CDM DOLMEN e omnia IS srl

SOFTWARE DI CALCOLO STRUTTURALE E GEOTECNICO

IS Fuoco



USER LIST OF CONTROLS

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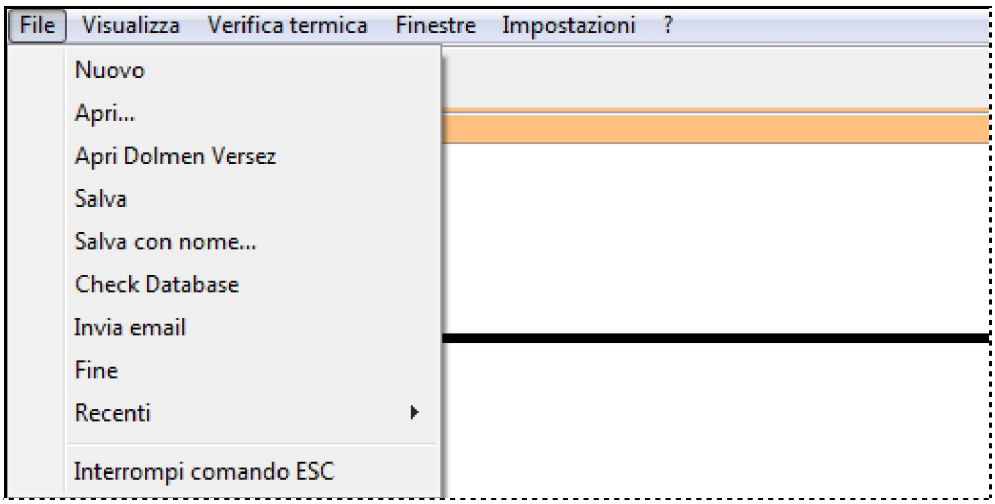
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Finestra verifica termica - Window thermal verification

Menu principale - File



Nuovo: creation of a new file

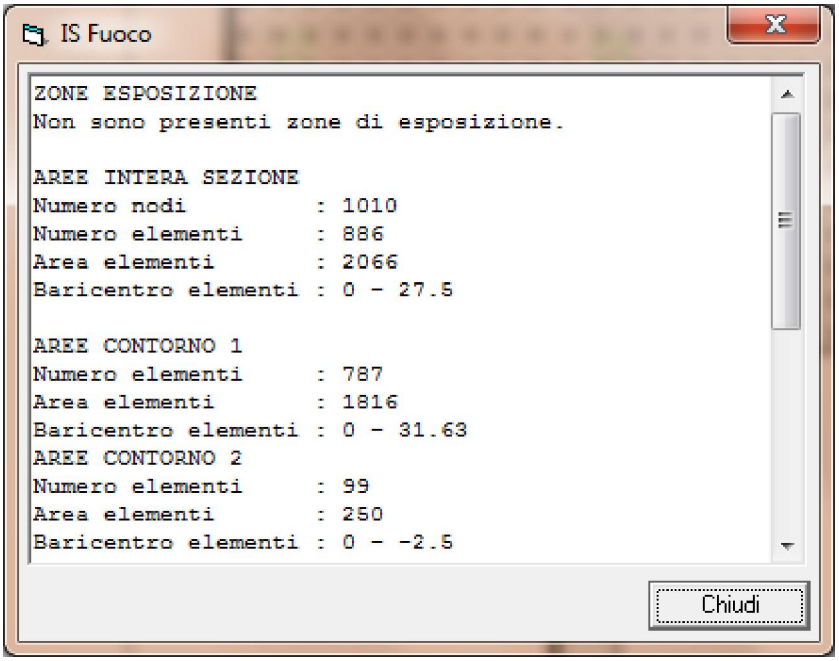
Apri…: open an existing file

Apri Dolmen Versez: open Dolmen “Verifica sezione”

Salva: Save

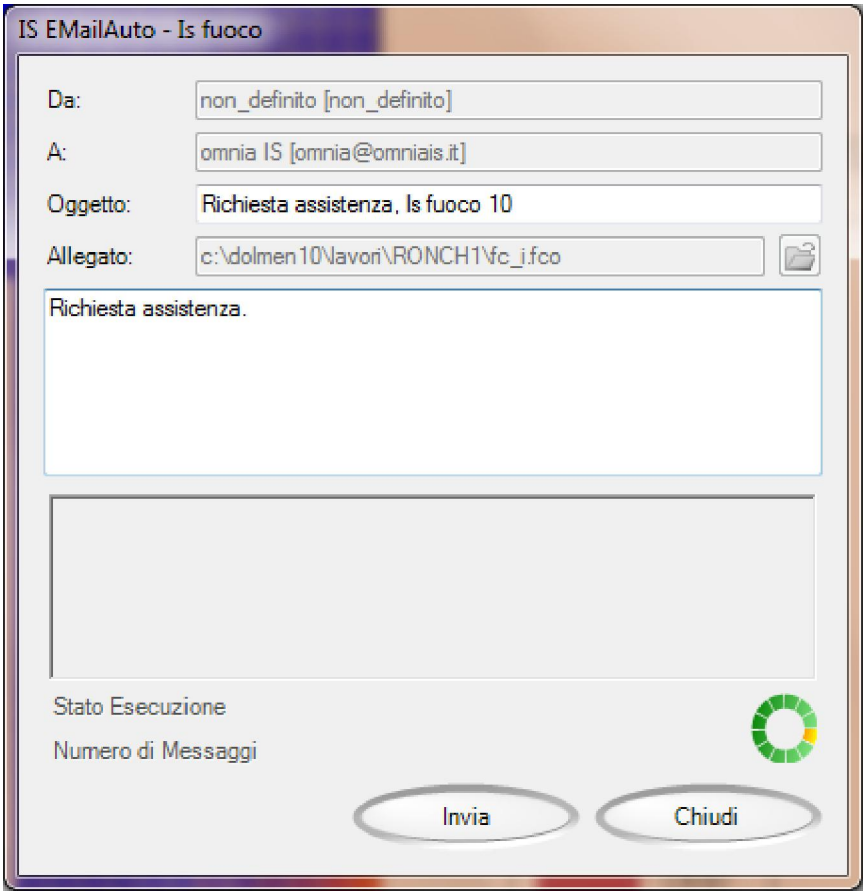
Salva con nome…: Save as …

Check Database: it’s an input control



Invia email: automatic request for assistance by e-mail

The program send the IS Fuoco file to the e-mail address omnia@omniais.it

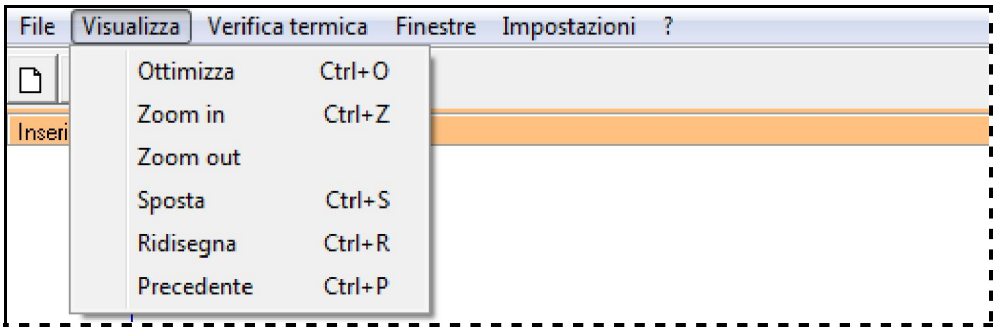


Fine: exit

Recenti: recently opened files

Interrompi comando esc: breaks current command

Menu principale - Visualizza - View



Ottimizza: zoom all (fit to page)

Zoom in: Zoom in

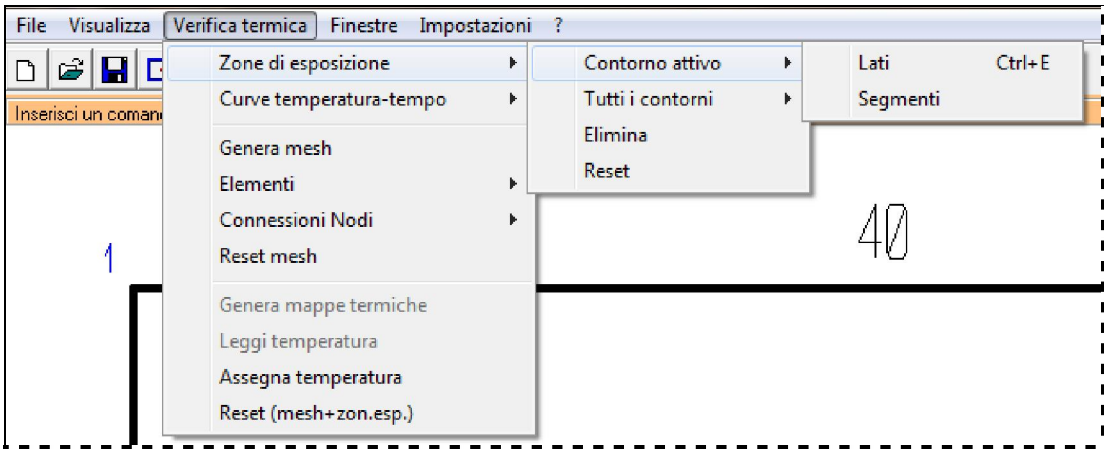
Zoom out: Zoom out

Sposta: move

Ridisegna: redraw (regenerate drawing)

Precedente: zoom previous

Menu principale - Verifica termica - Thermal verification



Zone di esposizione: Areas exposed to fire

→ **Contorno attivo**: active perimeter

→**Lati**: sides

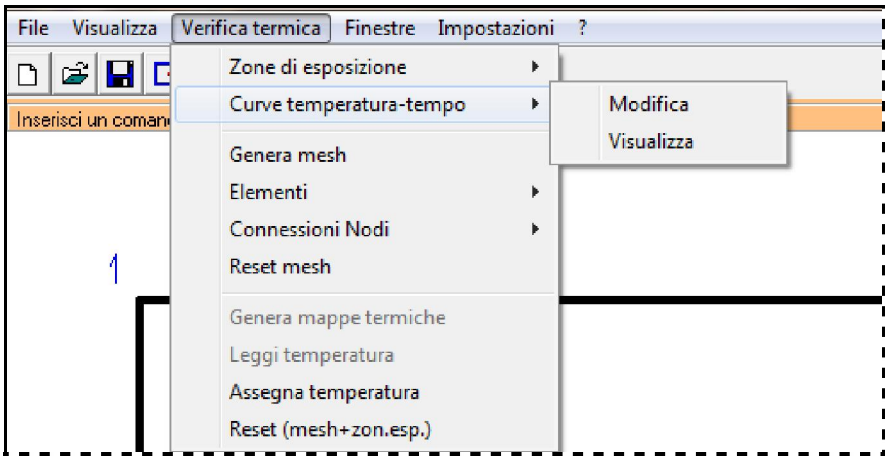
→**Segmenti**: segments

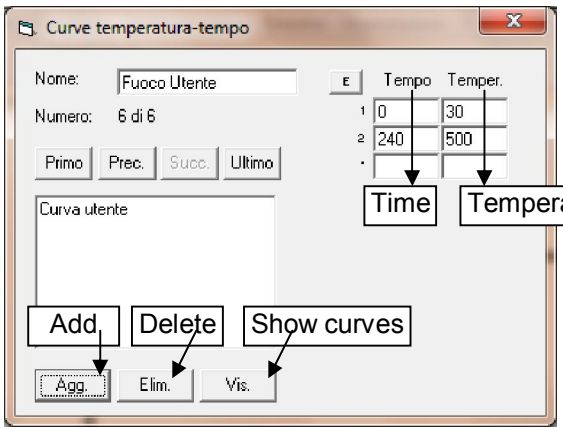
→ **Tutti i contorni**: all perimeters

→ **Elimina**: delete

→ **Reset**

These commands are used to apply the fire on the sides of the section.



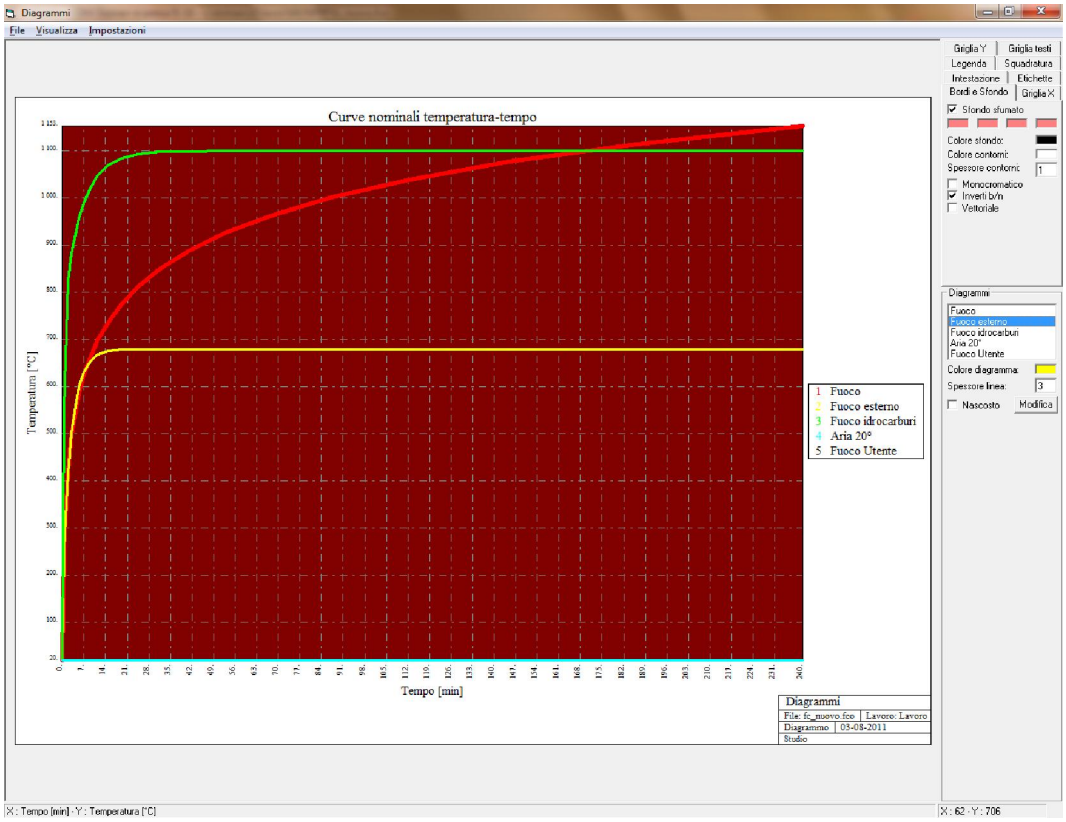


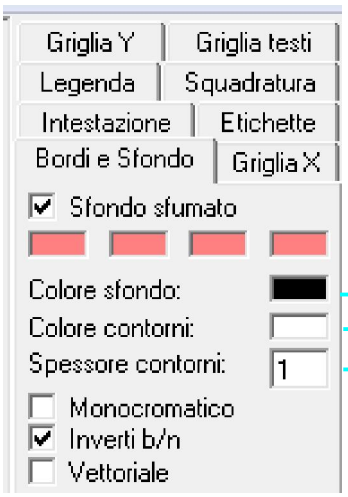
Curve temperatura - tempo: variation of temperature versus time (es. nominal fire exposure)

→ **Modifica**: change exposure

In this window you can edit and add new temperature - time curves.

