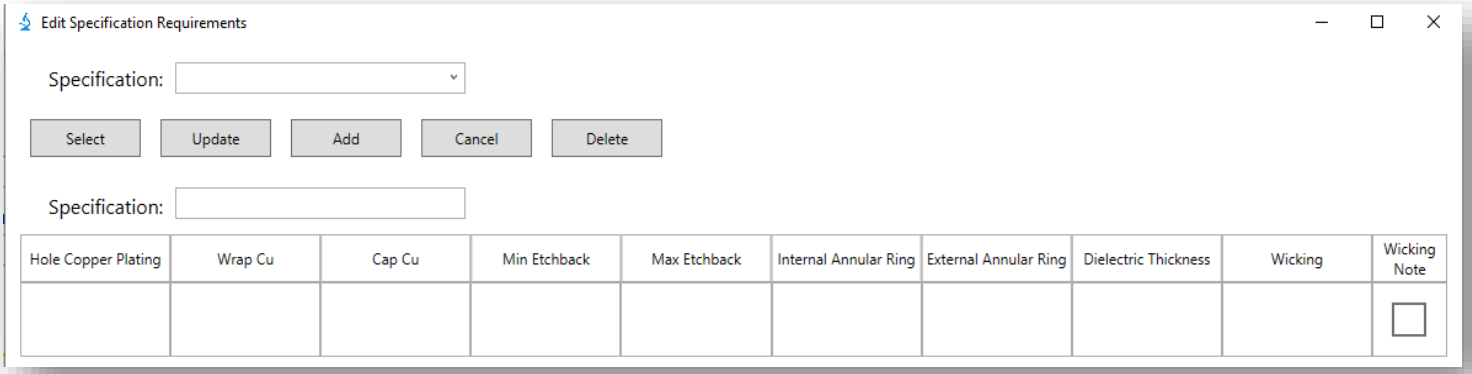
- Opens “Edit Mistype Values” window to update the default values used to check against any measurements and alert the user of a possible mistype (complete information in 4.3 Edit Mistype Values Window section).

### 1.2.3 Remarks Document (IP)

- Opens “Edit Remarks Document” window to update the remarks document.

### 1.2.4 Specification Requirements

- Opens “Edit Specification Requirements” window to update the specification requirements (complete information in 4.5 Edit Specification Requirements Window section).




## 1.3 View (IP)

### 1.3.1 Jobs (IP)

### 1.3.2 Notes

- Selecting the Notes menu option opens a window for the job notes section.
    - This section allows the user to add and manipulate any general notes for the current job (complete information in 4.6 Job Notes Window section).

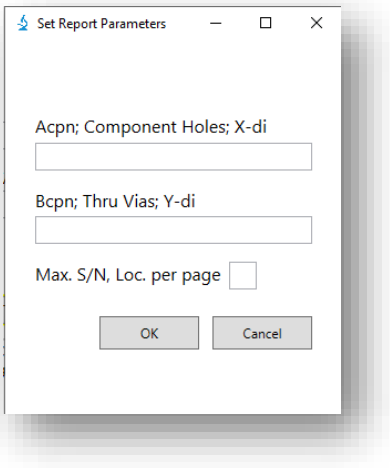
## 1.4 Create

### 1.4.1 Hard Copy

- Copies and formats current job data into a printable version of the datasheet.

### 1.4.2 Test Report

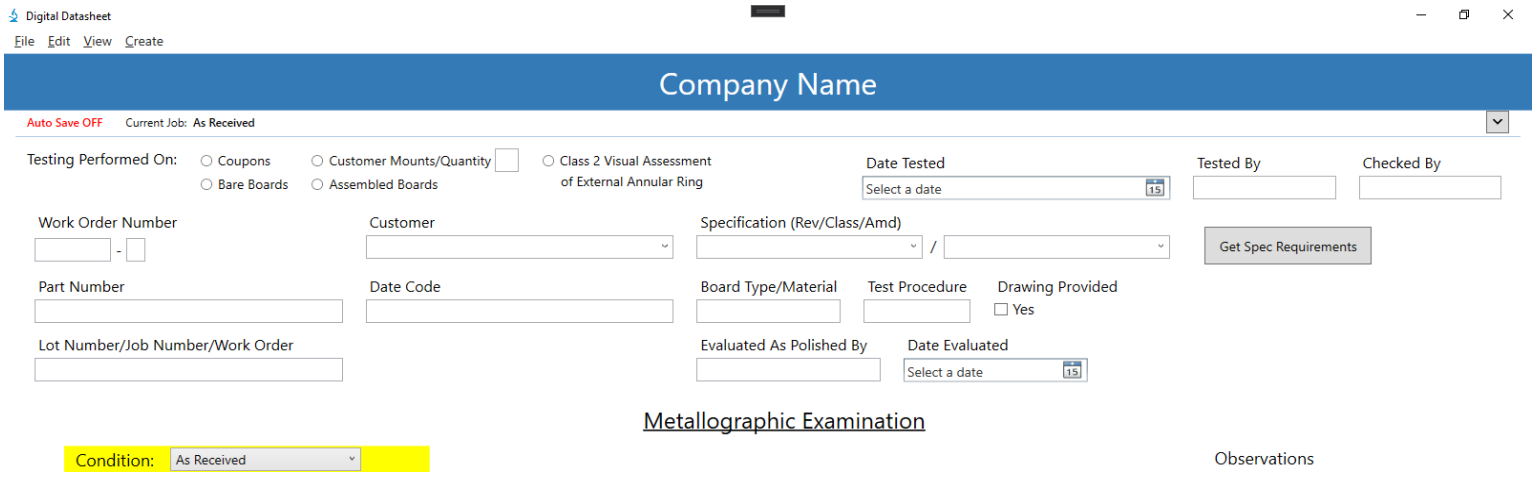
- Copies and formats current job data into final test report (data section only)



