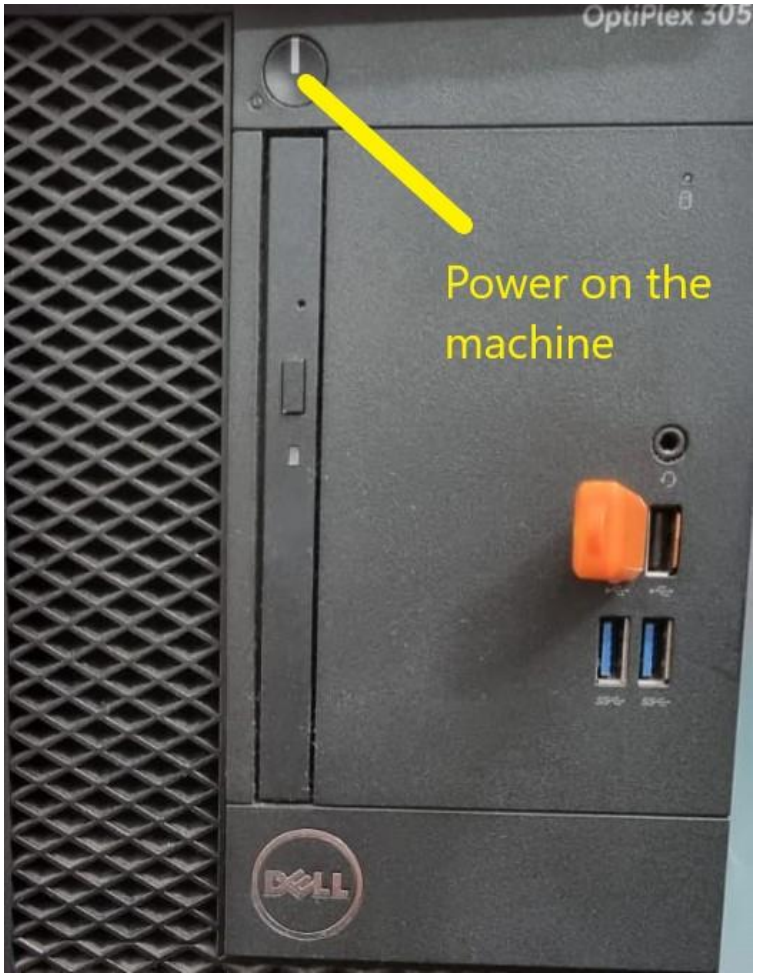
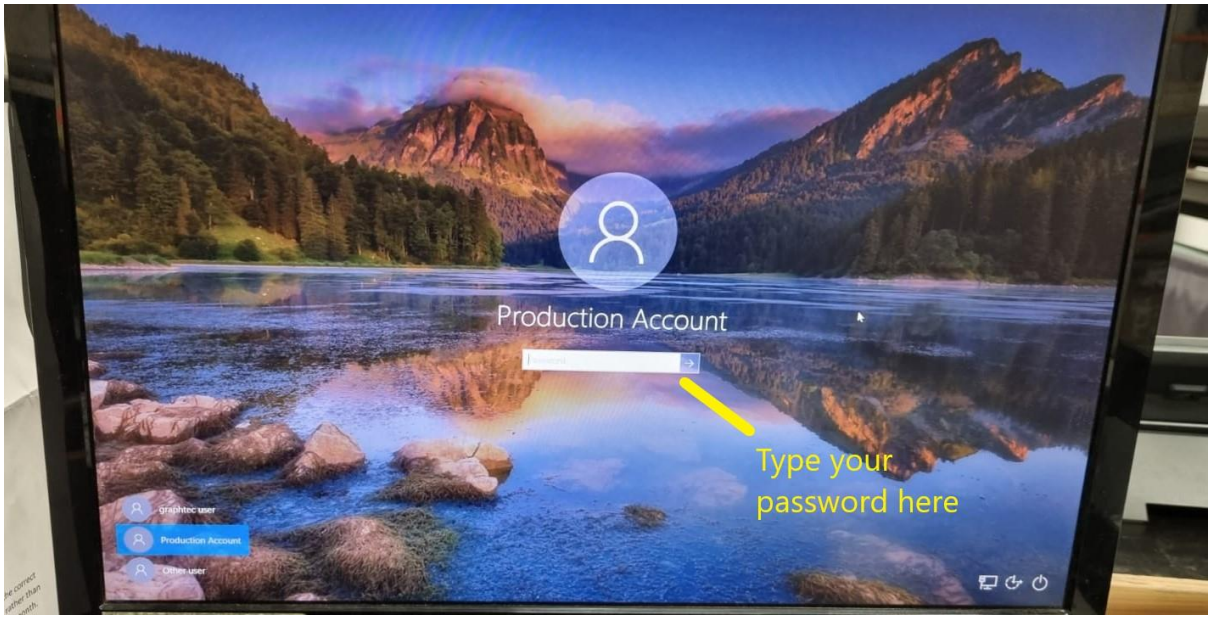
Materials Required:

- Nesting station (allocated computer for nesting)
- CorelDraw
- CutFab
- Access to the server
- Pen and notepad

Start up the computer.

By pressing the “power on” button, the computer will turn on and you will see the welcome screen.

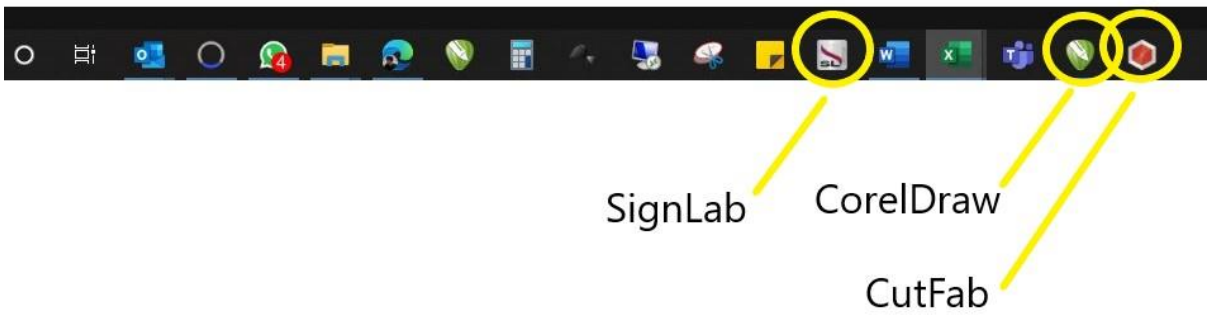




On the welcome screen, under “username”, type Production, which is the account you will be using for nesting.

You will be provided with the password by your supervisor, this is changed regularly for security reasons.