→**Visualizza**: view all the time-temperature curves



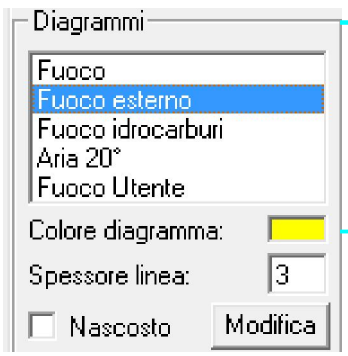


Grid y | Text grid
Legend | Squaring
Header | Labels
Borders and Shading | Grid X

❑ Gradient background

Background color
Color contours
Thickness contours

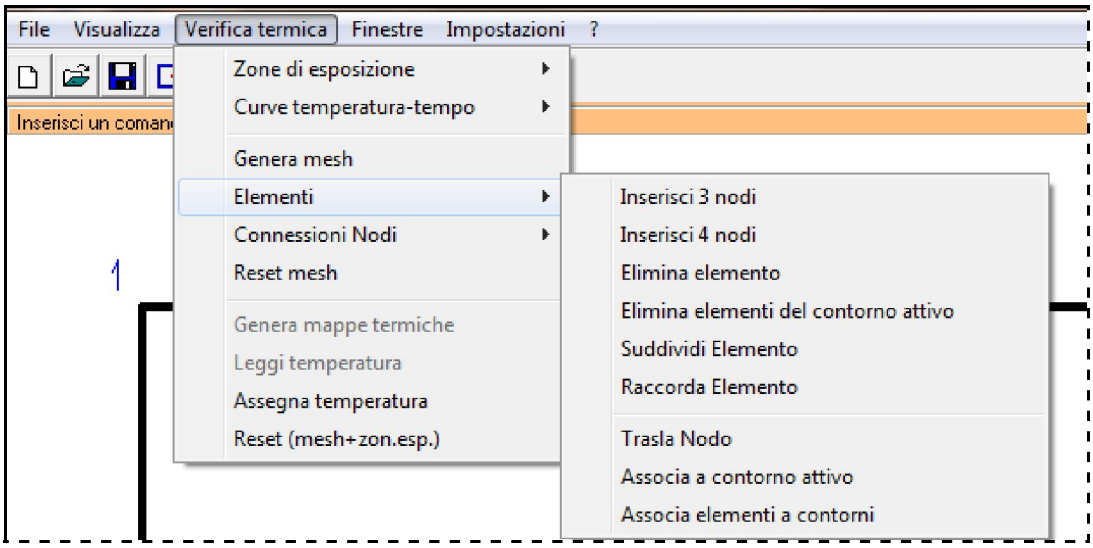
❑ Monochrome
❑ Invert Black and White
❑ Vector



Diagrams

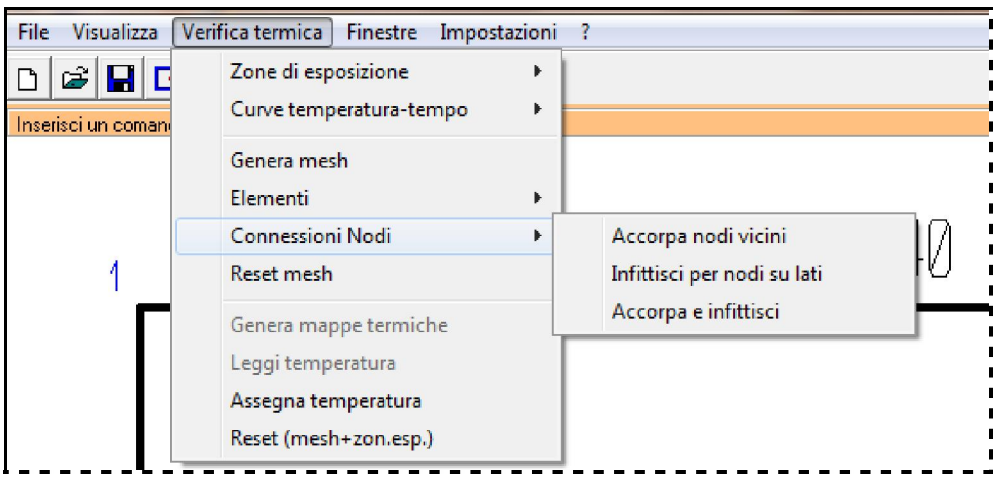
Colour diagrams
Thickness line

❑ Hidden | Change



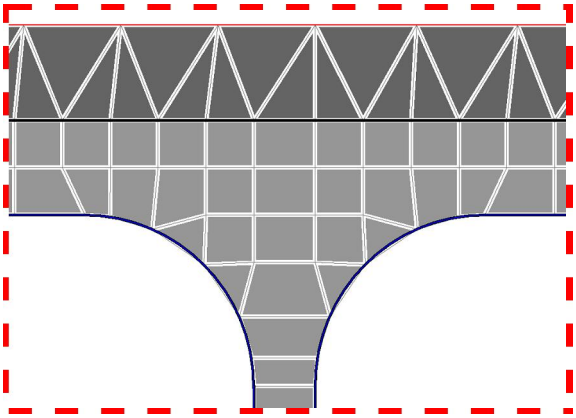
Elementi: is the menu for the manual creation of the mesh

- → **Inserisci 3 nodi**: insert new 3 nodes element
- → **Inserisci 4 nodi**: insert new 4 nodes element
- → **Elimina elemento**: delete element
- → **Elimina elementi del contorno attivo**: delete all element mesh of active perimeter
- → **Suddividi elemento**: subdivide element
- → **Raccorda elemento**: connect element
- → **Trasla nodo**: translation of the node
- → **Associa a contorno attivo**: association of elements to active perimeter
- → **Associa elementi a contorni**: association of elements to perimeter



Connessioni Nodi: connections between nodes

- → **Accorpa nodi vicini**: join the neighboring nodes
- → **Infittisci per nodi su lati**: thickening of the nodes on the element's sides
- → **Accorpa e infittisci**: both previous commands in sequence, as in the image below



Reset mesh

Genera mappe termiche: Generation of thermal maps

Leggi temperatura: read the temperature

Assegna temperatura: assignment of temperature

Reset (mesh + zon.esp.): reset mesh and areas exposed to fire

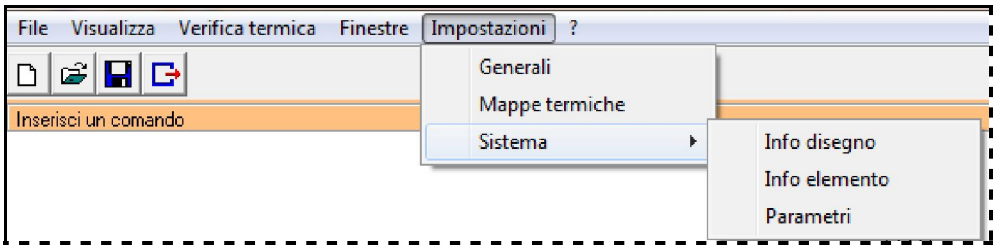
Menu principale - Finestre - Windows



→ **Minicad**: it's the CAD of IS Fuoco software (details at page 22)

→ **Sezioni**: This command is used to go to the window of structural verification

Menu principale - Impostazioni - Settings



Generali: general settings

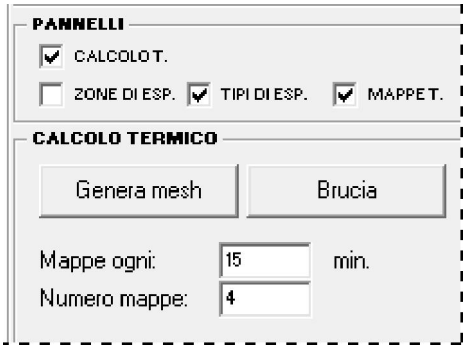
Mappe termiche: settings of thermal maps

Sistema → **Info disegno**: about drawing

→ **Info elemento**: about element

→ **Parametri**: parameters

Calcolo termico – Thermal calculation



CALCOLO T.: Thermal calculation
ZONE DI ESP.: sides exposed to fire
TIPI DI ESP.: types of exposition to fire
MAPPE T.: thermal maps

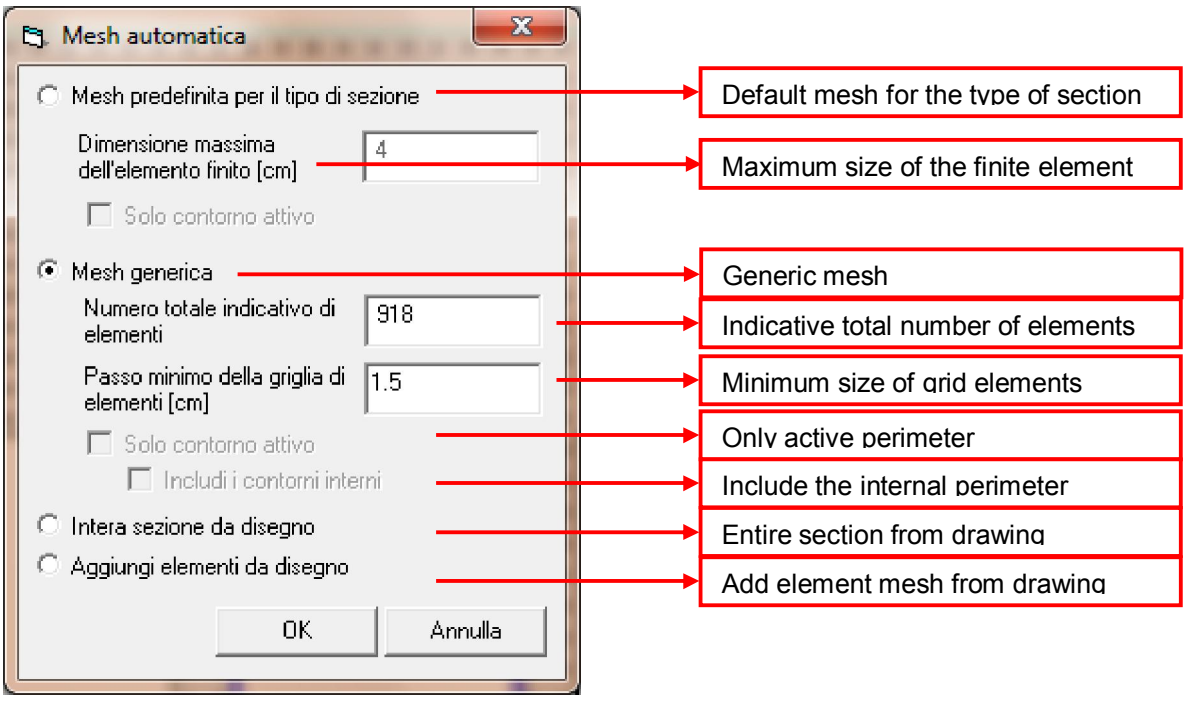
Genera mesh: generation of the mesh

Brucia: beginning of the heating section - beginning of the calculation

→ **Mappe ogni**: thermal maps duration

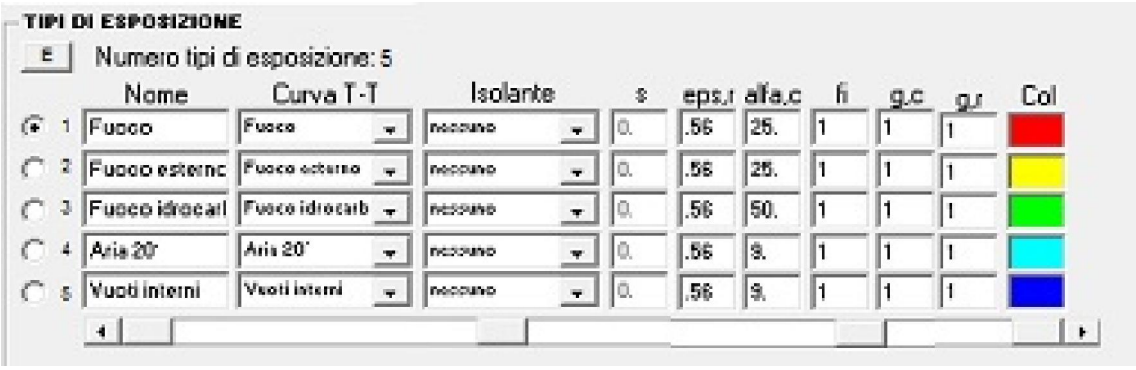
→ **Numero mappe**: number of thermal maps

The following window requires parameters for the creation of the mesh.



If you click "OK" the design of the mesh will appear on the screen.

The software contains 5 types of temperature-time curve (5 tipi di esposizione).