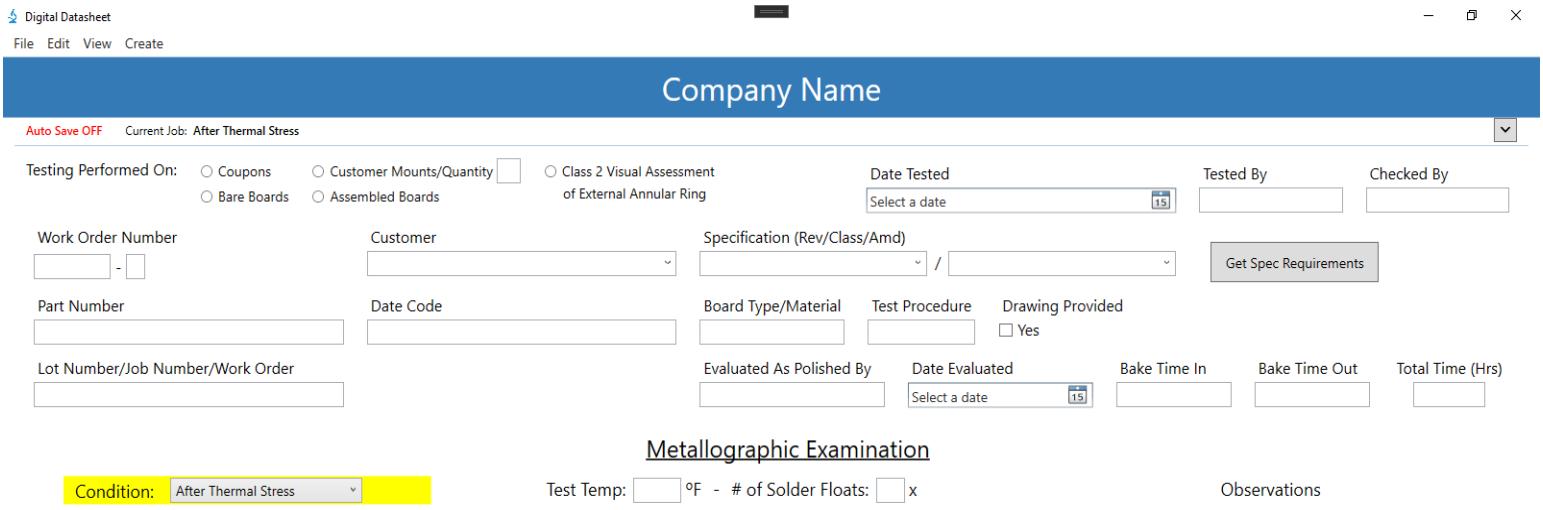

- If the current job has more than 6 serial numbers or multiple structures, the "Test Report Structure" window will open (complete information in 4.7 Test Report Structure Window section).
  - User will enter number of serial numbers per page and/or desired structure title format to display on final report.

# 2 Form

## 2.1 As Received

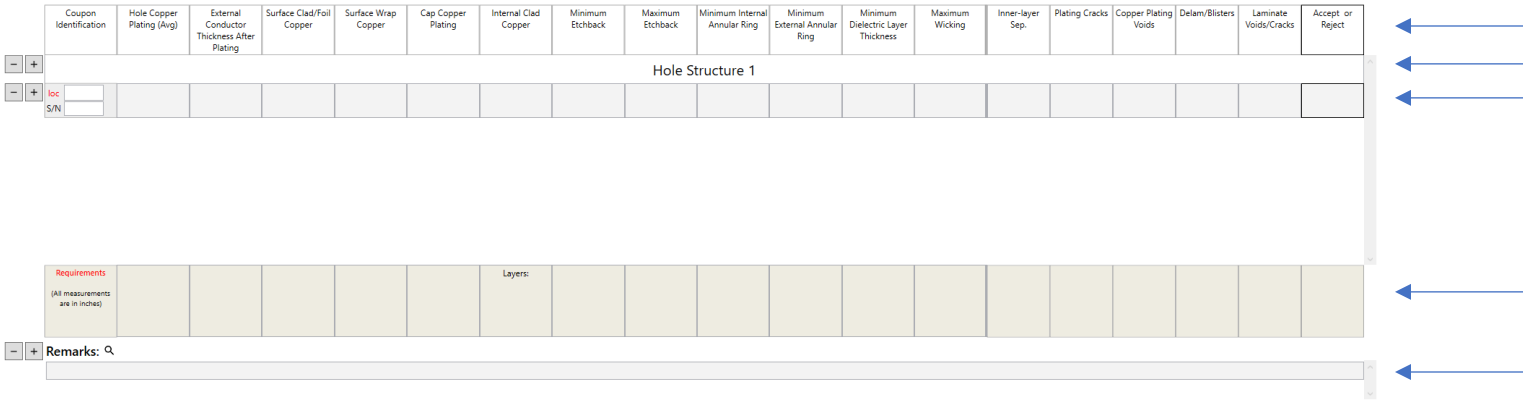


## 2.2 After Thermal Stress




- Contains same standard form fields as original hard copy datasheet.
- Changing the Test Condition to “After Thermal Stress” will reveal the thermal stress specific additional fields.
- Each job is made unique by three required form fields.
    - Work Order Number, Testing Performed On, & Test Condition.
        - At least these three fields must be filled to be able to save the job.
- “Get Spec Requirements” button:
    - Auto-fill requirements based on given specification(s). Complete details in Requirements section.
- The small arrow button on the top right directly above the form will toggle the form when clicked for more visibility of the measurement/observation section when recording data.
- Top left label above the form displays current job even when form is hidden.
    - Displays: Work Order Number, Testing Performed On, Customer, & Test Condition.
        - Label is updated as these fields are updated.

