Statik_5.0 Software – Manual

MOMENT OF INERTIA CALCULATION SOFTWARE FOR CURTAIN WALL (Edition: v.5.0)

GENERAL

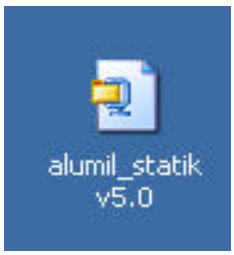
The software "Alumil Statik v5.0" is supplied free of charge in all the commercial network of ALUMIL MILONAS S.A. in the scope of service. The operation of the software concerns in the calculation of the required Moment of Inertia and is supplied from ALUMIL MILONAS S.A.

This electronic program was developed in order to offer practical support and more rapid use in all technical service who are involved in the correct dimensioning of cross-sections which are going to use them, in order to cover the demands of each project.

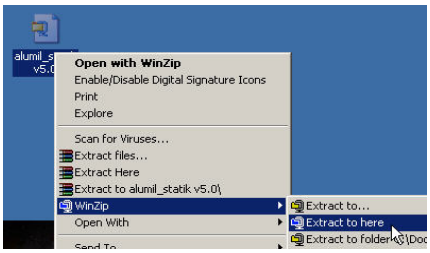
In order to inform the customers and the collaborators of our company, our department refers to you in the file **<Method of profile choice.doc > or <Aluminium systems profile selection V2.doc>** where everything are analysed concerning the Statik and the fatigue strength of the curtain wall and the calculations in order to find the required Moment of Inertia of a construction.

INSTALLATION IN COMPUTER (PC)

The software does not require any special installation. It is provided in form of zip file "alumil**_statik v5.0.zip**" and will need to unzip the file. The documents that included in the file are: «alumil_statik v5.0.exe" (executive file), «Aluminium Systems Profile Selection V2.doc» and «Method of profile choice.doc» (contain theory for the calculation of the Moment of Inertia according to EN 13830), «Statik_eng» and «Statik_gr» (printing files).



Zip file.