- **Nome**: exposure's name
- **Curva T-T**: temperature-time curve
- **Isolante**: insulation
- **s**: thickness
- **eps,r** - emissività risultante: emissivity resulting
- **alfa,c** - coefficiente di trasferimento di calore per convezione: coefficient of heat transfer by convection
- **fi** - fattore di configurazione: configuration factor
- **g,c**: fattore di sicurezza sul flusso convettivo: safety factor on the convective flow
- **g,r** - fattore di sicurezza sul flusso radiante: safety factor on the radiant flux
- **Col**: colour

1. **Fuoco**: fire - Standard temperature-time curve
2. **Fuoco esterno**: External fire curve
3. **Fuoco idrocarburi**: Hydrocarbon curve
4. **Aria 20°**: Room temperature 20° C
5. **Vuoti interni**: internal holes



AGG.: add a temperature-time curve

EL.ULT.: delete the last temperature-time curve

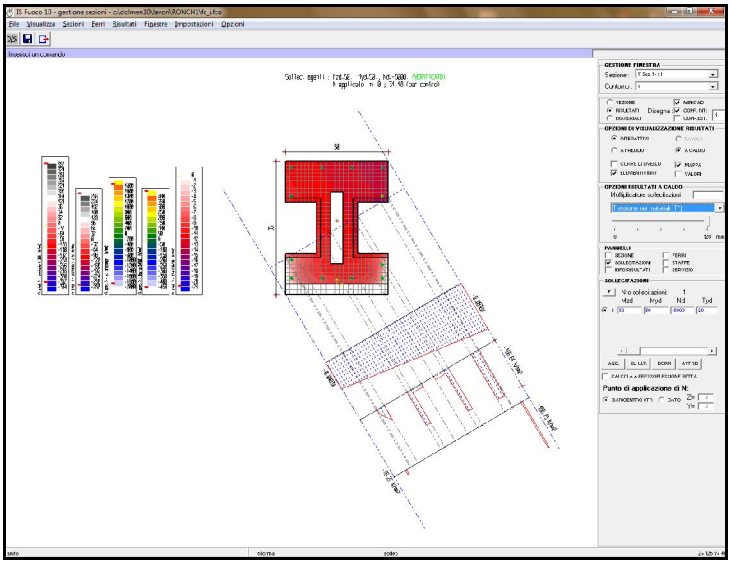


MAPPE TERMICHE: thermal maps

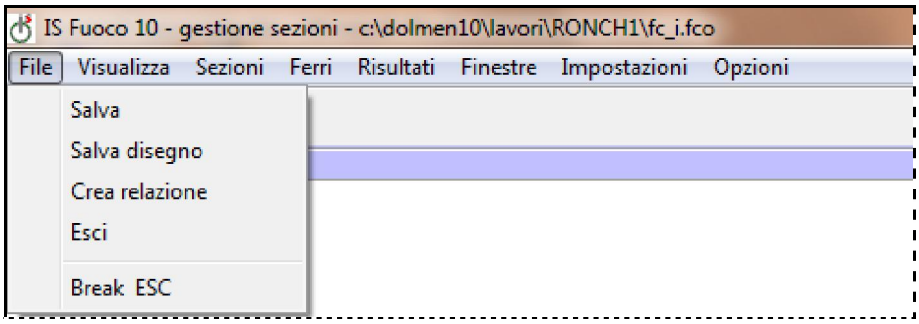
Tempo [sec.]: time duration

Interrompi: stop the calculation

Finestra verifica meccanica - Window mechanical verification



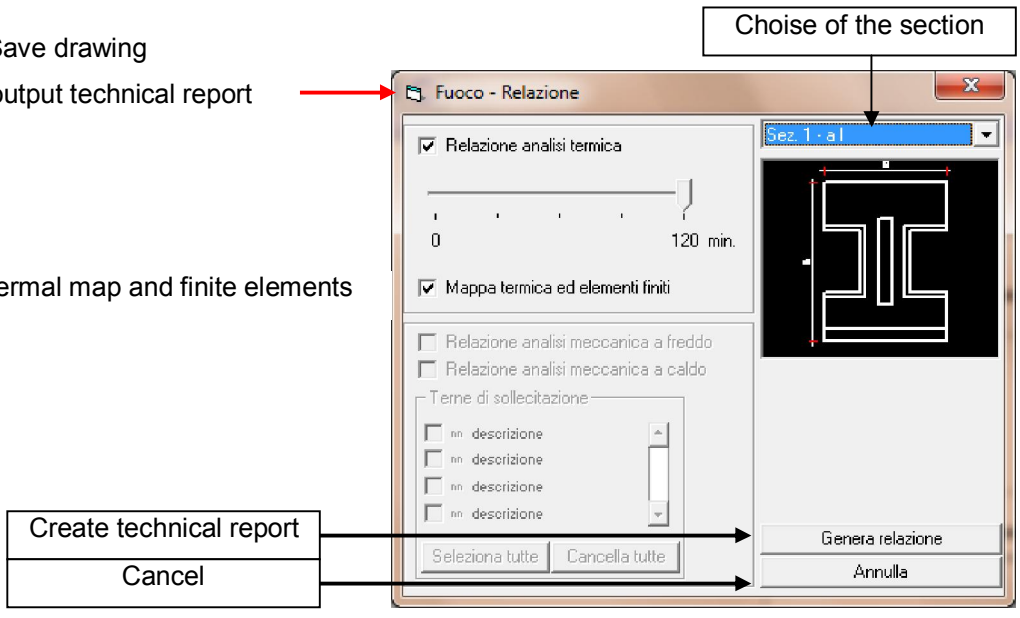
Menu principale - File



Salva: Save

Salva disegno: Save drawing

Crea relazione: output technical report

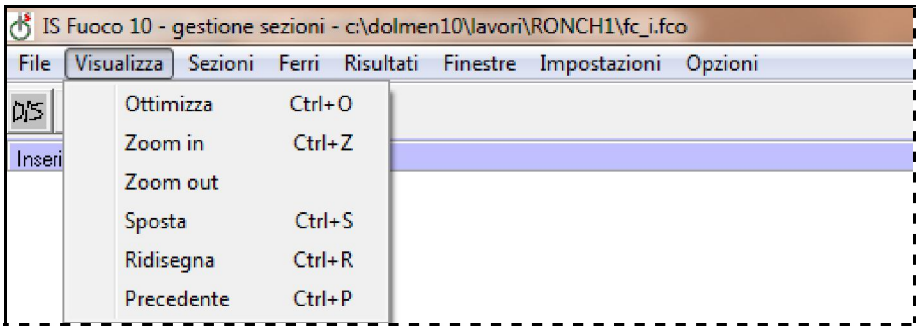


- Termal map and finite elements

Esci: exit

Break esc: breaks current command

Menu principale - Visualizza - View



Ottimizza: zoom all (fit to page)

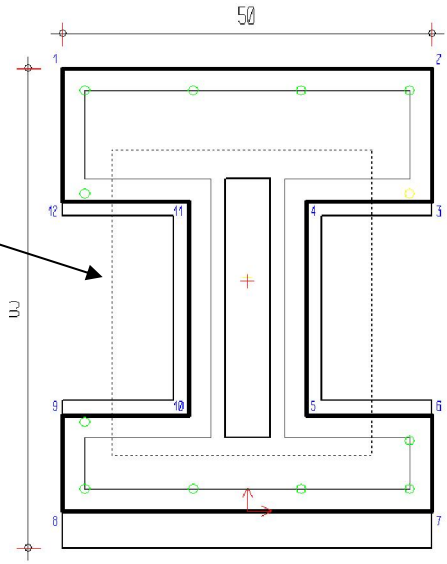
Zoom in: Zoom in

Zoom out: Zoom out

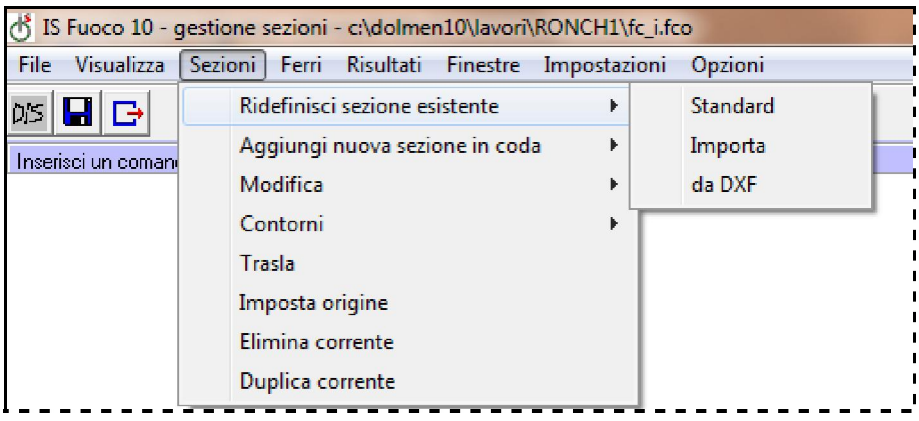
Sposta: move

Ridisegna: redraw (regenerate drawing)