Once you logged into the computer, start by opening CorelDraw, SignLab and CutFab. These can be found at the bottom of the screen, on the taskbar.



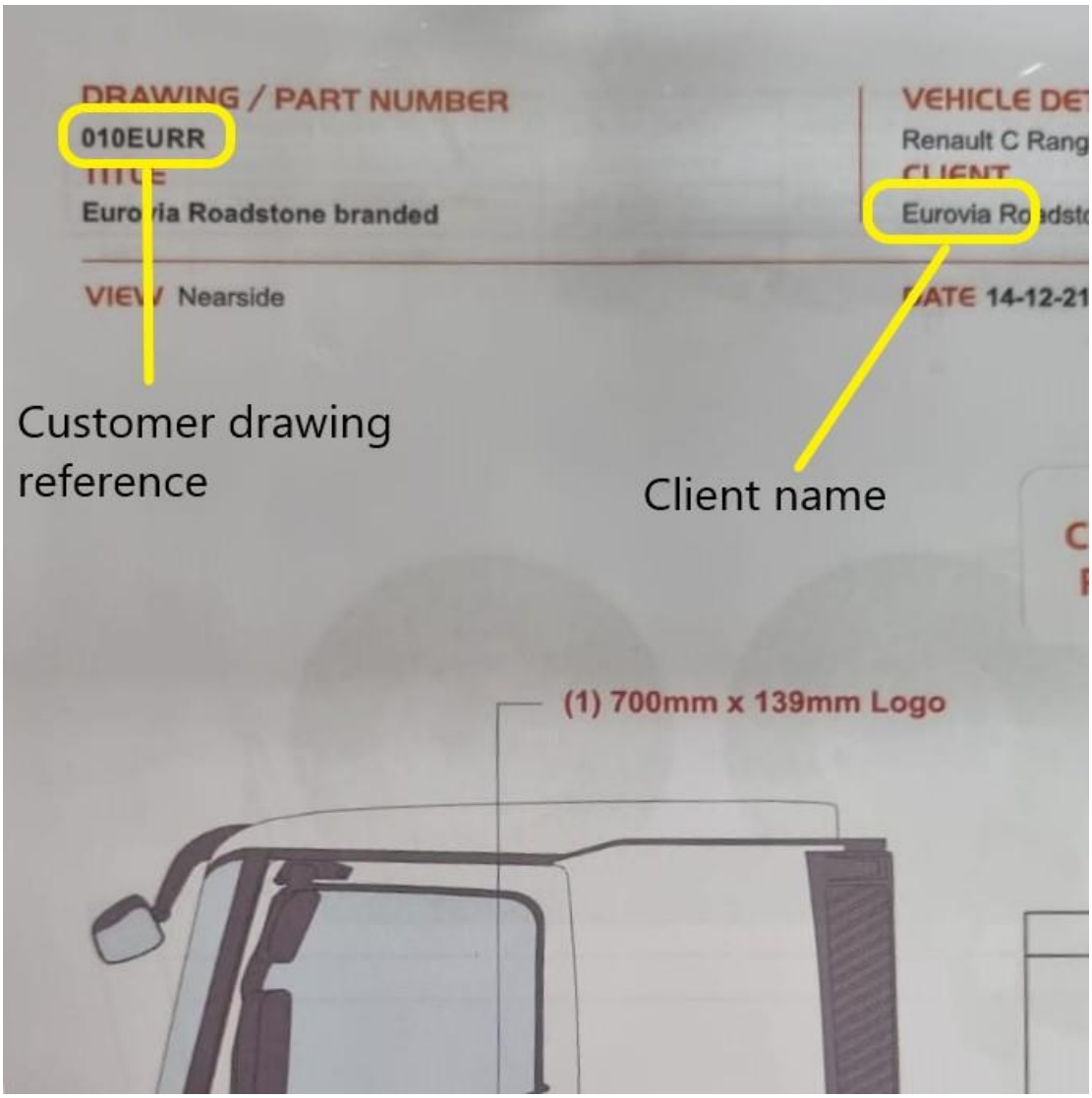
After opening all the software needed, you can start nesting.

Pick a job that needs nesting from the nesting tray and review the job bag (for how to review and check job bags, see WI No …)

After finding the quantity needed and the drawing reference (part number) of that job, navigate to the file location on our server (for locations see below) and open the drawing reference data file. The drawing reference data file will have the extension .cdr (CorelDraw) or .cdl (SignLab) .

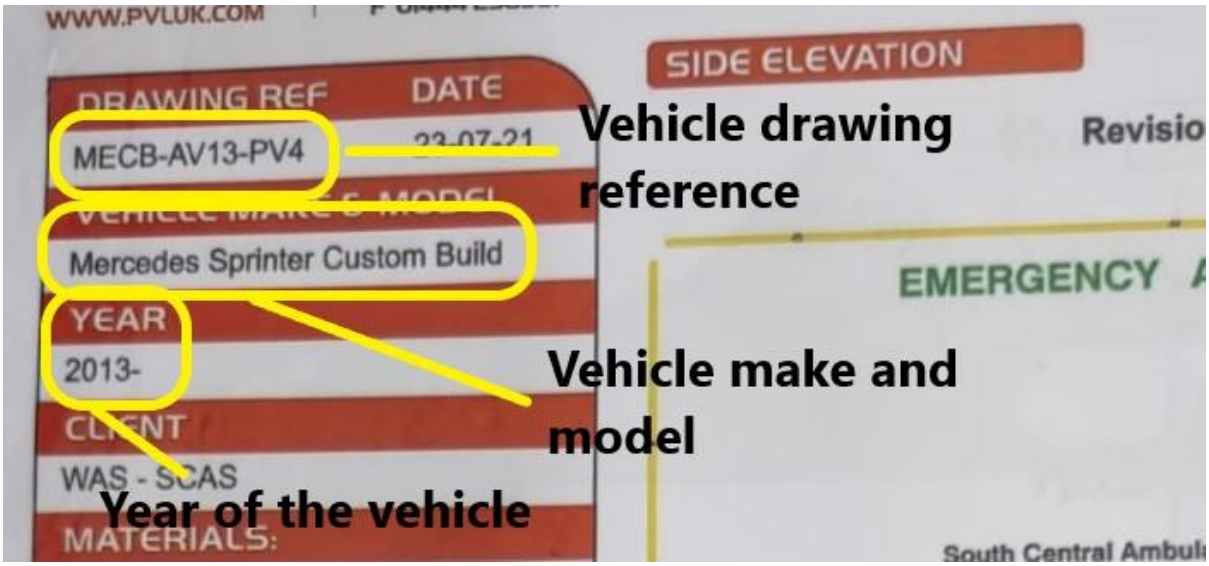
There are 3 types of drawing references:

1. **Customer Drawing Reference**



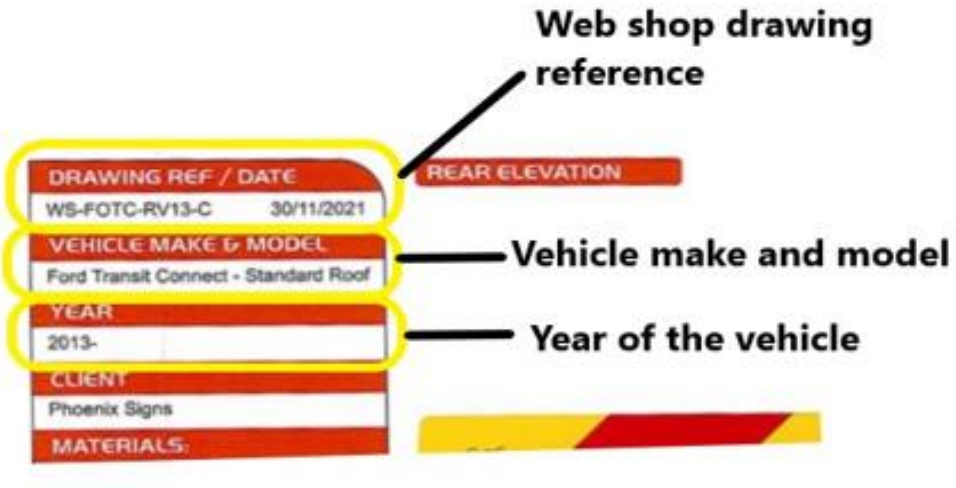
The above picture is a customer drawing reference. We can tell this by the structure of the part number. In this case 010 is the drawing number and EURR is short for Eurovia Roadstone. The data for drawing references with this structure can be found in W:\Vehicle Libraries_Text_&_Data_files.

2. Vehicle Drawing Reference



The above picture is a vehicle drawing reference. In this case, the drawing reference is MECB-AV13-PV4, where ME stand for Mercedes, CB stands for custom cab, A means full battenburg, V stands for Van and 13 stands for the year of the vehicle. The PV4 is just a code given by the design team for easier storage. The data for drawings with this structure can be found in W:\Vehicle Libraries\Vehicle Library New.

3. Web Shop Drawing Reference



The above picture is a Web Shop drawing reference. The main difference between the web shop drawing and the vehicle drawing is that the web shop one starts with WS, for WebShop and follows with the vehicle details, in this case FO for Ford, T for Transit, C for Connect, RV for Rear Van and

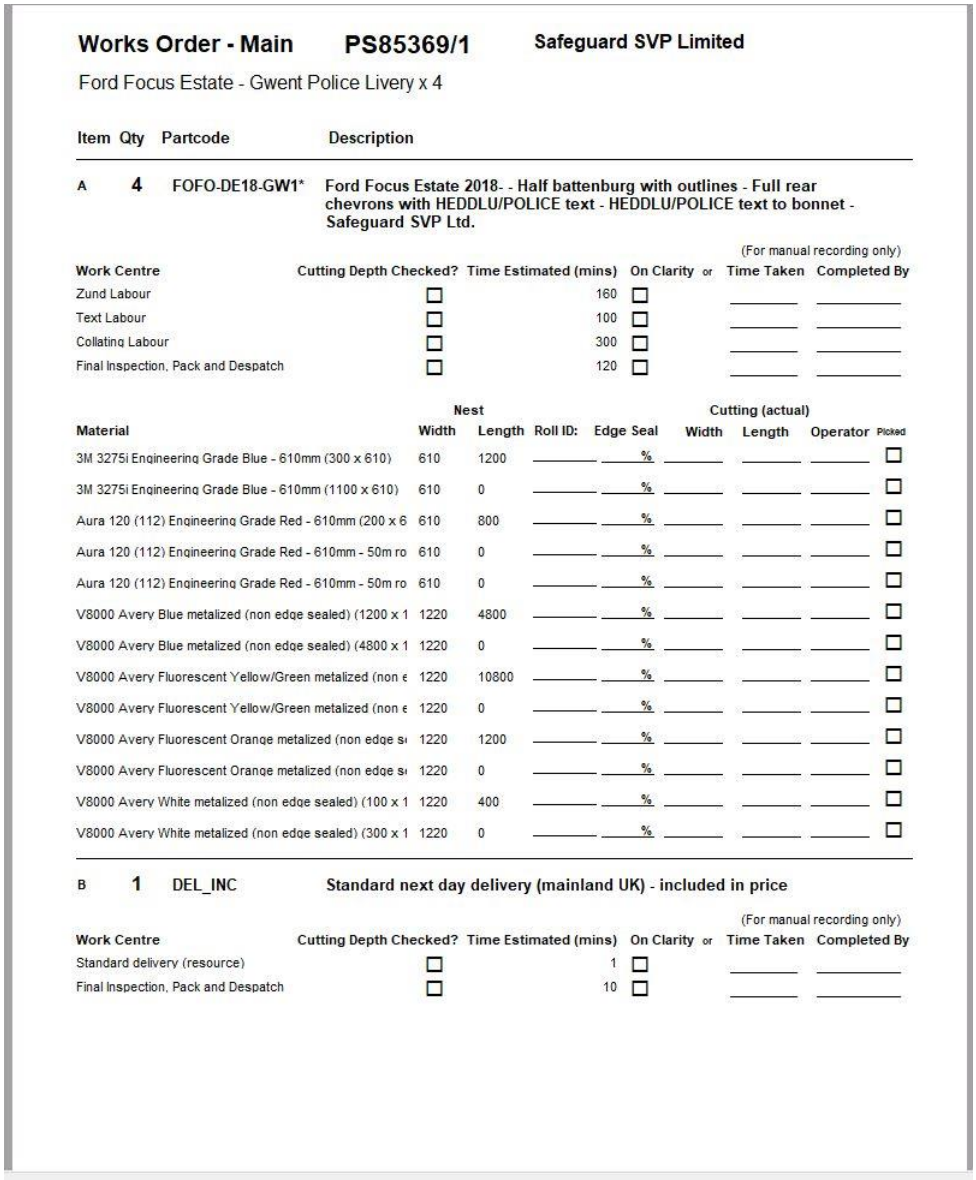
number 13 telling us the year of the vehicle. The letter C at the end tells us the coverage of that rear chevron.

When you are in the folder with the data and drawing reference needed, first have a look to see if there is an existing nest that matches the requirements of that job i.e., quantity, same material, same coverage.

If there isn't an existing nest matching the job, we need to create one.