Unzip procedure

Executive file

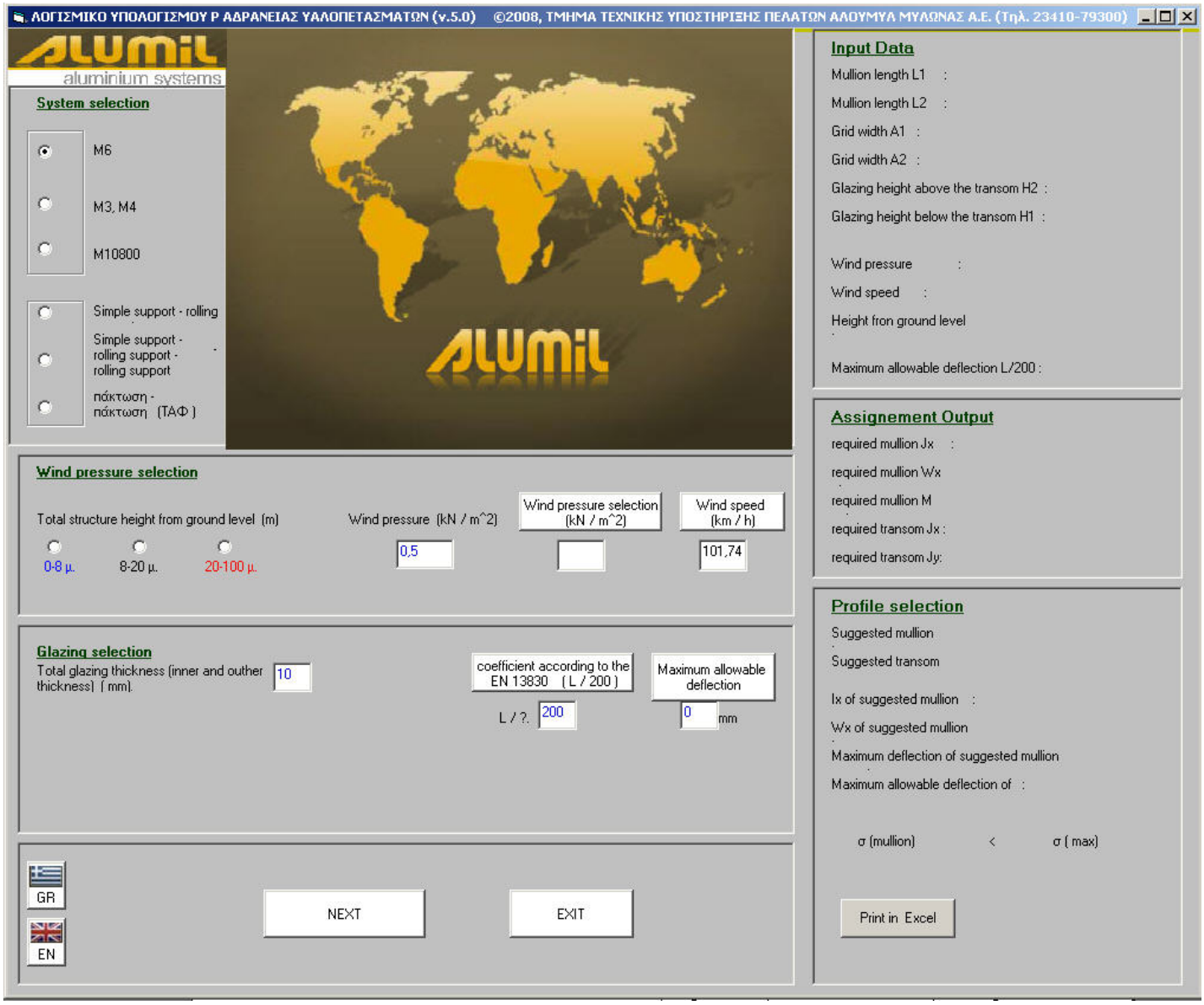
SUPPORT AND CONTACT

This manual contains all the useful information for the installation and the usage of the attached software. If nevertheless you meet problems, you can contact with the **Service and Key Account Department (SKAD)** of Alumil Group with the following manners:

Tel: +30 23410 79300
Fax: +30 23410 79319
E –mail: customerservice@alumil.com

GUIDELINES (USER'S GUIDE)

In order to start the program, make double click in the picture "**alumil_statik v5.0"**. Following dialog window appears in your screen:



You can start insert the information that the program requires in the corresponding boxes as follows:

1) Language Selection

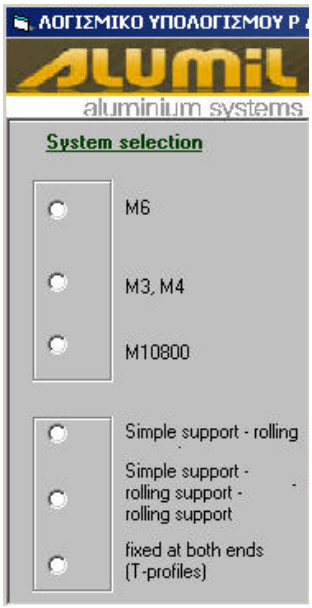
Click the button "Language Selection", 

or 

The program changes from Greek to English or even reverse.

2) System selection

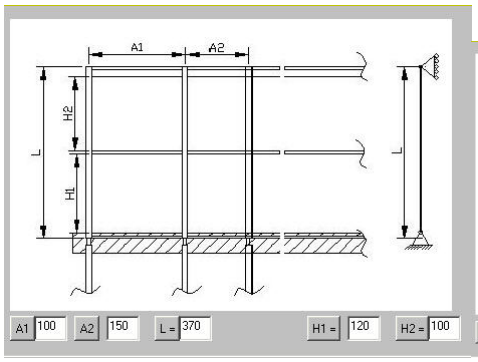
The software supports at the moment the systems M3-M4, M6 and M10800. Select one of the three in order the program to suggest us the suitable mullion and transom from the checked system.



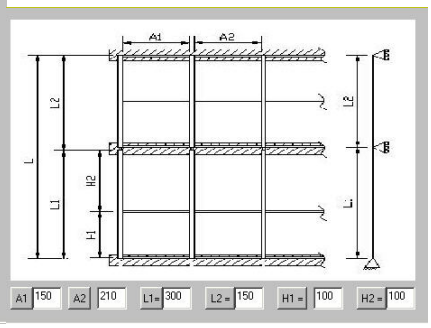
3) Choice of approach (manner) for support mullion

In the software, there are three choices for the systems **M6, M3, M4:**

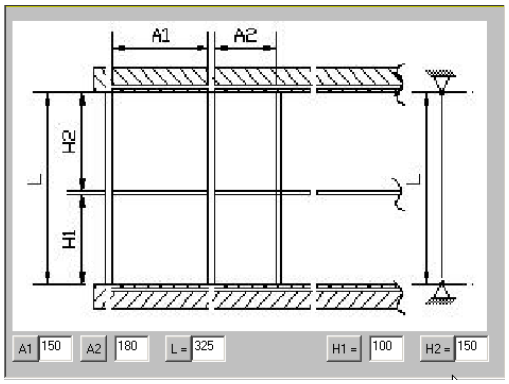
1. Simply support – Rolling
2. Simply support – Rolling – Rolling
3. Fixed support – Fixed support