Precedente: zoom previous



Menu principale - Sezioni - Sections

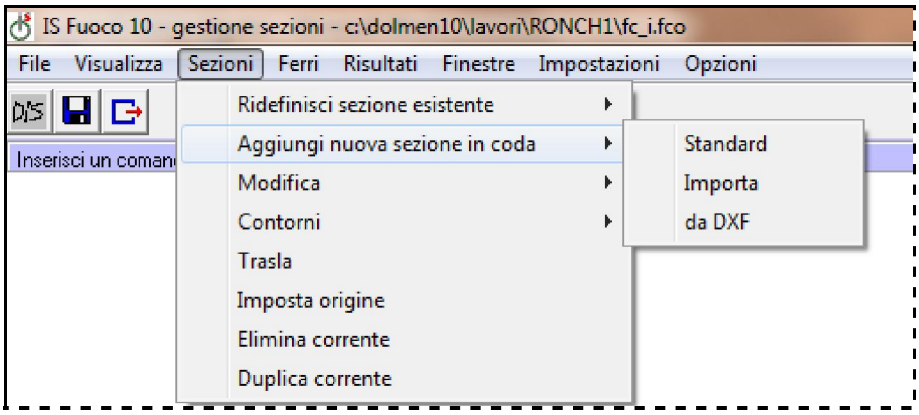


Ridefinisci sezione esistente: Refine existing section

→ **Standard**

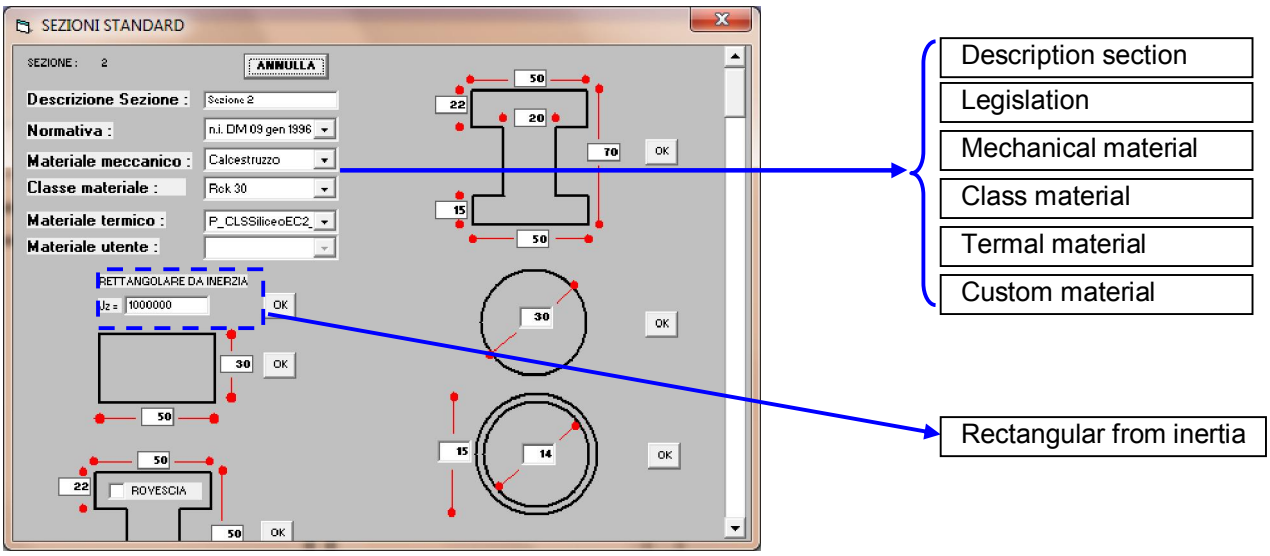
→ **Importa**: import

→ **da DXF**: from file *.dxf

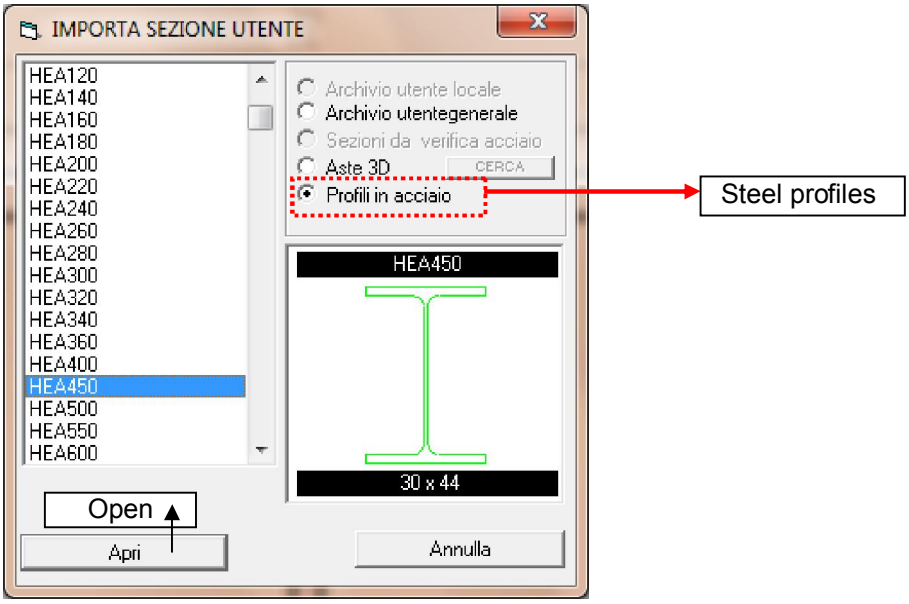


Aggiungi nuova sezione in coda: Add new section at the bottom

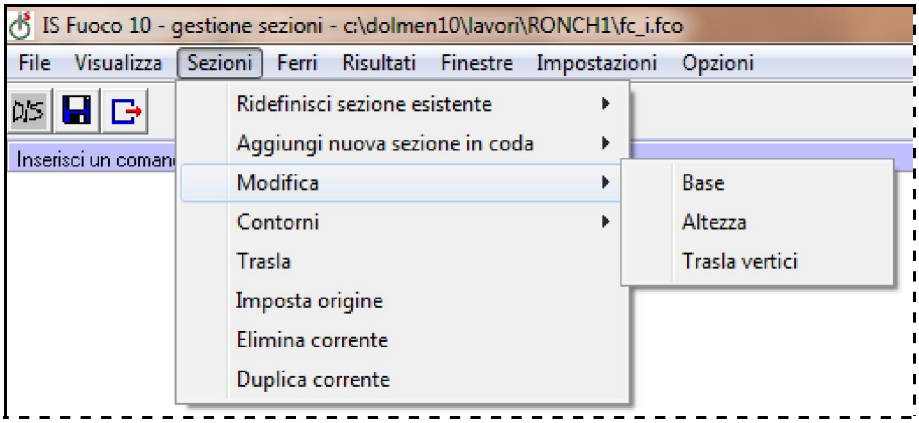
→ **Standard**



→ **Importa**: import



→ **da DXF**: from file *.dxf



Modifica: change

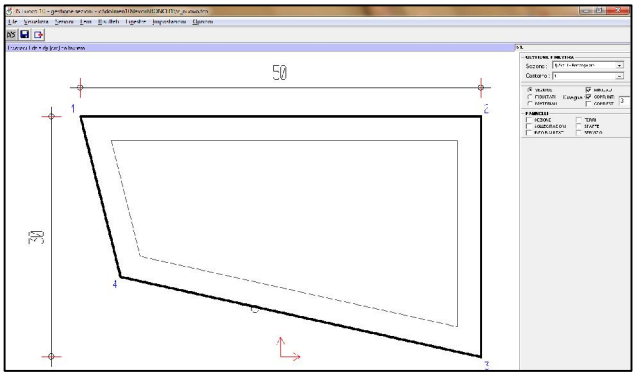
→ **Base**: base

→ **Inserisci la nuova base sezione**: enter the new base of the section

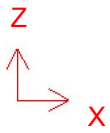
→ **Altezza**: height

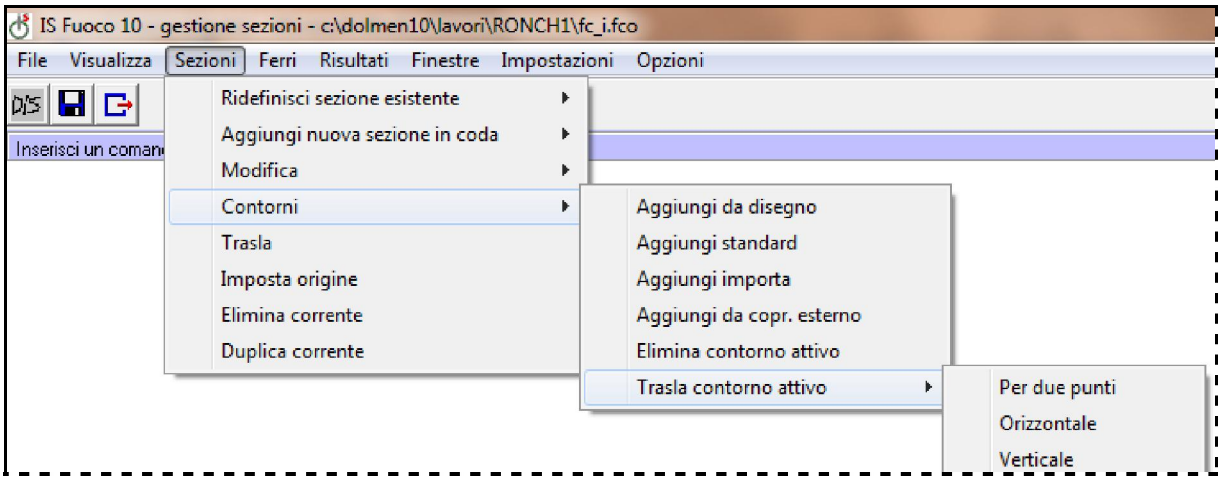
→ **Inserisci la nuova altezza sezione**: enter the new height of the section

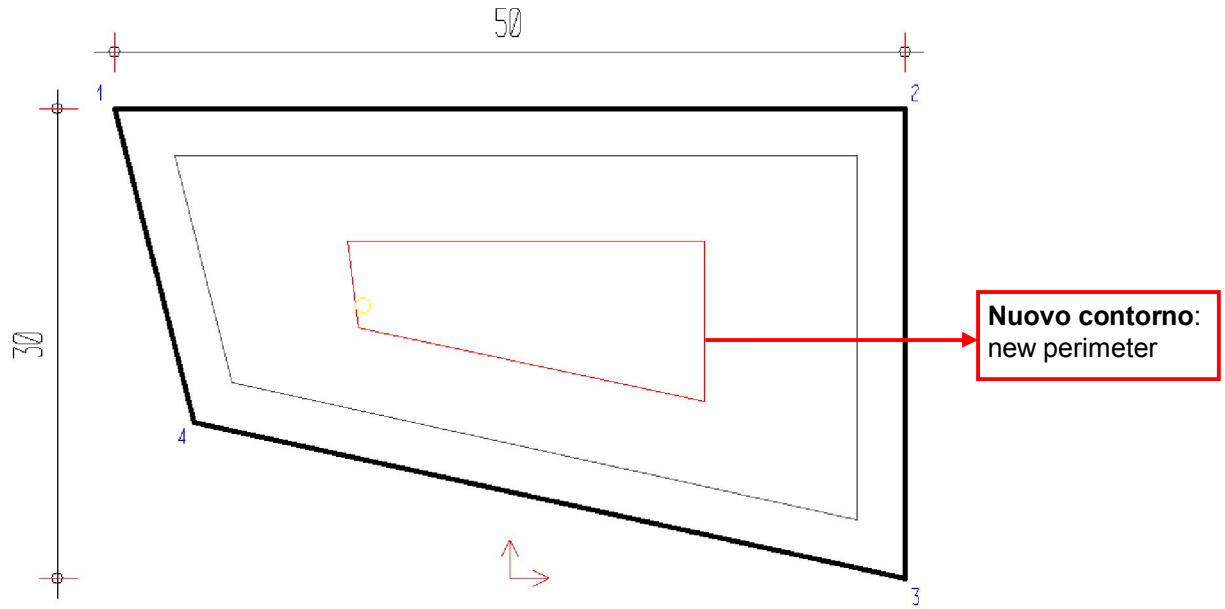
→ **Trasla vertici**: translation of the vertices



→ **Inserisci il dz e dx (cm) da tastiera …**: Enter dz and dx (cm) from the keyboard ...

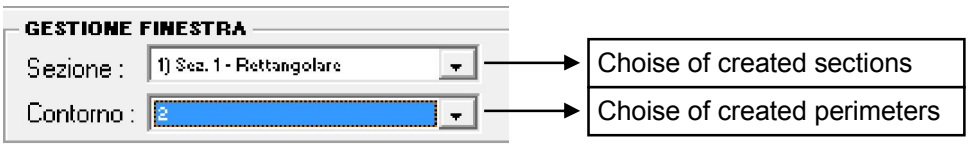






Contorni: creation of new perimeters

- → **Aggiungi da disegno**: add perimeter from design
- → **Aggiungi standard**: add perimeter that has standard form
- → **Aggiungi importa**: import perimeter (for example steel profiles)
- → **Aggiungi da copr. esterno**: create a new peimeter from an offset of the first
- → **Elimina contorno attivo**: delete the active perimeter
- → **Trasla contorno attivo**: move the active perimeter



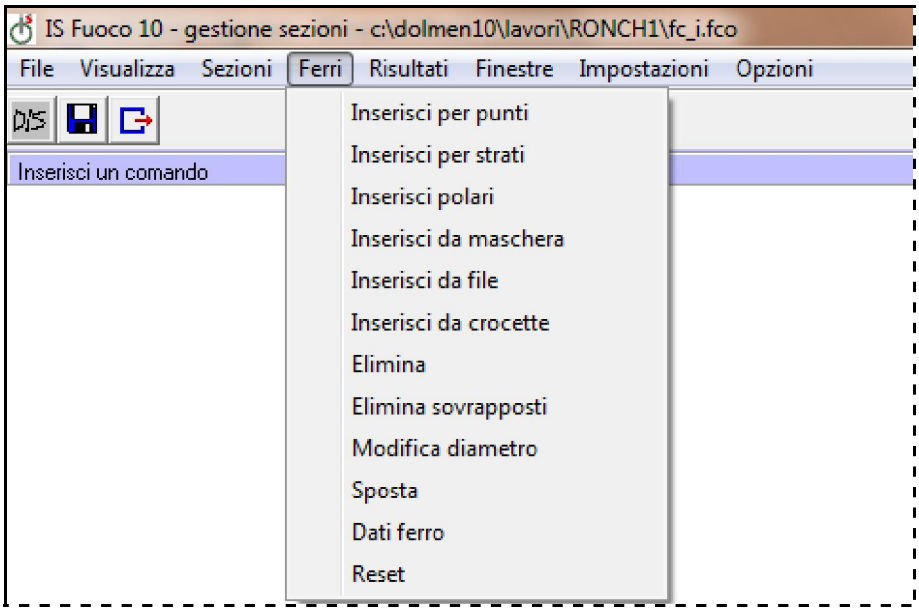
Trasla: translation of the section

Imposta origine: setting the origin of coordinates

Elimina corrente: delete section

Duplica corrente: duplicate the section

Menu principale - Ferri - Reinforcement bars



Inserisci per punti: enter the bars indicating the coordinates

Inserisci per strati: enter the bars indicate a line on which are located

Inserisci polari: enter the bars in a circle

Inserisci da maschera: enter the bar from a scheme

Inserisci da file: enter the bar from file

Inserisci da crocette: recognizes the design of reinforcement bars imported by selecting an area

Elimina: delete bars

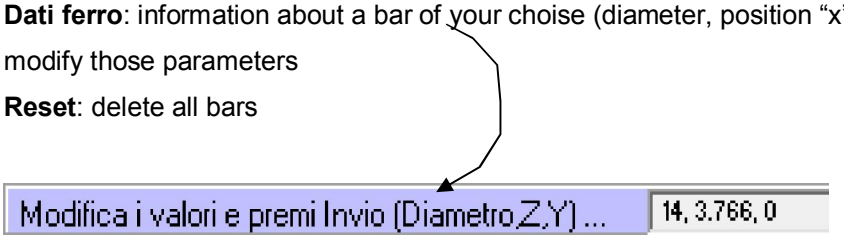
Elimina sovrapposti: delete overlapping reinforcement bars

Modifica diametro: change the diameter of the bars

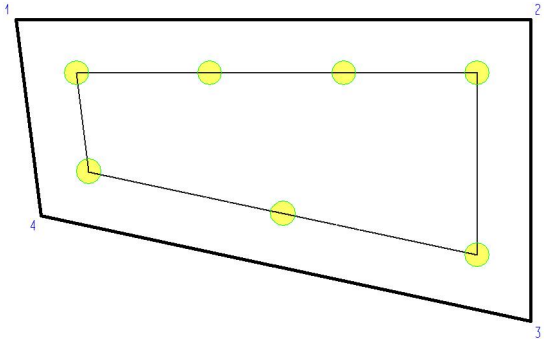
Sposta: move the bars

Dati ferro: information about a bar of your choise (diameter, position “x” and “z”); by this function you can modify those parameters

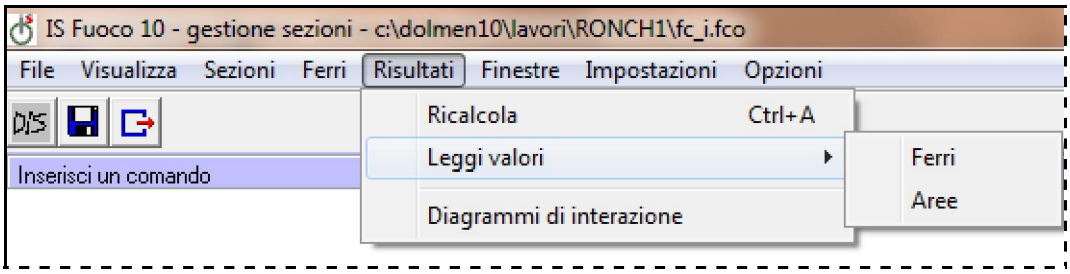
Reset: delete all bars



Change values and press enter (Diameter, Z, Y)…



Menu principale - Risultati - Results



Ricalcola: recalculate

Leggi valori: read values

→ **Ferri**: bars

→ **Aree**: areas

Diagrammi di interazione: interaction diagrams

This function opens the software IS DiagInt (details on page 26).

