

User's Manual 8.POST-PROCESSOR







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THE NEW UPGRADED INTERFACE of SCADA Pro Ι.



II. DETAILED DESCRIPTION OF THE NEW INTERFACE

In the new upgraded SCADA Pro, all program commands are grouped in 12 Units.

Basic	Modeling	y View	Tools	Slabs	Loads A	Analysis	Post-Processor	Members Design	Drawings-Detailing	Addons	Optimization
	Po	st-Pro	ocess	or							
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	Basic I	lodeling	View	Tools Slab	s Loads	Analysis	Post-Processor	Members Design	Drawings-Detailing	Addons	Optimization
	2							0			
*	Mode						🖅 🛂	. <u></u>			
Combin	ations			Deforme	d Animation	2D N Diagrams	lumbering Edit Display Propertie	Load Properties Str s (By Pick)	ess Failure Criterion		
		Deforma	tion Diagra	ms			Va	ious			

The 8th Unit called "Post-Processor" includes the following two groups of commands:

- 1. Diagrams Deformations
- 2. Various

"Post-Processor" offers the user a detailed observation of the internal forces, the diagrams (M, V, N) and the deformed shape of the model as a result of an individual load or load combination.





1. Diagrams / Deformations

"Diagram Deformations" command group allows you to observe structure's deformation for each load or load combination and receive the intensive forces M, V, N diagrams on each element.

1.1 Combinations	
Combinations first, select "Combination want to see. In the dialog box:	ns" and load a combination's file, depending on the results you
Load Combinations	
Combinations Select Calculation OK Cancel	default.cmb EC-8_Greek Dynamic (2).cmb EC-8_Greek Dynamic (3).cmb EC-8_Greek Avελαστική ME (1).cmb EC-8_Greek Ανελαστική ΧΩΡΙΣ (0).cmb EC-8_Greek Ανελαστική ΧΩΡΙΣ (0).cmb EC-8_Greek Προέλεγχος Dynamic ΧΩΡΙΣ (4). EC8_General Dynamic (3).cmb EC8_General Dynamic (3).cmb
 Choose a combination from the have been performed, and wait set of press "<u>Combinations Select</u>", press "Calculation". To see the deformed shape of the have been press for the deformed shape of the have been press for the have been press been press the have been performed press the have been performed press press the have been performed press the have been performed press the have been performed press to the have been performed press press press to the have been performed press press	the list that includes the combinations of all the analyses that o as the calculation is completed automatically, or select the combinations file from the correspondent folder and of the corresponding eigenvalues, choose a dynamic scenario
.cmb file.	



1.2 List

It contains the "Model" and

Model -	Select Model or Diagrams-Stress Contours	
Diagrams-Stress Contours		
The commands are combined acco	rding to the choice:	
Model + Diagrams – Stress Contou	irs +	
	Select Magnitude	×
Linear Membe v Internal Forces v Mz v Load (Case v 1 v 3D Member v 1: 10 Pick Select All Clear All	??

1.3 Model + "Deformed"

Deformed	Model ×	
Load Case Load Case Combination Eigenvalues Pushover	~	Deformed Load Case Combination Eigenvalues
Load Case No:1 Sen:7 Lc=1 Load Case No:2 Sen:7 Lc=2 Load Case No:3 Sen:7 Lc=3 Load Case No:4 Sen:7 Lc=4 Load Case No:5 Sen:7 Lc=5 Load Case No:5 Sen:7 Lc=5	~	Choose from the list Pushover the general deformation cause and the next list, a general Load Case No:1 Sen:7 Lc=1 Load Case No:3 Sen:7 Lc=2 Load Case No:3 Sen:7 Lc=3 Load Case No:4 Sen:7 Lc=4 Load Case No:4 Sen:7 Lc=5
Scenery	Type of Dynamic	cause subcase.
Eco Dynamic	2 V	Activate Color Gradient, modify "Magnification" and type in the value of the "Animation Step" to
Color Gradient Magnification	m OK	receive a better visualization.
Direction Animation S	Step Cancel	video with the deformed shape of the structure.
AVI		
🥦 It is now possible to	o display the deforn	nation values based on the color gradation.