# 3 Examination




- Main components (top down):
  - Measurement & observation titles, structure title(s), recorded data (measurements/observations), requirements, remarks.

## 3.1 Structure Title(s)

- Replace default “Hole Structure #” with actual structure title.
  - Each structure title must be unique (no duplicates).
- Required format:
  - ex: B1cpn; Blind Vias; #1-3, 4-6; X-di
  - Each section of the complete structure title must be separated with a semicolon ‘;’.
  - Second part of the structure title must be the type of hole.
    - As in the previous example: Blind Vias
      - This is needed to corelate specific requirements to set structures (more info in requirement section).
- The two buttons, ‘minus’ and ‘plus’, are to add/remove structure titles from the recorded data section. Only the top structure title has the buttons.
  - Clicking the add button will add and new structure section underneath the last row of the currently last structure section followed by one blank row for recorded data.
  - Clicking the remove button removes sections from the bottom up (the user will be alerted and warned before continuing).
    - **NOTE**: This will remove the currently last structure section along with any recorded data for that section with it.
- If there are multiple structures, you can add as many sections as needed, enter all the serial numbers and locations for the first one, right click the structure title “add button” and select “Set to each structure.”
  - This will duplicate the complete section for the first structure and auto generate and auto fill the serial numbers and locations for the remaining structure sections to match the first.
  - You will be prompted with a warning question about continuing.

        - If you select 'Yes' the process will continue, if you select 'No' you will return as you were.
            - **NOTE**: Selecting 'Yes' will overwrite any serial numbers and locations you have outside of the first structure section.

## 3.2 Recorded Data

- Contains (left to right): add/remove buttons, coupon identification, measurement section, and observation section.

### 3.2.1 Coupon Identification

- This first field (furthest left) in each recorded data row.
- Contains fields for serial number and location.
    - Each row must contain at least a serial number.
- Within each unique structure section, you cannot have any duplicate serial number and location combinations.

### 3.2.2 Measurements

- Each measurement textbox has auto-formatting properties (these take affect when clicking the mouse outside of the textbox):
    - If you enter invalid text (i.e., random letters) it will create a red border.
    - Simply entering a whole number will place the decimal four places to the left for the standard entry.
        - To avoid this, entering the number as a decimal manually will allow you to determine the exact output you want to however many decimal places.
    - The background color will be set to the basic row color or yellow based on an accept/reject parameter set by the corelated requirement (same column).
- By right clicking a field, you will see a menu of selections.
    - Normal Background & Yellow Background are the first two.
        - Allows you to manually set the background if you need to avoid the autoformatting set by the specific requirement.
    - Add/Remove Note:
        - This allows you to toggle a small textbox in the upper-right corner of the measurement textbox to add any notes.
    - Zoom:
        - Creates a magnified set of measurement fields matching the row the menu item is selected in (complete information in 4.8 Measurement Zoom Window section).
- To separate multiple measurements within the same field, use the 'Enter' key.
- Adding 'N/A' or '*' to any measurement will automatically add that same value to every empty textbox in that same column, within that same structure section.

### 3.2.3 Observations

- Each observation textbox has auto-formatting properties (take effect when changing the text within the textbox):
    - The way they format are split between the individual observation fields and the 'Accept/Reject' field.
    - The individual observation fields can contain: '?', '*', 'A', and 'R'.
        - When setting any of these fields to R, the 'Accept/Reject' field for this row will also be set to R and the background color of both textboxes will be set to yellow.
    - The 'Accept/Reject' field can contain: '?', '*', 'A', 'A*', and 'R'.
        - When setting this field to A, every individual observation field within the same row will also be automatically set to A.
        - When setting this field to R, the background color of this textbox will be set to yellow.

## 3.3 Requirements

- While the specific requirements are added directly into each requirement textbox, there are general formats along with six specific formats in which they need to be entered to accurately corelate with the associated measurement field and correctly register a pass or fail.
- When you move the focus from any requirement, it will automatically check that requirement against every available measurement within the same column.
- When right-clicking a requirement textbox, you will have a menu with two options.
    - **Set to Structure**: 'Requirement Structure' window will open allowing you to set the current requirement based on provided structures (complete information in 3.3.6 Structure Requirement & 4.6 Requirement Structure Window sections).
    - **Combine/Separate Requirements**: This either combines the selected requirement with the one to its immediate right or divides it, depending on its current state (complete information in 3.3.7 Double Column Requirement section).

### 3.3.1 General Requirement Format

- To be able to register a pass/fail with the associated measurement, the requirement must have at least one decimal number (less than 1) and either a 'min' or a 'max' to make the correct comparison to the measurement.
- When needing additional requirements within the same textbox, use the 'Enter' key to separate requirements.
    - NOTE: Do not use the 'Enter' key to simply move to the next line. Any text on its own line will be treated as an individual requirement.