The steps you need to follow are:

1) Take a job bag which needs nesting and review it. It is best to take the Bill of Materials sheet out as this tells you the quantity needed, the drawing reference and what materials are within the job.



Works Order - Main **PS85369/1** **Safeguard SVP Limited**

Ford Focus Estate - Gwent Police Livery x 4

Item	Qty	Partcode	Description
A	4	FOFO-DE18-GW1*	Ford Focus Estate 2018- - Half battenburg with outlines - Full rear chevrons with HEDDLU/POLICE text - HEDDLU/POLICE text to bonnet - Safeguard SVP Ltd.

Work Centre	Cutting Depth Checked?	Time Estimated (mins)	On Clarity	or	Time Taken (For manual recording only)	Completed By
Zund Labour	☐	160	☐			
Text Labour	☐	100	☐			
Collating Labour	☐	300	☐			
Final Inspection, Pack and Despatch	☐	120	☐			

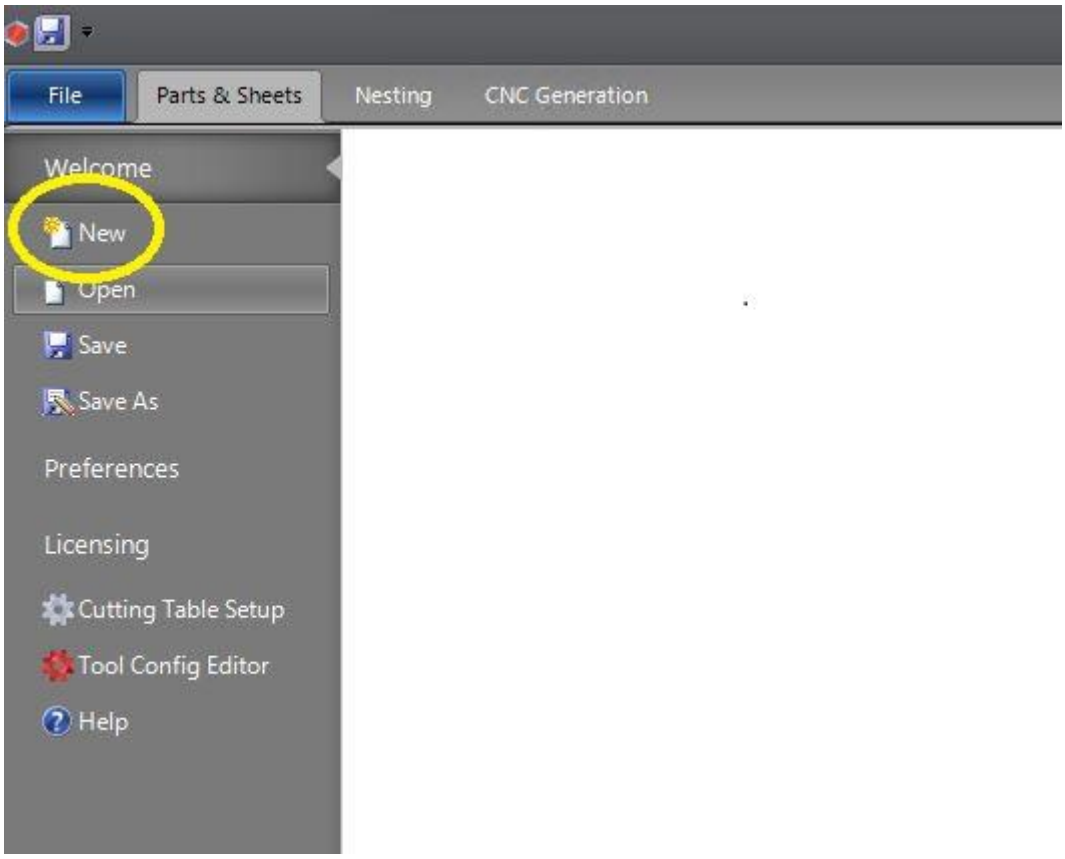
Material	Nest Width	Nest Length	Roll ID:	Edge Seal	Cutting (actual) Width	Cutting (actual) Length	Operator	Picked
3M 3275i Engineering Grade Blue - 610mm (300 x 610)	610	1200		%				☐
3M 3275i Engineering Grade Blue - 610mm (1100 x 610)	610	0		%				☐
Aura 120 (112) Engineering Grade Red - 610mm (200 x 6	610	800		%				☐
Aura 120 (112) Engineering Grade Red - 610mm - 50m ro	610	0		%				☐
Aura 120 (112) Engineering Grade Red - 610mm - 50m ro	610	0		%				☐
V8000 Avery Blue metalized (non edge sealed) (1200 x 1	1220	4800		%				☐
V8000 Avery Blue metalized (non edge sealed) (4800 x 1	1220	0		%				☐
V8000 Avery Fluorescent Yellow/Green metalized (non e	1220	10800		%				☐
V8000 Avery Fluorescent Yellow/Green metalized (non e	1220	0		%				☐
V8000 Avery Fluorescent Orange metalized (non edge se	1220	1200		%				☐
V8000 Avery Fluorescent Orange metalized (non edge se	1220	0		%				☐
V8000 Avery White metalized (non edge sealed) (100 x 1	1220	400		%				☐
V8000 Avery White metalized (non edge sealed) (300 x 1	1220	0		%				☐

Item	Qty	Partcode	Description
B	1	DEL_INC	Standard next day delivery (mainland UK) - included in price

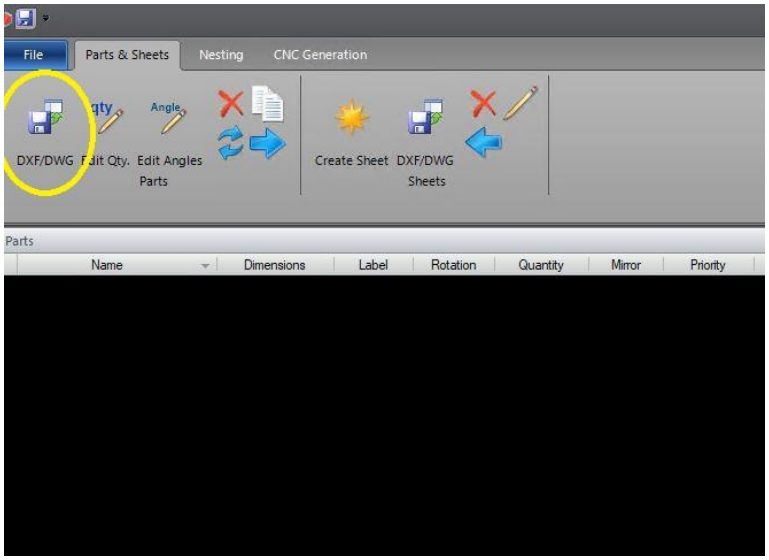
Work Centre	Cutting Depth Checked?	Time Estimated (mins)	On Clarity	or	Time Taken (For manual recording only)	Completed By
Standard delivery (resource)	☐	1	☐			
Final Inspection, Pack and Despatch	☐	10	☐			

Approved By:

2) Now that you know the drawing reference, go to CutFab, press on “New”. This means that you want to create a NEW nest.