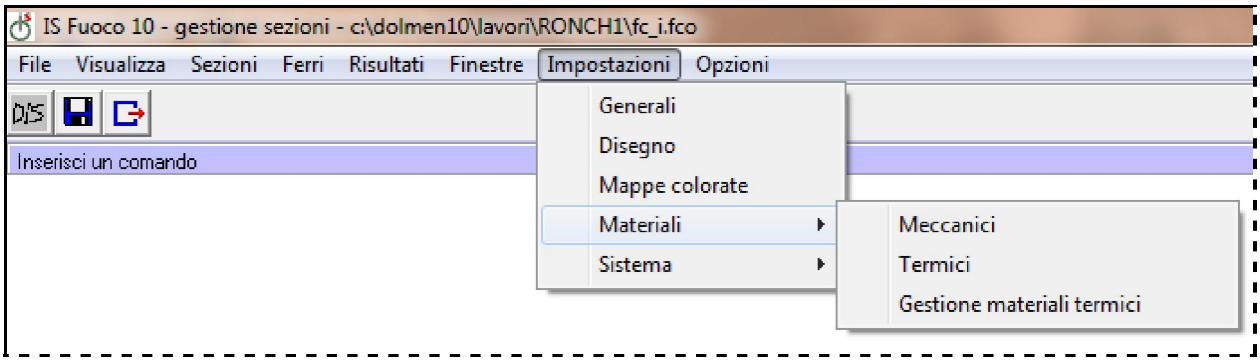
Menu principale - Finestre - Windows



Minicad: it's the IS Fuoco's CAD (page 22)

Fuoco: "fire" open the window for thermal calculation

Menu principale - Impostazioni - Settings



Generali: general settings

Disegno: drawing

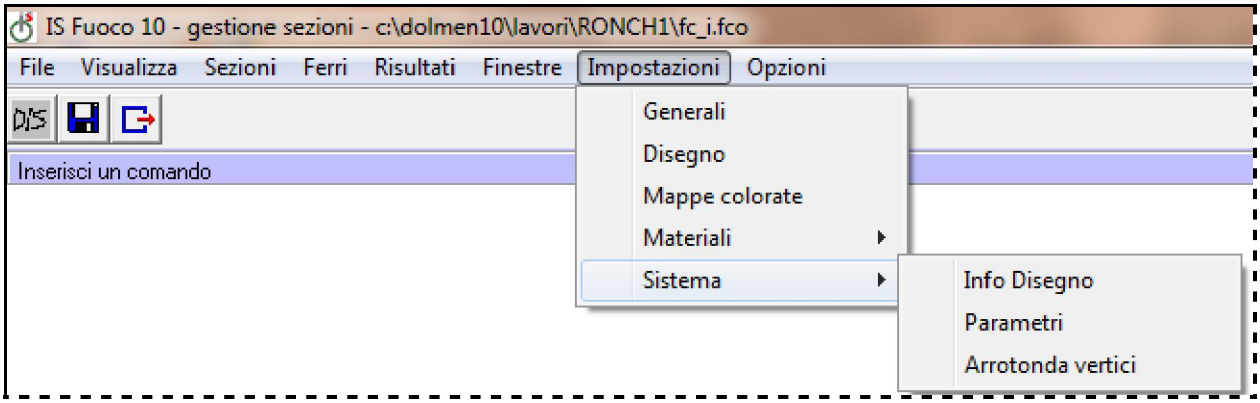
Mappe colorate: color maps

Materiali: materials

→ **Meccanici**: mechanicals

→ **Termici**: thermal characteristics

→ **Gestione materiali termici**: thermal management



Sistema: system

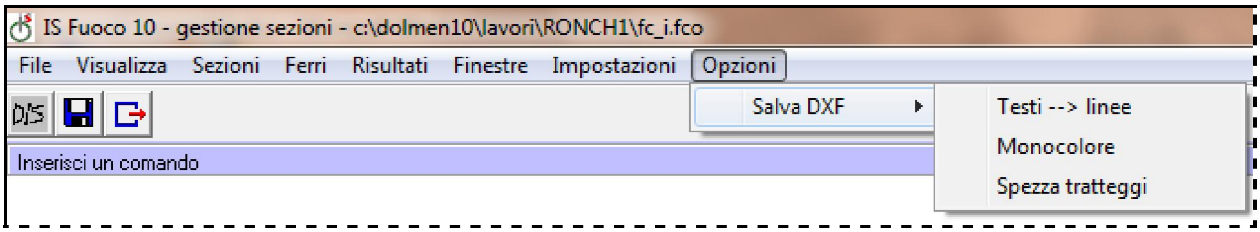
→ **Info Disegno**: information drawing

→ **Parametri**: parameters

→ **Arrotonda vertici**: rounds the coordinate of the vertex of the section

This kind of rounding is sometimes called rounding to nearest, or banker's rounding.

Menu principale - Opzioni - Options



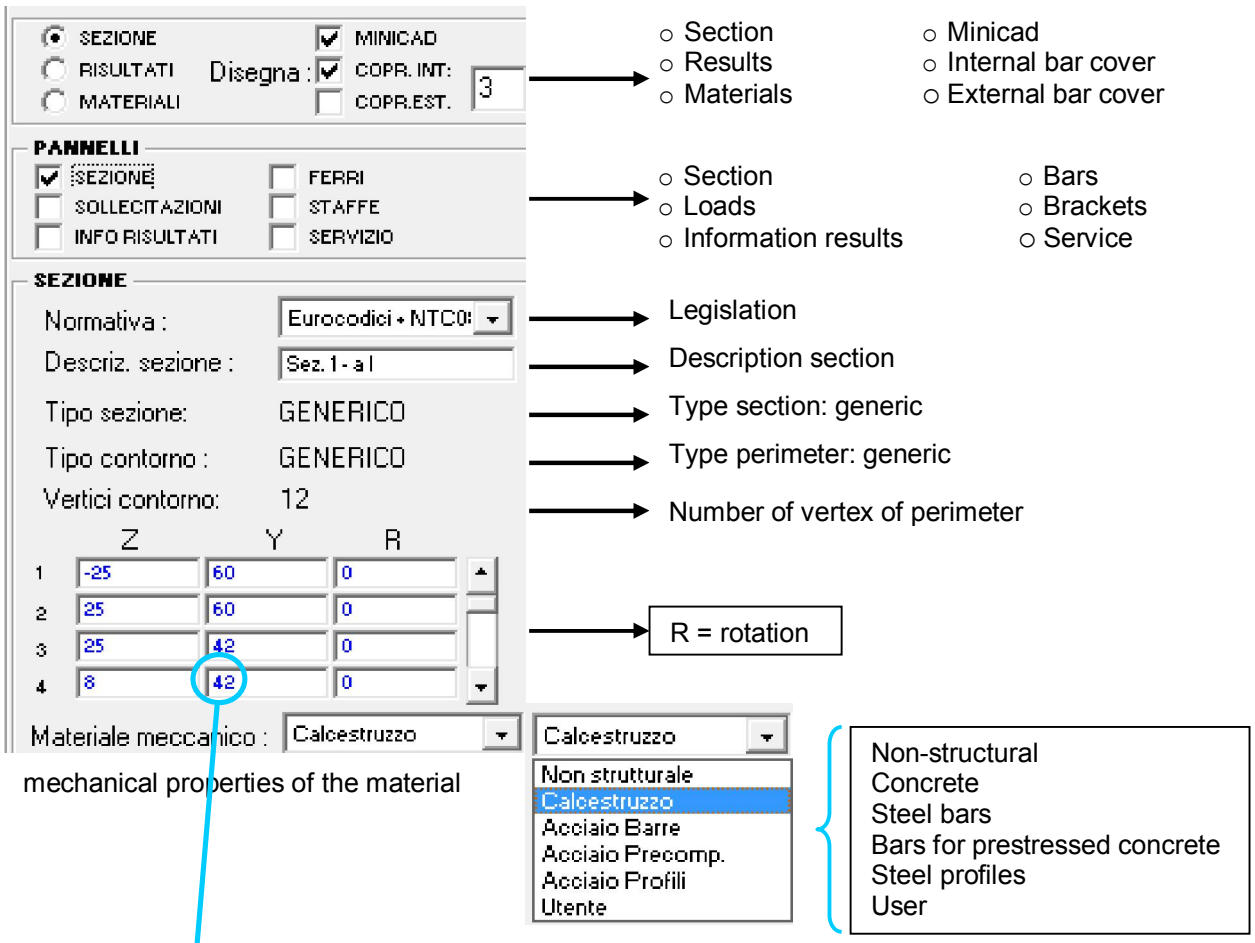
Salva DXF: save as .dxf file

→ **Testi --> linee**: texts --> lines

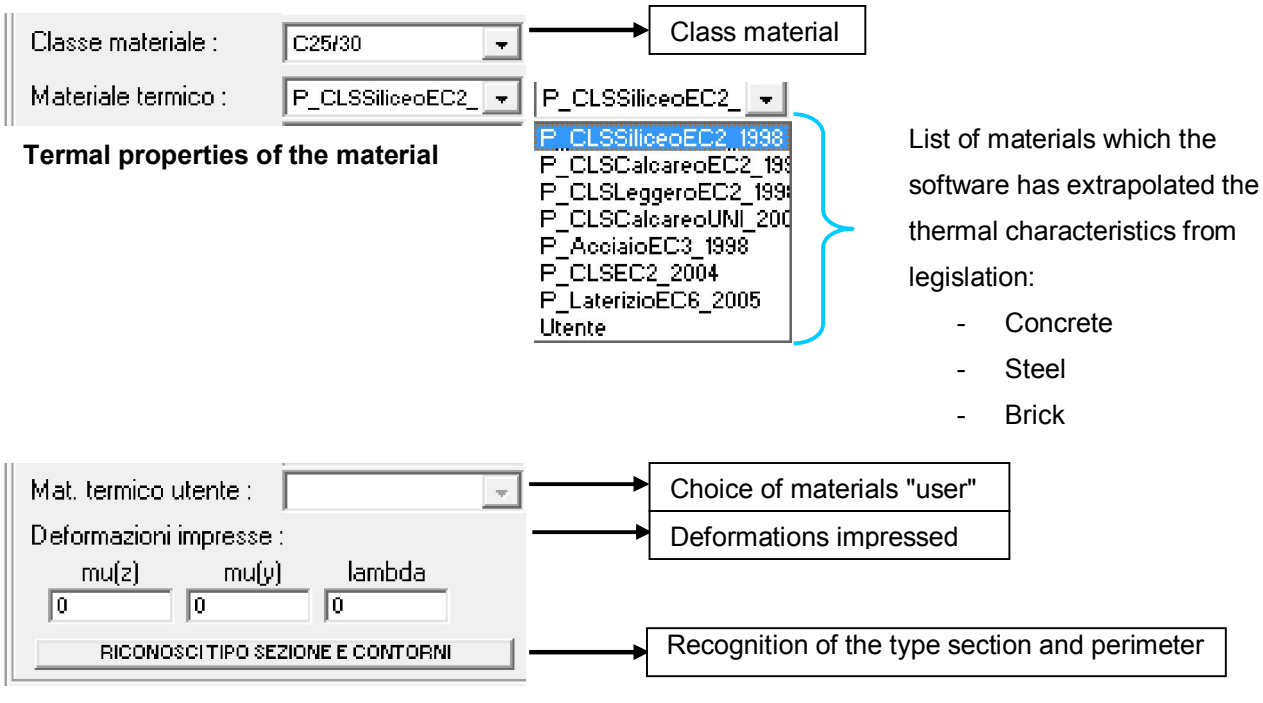
→ **Monocolore**: mono

→ **Spezza tratteggi**: break dashed lines

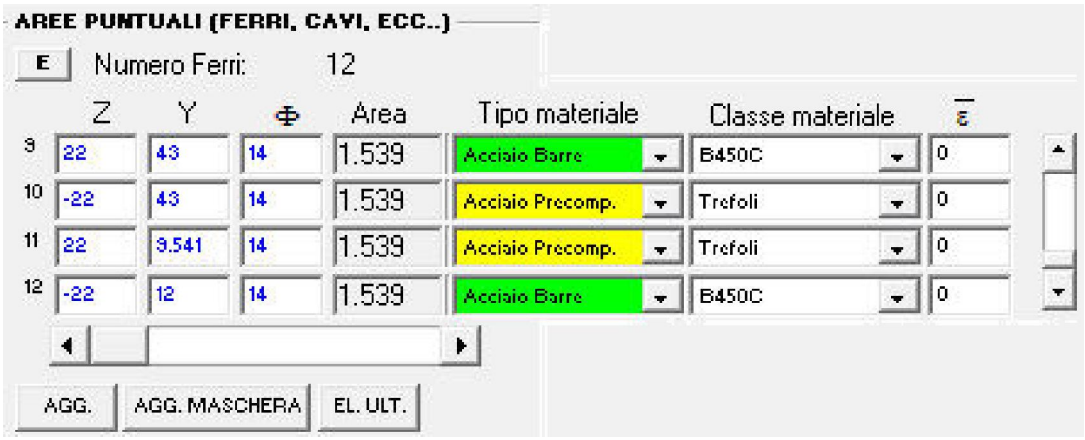
Calcolo meccanico – Mechanical calculation



Double click on the numbers written in blue opens the conversion of units.



Termal properties of the material



AREE PUNTUALI (FERRI, CAVI, ECC…): CONCENTRATED AREAS (BARS, CABLES, …)

Numero Ferri: number of bars

Z e Y: coordinates of the bars

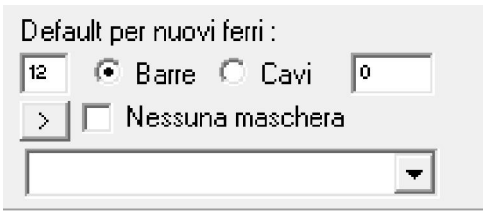
Φ: bar diameter

Area: area

Tipo materiale: type of material

Classe materiale: class material

ε: deformation impressed



Default per nuovi ferri: default for the insertion of new bars

- **Barre**: bars
- **Cavi**: bars



STAFFE: shear reinforcement - stirrups

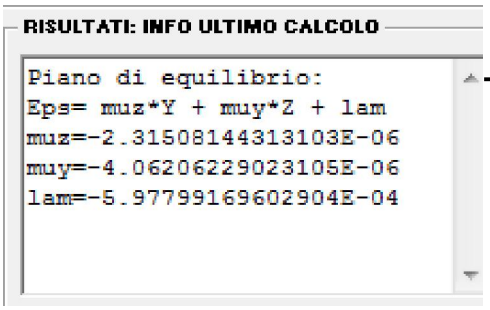
Esegui verifica al taglio: running the shear reinforcement

n.b.: number of branches of the stirrups

Φ: diameter of the stirrups

S: spacing of the stirrups

information last calculation results



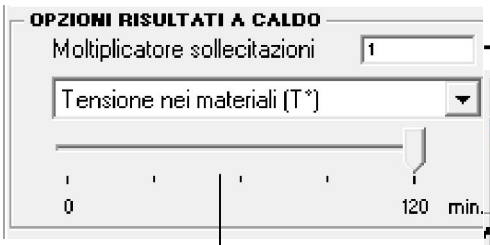
balance board

Options to display results



- interactive results
- cold temperature
- hot temperature
- levels curves
- map
- finite elements
- values

Options results hot temperatures

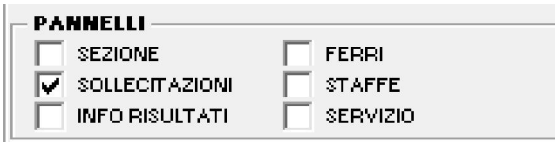


Multiplier of stress

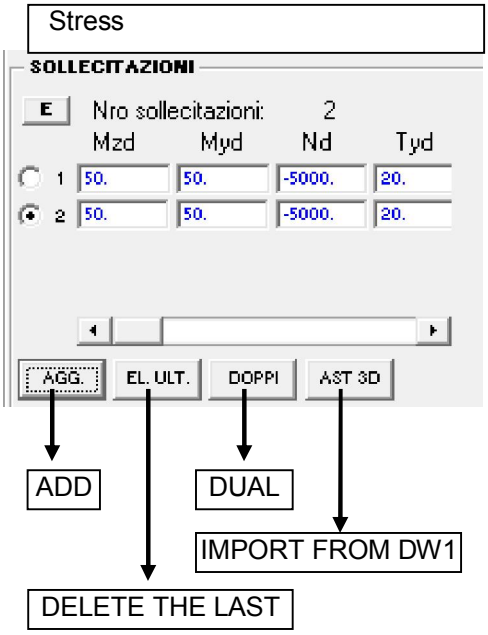
TIME

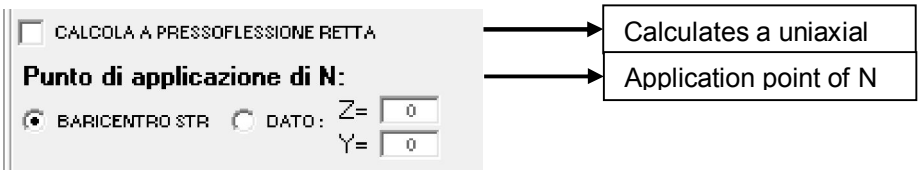


Elastic deformations
Strength in the material
Strength (T°)/Maximum Strength (20°)
Strength (T°)/Maximum Strength (T°)
Maximum Strength (T°)
Maximum Strength (T°)/ Maximum Strength (20°)