Simply support – Rolling

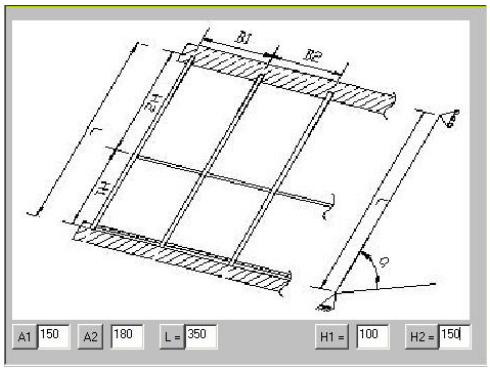


Simply support – Rolling – Rolling

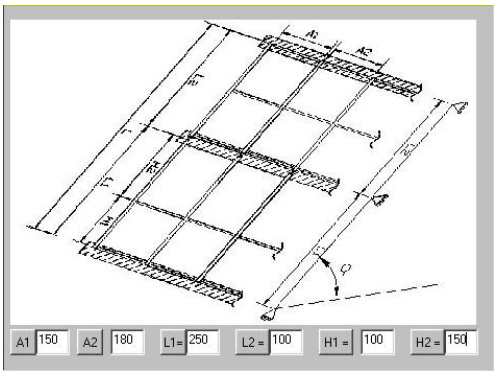


Fixed support – Fixed support

While for the system M10800, there are two choices and exists single way support construction:
1) Simply support – Rolling
2) Simply support – Rolling – Rolling



Simply support – Rolling



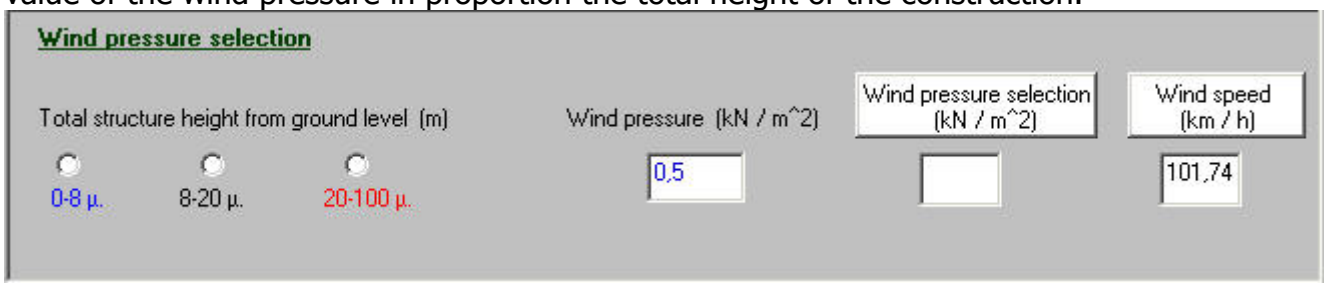
Simply support – Rolling – Rolling

Furthermore the following table must to be completed.

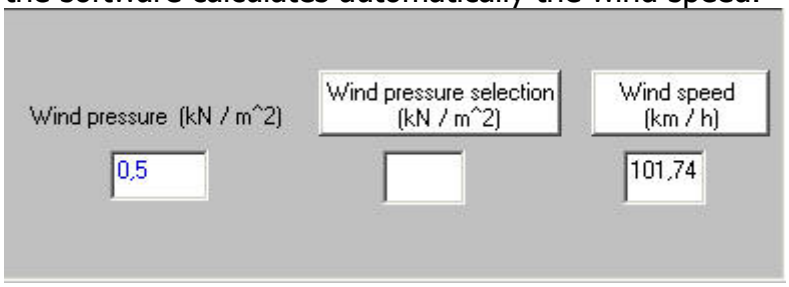
4) Wind Pressure Selection

The wind pressure can be selected:

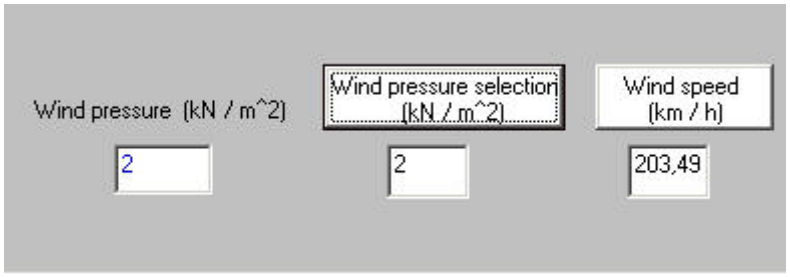
a) Accordingly the total height of the construction from the ground level. The program selects the value of the wind pressure in proportion the total height of the construction.



b) By insertion the required wind pressure and click in the button **"Wind Pressure Selection"**, the software calculates automatically the wind speed.

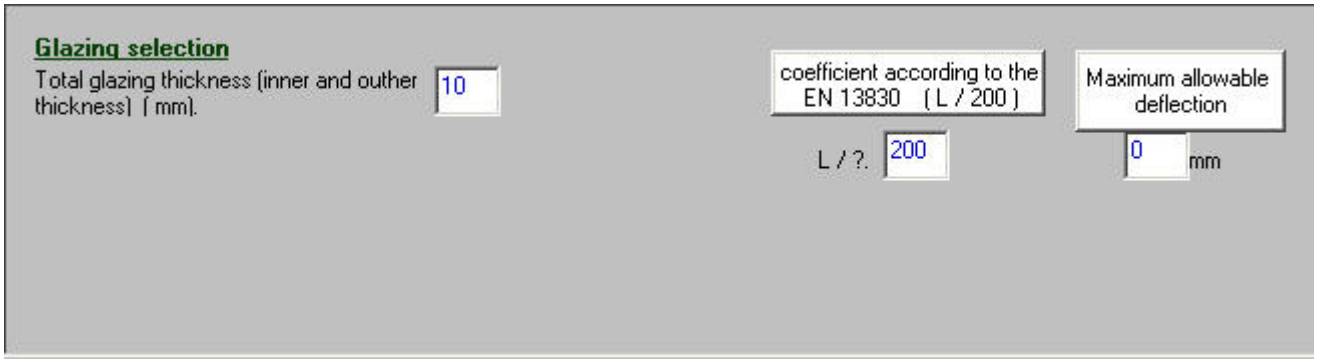


c) By insertion the speed of the wind in the specific area, the program calculates the relatively wind pressure.



5) Glazing Thickness Selection and Coefficient of Deflection

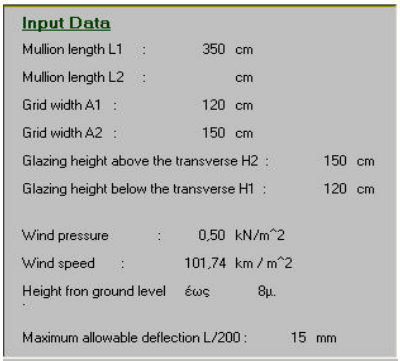
Insert the total value of the glass. For example, if you are using glaze 4-12-5, then the total thickness of the glass is 4+5=9 mm. (**EN 13830**)
The Coefficient of Deflection accordingly to the new Euro code is L / 200. If for any reason there is a special requirement, you can change the coefficient. In some cases, the maximum allowed coefficient of deflection must to be a particular value. In such cases, you can insert the required value and click in the button "**Maximum allowable**".
In each case, by inserting one of the two values, the program calculates the other one.



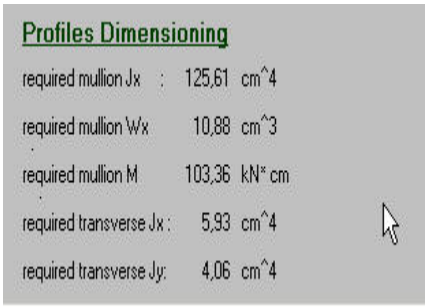
6) Printing of result in the screen: After inserting all the required elements, click in the button "**NEXT**". The software calculates all the details.