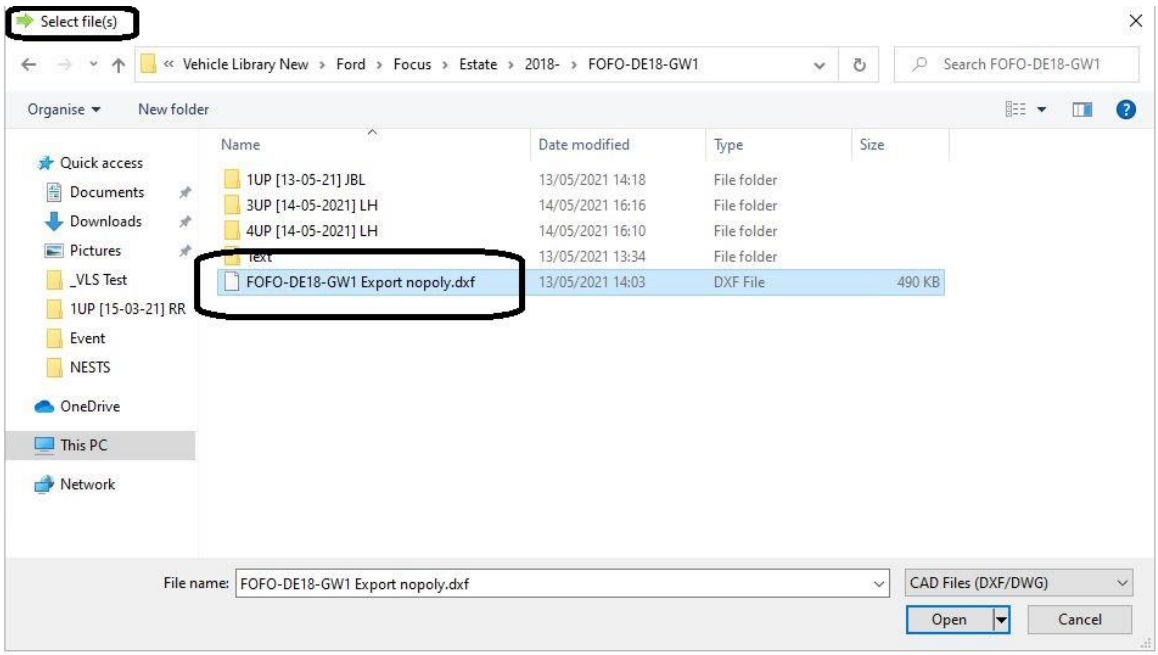


3) Now press on DXF/DWG. These are extensions we use in our design department for nesting. At this stage we do not use any of the other options within this menu.



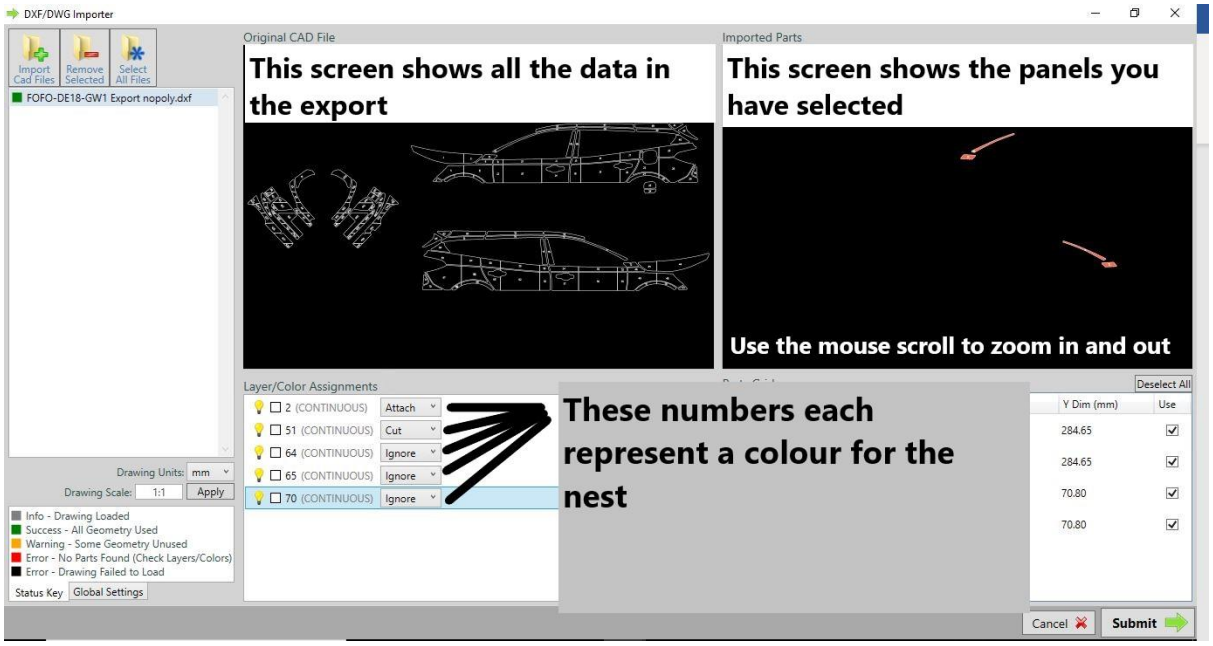
Approved By:

4) After clicking on DXF/DWG, a window will appear asking you to select a file. You need to navigate to the data matching the drawing reference of the job you want to nest and double click the file with .dxf at the end.



5) Following the above steps will bring you to the export menu (see picture below), where you will attach a tool to the colour you need to nest.

