genesisplus+ 2018

U.Values

Module 4: Thermal Calulations

LEVEL: INTERMEDIATE

Genesis Release 18

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INTRODUCTION TO GENESIS U VALUES

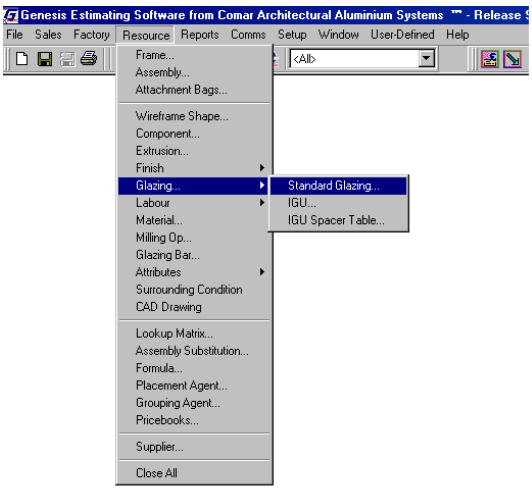
GENESIS RELEASE 9 NOW HAS THE ABILITY TO AUTOMATICALLY PRODUCE U VALUES, UNLIKE MOST OTHER SOFTWARE PACKAGES GENESIS LOOKS AT THE ACTUAL SECTION COMBINATIONS USED ON THE COMPLETE FRAME INSTEAD OF JUST THE AVERAGE. THIS ALLOWS YOU TO PRODUCE AN ACCURATE U VALUES FOR EACH FRAME TYPE.

THE U VALUE OPTION WILL NEED TO BE UNLOCKED BY COMAR WITH A DIFFERENT TIME LOCK KEY, PLEASE CONTACT SIMON HARVEY ON 0208 685 9685 TO GET THE UPDATED KEY.

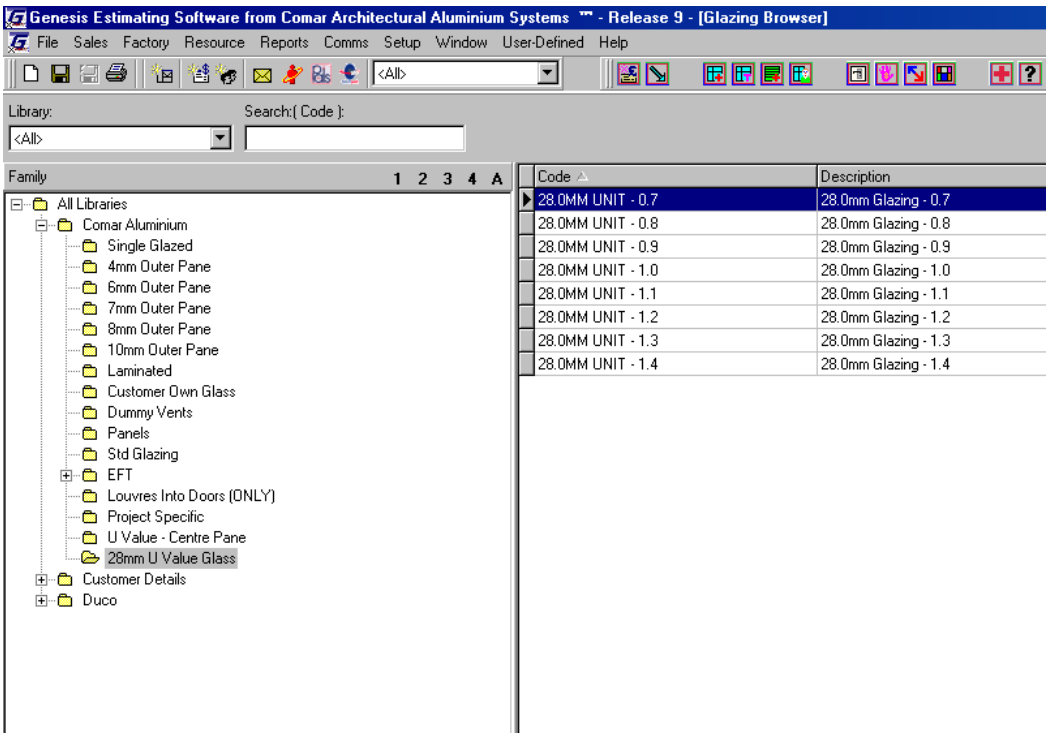
CENTRE PANE VALUES HAVE NOT BEEN SETUP ON ALL GLASS TYPE ON GENESIS AND VALUES WILL NOT BE CORRECT UNTIL THIS IS COMPLETED.

SETTING UP CENTRE PANES

FIRST OF ALL WE NEED TO SETUP THE CENTRE PANE VALUES ON THE GLASS THAT WE WILL BE USING. GO TO RESOURCE, GLAZING AND STANDARD GLAZING.



FOR EASE OF USE WE HAVE ADDED A LIST OF GLASS FROM 0.7 – 1.4 CENTRE PANE VALUE (ALL EXAMPLES ARE WITH A 0.05 PSI). THIS CAN BE LOCATED BY LOOKING FOR THE FOLDER “28mm U Value Glass”.