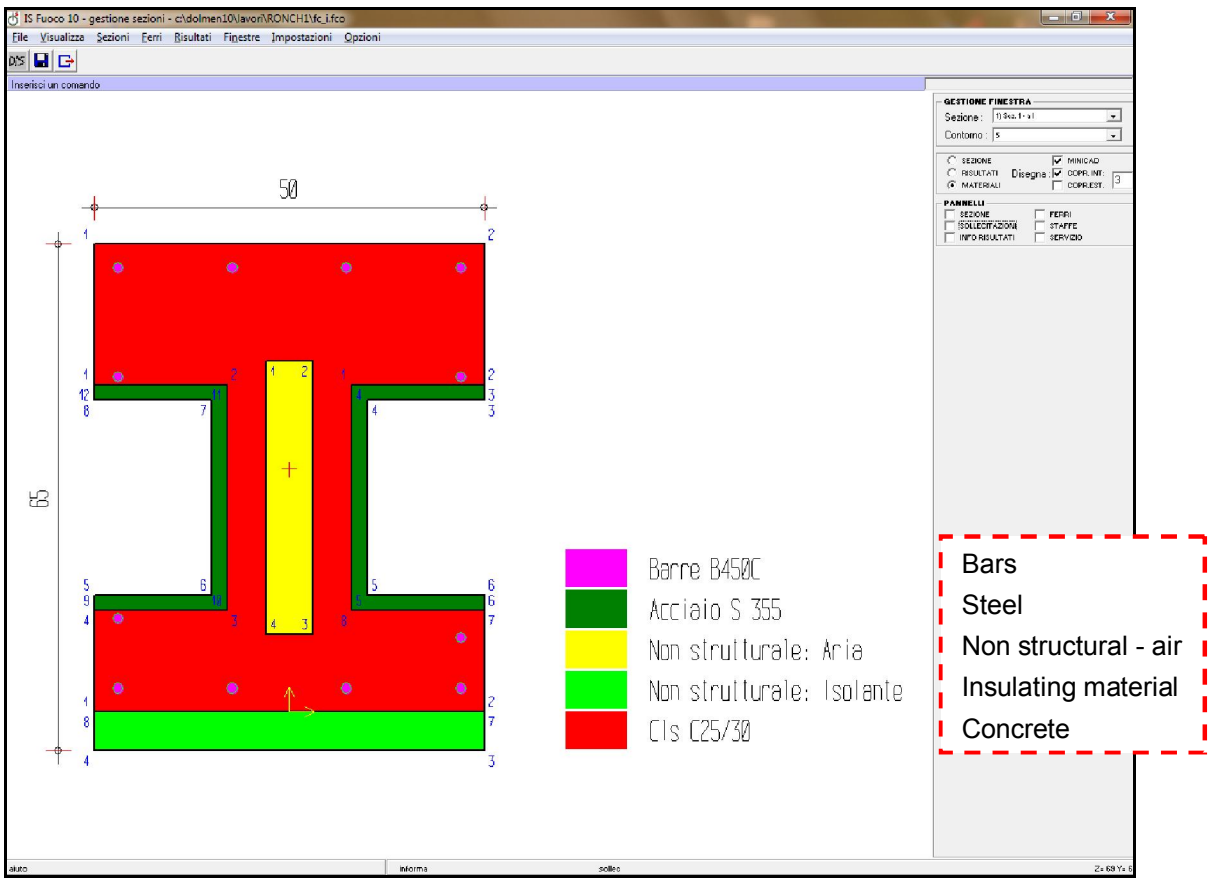


- sections
- stress
- information results
- bars
- stirrups
- service





- centroid
- assigned



MiniCad

IS Fuoco's CAD: is activated by pressing F9



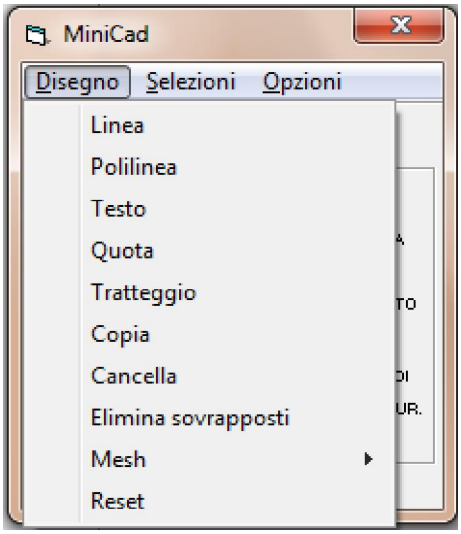
Drawing	Selections	Options

Patters lines:

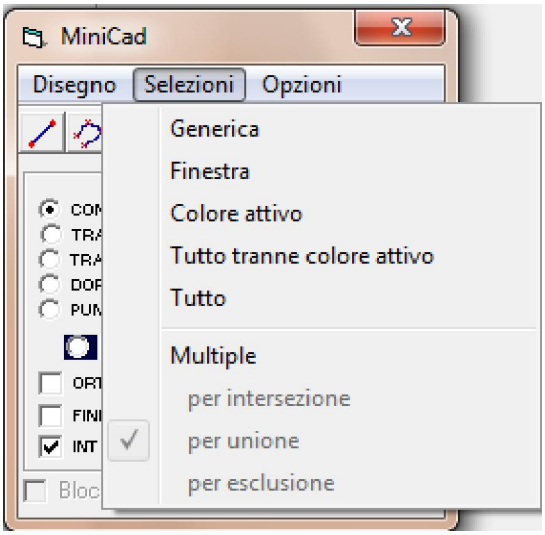
- ○ Continuous
- ○ Dash-point
- ○ Dashed
- ○ Double point
- ○ Points

- ❑ Dimension style
- ❑ Dimension scale
- ❑ Text width
- ❑ Text eight

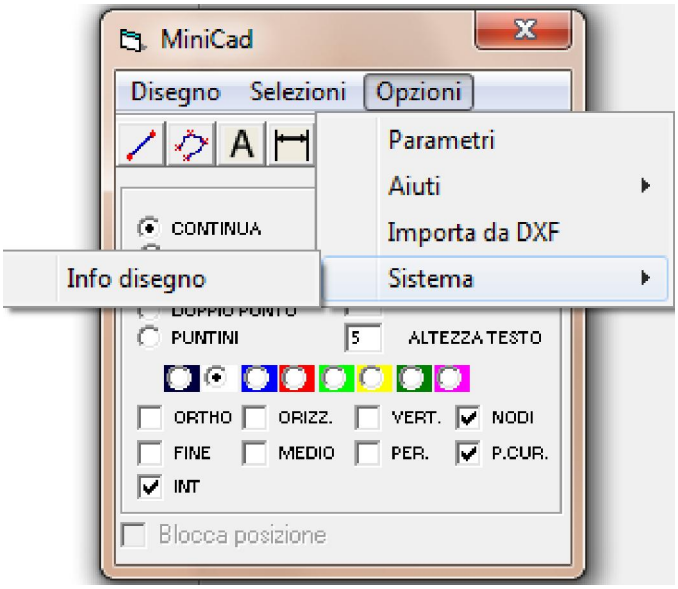
- ❑ Orthogonal
- ❑ End point
- ❑ Intersection
- ❑ Horizontal
- ❑ Middle point
- ❑ Vertical
- ❑ Perpendicular
- ❑ Nodes
- ❑ Perpendicular to the pointer
- ❑ Lock position



Line
Polyline
Text
Dimension
Dashed line
Copy
Delete
Eliminate overlapping
Mesh
Reset

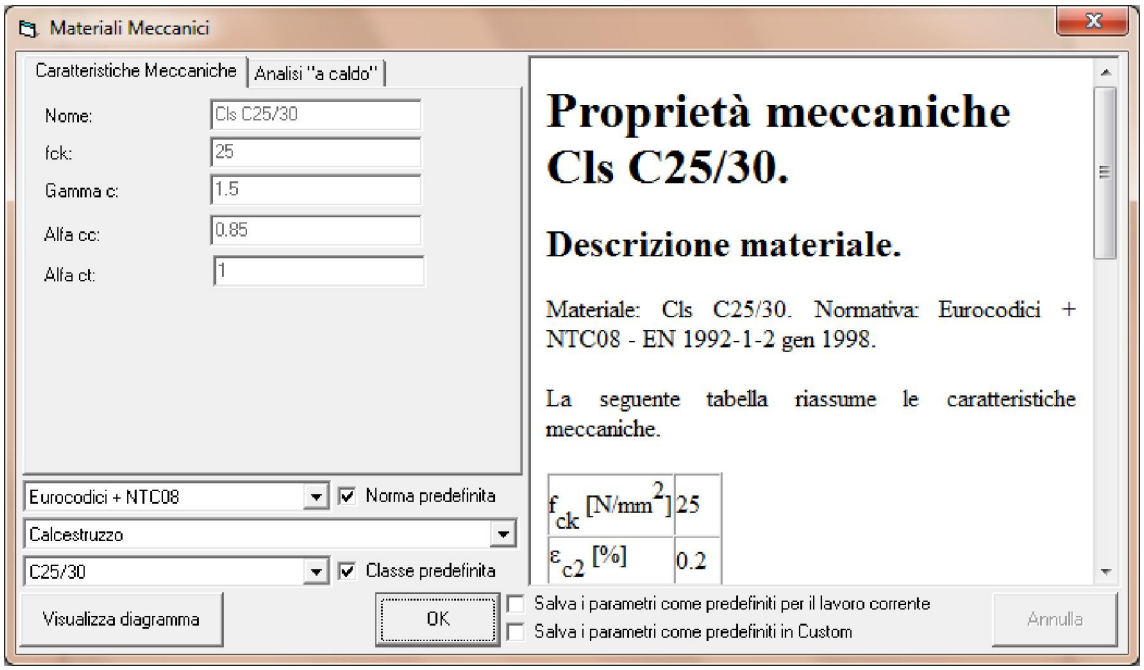


Generic
Window
Active colour
Everything except the active color
All
Multiple
By intersection
By union
By exclusion



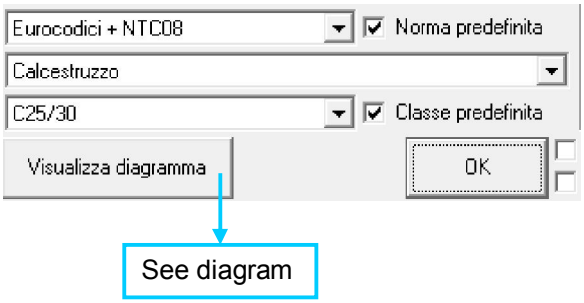
Parameters Help Import from DXF file System	Info drawing

Materiali meccanici - Mechanical materials



Mechanical properties

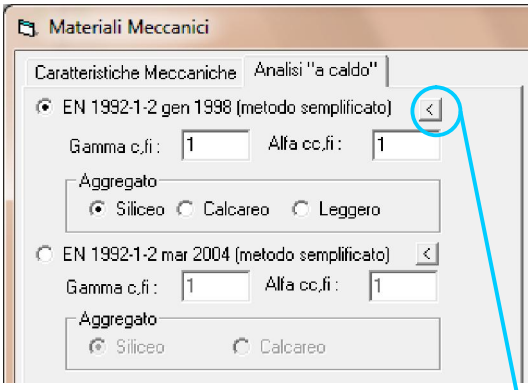
- **Nome**: Name
- fck
- **Gamma c "γ_c"**: weight per unit volume
- **Alfa cc**: "α_{cc}"
- **Alfa ct**: "α_{ct}"