	pushCr1 - Scada Pro 18 328it	
Basic Modeling View Tools Slab	abs Loads Analysis Port-Processor Members Design Drawings-Detailing Addons Optimization	
Model - 🕅		
Combinations ' Deforme	ed Animation 2D Numbering Edit Load Properties Stress Failure Diagrams Display Properties * (By Pick) Criterion	
Deformation Diagrams	Verlour	
roject Data # ×		
line.		
-C: Ares	Deformed Model ×	
- 🕞 Circles	Load Case v	
E Columns	Load Gase No: 1 Ac:1 Lo-1	0.0440
Nodes		0.0440
- I MathColumns	Load Care No: 1 Ar: 1 Lo-1	0.0391
- Surf 3D	Load Care No.3 An Local Load Care No.3 An Local	
		0.0342
	ECS General Dynamic	0 0204
	Egennodes 1	0.0294
		0.0245
	Direction Armation Step	0.0196
		0.01.47
		0.0147
		0 00980
		0.00700
	¥ ¥ ¥	0.00491
		2.17e-005
Broject Bar W Broject Data		
s state and any more using s		

- "Deformed Model" window remains on the screen where you can select the next deformation origin. Press Cancel to close the window.
- According to the selected .cmb file, you can see the corresponding deformation
- Checking the model's deformation helps you to understand the structural behavior of the building and sometimes to assess if any errors in the structural model leading to an unjustified structural behavior are located.
- By loading *Static combination* you can't see Eigenvalues' deformed shape.
- Static analysis scenarios produce deformation for each Load case or Combination.

Deformed Model	×
Eigenvalues	¥
	_
Scenery Type of Dynamic	
EC8 Dynamic V Dynamic V	
Eigenvalues 3 🗸	
✓ Color Gradient	
Magnification 10 m OK	
Direction Animation Step	
+ 10 Cancel	
AVI	

To receive Eigenvalues deformed shape (you must have first operated a dynamic analysis which creates a dynamic scenario), select the Dynamic combination file.

Select "Eigenvalues", then the corresponding "Scenarios", the Type and the number of the Eigenvalues.

On the "Status Bar" check (double click, blue=active, grey=inactive) the type of the visualization of the deformed model.

MATH DEFOR PHYS-MATH PHYS-DFRM TRAN-MATH TRAN-DFRM



1.4 Model + "Animation"

Þ

Animation

"Animation" command is a button that activates and deactivates the deformed structure animation, according to the selections made in the "Deformed Model" dialog box.







Select the "2D Member" view to see the six internal forces of a linear member concentrated in one window. Also, while moving the mouse you can see the values for each stress along the member.



1 Sign convention is done is according to the member's local axes.

§ Plate Elements

For Plate Elements you can see:





By activating VALUES in the lower horizontal bar, you can see the values of the selected size in the surface of the surface element,





as well as the value of the Stress Contours over them



§ TEMPERATURE VARIATION

📂 Furthermore,

_

for Plate (shell) elements imposed with Uniform Temperature Variations load and/or Linear Temperature Variations load.

The **Uniform Temperature Variations** causes membrane deformation in the plane of the element, while





- The Linear Temperature Variations cause	es deflection.
Later moderny ver nos see Later novemp for the first sector member bright barriers Combinitions' Deformed Administra 20 Numbering for Later Properties	Andrens
Deformation Dagants ∠ / A ↓ ○ ◇ ◇ X ⊥ / X ⊗ P ▲ ▲ @ ◇ ● ∠ € € €	€€€<
Image: State Image: State	
ţ-	
Lagertiged ra., ≅g reget to] € AXONOM 352614,00 MATH DI	HOR PHYS-MATH PHYS-DRM TRAI-MATH TRAI-DRM
§ Select items	
Pick Select All Clear All ??	
Select the elements by using:	
• "Pick" and right click on the elements	
"Select All"	
• filters (?? button) allows you to filter	r the values in the diagrams.
	C C
For Linear Members, you can select to see m	ember's diagrams according to their type
All Members Columns	All values
Beams (Beam, Column or All Membe	rs) using a value filter Range.
By pressing the button, the following dialog	how appears in which you can select from the first
Member Selection	list, the type of the element for the display of the
	corresponding diagrams and the second list:
All Members $~~$ All Values $~$	• "All values": to display diagrams without value
Value Range	 "Min-Max": to display diagrams only on the
From 0 To 0	items with the maximum and minimum values.
Display based on sign	• "Value Range": to display diagrams only on the
OK Cancel	items where the corresponding value is between
Contract	the defined values' range.