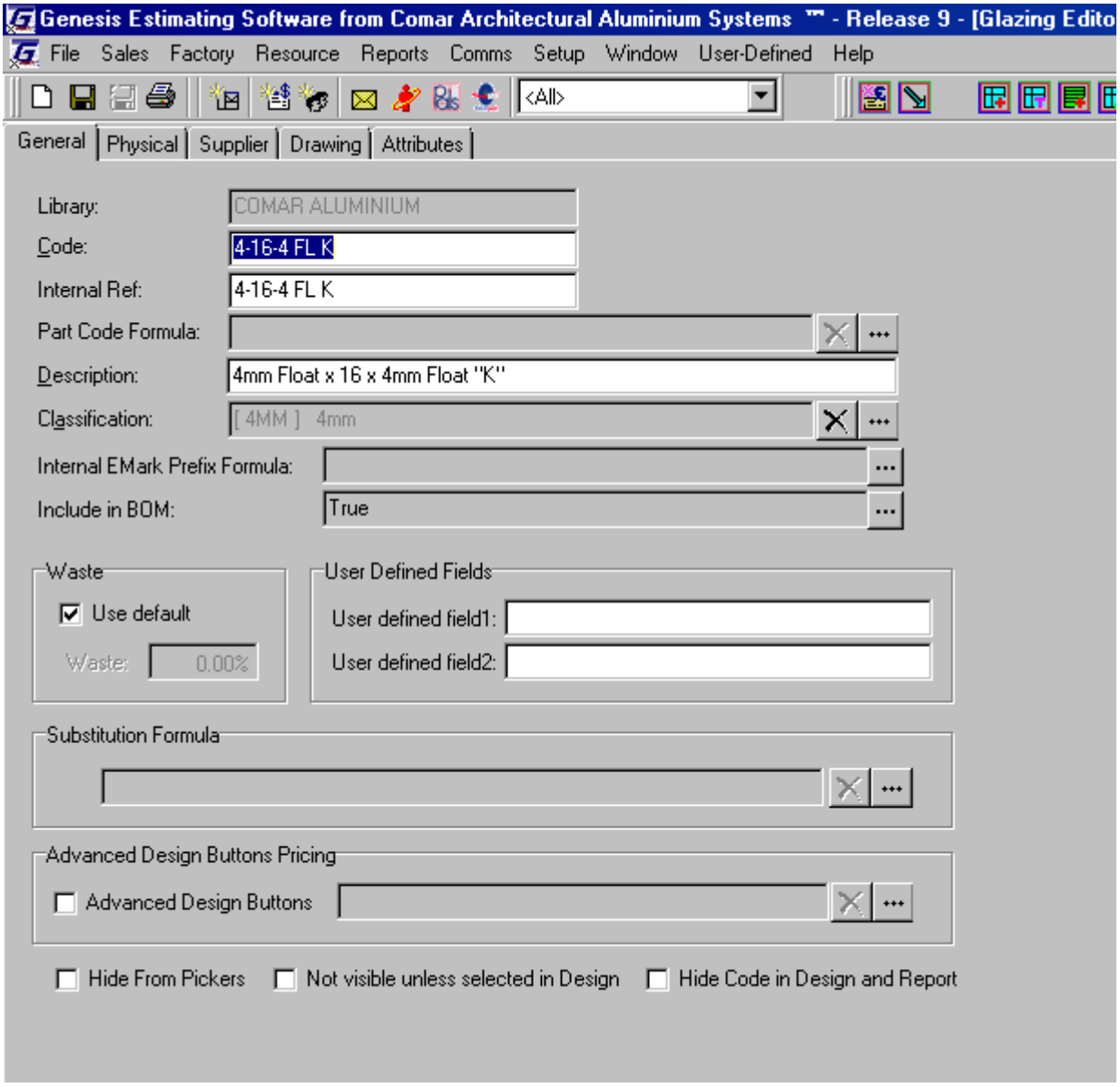


IF YOU ARE ORDERING GLASS THEN YOU MAY WANT TO SET YOUR OWN GLASS UP WITH A CORRECT GLASS TYPE CODE.

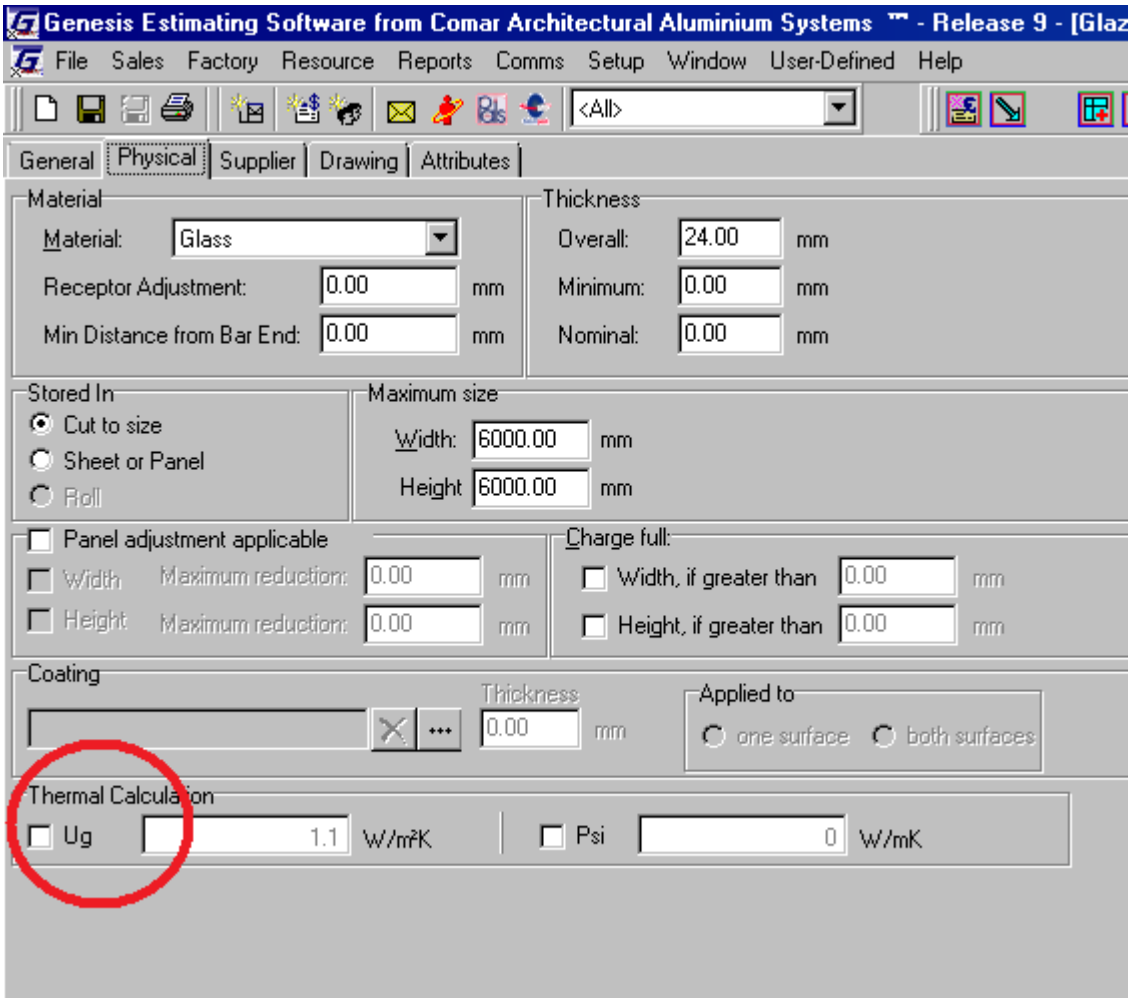
FOR THIS EXAMPLE GO TO THE FOLDER “4MM OUTER PANE” AND THEN FIND “4-16-4-FL K”. NOW CLICK ONTO EDIT.

Code	Description
4-14-6 FL TOUGH	4mm Float (Tough) x 14 x 6mm Float (Tough)
4-14-6 FL TOUGH LO	4mm Float (Tough) x 14 x 6mm Float (Tough) low e
4-14-6 OBS TOUGH	4mm Float (Tough) x 14 x 6mm Obs (Tough)
4-14-6 OBS TOUGH LO	4mm Float (Tough) x 14 x 6mm Obs (Tough) low e
4-14-6 TINT	4mm Float x 14 x 6mm Tinted
4-14-6 TINT TOUGH	4mm Float (Tough) x 14 x 6mm Tinted (Tough)
4-14-6 TINT TOUGH LO	4mm Float (Tough) x 14 x 6mm Tinted (Tough) low e
4-16-4 FL K	4mm Float x 16 x 4mm Float "K"
4-16-4 FL LO	4mm Float x 16 x 4mm Float (low-e)
4-16-4 FL TOUGH	4mm Float (Tough) x 16 x 4mm Float (Tough)
4-16-4 FL TOUGH K	4mm Float (Tough) x 16 x 4mm Float (Tough) "K"
4-16-4 FL TOUGH LO	4mm Float (Tough) x 16 x 4mm Float (Tough) (low-e)
4-16-4 FL-E	4m FLx16x4m FL (db30) lowE

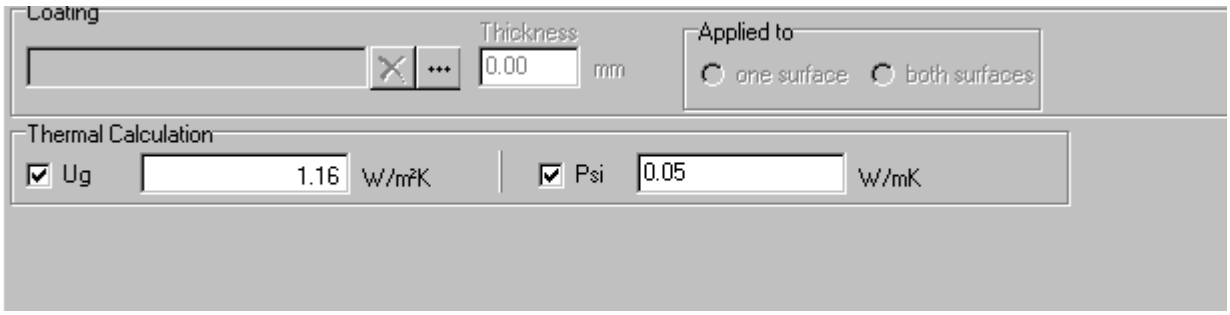
WHEN THE FOLLOWING SCREEN COMES UP GO TO PHYSICAL.