❑ default legislation

❑ default class

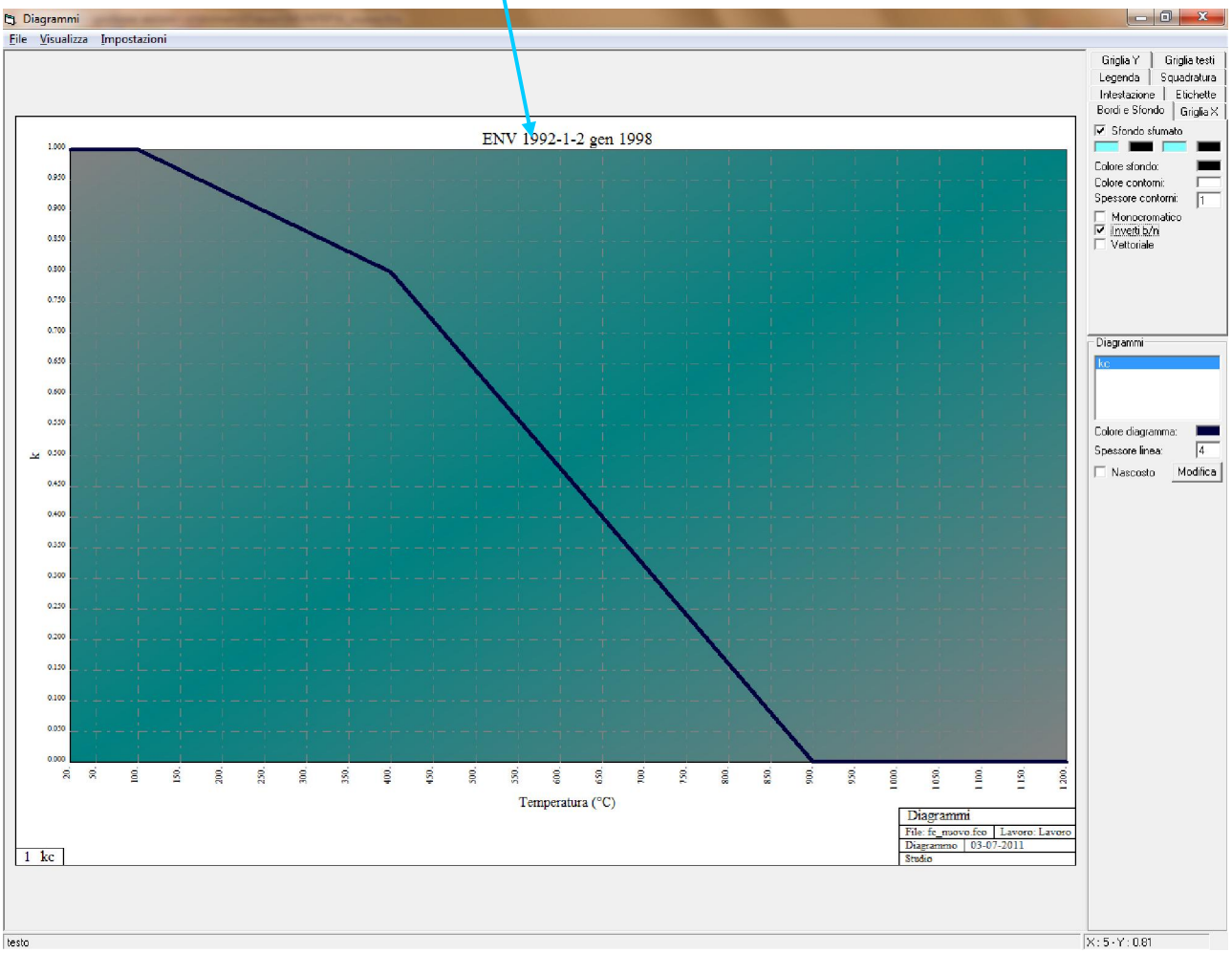
See diagram

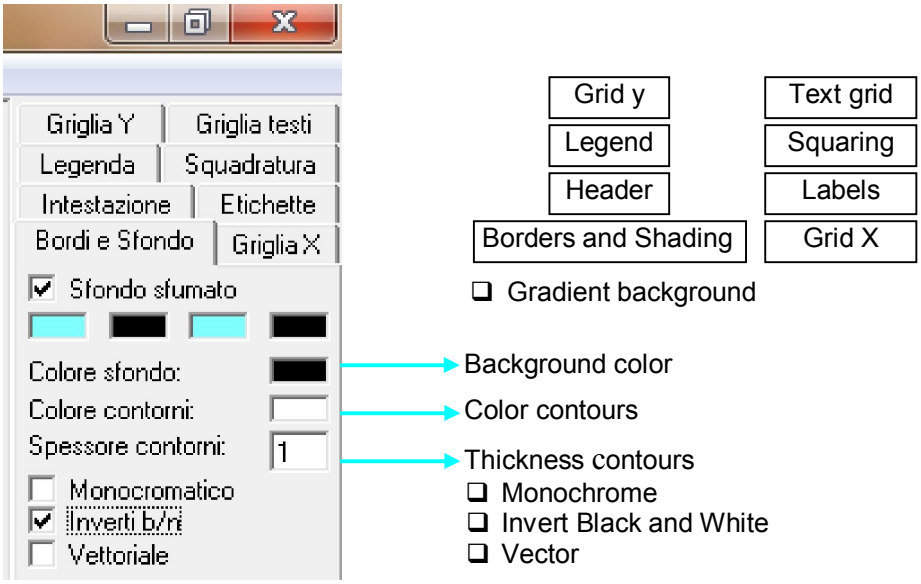


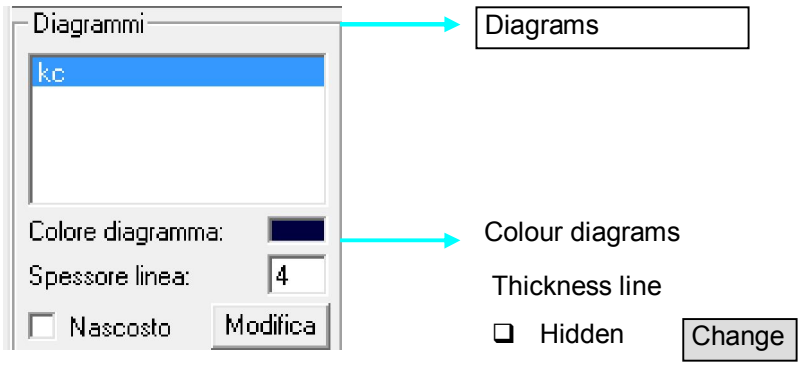
Analysis “to hot temperature”

Aggregate

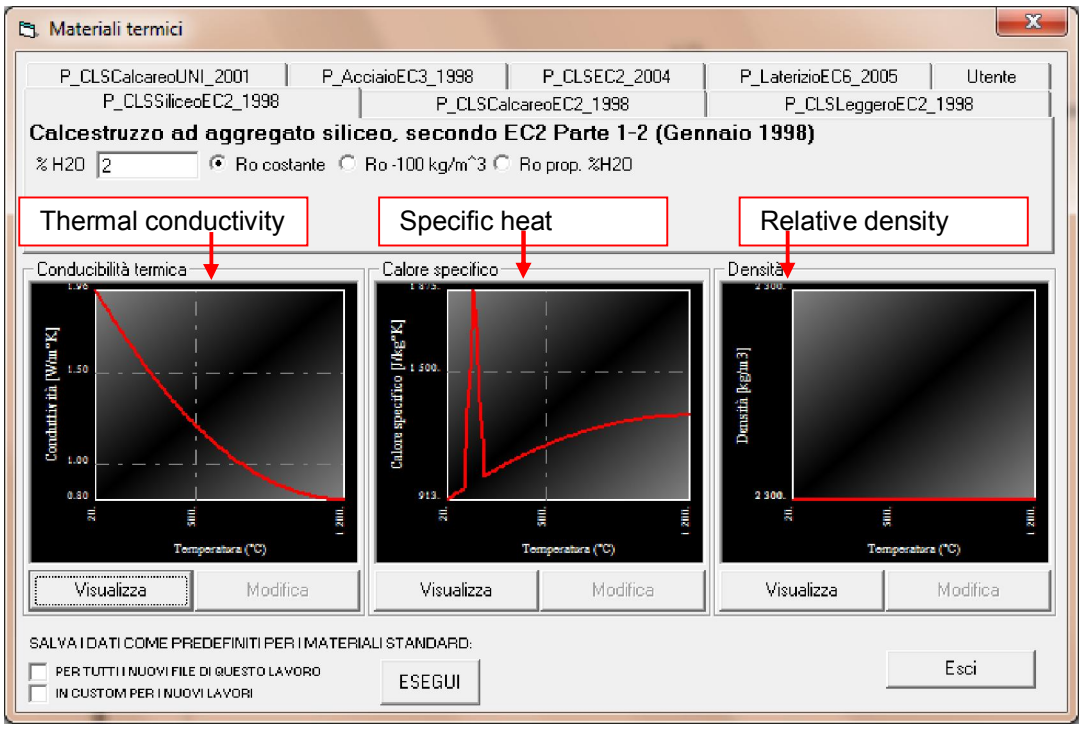
○ Acidic ○ Calcareous ○ Light

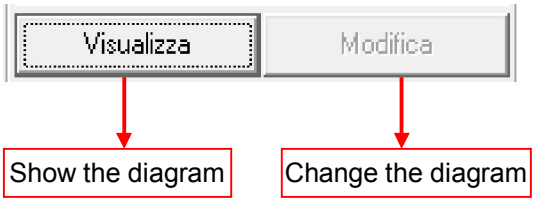


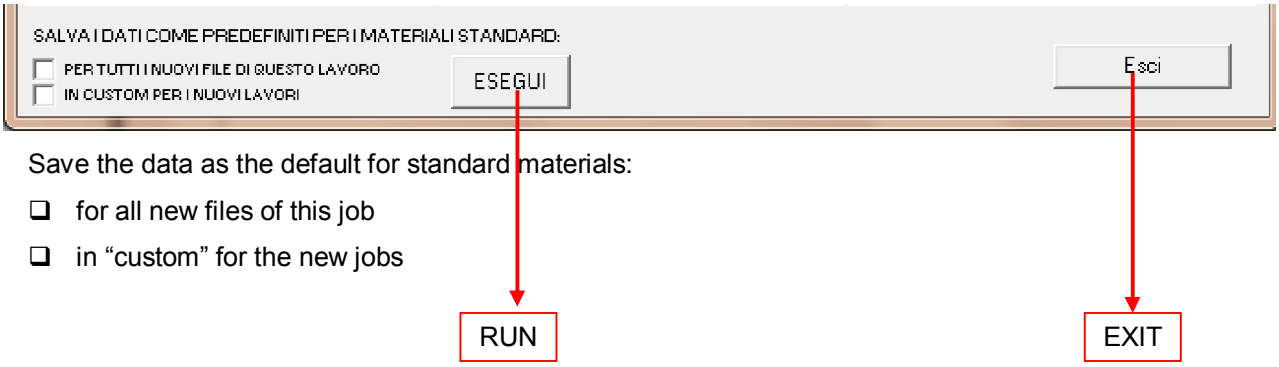




Materiali termici - Termal materials

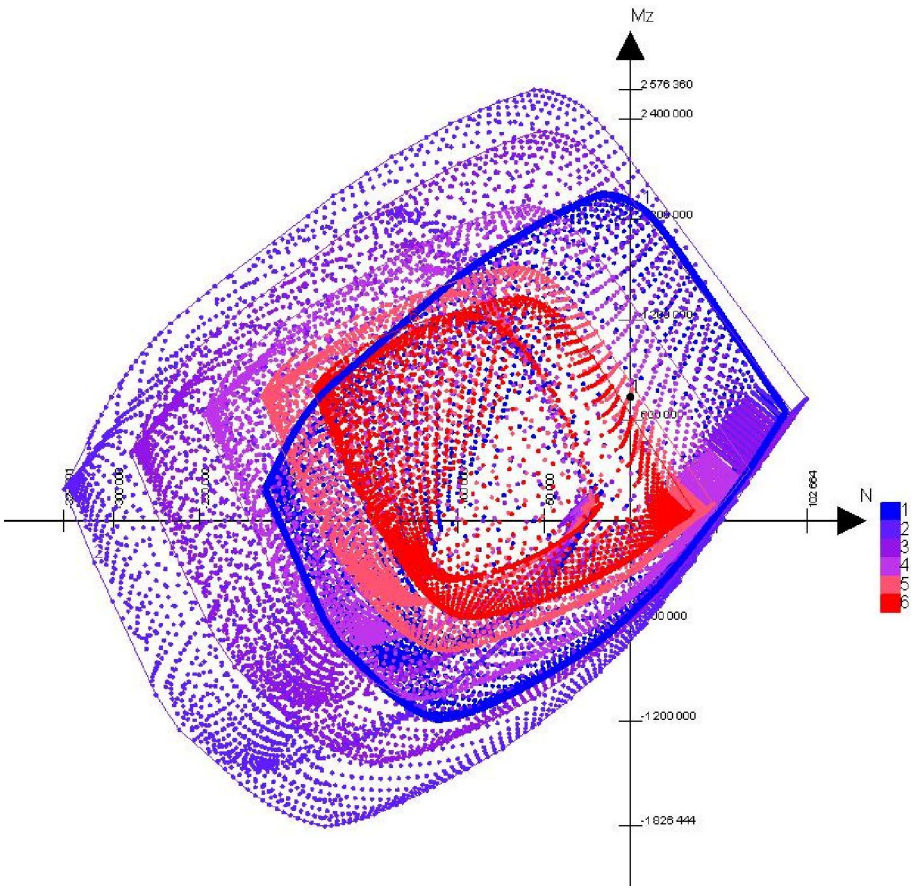






IS DiagInt

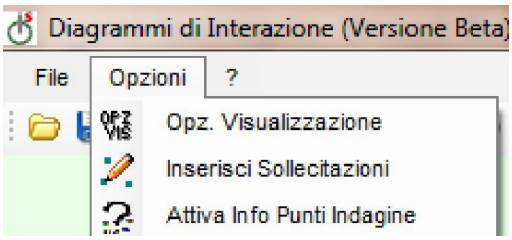
IS DiagInt is a software application that can receive, view and save in the form of interaction diagram, a generic domains of a resistant structural section and the stresses acting on this section.