Additionally, there is the "Display based on sign" option. By activating the checkbox, the selected size values are displayed with two different colors, one for the positive values and one for the negative.



1 This option works for all sizes and elements (linear and surface)

EXAMPLE:

For Plate Elements/works only with "Value Range"

For example, for a value of Myy bending moment defined in a range between 0.1 and 3, the following moment contour is displayed:

Member	Selection	×
All Members V	All Values	~
Value Range From 0.1	то З	
ОК	Cancel	





The part of the plate where the values are less or equal to 0.1KNm / m are colored red, while the values close to 3KNm / m are depicted with blue color. The corresponding image without using the filter:



Notice that the color bar always has the same color gradation ranging from red to blue (red, green, blue (RGB).

§ REPORT

It concerns the reinforcement of the surface elements Report

Select Magnitude												×
Plate Elemen ${\scriptstyle\checkmark}$ As ${\scriptstyle\checkmark}$	X Up $ \sim $	Load Case	\sim	1 ~	3D Member 🚿	1:	10	Pick	Select All	Clear All	??	Rep.

By selecting it, it is displayed for each surface element:

- ➤ the worst As,
- the combination is coming from and
- > the corresponding intensive forces.



ile Edit	As.txt - No t Format	tepad View Help					
lame	Comb.	As(cm2/m)	Mx(kNm/m)	My(kNm/m)	Mxy(kNm/m)	Nx(kN)	Ny(kN)
1	1	0.002	-10.786	-4.891	-8.110	0.206	-2.309
2	-1	0.000	0.000	0.000	0.000	0.000	0.000
3	-1	0.000	0.000	0.000	0.000	0.000	0.000
4	-1	0.000	0.000	0.000	0.000	0.000	0.000
5	-1	0.000	0.000	0.000	0.000	0.000	0.000
6	-1	0.000	0.000	0.000	0.000	0.000	0.000
7	-1	0.000	0.000	0.000	0.000	0.000	0.000
8	-1	0.000	0.000	0.000	0.000	0.000	0.000
9	1	0.004	-30,956	-1,791	-10,160	0.408	-2.291
10	1	0.002	-31,269	-4.649	-17,166	0.226	-6.865
11	1	0.001	-33,164	-5,198	-24.971	0.050	-11.454
12	1	0 001	-37 101	-3 219	-33 757	-0 123	-16 095
13	1	0.002	-44.058	2,105	-42.549	-0.392	-20.869
14	1	0.005	-56.334	12.425	-49.352	-0.952	-25.856
15	1	0.014	-78,067	29,631	-48.256	-2.570	-30,990
16	1	0.788	-101.377	42.971	-24.980	-5.555	-35.047
17	1	0.008	-49,163	-0.141	-10,513	0.732	-2.336
18	1	0.004	-50.587	-0.714	-15.894	0.390	-7.018
19	1	0.000	-53,798	-0.373	-21,803	0.040	-11.740
20	1	0.002	-59,536	1,347	-28,024	-0.357	-16,522
21	1	0.005	-68.643	4.768	-33,109	-0.927	-21.354
22	1	0.010	-82,176	9,588	-34,696	-1.930	-26,161
23	1	0.082	-100.042	12,975	-28.847	-3.642	- 30, 662
24	1	0.033	-116,152	0.647	-11,913	-6.029	-34.782
25	1	0.011	-65,003	0.798	-9.646	1.069	-2.359
26	1	0.005	-67.274	1,692	-13.621	0.513	-7,103
27	1	0.000	-71.291	2.419	-17.671	-0.029	-11.886
28	1	0.000	-77.645	3.245	-21,482	-0.645	-16.688
20	1	0.004	-86 696	3 967	-23 682	-1 462	-21 461
30	1	0.000	-98 /19	3 311	-22.557	-2 635	- 26 109
21	1	0.014	111 502	2 161	16 244	4 364	20,100
33	1	0.023	-122 655	-10 099	-10.344	-6.290	-34 746
22	1	0.011	79 000	1 210	7 055	1 251	- 34.740
24	1	0.018	-90 722	2 971	-10 722	0.500	-7 129
54	1	0.057	-00.725	2.9/1	-10.752	0.399	-7.129