GO DOWN TO THERMAL CALCULATIONS AND TICK THE UG BOX (THIS WILL ENABLE BOTH THE CENTRE PANE AND PSI FIELDS)



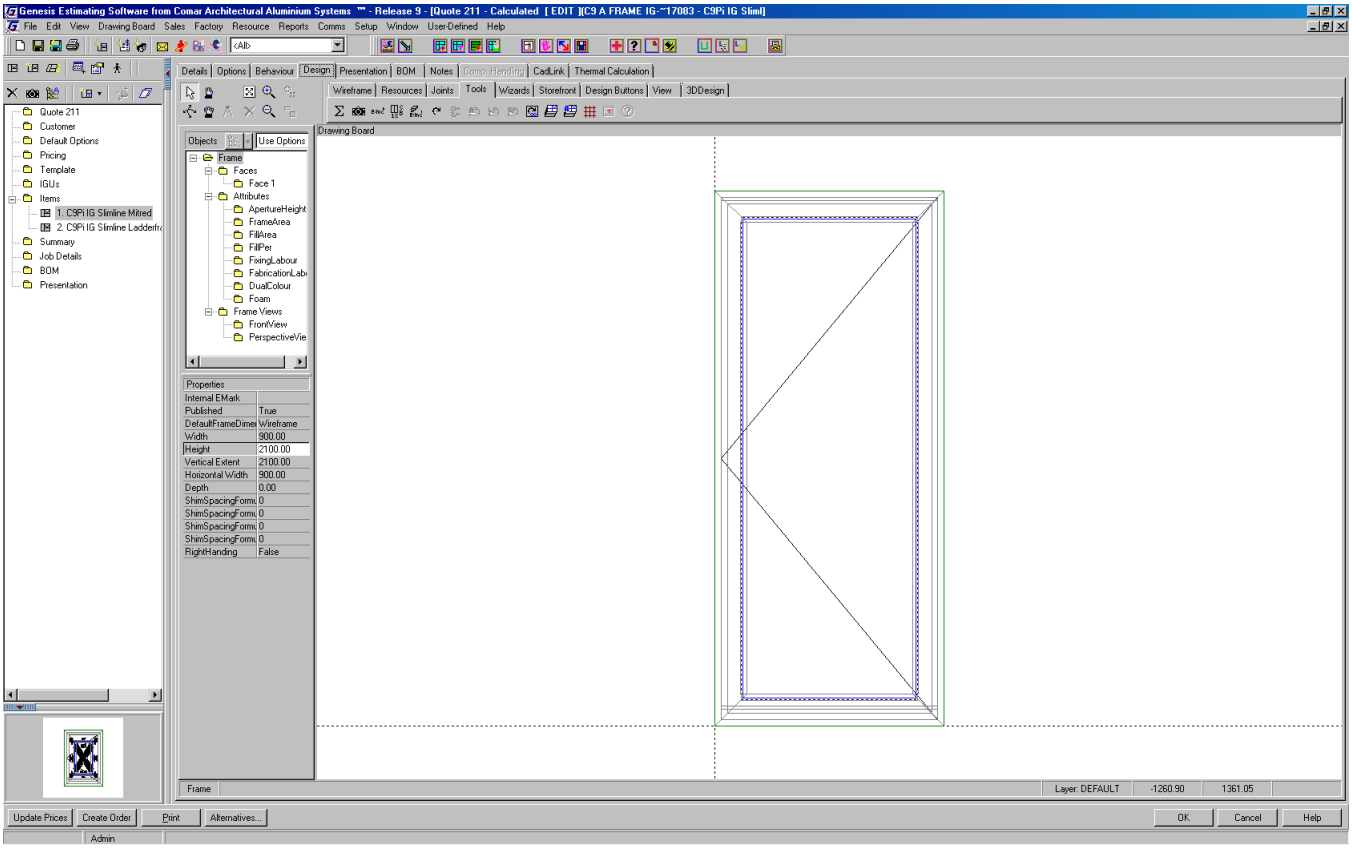
JUST AS AN EXAMPLE USE 1.16 CENTRE PANE AND 0.05 PSI (THESE ARE JUST EXAMPLES) NOW CLICK OK TO SAVE THESE CHANGES.



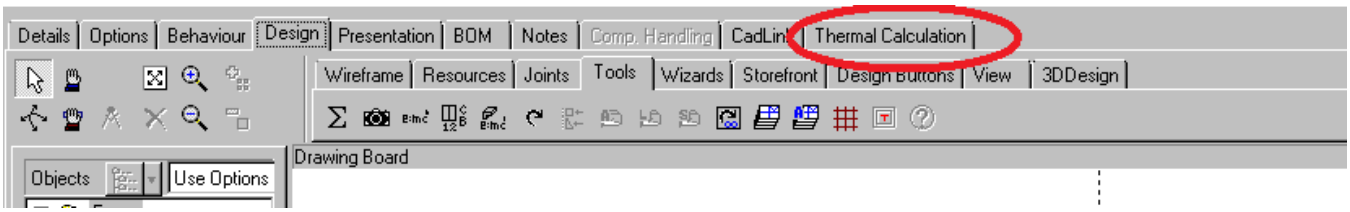
USING U VALUE FACILITY IN A QUOTE

WE HAVE SIMULATED AF VALUES FOR OVER 1000 COMBINATION OF ASSEMBLY (PRIMARILY FOR THE POLYAMIDE RANGE OF SYSTEMS). COMAR 5PI 60MM AND ECO, COMAR 7 AND COMAR 9.

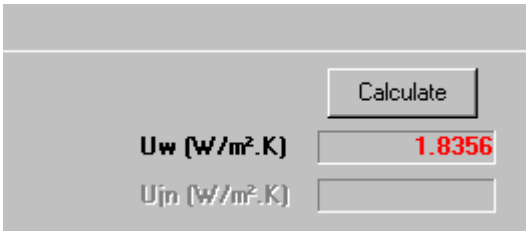
DUE TO OUR VAST RANGE OF PROFILES AND SYSTEMS THAT WE HAVE THIS COULD EASILY EXPAND TO OVER 100,000 COMBINATIONS. WITH THIS IN MIND FOR A TIME YOU WILL HAVE SOME MISSING COMBINATIONS IN SOME QUOTES AND WILL NEED TO CONTACT US SO THAT WE CAN SIMULATE OTHER COMBINATIONS FOR YOU. PLEASE CONTACT OUR INHOUSE BFRC APPROVED TECHNICAL STAFF AT KRANTHIR@PARKSIDEGROUP.CO.UK WHO WILL BE ABLE TO PROVIDE YOU WITH THESE.