In the right part of the screen the results are presented and split in three parts for better reading

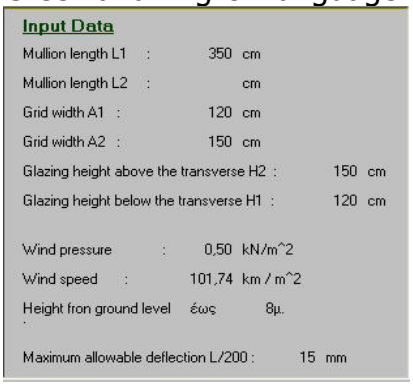
a) Dimensioning of the system: All the elements that the user has already registered are presented

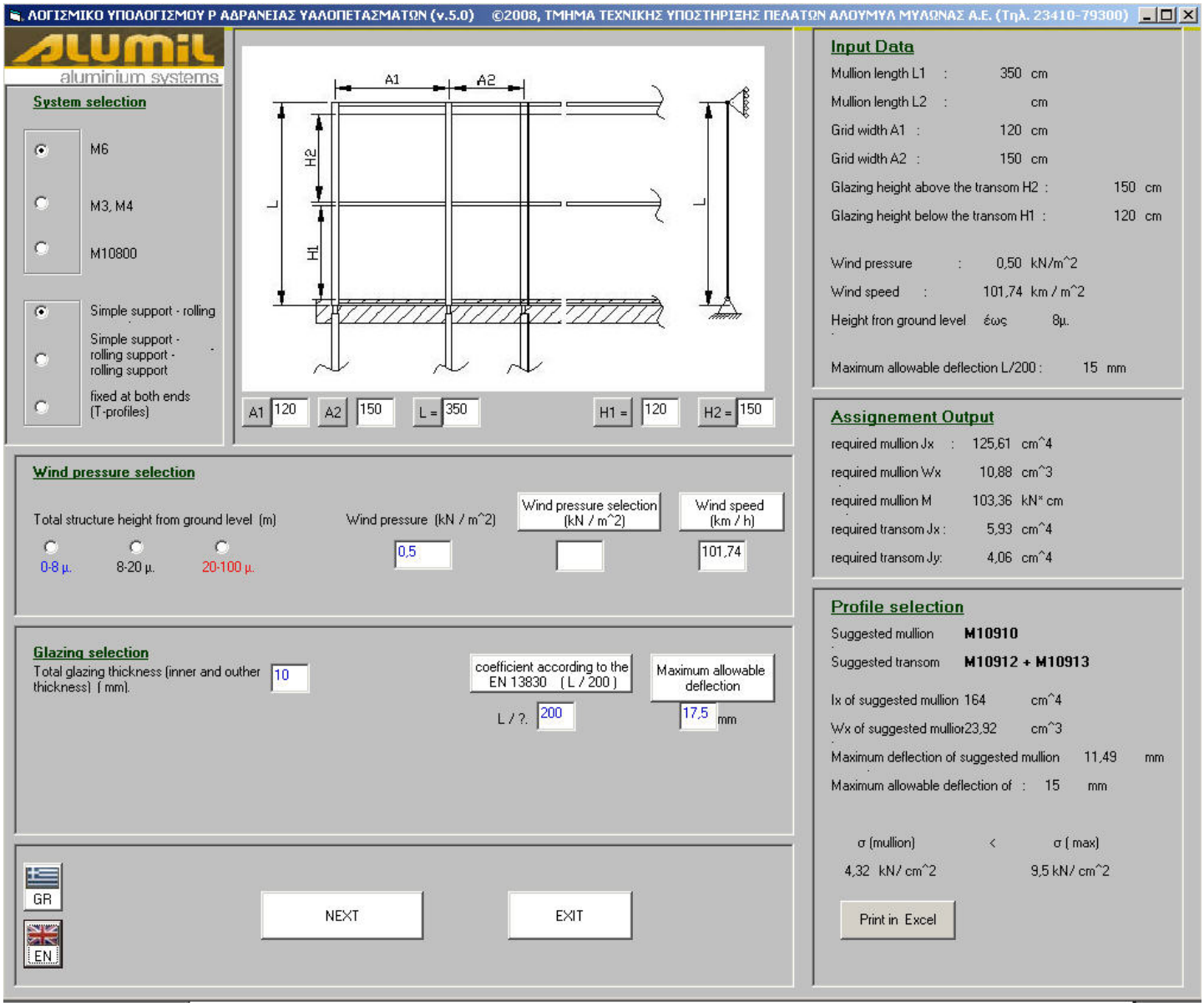


b) Results of Pre-Assignment : All the results of calculation the Moment of Inertia, Moment of Resistance of the mullion and transom are presented.



c) Profile selection: In the following picture, the program proposes from the selected system the cross-section that fill the requirements. Also the user can print out the results in the Excel file in Greek and English language.





The above picture presents the form filled in with all the required information in order to make the calculations and simultaneous all the results of the calculations (right part).