The local axes of the plate and the corresponding intensive forces are shown in the figure below.

§ CLARIFICATIONS:

Clarifications on forces and reinforcement in finite surface elements:



▲ Concerning the **intensive forces**:



The forces refer to the **local system** of the element which is also shown, and listed in the file "out".

Attention to the moments:

- Mxx is the moment about y local axis and
- **Myy** is the moment about **x** local axis.

EXAMPLE:

For better understanding, a cantilever has been introduced in the example below.



- The local axis **x** coincides with the Catholic **X**. Therefore, in the out file, we aspect to see the large moments <u>about the local axis y means the</u> Mxx moments.



Go in the results and show the Mxx moments:

While the respective Myy moments are clearly much smaller:





Concerning the reinforcements:

Up for the plate is the START point of the local z.
 Naturally, for the cantilever, we expect to see more <u>upper</u> reinforcement - ATTENTION
 - in z up the option and <u>not in x up</u>.



It is clarified that the reinforcement:

- now refers to **Catholic's** axes and
- the position direction is **perpendicular** to the respective axis





: is the short way to see all six internal forces of a member (selected with left click) in a single window. By moving the mouse, you can also see the corresponding values along the member.





2.2 Numbering Display

: to display any information like numbering, degrees of freedom, members releases, rigid link constraint, etc.

Press the command and in the dialog box:

		Display
Material	Concrete	✓ Beams ✓ Add to List Clear List
Туре	C8/10	V 1 D3 - T 25/50/15/67 - B-3d 85 - L:Concrete Beams
Element	B-3d	1 D4 - T 25/50/15/57 - B-3d 86 - L:Concrete Beams 1 D5 - T 25/50/15/89 - B-3d 53 - L:Concrete Beams
Member	Beam	1 D6 - Γ 25/50/15/40 - B-3d 44 - L:Concrete Beams 1 D7 - Τ 25/50/15/79 - B-3d 83 - L:Concrete Beams
Laver	Lines circles	1 D8 - T 25/50/15/67 - B-3d 50 - L:Concrete Beams 1 D9 - T 25/50/15/68 - B-3d 49 - L:Concrete Beams
Preference	Cross Section	1 D10 - Γ 25/50/15/57 - B-3d 48 - L:Concrete Beams 1 D11 - Γ 25/50/15/40 - B-3d 47 - L:Concrete Beams
Color Select NONE	From To Step 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 D12 - F 25/50/15/38 - B-3d 58 - L:Concrete Beams 1 D13 - F 25/50/15/45 - B-3d 59 - L:Concrete Beams 1 D14 - T 25/50/15/47 - B-3d 59 - L:Concrete Beams 1 D15 - T 25/50/15/47 - B-3d 57 - L:Concrete Beams 1 D17 - T 25/50/15/67 - B-3d 56 - L:Concrete Beams 1 D18 - T 25/50/15/61 - B-3d 56 - L:Concrete Beams 1 D19 - T 25/50/15/61 - B-3d 56 - L:Concrete Beams 1 D20 - T 25/50/15/61 - B-3d 56 - L:Concrete Beams 1 D20 - T 25/50/15/61 - B-3d 54 - L:Concrete Beams 1 D20 - T 25/50/15/61 - B-3d 54 - L:Concrete Beams 1 D20 - T 25/50/15/61 - B-3d 54 - L:Concrete Beams 1 D20 - F 25/50/15/46 - B-3d 54 - L:Concrete Beams 1 D20
Add By Filter	(-) Remove By Filter ancel Optio OK	Number NONE Y

Select the elements by using the filters. Select as appropriate:

- A filter like "Material", "Type", "Element Type" etc., and press Add By Filter to add the selected elements in the list, or -) Remove By Filte to remove them from the existing list.
- One of the groups of the list
 Beams
 and press
 Add to List

Then, choose the information you want to display from the "Display" list:

Display		
✓ Number	NONE	~

Check "Number" to display the numbering of the selected items.