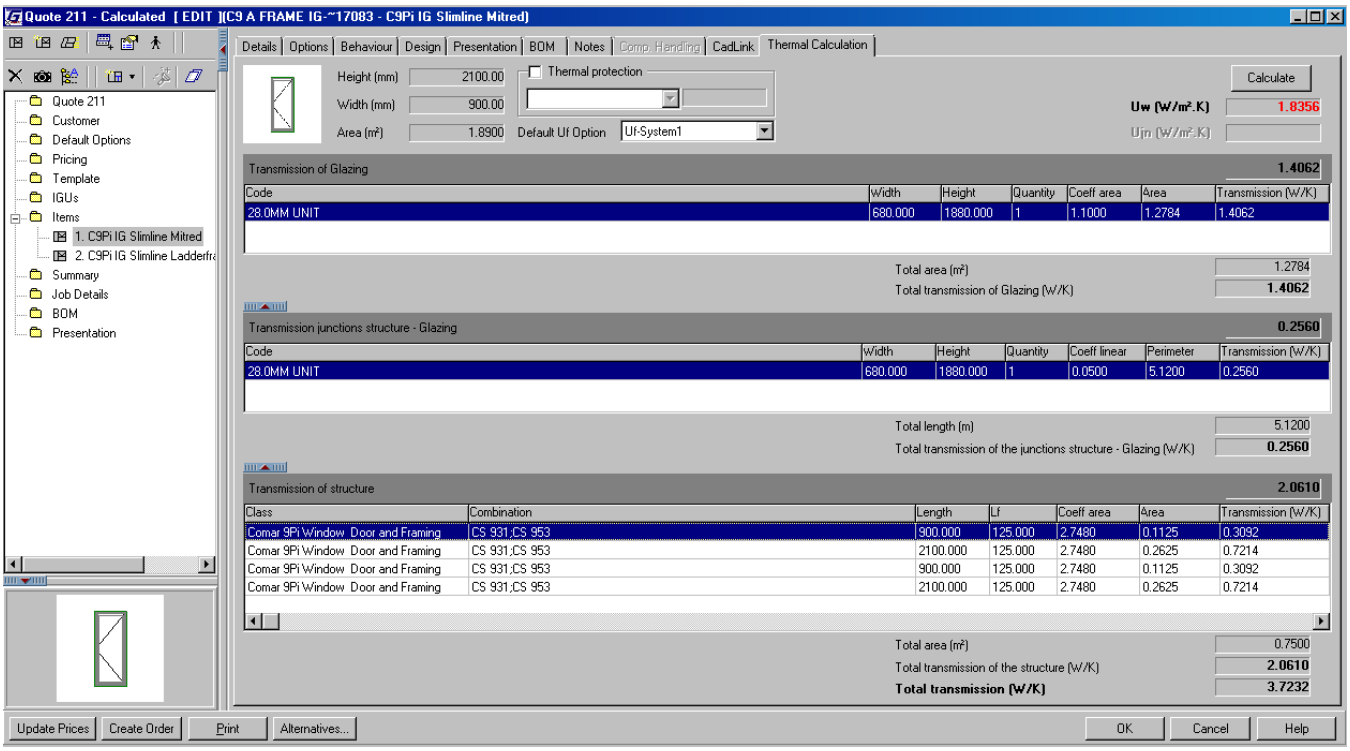


OPEN ANY QUOTE (PREFERABLY POLYAMIDE), HIGHLIGHT ONE OF THE FRAMES AND YOU WILL SEE A NEW FIELD ALONG THE TOP CALLED THERMAL CALCULATION.

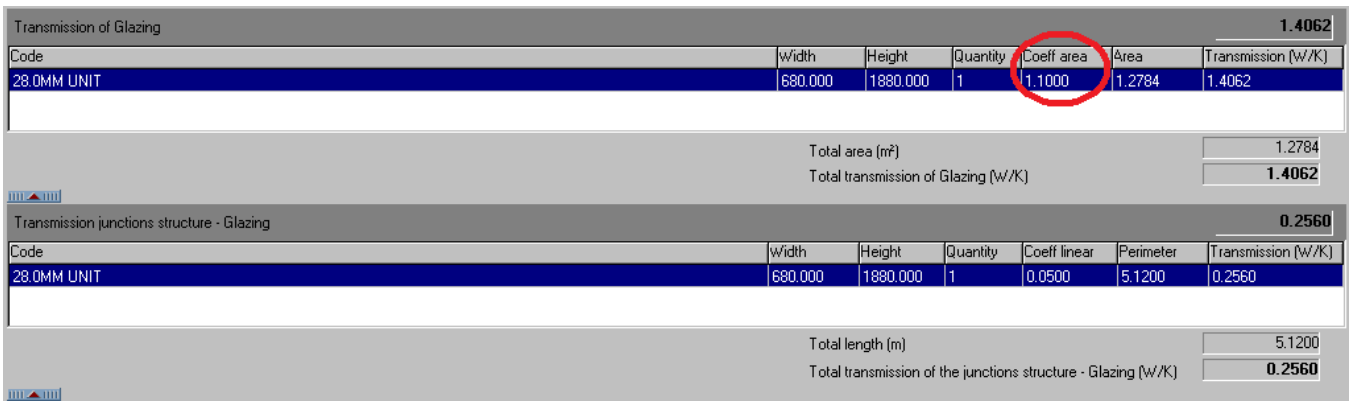


YOU WILL SEE THE AVERAGE FRAME VALUE SHOWN IN RED WHICH IS AUTOMATICALLY GENERATED.

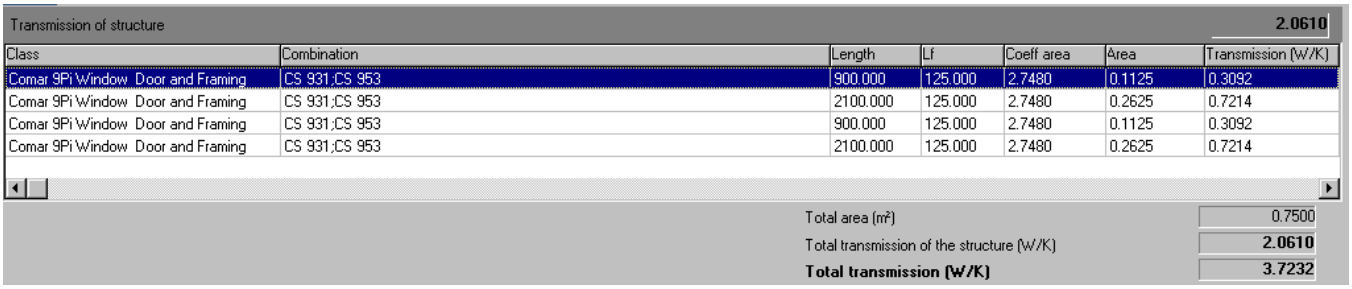




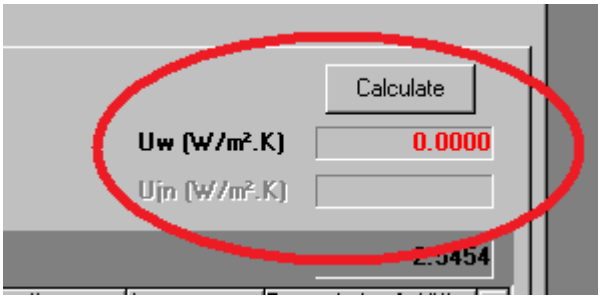
THIS PART SHOWS THE CENTRE PANE VALUE OF THE GLASS ALONG WITH THE AREA



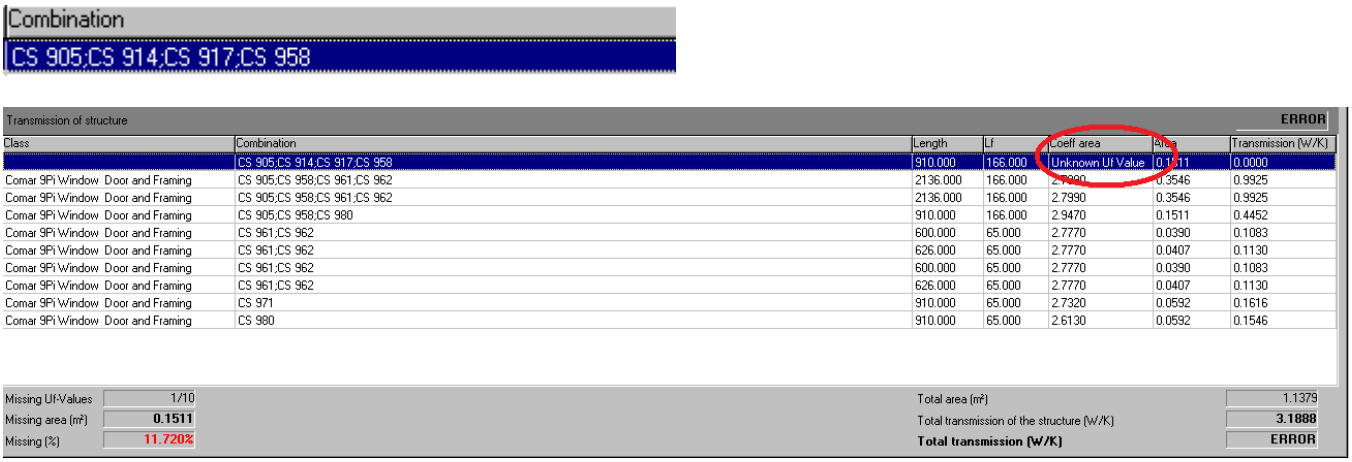
THIS PART SHOWS THE ASSEMBLY COMBINATIONS ALONG WITH THE COEFF AREA OF THE COMBINATION.