6) Transfer of all results in Excel File and Printing or Storing (Save as):

After printing the results in the screen, press the button 

in order to transfer all the results in a one file ".xls" for printing or storing them.

ATTENTION

In order to export data from one program to other, before you pressed the relatively button, you must have already open the file with the name "statik_gr.xls" for printing in Greek or "statik_eng.xls " for printing in English. If the file is not open, then by pressing the above button the program will close and all the calculations will be lost. In order to avoid such situation we propose you to open the above file before you start to run the program.

Having the file **"Statik_gr.xls" or "Statik_eng.xls "** open, the results can be transferred in the particular file and presented as below:

ALUMIL ΜΥΛΩΝΑΣ Α.Ε

Customer name
Location of project ΑΘΗΝΑ
Date 17/3/2008

Input data

Mullion length L1	cm
Mullion length L2	cm
Grid width A1	cm
Grid width A2	cm
Glazing height above the transverse H1	cm
Glazing height below the transverse H2	cm
Wind pressure	kN / m²
Wind speed	km / h
Height from ground level	m
Maximum allowable deflection L/200	mm

Mullion dimensioning

Required mullion Ix	cm⁴
Required mullion Wx	
Required mullion M	
Required transverse Ix	cm⁴
Required transverse Iy	cm⁴

Profile selection

Suggested mullion	
Suggested transverse	
Ix of suggested mullion	cm⁴
Wx of suggested mullion	
Ix of suggested transverse	cm⁴
Maximum deflection of suggested mullion	mm
Maximum allowable deflection	mm
σ (mullion)	kN / cm²
σ (maximum)	kN / cm²

Note:
This study can not replace in any case a study of static calculation from a qualified professional. All the calculation data, as well as this program, have been checked by our company thoroughly about the correctness of the results.
ALUMIL does not untertake any responsibility regarding the correctness of the results.

ALUMIL ΜΥΛΩΝΑΣ Α.Ε

ΟΝΟΜ/ΝΥΜΟ ΠΕΛΑΤΗ :
ΤΟΠΟΘΕΣΙΑ ΕΡΓΟΥ : ΑΘΗΝΑ
ΗΜΕΡ/ΝΙΑ : 17/3/2008

Δεδομένα

Μήκος κολώνας	L1 :	cm.
Μήκος κολώνας	L2 :	cm.
Πλάτος κάναβου	A1 :	cm.
Πλάτος κάναβου	A2 :	cm.
Μήκος τζαμιού πάνω από την τραβέρσα	H2 :	cm.
Μήκος τζαμιού κάτω από την τραβέρσα	H1 :	cm.
Ανεμοπίεση	:	kN / m²
Ταχύτητα ανέμου	:	km / h
Υψος τοποθέτησης έως	:	m.
Μέγιστο επιτρεπτό Βέλος Κάμψης L/200	:	mm