### 3.3.2 Single Measurement ⟹ Single Requirement

- With one measurement and one requirement, the measurement will be evaluated to the requirement in the same column based on the decimal value and min or max setting.

### 3.3.3 Single Measurement ⟹ Double Requirement

- With one measurement and two requirements, the measurement will be evaluated to each requirement (separated with the 'Enter' key) individually.
    - If the measurement fails from either requirement it is considered a reject.

### 3.3.4 Double Measurement ⟹ Single Requirement

- Here, both measurements (separated with the 'Enter' key) will be evaluated to the requirement.
    - If either measurement fails it is considered a reject.

### 3.3.5 Double Measurement ⟹ Double Requirement

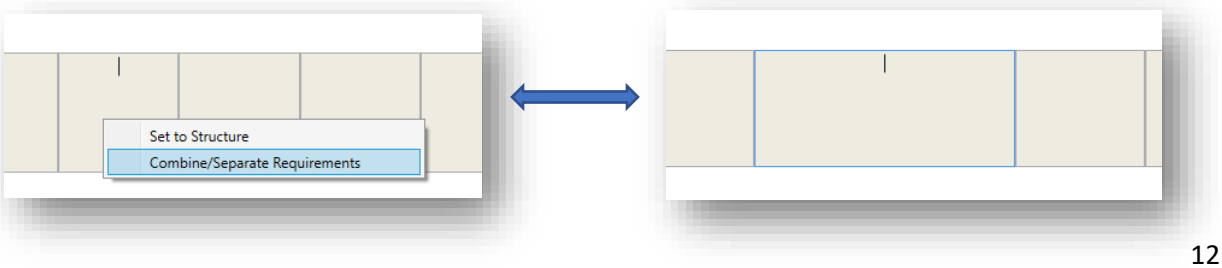
- With two measurements and two requirements, each measurement will be evaluated individually to the requirement matching the line the measurement is on.
    - If either measurement fails it is considered a reject.

### 3.3.6 Structure Requirement

- For a measurement to be evaluated by the correct requirement based on its hole structure, the requirement must be preceded by the hole-structure(s) matching each structure section.
    - You can do this manually by typing the structure exactly as it is written in the second part of the structure title section, followed by a colon and then the requirement.
    - You may also have the format set automatically by right clicking the requirement textbox, selecting "Set to Structure" and filling out the values in the pop-up window (complete information in 4.9 Requirement Structure Window section). Whichever method you choose, the format of the requirement will be the same and must match for any associated measurements to be evaluated correctly.

### 3.3.7 Double Column Requirement

- To stretch a requirement over a span of two columns, right click the requirement textbox and select "Combine/Separate Requirement" to toggle from one column or two based on current state.
    - To combine two requirement columns, right click the left requirement and select the option (the requirements are merged from left to right).
    - To separate, right click the current two-span column and select the option causing the requirement to split into its normal state.
- When the two columns are combined, the format of the written requirement remains the same, but will be compared to the addition of the two measurements over which the column spans.

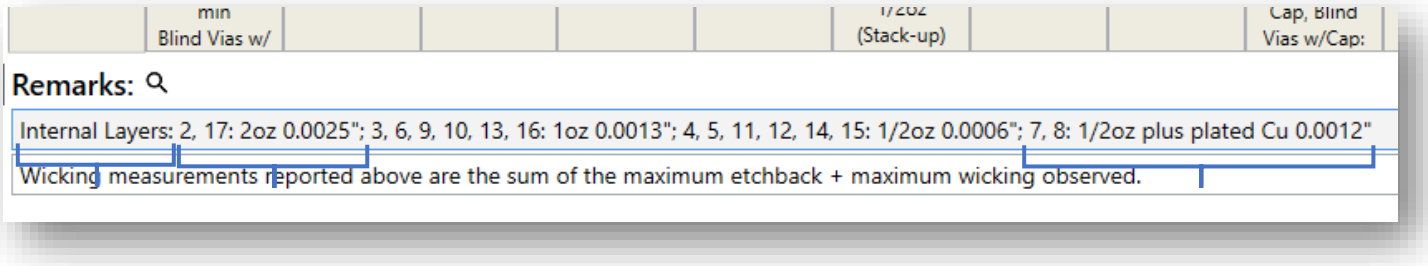


### 3.3.8 Auto-Fill Requirements

- In the form, next to the specification entries, the button “Get Spec Requirements” enables you to auto-fill your requirements based on the specifications selected.
    - When you click the button, any requirements you have available (currently empty) will initially be filled with the requirements from the first specification entered. If there are any requirements still available (currently empty), they will then be filled by the second specification entered (if a second one was given).
- To use the auto-fill functionality, the specification must be selected from the dropdown items given and the first specification must be given. Even if there is only one specification provided from the job, it must be entered into the datasheet in the first entry.
- NOTE: Some of the requirements provided by the specifications have multiple options, therefore the full set of possible values will be given leaving it to the user to decern between them and keep only what is necessary. If there are any updates you would like to make with the requirements given, or any specifications that need to be added, this can be done using the “Edit Specification Requirements” window (complete information in 4.5 Edit Specification Requirements section).