AS MENTIONED BEFORE SOME COMBINATIONS WILL NOT HAVE BEEN SIMULATED YET AND THE RESULT WILL SHOW AS 0

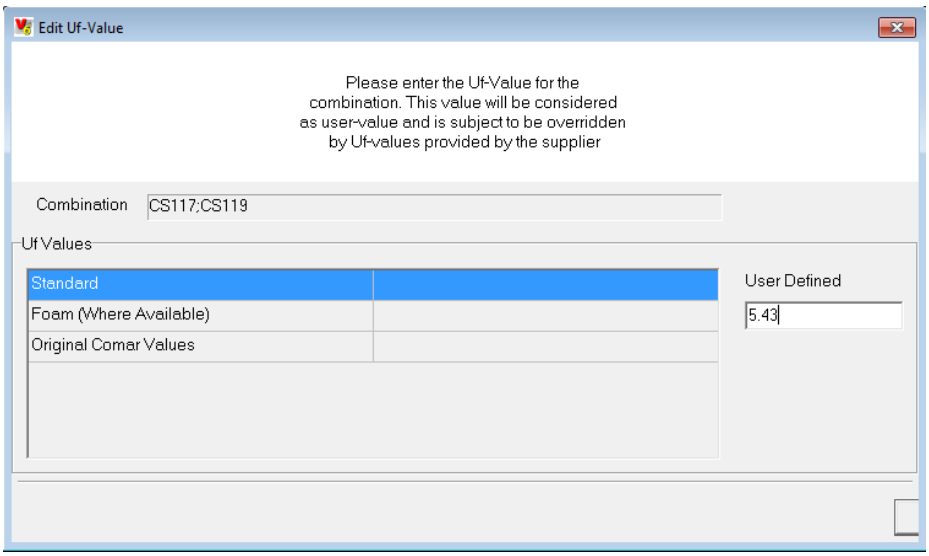


IF THIS HAPPENS THEN LOOK DOWN THE LIST OF ASSEMBLY COMBINATIONS AND YOU SHOULD SEE AN "UNKNOWN U VALUE" ERROR IN THE COEFF AREA. THIS JUST MEANS THAT THE COMBINATION IS MISSING AND ACTION IS REQUIRED. WRITE DOWN THE COMBINATION OF PROFILES. PLEASE EMAIL THIS TO KRANTHIR@PARKSIDEGROUP.CO.UK

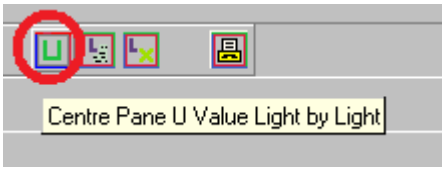


WHEN YOU HAVE THE VALUE BACK FROM KRANTHI WHILST IN A THERMAL CALCULATIONS FIELD RIGHTCLICK ONTO THE "UNKNOWN U VALUE" ERROR AND GO TO EDIT UF.

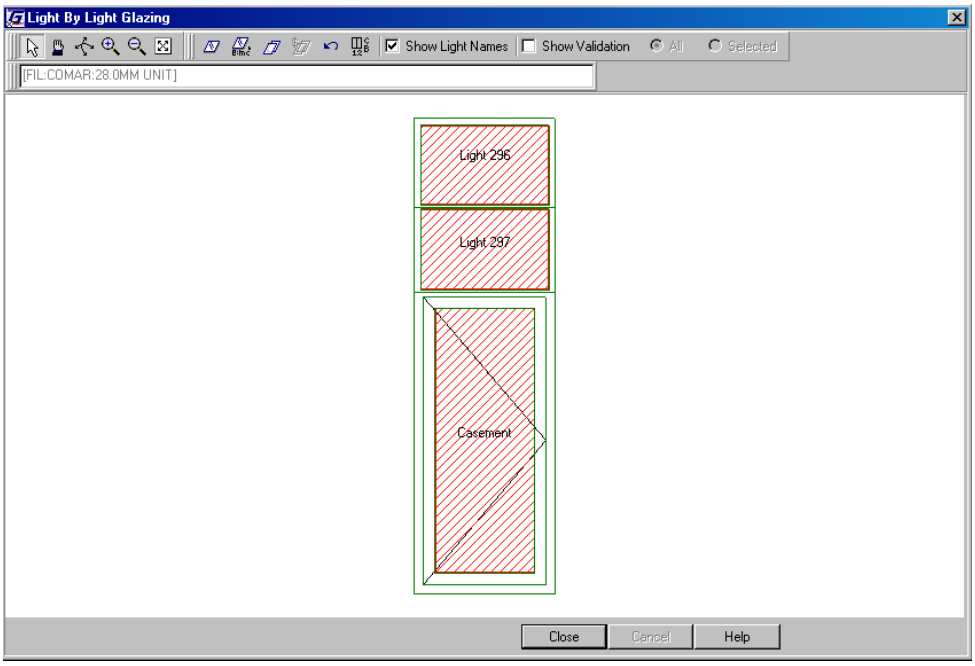
YOU CAN ADD THE VALUE THE AS SHOWN.THIS WILL AUTOTMATICALLY UPDATE THE FINAL VALUE AND WILL STAY IN THE PROGRAM, THIS WILL ALSO UPDATE ANY OTHER ITEMS WITH THE SAME COMBINATION. IT MAY BE ADVISABLE TO GO THROUGH ALL ITEMS AND THEN SEND ANY MISSING COMBINATIONS TO KRANTHI IN ONE GO. TECHNICAL@PARKSIDEGROUP.CO.UK



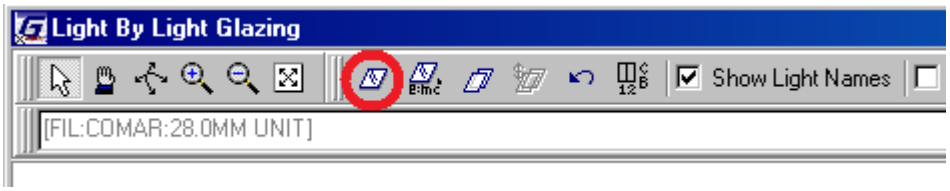
IF THE U VALUE IS NOT ACCEPTABLE THEN WE CAN CHANGE THE GLASS TO BE AN OPTION WITH A BETTER CENTRE PANE. CLICK ONTO THE BUTTON AS SHOWN (LOCATED AT THE TOP LINE OF MACRO BUTTONS)



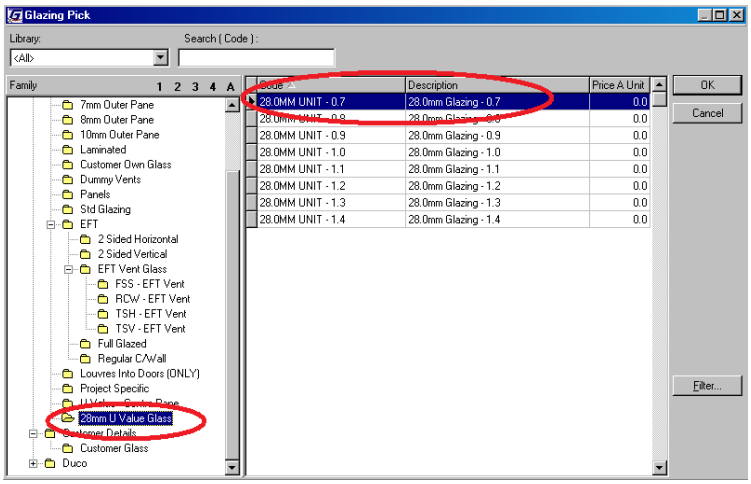
USING THE LIGHT BY LIGHT GLAZING THE SAME WAY AS YOU WOULD WHILST CHANGING GLASS WHILST DESIGNING THE FRAME, HIGHLIGHT ALL LIGHTS AS SHOWN.