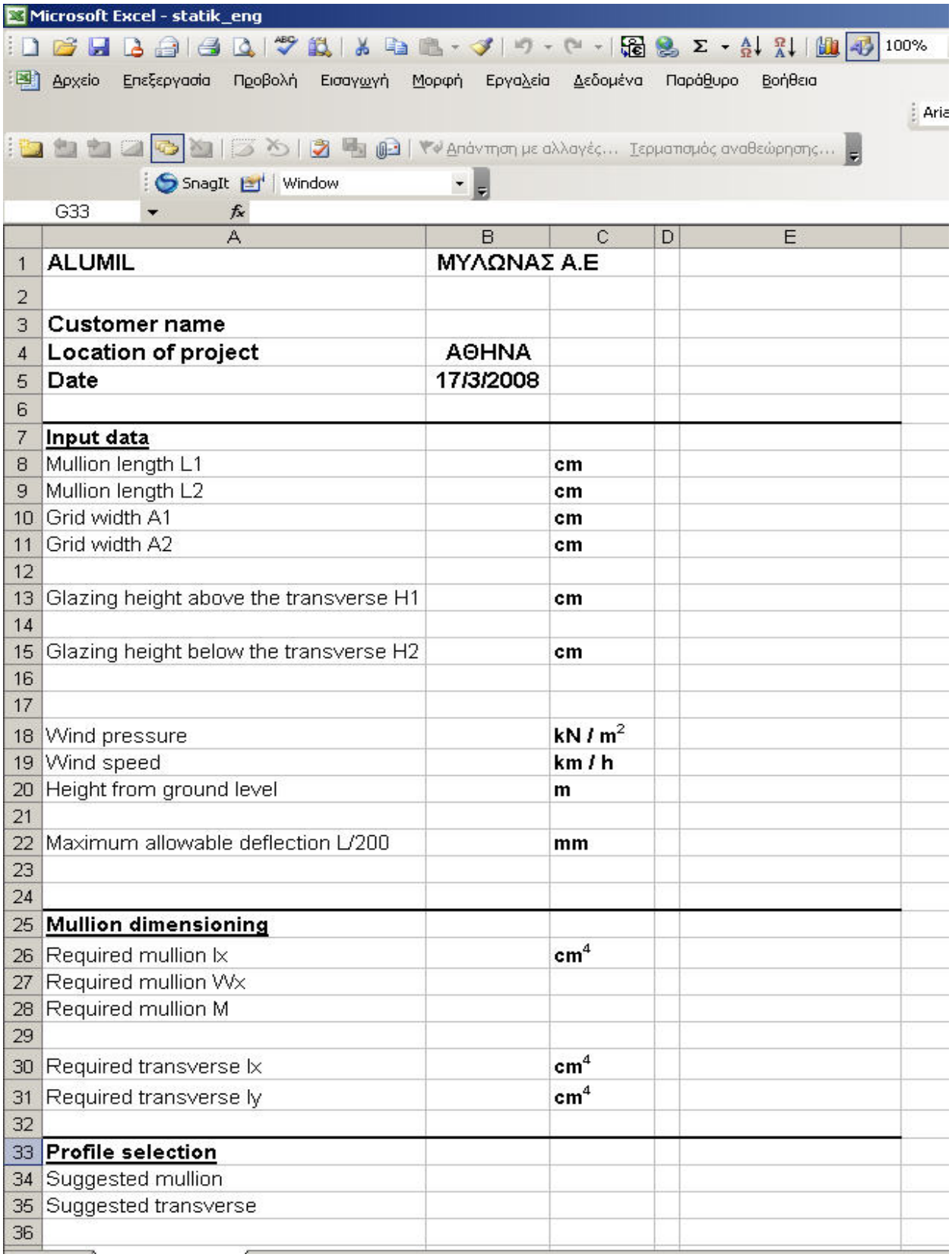
Διαστασιολόγηση κολώνας

Απαιτ. Ix κολώνας	:	cm⁴
Απαιτ. Wx κολώνας	:	
Απαιτ. M κολώνας	:	
Απαιτ. Ix Τραβέρσας	:	cm⁴
Απαιτ. Iy Τραβέρσας	:	cm⁴

Επιλογή Προφίλ

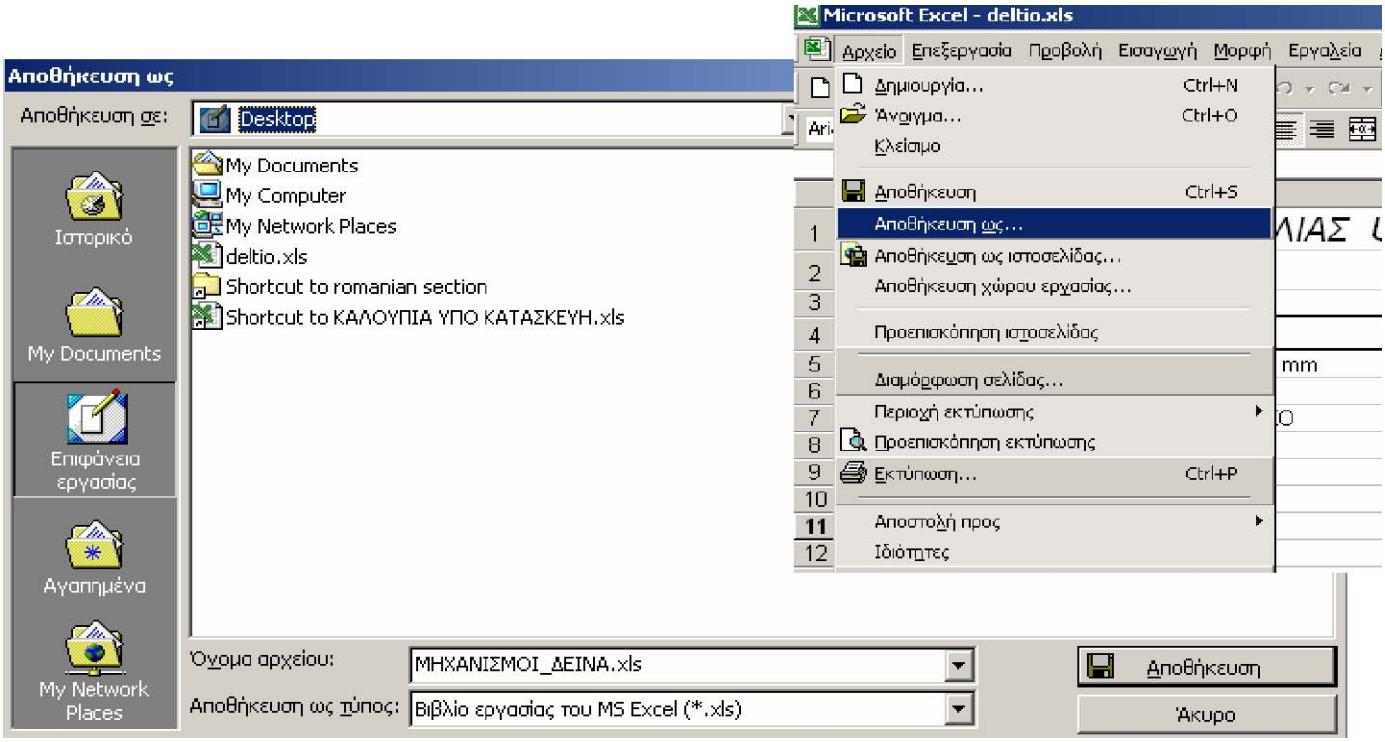
Προτειν. Κολώνα	:	
Προτειν. Τραβέρσα	:	
Ix προτεινόμενης κολώνας	:	cm⁴
Wx προτεινόμενης κολώνας	:	
Ix προτεινόμενης τραβέρσας	:	cm⁴
Βέλος κάμψης προτειν. Κολώνας	:	mm
Μέγιστο επιτρεπτό Βέλος κάμψης	:	mm
σ (κολ:		kN / cm²
,		kN / cm²