## 3.4 Remarks

- The Remarks section contains add/remove buttons, a search icon, and however many needed fields for entering the remarks (none initially).
- To add a remark to the current job, the add button will create an empty textbox directly after the current last one to enter your remark.
    - After adding a remark, you must enter some text to be able to add a new remark (if the last remark is still empty, the add button will not do anything).
- To remove a remark, click the remove button.
    - This will delete the last remark available.
- Clicking on the search icon will open the “Remarks Document” window (Complete details in 4.10 Remarks Document Window section).
    - This allows you to use the remarks documentation to autofill the next available remark with some entry in the document.
- There is a specific format to follow when you need to add the set of internal layers within the remarks section. This format is necessary when automatically generating the test report data tables for the internal layers section to be created properly.




    - The remark must begin with **Internal Layers:**

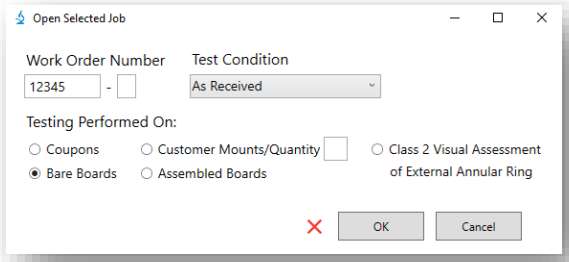
- The next sections describing the set of layers must be in the format of – layer numbers, colon, layer weight, layer measurement, semi-colon (this is only needed to separate layer sections, it is not needed for the last set)
  - Example: **2-4, 7, 8, 11-13: 1oz 0.0012";**

# 4 Separate Windows

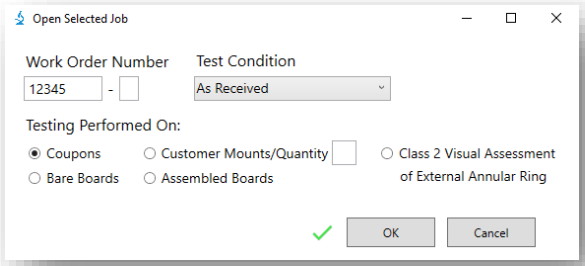
## 4.1 Open Job Window

- This window provides the three sections you must input information to find and open a previous job. Each section must be filled to find the job and if there is a match, next to the "Ok" button, you will see a green checkmark ✓ , otherwise you will see a red X.

Open Job window when input values are not a match for a previously saved job.




Open Job window when the input values are a match for a previously saved job.




- When you click the "OK" button, all the data, from the job you selected from the most recent save will be entered into the datasheet looking just as it did during that last save. Selecting the "Cancel" button will close this window and return you to the datasheet as if nothing happened.

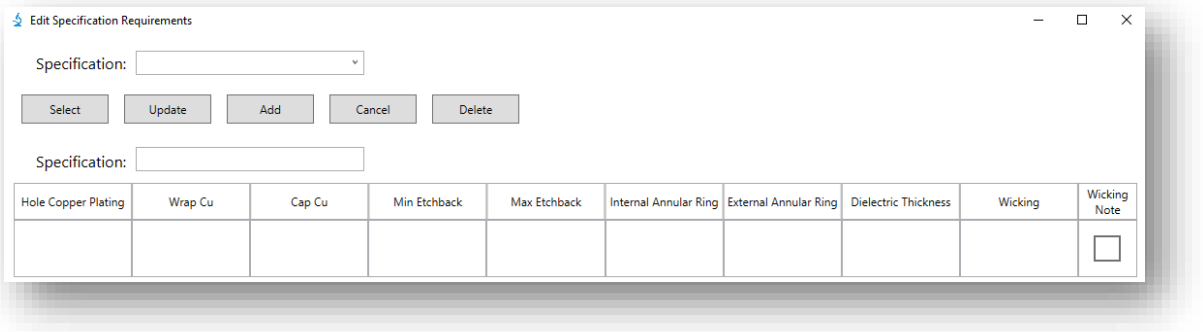
## 4.2 Edit Structure Order Window (IP)

## 4.3 Edit Mistype Values Window (IP)

## 4.4 Edit Remarks Document Window (IP)

## 4.5 Edit Specification Requirements Window

- This window allows you to update, add, or remove any of the provided specifications and their associated requirements.




- After you have made some edit to any specification, you will be notified if the operation completed successfully, or if there was any issue during the process.

### 4.5.1 Update Specification

- To update a given spec, use the “Specification” dropdown to find and choose your desired spec to update and click the “Select” button.
- This will add the spec to the “Specification” textbox and any associated requirements will be added directly underneath to the appropriate requirement textbox.
- You can edit the text within any of populated requirements or add a new requirement to an empty textbox. When you are satisfied with your changes click the “Update” button and your changes will be saved.

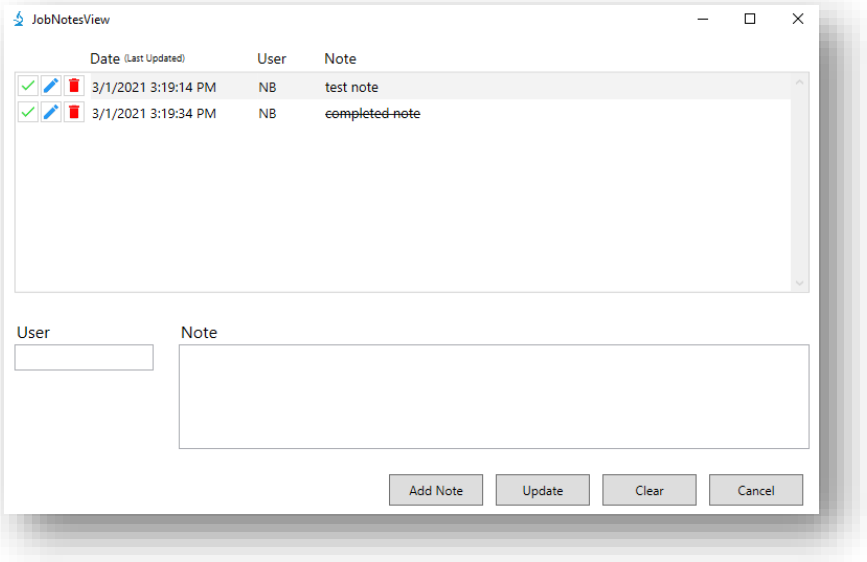
### 4.5.2 Add Specification

- To add a new spec, type the name of the specification in the “Specification” textbox, add in any requirements where appropriate, and click the “Add” button.