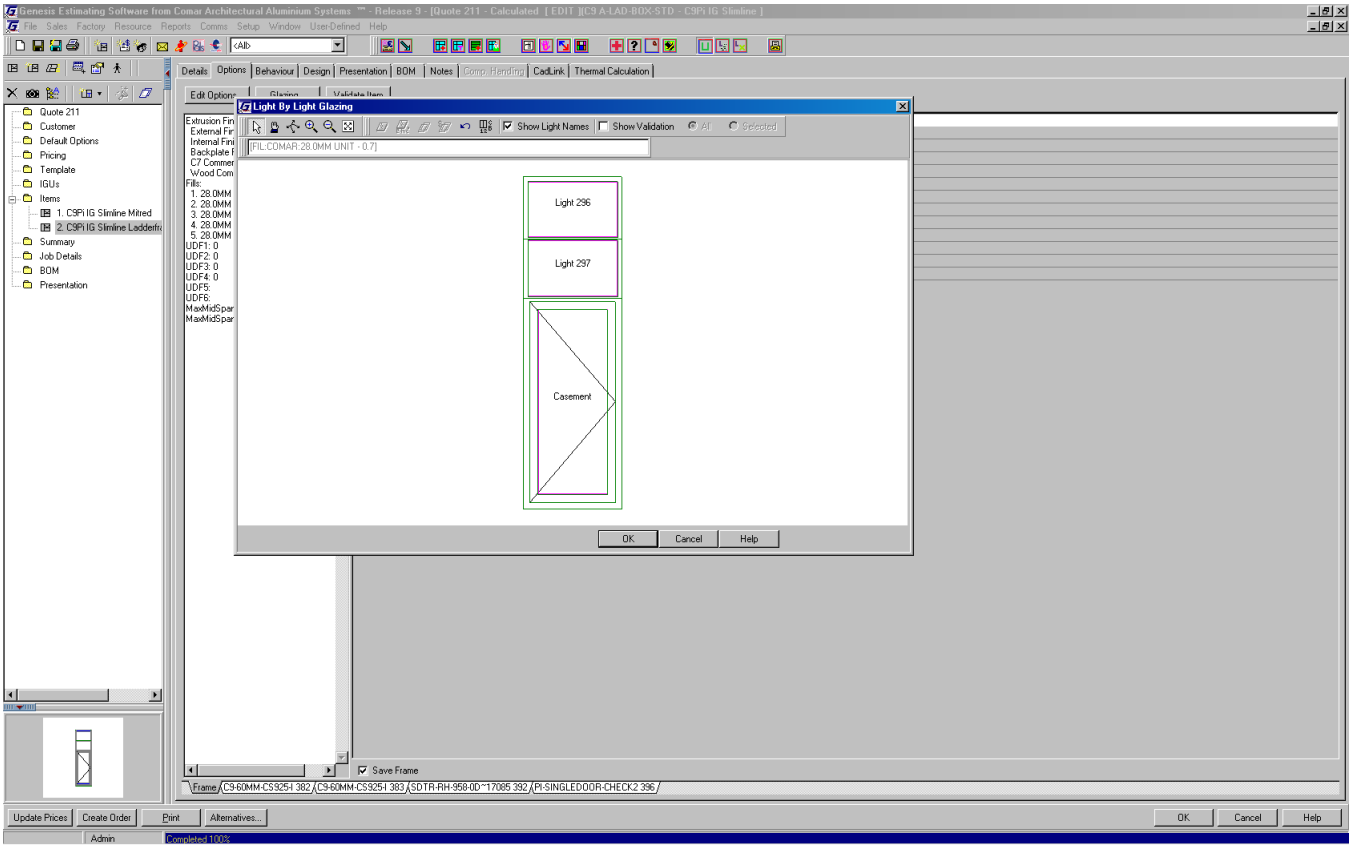
NOW CLICK ONTO FILL REPLACE.



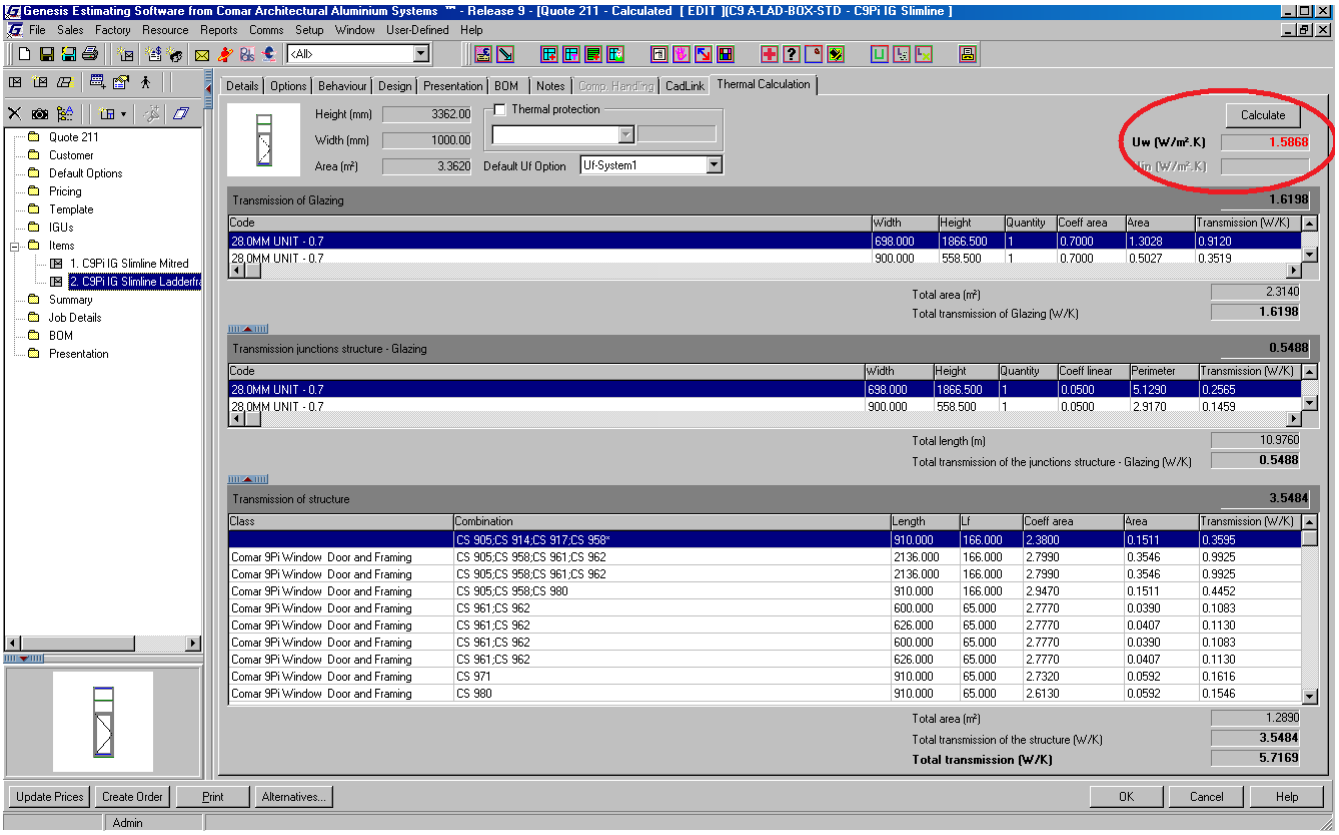
USING THE STANDARD ONES THAT WE HAVE SETUP (UNLESS YOU HAVE SETUP YOUR OWN) GO TO “28MM U VALUES GLASS” FOLDER AND THEN FIND “28MMUNIT – 0.7” AND THEN CLICK OK.