Σημείωση:
Η παρούσα μελέτη δεν μπορεί να αντικαταστήσει σε καμία περίπτωση μία στατική μελέτη από ειδικό στατικό.
Όλα τα στοιχεία υπολογισμού καθώς επίσης και το πρόγραμμα έχουν ελεγχθεί από την εταιρία μας διεξοδικά όσον αφορά την ορθότητα των αποτελεσμάτων.



	A	B	C	D	E
1	**ALUMIL**	**ΜΥΛΩΝΑΣ Α.Ε**			
2					
3	**Customer name**				
4	**Location of project**	**ΑΘΗΝΑ**			
5	**Date**	**17/3/2008**			
6					
7	**Input data**				
8	Mullion length L1		**cm**		
9	Mullion length L2		**cm**		
10	Grid width A1		**cm**		
11	Grid width A2		**cm**		
12					
13	Glazing height above the transverse H1		**cm**		
14					
15	Glazing height below the transverse H2		**cm**		
16					
17					
18	Wind pressure		**kN / m^2**		
19	Wind speed		**km / h**		
20	Height from ground level		**m**		
21					
22	Maximum allowable deflection L/200		**mm**		
23					
24					
25	**Mullion dimensioning**				
26	Required mullion Ix		**cm^4**		
27	Required mullion Wx				
28	Required mullion M				
29					
30	Required transverse Ix		**cm^4**		
31	Required transverse Iy		**cm^4**		
32					
33	**Profile selection**				
34	Suggested mullion				
35	Suggested transverse				
36					

After editing the file you can save it. If however you want to store your work in your P.C., for the file of your company or for future modification, you must select from Excel the menu "File" and afterwards "Save as…", so that you store the file with a **DIFFERENT NAME** from the name that it already has (e.g **Statik_<Name of customer>.xls**).



ATTENTION

NEVER store the output file as "statik_gr.xls" or "statik_eng.xls"

These files are necessary for the transport of the codes from the software to Excel and will always remain empty, as they were, when the program starts for first time. Each time closing the files, you must answer "NO" in the relatively question that Excel made for saving or not the file.

If you have proposals for further improvement of software or faced problems during his usage, you are welcome to contact with any collaborator of the **Service and Key Account Department (SKAD)** of Alumil Group with the following manners:

Tel: +30 23410 79300
Fax: +30 23410 79319
E –mail: customerservice@alumil.com

ALUMIL MILONAS S.A does not engage the responsibility toward natural or legal persons for damages that can be caused from erroneous (wrong) usage of program or from his usage in a computer with malfunctions in his system or from his usage for architectural systems of third companies. All calculation of the software is according to the EN 13830.