### 4.5.3 Delete Specification

- To remove a given spec, use the “Specification” dropdown to find and choose your desired spec to remove and click the “Delete” button.

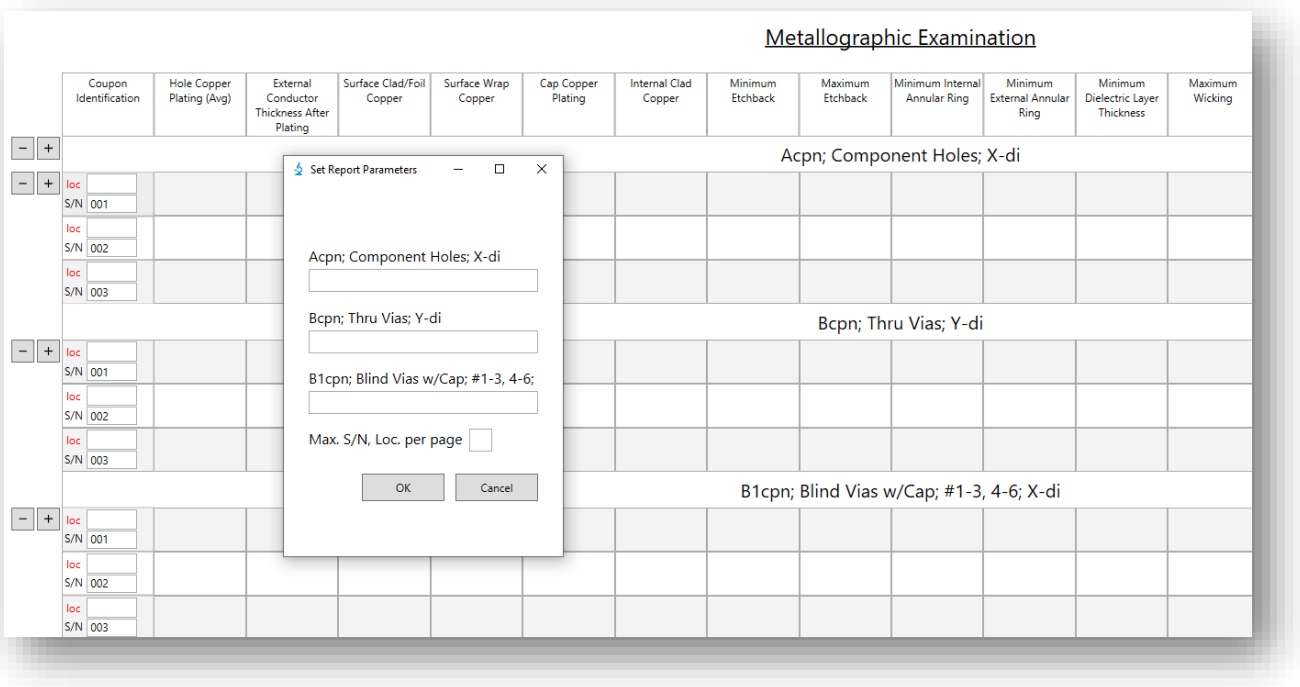
## 4.6 Job Notes Window




- This widow allows the user to add any notes regarding the current job.
    - The list of notes displays the date the note was last updated, who entered the note, and the note itself.
    - The user can edit the note by selecting the blue pencil icon, delete the note by selecting the red trash icon, or set the note as completed by selecting the green checkmark icon.
        - Anytime the user makes one of these updates to any note, the date for that note will automatically be updated and set to the date/time that the note was updated.
            - Because the date is automatically updated, to see the initial date the note was added, hover the mouse cursor over the note and you will see a small text section displaying the add date.
        - When the user selects the icon to “complete” the note, you will know the note has been marked completed as a line will be drawn through the entire text of the note.
            - To undo this simply select the complete icon again and the line will be removed.
        - Selecting the delete icon will permanently remove the note from the job. A warning will pop up informing you of what will happen if you choose to continue.