THIS WILL BRING YOU BACK TO THE ORIGINAL SCREEN, CLICK OK TO FINISH.



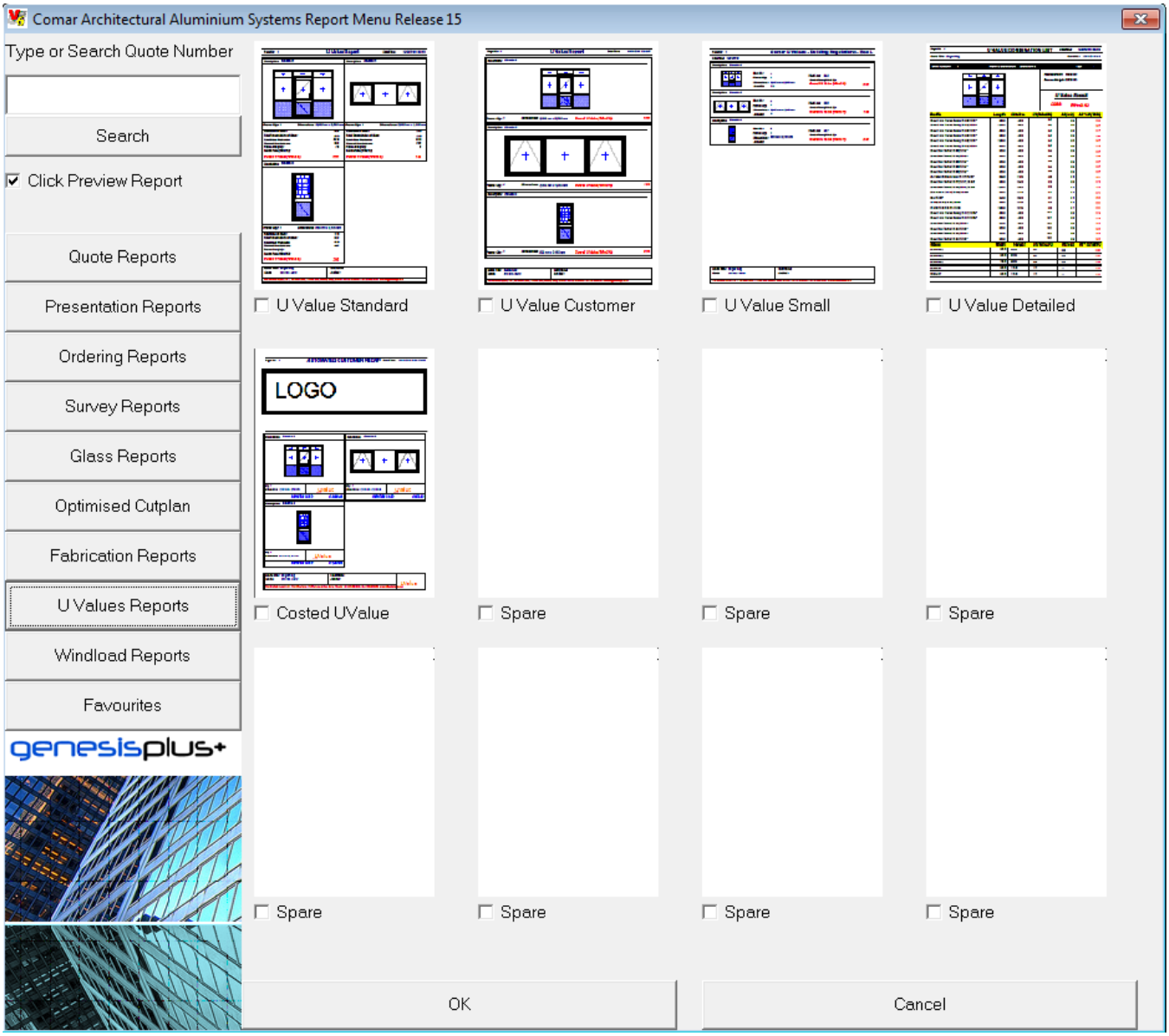
THIS WILL AUTOMATICALLY UPDATE THE VALUE.



EXPORTING AND PRINTING VALUES

WE NOW WANT PRINT THE IMFORMATION THAT WE HAVE CREATED SO SHUT THE QUOTE DOWN. NOW CLICK ONTO THE PRINT BUTTON AS SHOWN.

CHOOSE ONE OF THE REPORTS, FIND THE QUOTE NUMBER AND CLICK PREVIEW, THEN CLICK OK

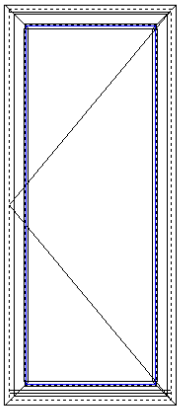
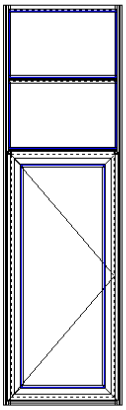


THE FOLLOWING REPORT WILL COME UP

Page No: 1

U Value Report

Date/Time: 18/08/2011 12:08:41

Description: C9Pi IG Slimline Mitred		**Description:** C9Pi IG Slimline Ladderframe Box Standard	
			
Frame: Qty: 1	**Dimensions:** 900 mm x 2,100 mm	**Frame: Qty:** 1	**Dimensions:** 1,000 mm x 3,362 mm
Total Area of Glass:	1.28	**Total Area of Glass:**	2.31
Total Transmission of Glass:	1.41	**Total Transmission of Glass:**	1.62
Total Glass Perimetre:	5.12	**Total Glass Perimetre:**	10.98
Thermal Conductance:	2.06	**Thermal Conductance:**	3.55
Frame Area (m2):	1.89	**Frame Area (m2):**	3.362
Centre Pane (W/m2 K):		**Centre Pane (W/m2 K):**	
Overall U Value (W/m2 K):	1.84	**Overall U Value (W/m2 K):**	1.59

ONE OTHER EXAMPLE WHICH WAS THE THIRD REPORT IS SHOWN BELOW.

Page No: 1

Comar U Values - Building Regulations - Doc L

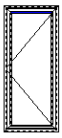
Date/Time: 18/08/2011

U Values calculated in accordance with April 2006 Building Regulations. To be read in conjunction with all relevant standards.*

Glass Spec from SAP2005 Table6e, Centre Panes based on guidlines from CAB SS6/AD for guidance, consult glass supplier's datasheets.

Comar Aluminium accept no responsibility for the corectness of this information. *Approved Document L1a L1b L2a L2b

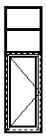
Description: C9Pi IG Slimline Mitred



Item No: 1
Frame: Qty: 1
Dimensions: 900 mm x 2,100 mm
Area M2: 1.89

Heat Loss 2.06
Centre Pane (W/m2 K):
Overall U Value (W/m2 K): 1.84

Description: C9Pi IG Slimline Ladderframe Box Standard



Item No: 2
Frame: Qty: 1
Dimensions: 1,000 mm x 3,362 mm
Area M2: 3.362

Heat Loss 3.55
Centre Pane (W/m2 K):
Overall U Value (W/m2 K): 1.59

ANOTHER EXAMPLE SHOWS THE COMBINATIONS OF ASSEMBLIES TO.