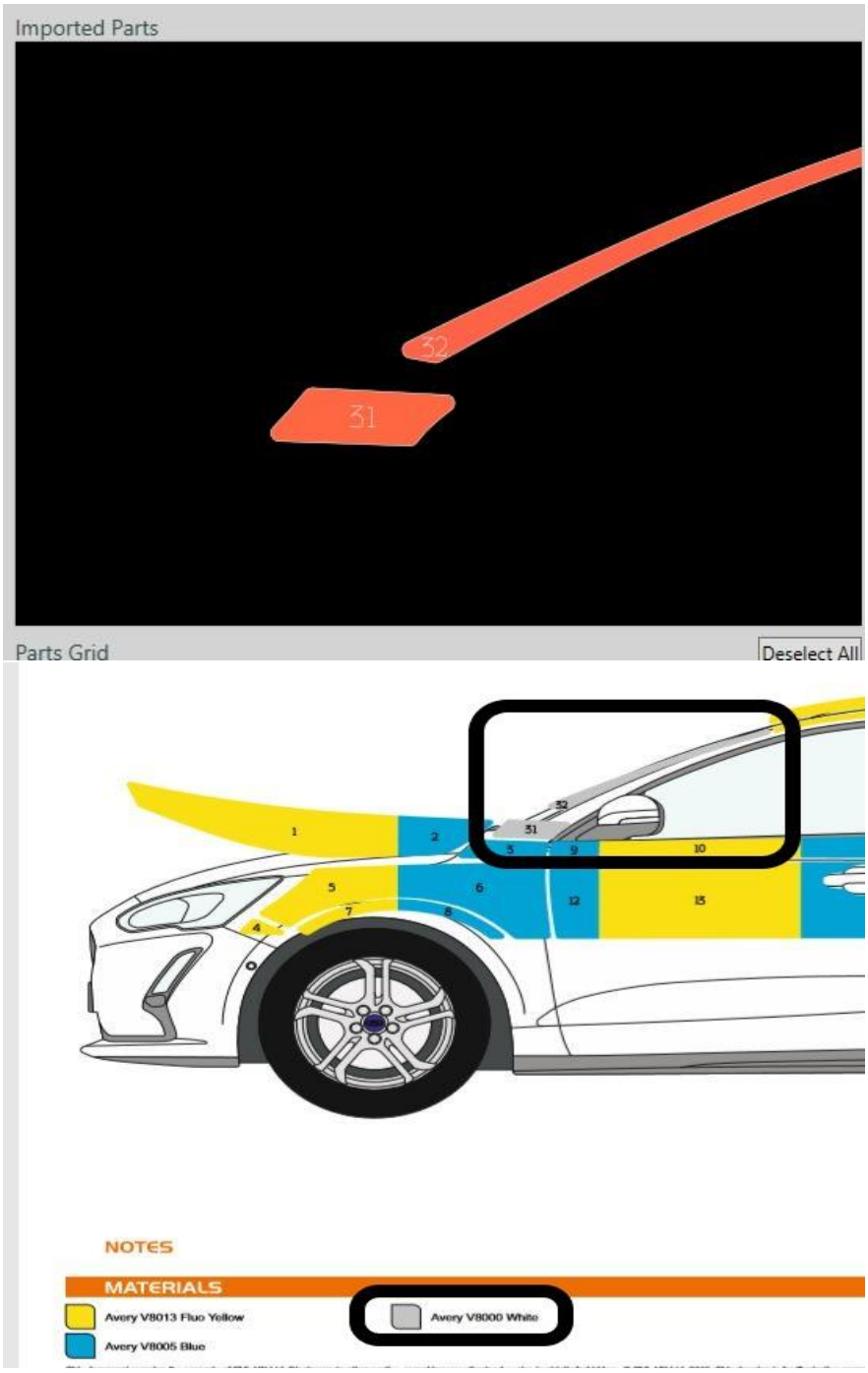
To do this, click the menu on the right of a colour number and select cut. After you have selected a colour as cut, it will show it on the right screen so you can tell what colour that is.



Approved By:

In this case colour number 2 is the number for the panels identification. In the above picture we can see that I have assigned colour number 2 as attach and colour number 51 as Cut. We do this because we want the numbers to be drawn on a colour so they can be easily identified when they are collated and fitted.

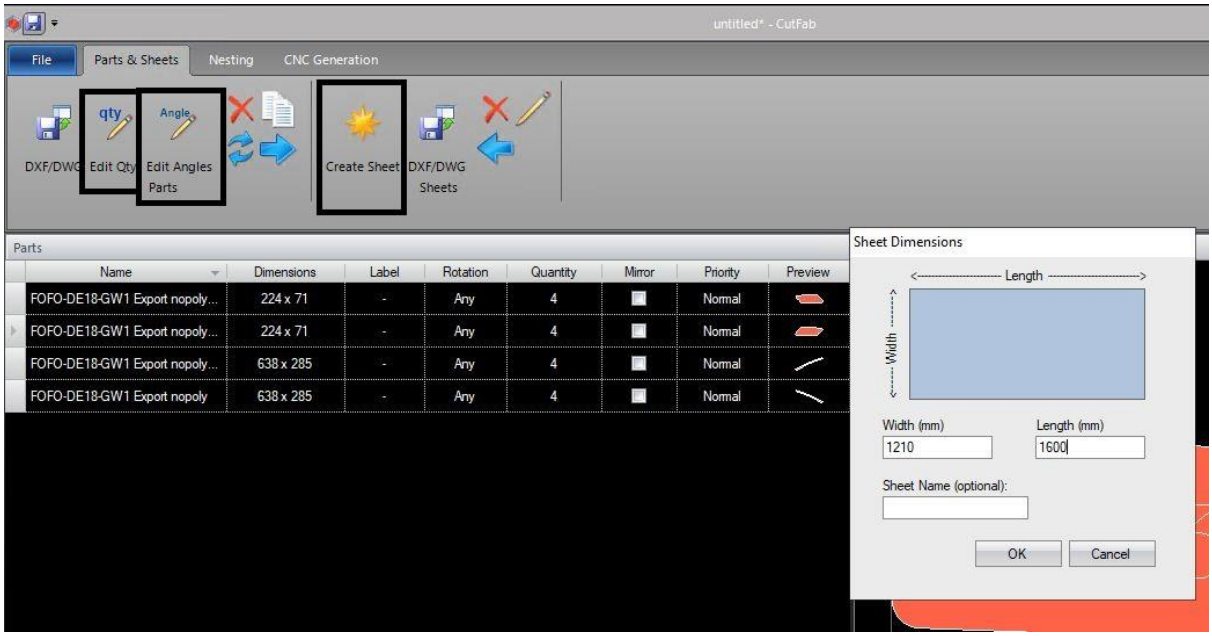
6) To check what colour number 51 represents we need to look at the numbers attached to the panels from the screen on the right and see which panels match the same numbers on the visual inside the job bag.



In this case the colour number selected (51) is the colour white.

Approved By:

7) Now that we know what colour we are about to nest click submit, this will bring you to the nest set up screen.