NONE A Cross-Section					
Area A Area Ak Shear Area Asy Shear Area Asz Moment of Inertia Ix Moment of Inertia Iy Moment of Inertia Iz Princical axes angle b Young Modulus E Shear Modulus E Shear Modulus G Specific Weight ¢ Thermal expansion Coefficient at Soil Coefficient Ks	Degrees of freedom Spring Constant Dx Spring Constant Dy Spring Constant Dz				
Rigid Offsets dx Rigid Offsets dy	Spring Constant Ry Spring Constants Rz				
Rigid Offsets dz Member Releases	Rigid Link Constraint 				
Length	Exy (GPa) Eyy (GPa) Gxy (GPa) ε (kN/m3)				
X-Coordinate Y-Coordinate Z-Coordinate	atx aty atxy Ks (MPa/cm)	~			
In "Select" field you can set add	ditional filters	Select			
as a function of the maximum a	and minimum	Area A			~
values, or the limits that you example you can display the	specify. For		From	To	Step
values of beams' cross-section	ons, or those	Limits V	0	U	U
 To make all the displaying Display Number 	values disappe	ar, select "NON	E", disable t	he check bo	x "Number"
			and press	(-) Remove by	- III.er
2.3 & 2.4 Edit Propert	ies & Load P	roperties			
"Edit Properties" and "Load Pro respectively. (see Chapter 1 &	operties" have a 6)	Iready been exp	olained in BA	ASIC and LOA	ADS Ribbon,
Analysis Post-Processor Members D 2D Numbering Diagrams Display Various	esign es	etailing Basic Properties Numbe Displ Modify	ring ay		





1 For reasons of easy use and quick search you can also find them in "Various"

2.5 Load bearing masonry check based on Stress Failure Criterion



In the new version of SCADA Pro, the check of load bearing masonry regarding stresses based on the <u>Karantoni et al (1993)</u> stress failure criterion is added. The check regarding stresses is performed in both curved and planar walls for existing or new masonry.

The check command is located in the **Post-Processor** tab where:

The requires steps are the following:

1. We define the material and the stengths in the masonry library.

We define the values of the strengths in the masonry library:

Masonry	y Brick blocks wall - M2 25 cm	~	Type Existing
Name	Masonry Brick blocks wall - M2 25 cm		Thickness 0 Single Sided
Гуре	Load-bearing V Single-leaf wall	~ ?	Cocrete Steel
			C20/25 \checkmark S500
Masonr	y uni Common brick 6x9x19	~	Φ 8 / 10 cm fRdo,c(MPa)=
	Thickness 25 fb=1.6733 fbc=2.0000 ε=	15.00	Anchorage Without any additional carr
Mortar	Mortar Cement-M2	\sim	
	General purpose designed masonry mortar fm=2.0000		
Wall	? L1 (cm) 0 t1 (cm) 0 t2 (cr	n) 0	
Shell Be	edded Wall		
Total w	width of the two mortar strips g (cm) 0	?	
		, H	
1			✓ Filed vertical joints (3.6.2) Red join of thickness > 15 mm
Masoor	2V LIDÍ	t1 1	
103011		€12	Thickness (Equivalent) 25
	Thickness		
	Thickness 0		Specific weight (KN/m3) 15
Mortar	Thickness	~	Specific weight (KN/m3) 15 Compressive strength fk 0.7943
Mortar		Masonry units	Specific weight (KN/m3) 15 Compressive strength fk 0.7943 Modulus of elasticity 1000 0.7943
Mortar Wall	Thickness 0 ? L1 (cm) 0 t1 (cm) 0 t2 (cm)	Masonry units Mortars library	Specific weight (KN/m3) 15 Compressive strength fk 0.7943 Modulus of elasticity 1000 0.7943
Mortar Wall	Thickness 0 ? L1 (cm) 0 t1 (cm) 0 t2 (cm)	n) 0 Masonry units Mortars library	Specific weight (VN/m3) 15 Compressive strength fk 0.7943 Modulus of elasticity 1000 0.7943 (GPa) 1000 0.7943 Characteristic strength fvk0 0.1
Mortar Wall Concre	Thickness 0 Thickness 0 L1 (cm) 0 t1 (cm) 0 t2 (cr	n) 0 Masonry units Mortars library	Specific weight (KN/m3) 15 Compressive strength fk 0,7943 Modulus of elasticity 1000 0.7943 (GPa) 0.7943 Characteristic strength fvk0 0.1 Maximum shear strength 0,100
Mortar Wall Concre	Thickness 0 ? L1 (cm) 0 t1 (cm) 0 t2 (cr) ete infill fck (N/mm2) Thickness 5 20 0	n) 0 New	Specific weight (KN/m3) 15 Compressive strength fk 0,7943 Modulus of elasticity 1000 0.7943 (GPa) 1000 0.7943 Characteristic strength fvk0 0.1 Maximum shear strength 0,1087
Mortar Wall Concre C20/25	Thickness 0 ? L1 (cm) 0 t1 (cm) 0 t2 (cr) ete infill fck (N/mm2) Thickness 5 20 0	n) 0 New Save	Specific weight (KN/m3) 15 Compressive strength fk 0.7943 Modulus of elasticity 1000 0.7943 Characteristic strength fvk0 0.1 Maximum shear strength fv/kmax (N/m2) 0.1083 Flexural strength fxk1 0.1
Mortar Wall Concre C20/25 ata relia	Thickness 0 ? L1 (cm) 0 t1 (cm) 0 t2 (cr ete infill fck (N/mm2) Thickness 5 20 0 iability level KL1:Limited V Execution control class	Masonry units Mortars library	Specific weight (KN/m3) 15 Compressive strength fk 0.7943 Modulus of elasticity 1000 0.7943 Characteristic strength fvk0 0.1 Maximum shear strength fvkmax (N/m2) 0.1083 Flexural strength fxk1 0.1 Flexural strength fxk2 0.2

- Axial compressive strength fwc
- Axial tensile strength f_{wt}



• Equal biaxial compressive strength fwcb

Indicatively, the values suggested by the authors can be used:

$$\frac{f_{wt}}{f_{wc}} = 0.085 \quad \& \quad \frac{f_{wdc}}{f_{wc}} = 1.65 \tag{4}$$

- In cases that the values are **NOT** filled in, something that is not recommended, the suggested ones will be used automatically.
 - 2. We run the analysis and we create the combinations.
 - 3. We move to the ribbon POST-PROCESSOR.
 - 4. We pick the combinations.
 - 5. We move to the command STRESS FAILURE CRITERION and we select the TYPE of the masonry.

st-Processor Mem	ibers Design D	rawings-Detailing	Addons	Optimization	
ng Edit Load P y Properties (B)	Properties (Pick)	lure			
Various					
2, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,	🕻 🔽 \land 🔽 🙆	🛗 🕻 🗘 🍕	×		
	Stress Failure Crite	rion			×
	Name Criterion	Karantoni et al.			~
	Masonry Type	Existing (EC8.3)			\sim
		Report	ОК	Cancel	

We must choose whether the masonry is NEW or EXISTING so that appropriate safety coefficients divide the strengths f.

Stress Failure Criterio	n	×
Name Criterion	Karantoni et al.	~
Masonry Type	New (EC6)	Y
sc(F) 🗸 🗸	New (EC6) Existing (EC8.3)	

More specifically:

- For a **NEW** one --> coefficient **γ**_s based on EC6
- For an **EXISTING** one --> coefficient **CF**_m based on EC8-3



6. We press OK and we go out.

7. In the select magnitude bar, we select the criterion display.

▲ We remind you that according to recent changes surface tensions are calculated on both the mean plane and the two alignments of the element.