## 4.7 Test Report Structure Window

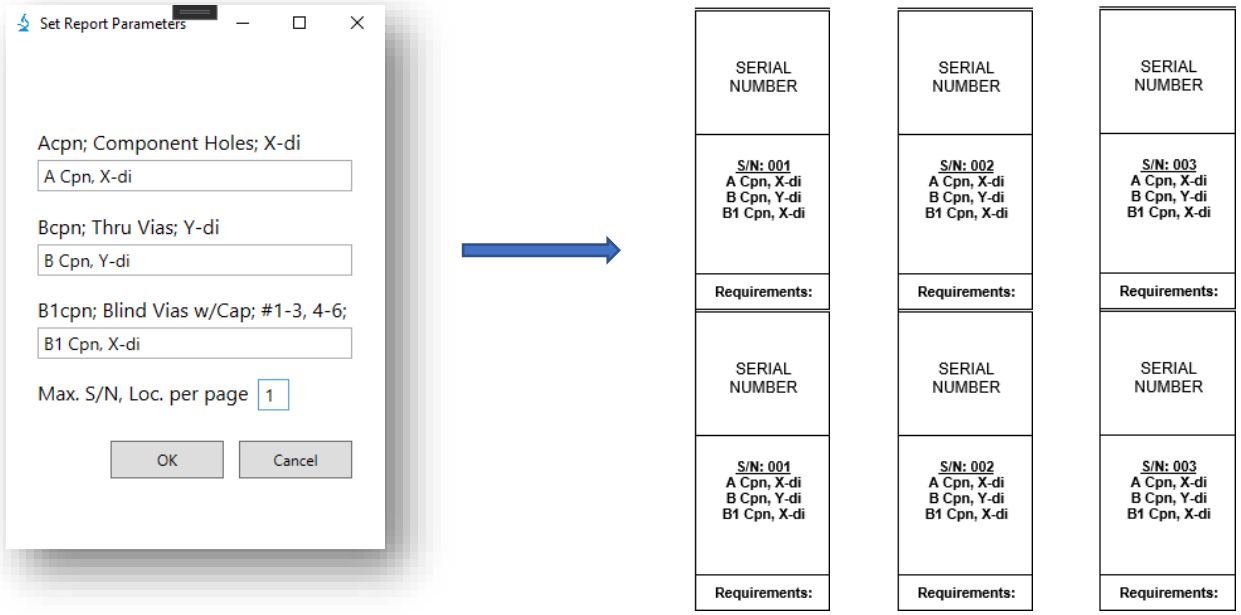
- Once you have finished the examination and the datasheet is complete, you can then transfer and format the data into the final test report. If the current job contains only one structure and is six serial number or less, the data from the job will be structured into the test report automatically; however, if there are multiple structures or more than six serial numbers, the “Test Report Structure” window will open, and you must enter the information to set how the data will be structured.




- In this example there are three unique structures and three serial numbers. When the “Test Report Structure” window opens, you will see a list of available structures with textboxes directly underneath each one and a textbox for the number of serial numbers/locations to add per page on the test report.
    - The value you give in the textbox for each structure is exactly how it will be labeled on the test report.
    - The number entered for serial number/location per page will be how the data is split up on the test report.
        - NOTE: This number is NOT lines of measurements for each page in the test report. Because on the test report the data for each structure is grouped by its serial number/location, every unique serial number/location will have as many rows to it as there are structures. In this example, each serial number will have three rows, so entering ‘1’ in the textbox would display three rows of measurements.

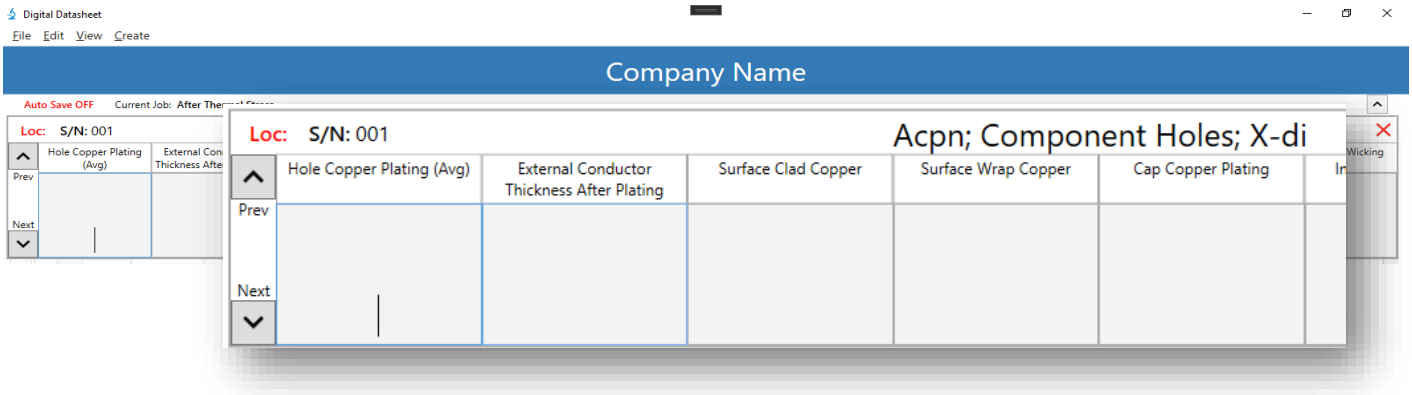
Here, you have entered the data for each structure and list having one S/N per page.

The structures here are labeled as entered in the form and each page has one S/N with each structure underneath it.




## 4.8 Measurement Zoom Window

- To better view and move through the current data row being worked on, you can use the "Measurement Zoom" functionality.
- To access, right-click any column within the data row (SN/location) being worked on and select the "Zoom" option.
    - A magnified row with the measurement fields will open at the top of the screen mirroring the row in which the option was selected.
- The zoom window has textboxes for each measurement, labels at the top indicating the current structure, serial number, and location currently being worked on, and a set of buttons on the left labeled "Prev" and "Next" to navigate to the previous or next row of measurements in the zoom window.