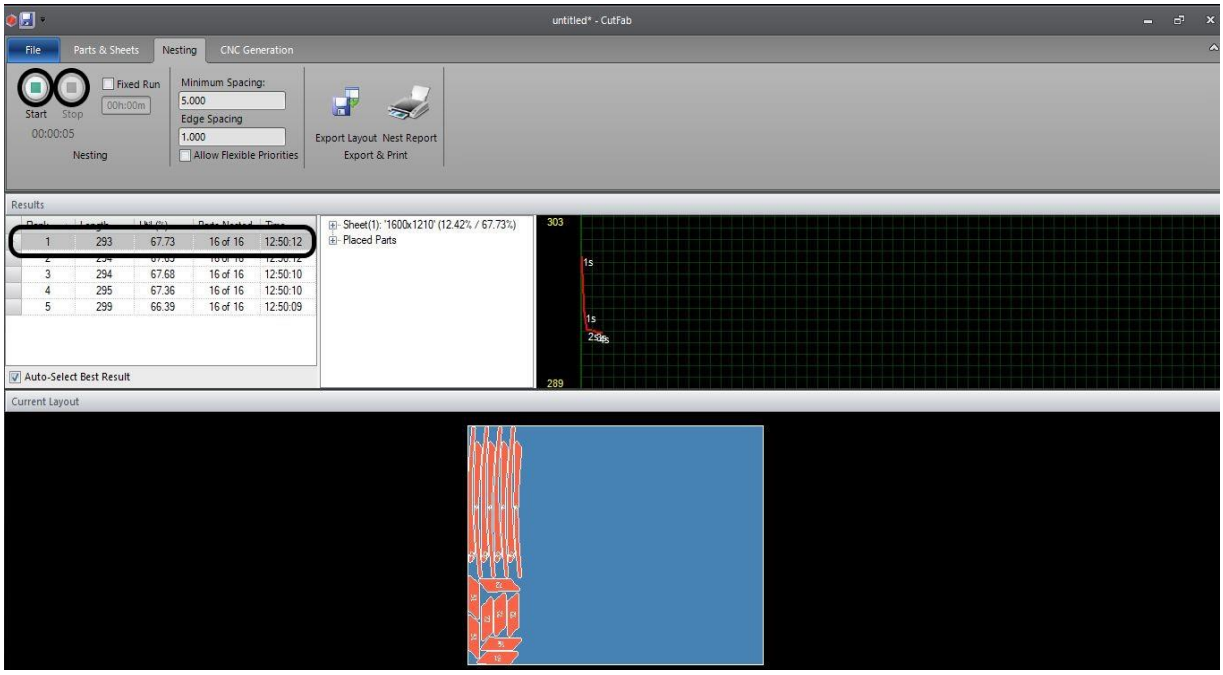


8) For this job, the quantity needed is 4, so like in the above picture, click on the grey box on the left to select all your parts and then click on the edit quantity and change that to four. For most panels the angle will be “Any”. To change that, click on Edit Angles and change it to “Any” (for information on what orientation the material must be, check the Conspicuity Material list located on the wall next to the nesting machine).

9) The next step is to create a sheet. To do this, click on Create Sheet and type in the size of the material from which the panels will be cut. For this job, the material is 1210mm wide (see above picture). It is important to remember that the length on this setting is the length of the ZUND which will always be 1600mm (For material size check Conspicuity Material list located on the wall next to the nesting machine).

10) Move to the nesting tab and click on Start. This will begin nesting and the software will move panels on the sheet you created to minimize waste and get the best yield.

    In this tab you can also see the material required to cut the panels you have selected (see picture below)



On the nesting tab, Rank 1 is always the best option so do not change it. The material required to cut this job is under Length. In this tab you can also see the material utilization in %, in this case we have used 67.73% of the 293mm required to cut the job.

11) We know that the material we just nested is V8000 White and we also know that we need 293mm of it to cut our panels.

12) Now we need to write this down on the bill of materials sheet which can be found in the job bag (see picture below). When writing this down we need to round the length of the material required to the next hundred, so if we need 293mm of material to cut the panels, we will write down 300mm instead. Write this down on the line of the material you nested, under Length.

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Works Order - Main **PS85369/1** **Safeguard SVP Limited**

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(For manual recording only)

Work Centre	Cutting Depth Checked?	Time Estimated (mins)	On Clarity	or	Time Taken	Completed By
Zund Labour	☐	160	☐			
Text Labour	☐	100	☐			
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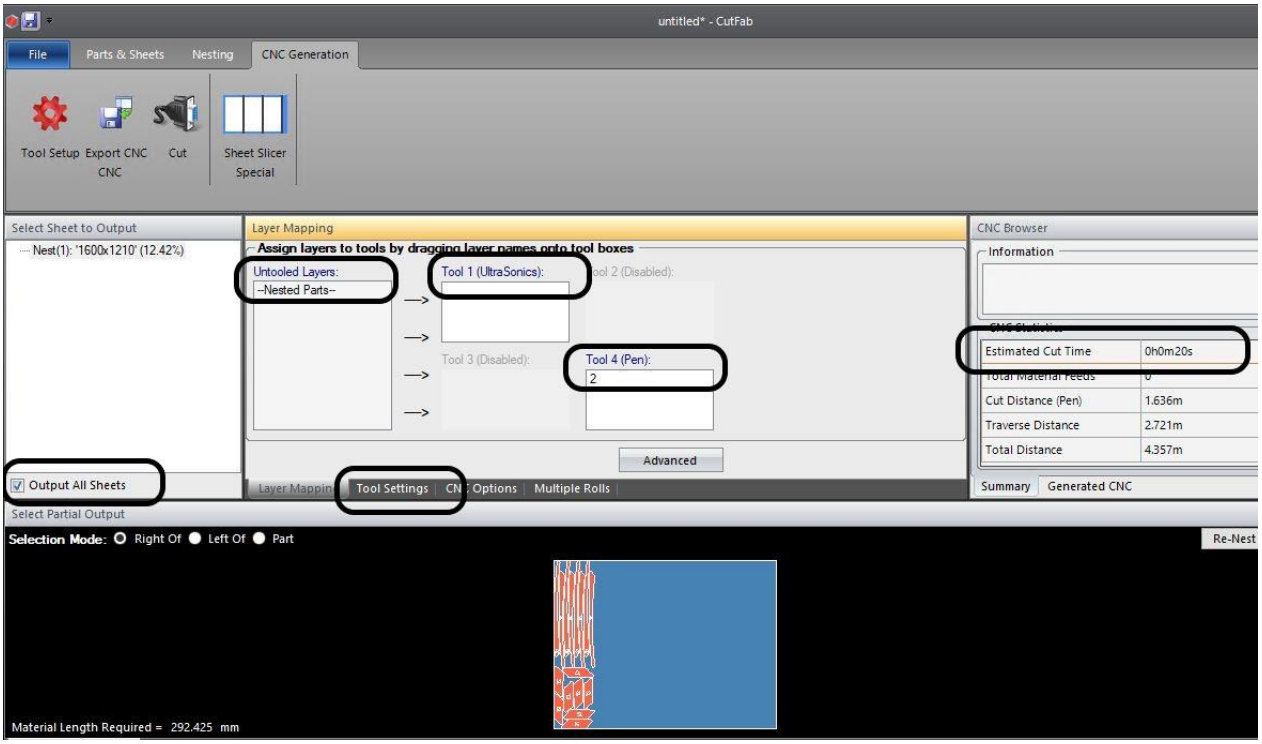
Final Inspection, Pack and Despatch	☐	120	☐			