So we can choose to see the criterion:

- either with **MODE 1 (scF)**
- or with **MODE 2 (scS)** in each of these three positions.

Plate Element I Internal Forces IN IN Plate Element I Internal Forces IN IN Plate Element I Internal Forces IN IN Plate Element I Internal Forces <	Select Magnitude	Ν							×
By choosing display based on sign ?? Wender Selection By choosing display based on sign ?? Member Selection By choosing display based on sign ?? Member Selection Comparison of the selection Comparison of the selection Comparison of the selection Comparison of the selection Selection of the selection of the sel	Plate Element V Internal Forces V	σXX ∨ Load Ca	ise 🗸 1 🚿	/ 3D Member	~ 1: 10	Pick	Select All	Clear All	? Report
Member Selection All Members All Values Value Range Fron 0 To 0 Display regarding the value OK Cancel	By choosing display base	otx oty oty oty oty oty oty oty oty oty oty	??						
RED for INSUFFICIENCY	then the structure is colo BLUE for RED for	ored accord SUFFICIEN	All Members Value Range From Display regar OK Display to the o NCY CY	All All To ding the valu criterion	Values 0 Je Cancel	×			





For a better evaluation of the checks results to be achieved, there are the two following options

8. If we wish so, in the select magnitude bar we select the command REPORT.

By selecting this order, the values of the examined element are printed per surface element.

Name	Comb.	F
* * * * * *	Plegma	- S30 *****
696	4	-0.549
697	4	-0.573
698	4	-0.625
699	4	-0.731
700	4	-0.798
701	4	-0.807
702	4	-0.761
703	4	-0.748
704	4	-0.679
705	4	-0.333
706	4	-0.519
707	4	-0.338

9. By selecting the command STRESS FAILURE CRITERION we see a summary printout which contains all the details about the sufficiency or insufficiency of each mesh.

From the dropdown list, we select the format and the display location of the criterion. By pressing the REPORT command, the printout is printed.



The printout that comes up has the following form:



										Page
			Stress Failu	re Crit	terion					
Name of (Masonry Criterion	$\begin{array}{llllllllllllllllllllllllllllllllllll$									
			Mesh (Check						
Mesh Nar Compress Tensile st Equal bia:	me: Ple sive strength rength xial comp. stre	egma S21 $f_w = f_{wt} =$ ength $f_{wc_b} =$	0.000 (N/n 0.000 (N/n 0.000 (N/n	I nm²) nm²) nm²)	Material : γ _M = CF =	Maso 2.20 / 1.35	nry stone 1.50	wall - N	12 50 c	m
Criterion F	Parameters :	α = β =	0.665 k 3.835 f	b = /	1.650 0.085	c ₁ = c ₂ =	13.765 0.959	$\lambda_1 = \lambda_2 =$	0.581 0.995	
			Critical Combination							
Number of elements	Total Area (m²)	Number of elements that fail	Total Failure Area (%)		ID.	Number of elements that fail		Total F Are (%	ailure a)	Fmax
128	8.64	0	0.00		37		0	0.0	0	-0.31
Mesh Nar Compress Tensile st Equal bia	me: Ple sive strength rength xial comp. stre	e gma S22 f _w = f _{wt} = ength f _{wc_b} =	0.000 (N/n 0.000 (N/n 0.000 (N/n 0.000 (N/n	##### nm²) nm²) nm²)	####### Material : γ _M = CF =	##### Maso 2.20 / 1.35	######## nry stone 1.50	###### wall - N	##### 12 50 c	###### :m
Criterion F	Parameters :	α = β =	0.665 b 3.835 f	b = . f = .(1.650 0.085	c ₁ = c ₂ =	13.765 0.959	$\lambda_1 = \lambda_2 =$	0.581 0.995	
		Number of	Total Failure		Critical Combination		bination			
Number of elements	Total Area (m²)	elements that fail	Iotal Failure Area (%)		ID.	Num eleme	nber of ents that	Total F	ailure a	Fmax
						1	Iall	(70	,	