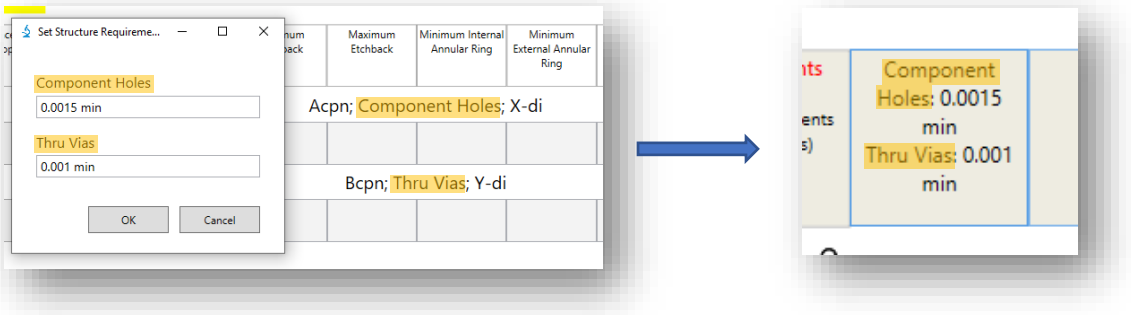
- If you right-click a textbox in the zoom window, you can use the same menu items you would with the normal data row (Normal/Yellow Background, Add/Remove Note).

## 4.9 Requirement Structure Window

- Right clicking a requirement and selecting “Set to structure” option allows you to use the “Requirement Structure” window to enter a specific requirement based on each structure listed.

After opening structure requirement window, enter requirement for each listed structure.

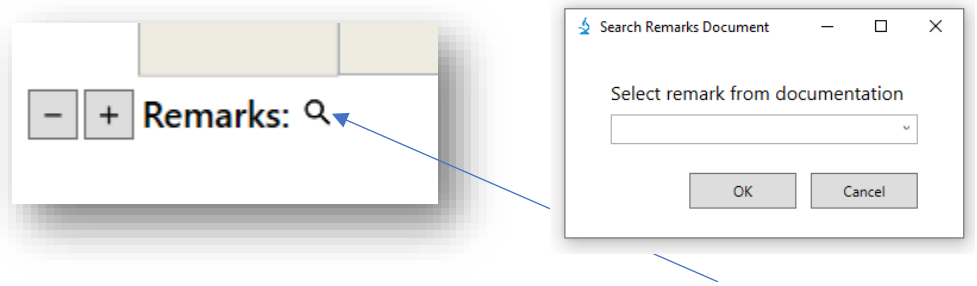
Completed structure requirement format.



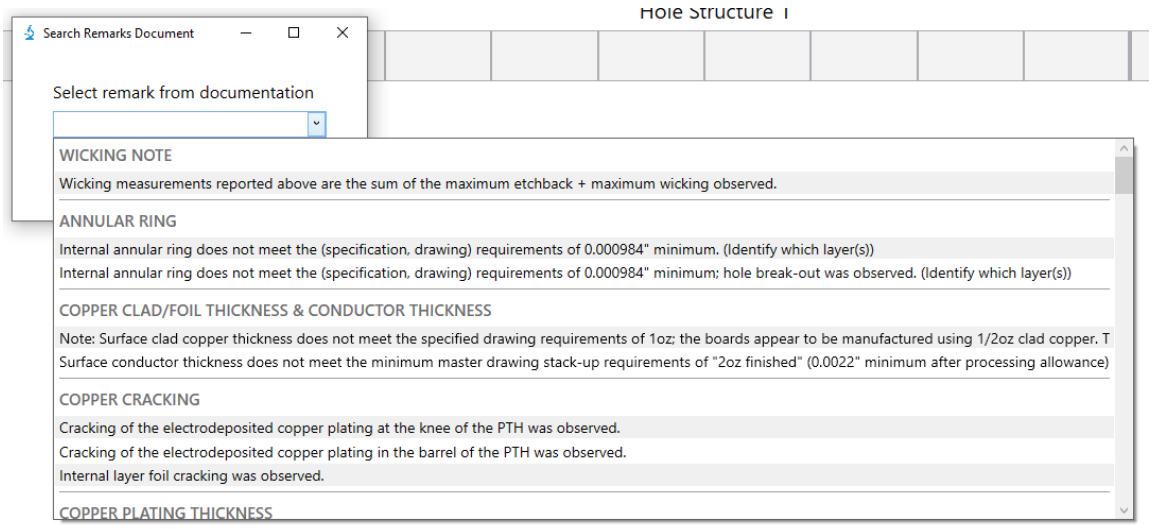

- The “Requirement Structure” window lists each structure with a textbox directly underneath allowing you to simply put the appropriate requirement for each given structure.
    - The structures on this window are taken from the second section of the structure titles on the datasheet and labeled the exact same way in the actual requirement section (the structures in each area of this process are highlighted to show where they come from and where they go).
    - If more than one structure has the same requirement, the format will still be the same, they will simply just be comma separated within the requirement section.

## 4.10 Remarks Document Window

- When adding remarks to the current job, for a specific set of remarks, you can use the “Remarks Document” window to search through the prewritten list and have them added to the remarks section automatically.




- To open the “Remarks Document” window, click the search icon directly to the right of the “Remarks” label.




- The window will have a single dropdown selection which lists all available prewritten remarks. When you find the one you are looking for, select the remark and click “Ok.”
    - The selected remark will automatically be added to the last available empty remark slot. If there are none available, it will create one and add it there.
    - NOTE: Most of the remarks are prepopulated with example data, like specifications and measurements. These are just fillers and are not meant to be applied directly to the job you are working on. Make sure to adjust these values before submitting the job.