Material	Nest Width	Nest Length	Roll ID:	Edge Seal	Cutting (actual) Width	Cutting (actual) Length	Operator	Picked
3M 3275i Engineering Grade Blue - 610mm (300 x 610)	610	1200		%				☐
3M 3275i Engineering Grade Blue - 610mm (1100 x 610)	610	0		%				☐
Aura 120 (112) Engineering Grade Red - 610mm (200 x 61	610	800		%				☐
Aura 120 (112) Engineering Grade Red - 610mm - 50m rol	610	0		%				☐
Aura 120 (112) Engineering Grade Red - 610mm - 50m rol	610	0		%				☐
V8000 Avery Blue metalized (non edge sealed) (1200 x 12	1220	4800		%				☐
V8000 Avery Blue metalized (non edge sealed) (4800 x 12	1220	0		%				☐
V8000 Avery Fluorescent Yellow/Green metalized (non ed	1220	10800		%				☐
V8000 Avery Fluorescent Yellow/Green metalized (non ed	1220	0		%				☐
V8000 Avery Fluorescent Orange metalized (non edge sea	1220	1200		%				☐
V8000 Avery Fluorescent Orange metalized (non edge sea	1220	0		%				☐
V8000 Avery White metalized (non edge sealed) (100 x 12	1220	400		%				☐
V8000 Avery White metalized (non edge sealed) (300 x 12	1220	0		%				☐

B	1	DEL_INC	Standard next day delivery (mainland UK) - included in price

13) After completing all the steps above, you can move to the next tab, CNC Generation, where you will assign tools to your material, see the time required to cut the job and export your nest so it can be used by the ZUND operator.



14) There are a few options you need to check on this tab, these are:
    - **Output All Sheets:** Make sure that this is ticked. If this is not ticked, then if you are nesting a bigger job which requires 2 or more sheets, it will only save the first sheet
    - **Untooled Layers:** Any parts or colours that are in this tab do not have a tool assigned to it, so it won't be saved in the nest. We need to move the nested parts to Tool 1. To do this simply click on "-Nested Parts- "and drag it in the box under Tool 1.
    - **Tool 1:** This is showing that as Tool 1 we are using Ultrasonics. This is wrong as the material we are nesting does not need edge sealing; therefore, we need to change this to Knife. To do this, click on Tool Settings and select the Knife option.
    - **Tool 4:** The tool for this will always be Pen as this is the tool that writes the numbers on the panels when they are cut on the ZUND.

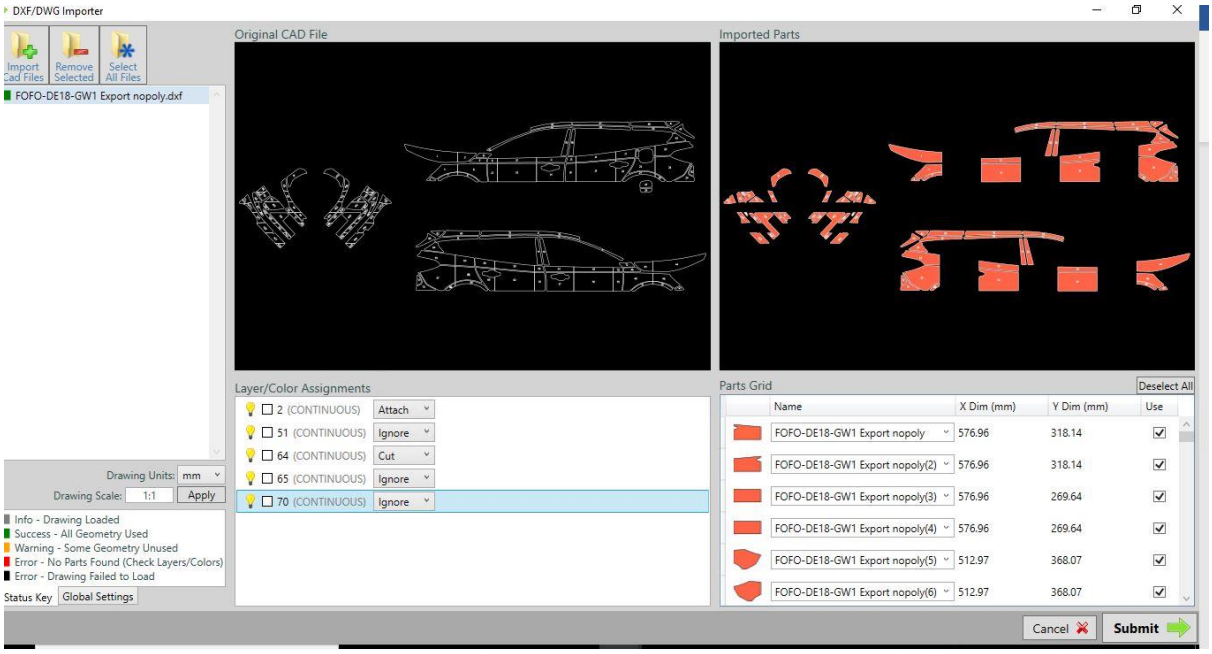
15) After all the above steps have been completed, the nest can be exported and saved.

    You do this by clicking on Export CNC on the top left corner of the software, navigate to the folder of the drawing reference you used for the nest, create a folder and name it: 4UP [19-01-2022] RC. The 4UP tells the quantity of the nest, the date in the parenthesis tells the date on which the nest was created and the 2 letters at the end are the initials of the person who nested the job.

    After you created the folder, open it, and at the name of the file you are exporting write V8000 white 1220, where V8000 white is the name and colour of the material nested and 1220 is the width. Now click save and your export is done.

16) We still have to save the nested file and you do this by clicking on File, Save As and then in the same folder name it the same as the export, V8000 white 1220 and click save. Your nest is now saved.

17) Once you completed the first colour nest, click on File, New and then click on DXF/DWG. Here you select the .dxf file, click open, and select the next colour number in the list. Above we nested the colour number 51 which was white, now we are going to ignore that colour and cut the colour number 64, which is yellow (see picture below)



Follow these steps until you nest all the colours and your job will be completed.

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