Page No: 1

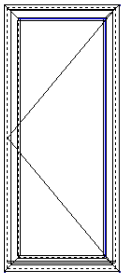
U VALUE COMBINATION LIST

Date/Time: 18/08/2011 12:11:50

Quote Title: Test U Values

Quote No: SH-211- -Ver 2

Item Number: 1 **Frame Description** C9Pi IG Slimline Mitred **Qty** 1



Frame:Width 900.00

Frame: Height 2100.00

U Value Result

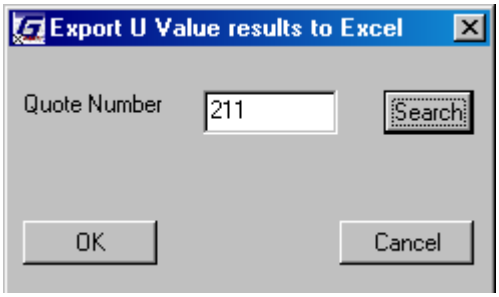
1.836 **(W/m2. K)**

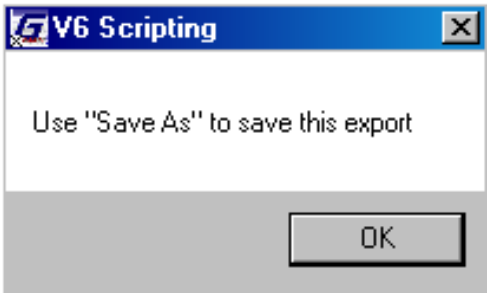
Profile	Length	Siteline	Uf (W/m2K)	Af (m2)	Af * Uf (W/K)
Comar 9Pi Window Door and Framing:CS 931;CS 953	900.00	125.00	2.75	0.11	0.31
Comar 9Pi Window Door and Framing:CS 931;CS 953	2100.00	125.00	2.75	0.26	0.72
Comar 9Pi Window Door and Framing:CS 931;CS 953	900.00	125.00	2.75	0.11	0.31
Comar 9Pi Window Door and Framing:CS 931;CS 953	2100.00	125.00	2.75	0.26	0.72

Glass	Width	Height	Uf (W/m2K)	Af (m2)	Af * Uf (W/K)
28.0MM UNIT	680.00	1880.00	1.28	1.1	1.41

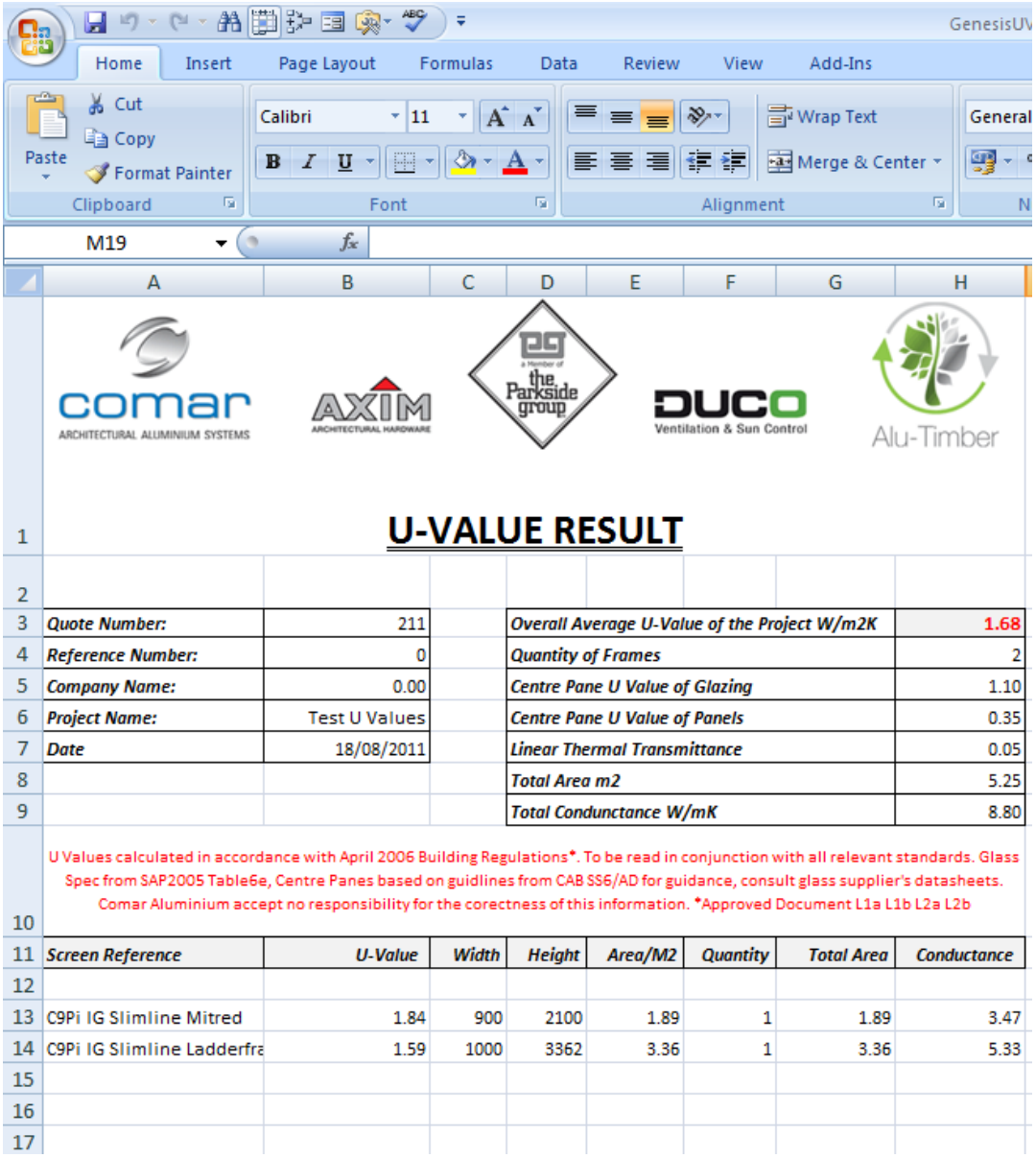
WE WILL NOW EXPORT THE RESULTS TO EXCEL, CLICK ONTO THE BUTTON AS SHOWN.

FIND THE QUOTE NUMBER AND NOW CLICK OK. FOLLOWED BY OK WHEN THE SECOND BOX APPEARS





THIS WILL EXPORT THE RESULTS TO EXCEL. PLEASE MAKE SURE THAT YOU SAVE THE FILE IN A DIFFERENT LOCATION AND WITH A DIFFERENT FILE NAME AS YOU WILL OVERWRITE THE TEMPLATE.



U-VALUE RESULT

Quote Number:	211	*Overall Average U-Value of the Project W/m2K*	1.68
Reference Number:	0	*Quantity of Frames*	2
Company Name:	0.00	*Centre Pane U Value of Glazing*	1.10
Project Name:	Test U Values	*Centre Pane U Value of Panels*	0.35
Date	18/08/2011	*Linear Thermal Transmittance*	0.05
		Total Area m2	5.25
		Total Conductance W/mK	8.80

U Values calculated in accordance with April 2006 Building Regulations*. To be read in conjunction with all relevant standards. Glass Spec from SAP2005 Table6e, Centre Panes based on guidlines from CAB SS6/AD for guidance, consult glass supplier's datasheets. Comar Aluminium accept no responsibility for the corectness of this information. *Approved Document L1a L1b L2a L2b

Screen Reference	*U-Value*	*Width*	*Height*	*Area/M2*	*Quantity*	*Total Area*	*Conductance*
C9Pi IG Slimline Mitred	1.84	900	2100	1.89	1	1.89	3.47
C9Pi IG Slimline Ladderfra	1.59	1000	3362	3.36	1	3.36	5.33

PLEASE CONTACT SIMON HARVEY IF YOU HAVE ANY PROBLEMS USING THIS FEATURE 0208 685 9685