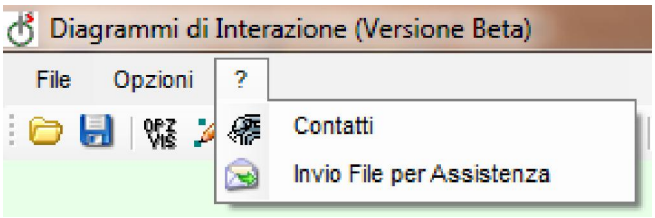


Open
Save
Save as
Image
Save as DXF
Stop command
Exit

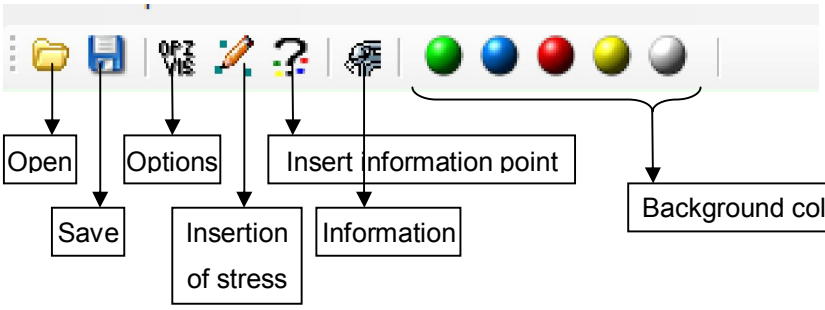
Export
Copy

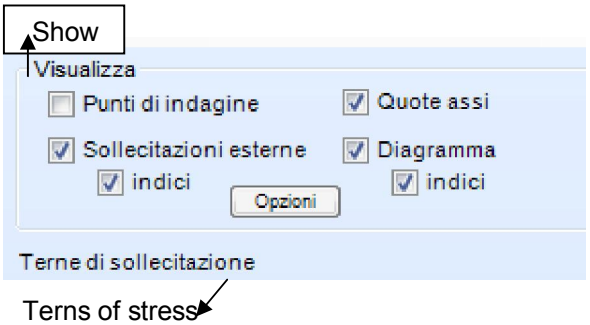


Options view
Insertion of stress
Active information of survey points



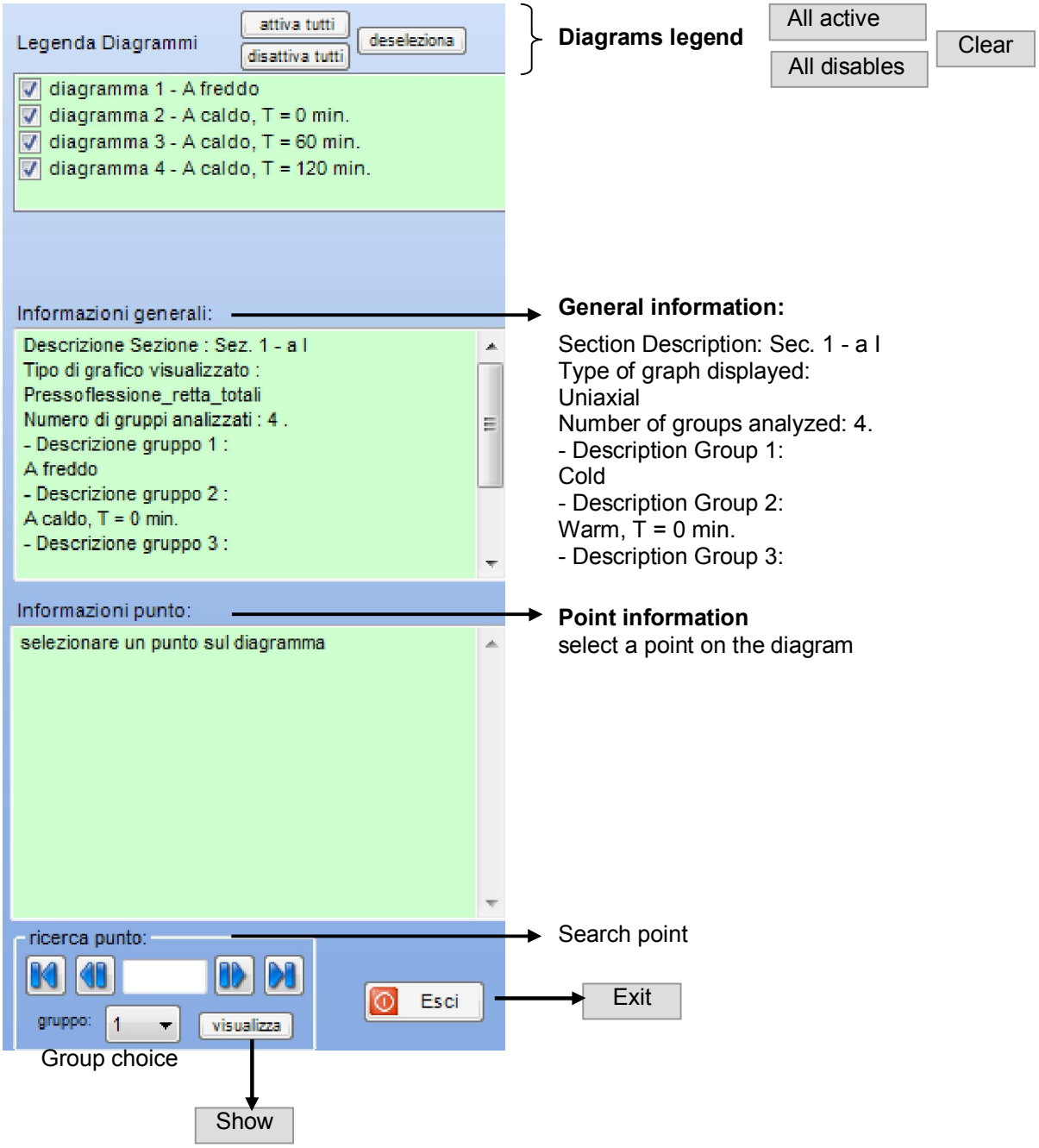
Contacts
Send file by e-mail for assistance





- ❑ Survey points
- ❑ External stress
  - ❑ indexes
- ❑ Dimension axes
- ❑ Diagram
  - ❑ indexes

Options


Legenda Diagrammi
attiva tutti
disattiva tutti
deseleziona
diagramma 1 - A freddo
diagramma 2 - A caldo, T = 0 min.
diagramma 3 - A caldo, T = 60 min.
diagramma 4 - A caldo, T = 120 min.
Diagrams legend
All active
All disables
Clear
Informazioni generali:
General information:
Descrizione Sezione : Sez. 1 - a l
Tipo di grafico visualizzato :
Pressoflessione_retta_totali
Numero di gruppi analizzati : 4 .
- Descrizione gruppo 1 :
A freddo
- Descrizione gruppo 2 :
A caldo, T = 0 min.
- Descrizione gruppo 3 :
Section Description: Sec. 1 - a l
Type of graph displayed:
Uniaxial
Number of groups analyzed: 4.
- Description Group 1:
Cold
- Description Group 2:
Warm, T = 0 min.
- Description Group 3:
Informazioni punto:
Point information
selezionare un punto sul diagramma
select a point on the diagram
ricerca punto:
Search point
gruppo:
1
visualizza
Esci
Exit
Group choice
Show

Traduzione termini / Translation of terms

	
A caldo	Hot temperature / Warm
A freddo	Cold temperature
Acciaio	Steel
Acciaio barre	Steel bars
Acciaio Precomp.	Bars for prestressed concrete
Acciaio profili	Steel profiles
Accorpa e infittisci	Both previous commands in sequence, as in the image below
Accorpa nodi vicini	Join the neighboring nodes
Agg.	Add
Aggiungi da copr. esterno	Create a new peimeter from an offset of the first
Aggiungi da disegno	Add perimeter from design
Aggiungi importa	Import perimeter (for example steel profiles)
Aggiungi nuova sezione in coda	Add new section at the bottom
Aggiungi standard	Add perimeter that has standard form
Aggiunti elementi da disegno	Add element mesh from drawing
Aiuti	Help
Alfa,c	Coefficient of heat transfer by convection - Alfa,c
Altezza	Height
Altezza testo	Text eight
Analisi "a caldo"	Analys "to hot temperature"
Annulla	Cancel
Apri Dolmen Versez	Open Dolmen “Verifica sezione”
Apri…	Open an existing file
Area	Area
AREE PUNTUALI (FERRI, CAVI, ECC…)	CONCENTRATED AREAS (BARS, CABLES, …)
Aria 20°	Room temperature 20° C
Arrotonda vertici	Rounds the coordinate of the vertex of the section
Assegna temperatura	Assignment of temperature
Associa a contorno attivo	Association of elements to active perimeter
Associa elementi a contorni	Association of elements to perimeter

	
Ast 3D	Import from DW1
Attiva Info Punti Indagine	Active information of survey points
Attiva tutti	All active
Baricentro str	Centroid
Barre	Bars
Base	Base
Base testo	Text width
Blocca posizione	Lock position
Break esc	Breaks current command
Brucia	Beginning of the heating section - beginning of the calculation
Calcareo	Calcareus
Calcestruzzo	Concrete
Calcola a pressoflessione retta	Calculares a uniaxial
Calcolo termico	Thermal calculation
Cancella	Delete
Cavi	Bars
Check Database	Check Database
Classe materiale	Class material
Classe predefinita	Default class
Col	Colour
Colore attivo	Active colour
Colore contorni	Colour contours
Colore diagramma	Colour diagrams
Colore sfondo	Backgroung color
Connessioni Nodi	Connections between nodes
Continua	Continuous
Contorni	Creation of new perimetrers
Contorno attivo	Active perimeter
Copia	Copy
Copr. Est.	External bar cover
Copr. Int.	Internal bar cover
Crea relazione	Output technical report

	
Curva T-T	Temperature-time curve
Curve di livello	Levels curves
Curve temperatura - tempo	Variation of temperature versus time (es. nominal fire exposure)
Da DXF	From file *.dxf
Dati ferro	Information about a bar
Dato	Assigned
Default per nuovi ferri	Default for the insertion of new bars
Deformationi elastiche	Elastic deformations
Deformazioni impresse	Deformations impressed
Descrizione Gruppo	Description Group
Descrizione Sezione	Description Section
Deseleziona	Clear
Diagrammi	Diagrams
Diagrammi di interazione	Interaction diagrams
Dimensione massima dell'elemento finito	Maximum size of the finite element
Disattiva tutti	All disables
Disegno	Drawing
Doppi	Dual
Doppio punto	Double point
Duplica corrente	Duplicate the section
El. Ult.	Delete the last
Elementi finiti	Finite elements
Elim.	Delete
Elimina	Delete
Elimina contorno attivo	Delete the active perimeter
Elimina corrente	Delete section
Elimina elementi del contorno attivo	Delete all element mesh of active perimeter
Elimina elemento	Delete element
Elimina sovrapposti	Delete overlapping reinforcement bars
Elimina sovrapposti	Eliminate overlapping
eps,r - emissività risultante	Emissivity resulting - eps,r
epsilon	Deformation impressed - epsilon

	
Esci	Exit
Esegui	Run
Esegui verifica al taglio	Running the shear reinforcement
Esporta	Export
Etichette	Labels
Fattore di configurazione	Configuration factor
Ferri	Bars
fi	Diameter - fi
Fine	End point
Finestra	Window
Finestra verifica meccanica	Window mechanical verification
Finestra verifica termica	Window termal verification
Fuoco	Fire - Standard temperature-time curve
Fuoco esterno	External fire curve
Fuoco idrocarburi	Hydrocarbon curve
g,c - fattore di sicurezza sul flusso convettivo	Safety factor on the convective flow - g,c
g,r - fattore di sicurezza sul flusso radiante	Safety factor on the radiant flux - g,r
Gamma c	Weight per unit volume - gamma c
Genera mappe termiche	Generation of thermal maps
Genera mesh	Generation of the mesh
Genera relazione	Create technical report
Generali	General settings
Generica	Generic
Gestione materiali termici	Thermal management
Griglia	Grid
Griglia testi	Text grid
Immagine	Image
Importa	Import
Importa da DXF	Import from DXF file
Imposta origine	Setting the origin of coordinates
In custom per nuovi lavori	In custom for the new jobs
Includi i contorni interni	Include the internal perimeter

	
Indici	Indexes
Infittisci per nodi su lati	Thickening of the nodes on the element's sides
Info Disegno	Information drawing
Info elemento	Information element
Info risultati	Information results
Informazioni generali	General information
Inserisci 3 nodi	Insert new 3 nodes element
Inserisci 4 nodi	Insert new 4 nodes element
Inserisci da crocette	Recognizes the design of bars imported by selecting an area
Inserisci da file	Enter the bar from file
Inserisci da maschera	enter the bar from a scheme
Inserisci il dz e dx (cm) da tastiera …	Enter dz and dx (cm) from the keyboard ...
Inserisci la nuova altezza sezione	Enter the new height of the section
Inserisci la nuova base sezione	Enter the new base of the section
Inserisci per punti	Enter the bars indicating the coordinates
Inserisci per strati	Enter the bars indicate a line on which are located
Inserisci polari	Enter the bars in a circle
Inserisci Sollecitazioni	Insertion of stress
Int	Intersection
Intera sezione da disegno	Entire section from drawing
Interattivi (risultati)	Interactive results
Interrompi	Stop the calculation
Interrompi comando esc	Breaks current command
Intestazione	Header
Inverti b/n	Invert black and white
Invia email	Automatic request for assistance by e-mail
Isolante	Insulation
Laterizio	Brick
Lati	Sides
Legenda	Legend
Leggero	Light
Leggi temperatura	Read the temperature

	
Leggi valori	Read values
Linea	Line
Mappa	Map
Mappa termica ed elementi finiti	Termal map and finite element
Mappe colorate	Color maps
Mappe ogni	Thermal maps duration
Mappe t.	Thermal maps
Mappe termiche	Thermal maps
Materiale meccanico	Mechanical material
Materiale termico	Termal material
Materiale utente	Custom material
Materiali	Materials
Materiali meccanici	Mechanical materials
Materiali termici	Termal materials
Meccanici	Mechanicals
Medio	Middle point
Menu Ferri	Reinforcement bars
Mesh	Mesh
Mesh generica	Generic mesh
Mesh predefinita per il tipo di sezione	Default mesh for the type of section
MiniCad	IS Fuoco's CAD
Modifica	Change
Modifica diametro	Change the diameter of the bars
Modifica i valori e premi Invio	Change values and press enter
Moltiplicatore sollecitazioni	Multiplier of stress
Monocolore	Mono
Monocromatico	Monochrome
Multiple	Multiple
n.b.	Number of branches of the stirrups
Nascosto	Hidden
Nodi	Nodes
Nome	Name

	
Non strutturale	Non-structural
Non strutturale: aria	Non structural: Air
Non strutturale: isolante	Non structural: insulating material
Normativa	Legislation
Normativa predefinita	Default legislation
Numero di gruppi analizzati	Number of groups analyzed
Numero Ferri	Number of bars
Numero mappe	Number of thermal maps
Numero totale indicativo di elementi	Indicative total number of elements
Nuovo	Creation of a new file
Opz. Visualizzazione	Options view
Opzioni	Options
Opzioni risultati a caldo	Option results hot temperature
Orizz.	Horizontal
Ortho	Orthogonal
Ottimizza	Zoom all (fit to page)
P.Cur.	Perpendicular to the pointer
Parametri	Parameters
Passo minimo della griglia di elementi	Minimum size of grid elements
Per esclusione	By exclusion
Per intersezione	By intersection
Per tutti i nuovi file di questo lavoro	For all new files of this job
Per unione	By union
Per.	Perpendicular
Piano di equilibrio	Balance board
Polilinea	Polyline
Precedente	Zoom previous
Profili in acciaio	Steel profiles
Proprietà meccaniche	Mechanical properties
Punti di indagine	Survey points
Puntini	Points
Punto di applicazione di N	Application point of N

	
Quota	Dimension
Quote assi	Dimension axes
R	Rotation
Raccorda elemento	Connect element
Recenti	Recently opened files
Reset	Reset
Reset (mesh + zon.esp.)	Reset mesh and areas exposed to fire
Reset mesh	Reset mesh
Rettangolare da inerzia	Rectangular from inertia
Ricalcola	Recalculate
Ricerca punto	Search point
Riconosci tipo di sezione e contorni	Recognition of the type section and perimeter
Ridefinisci sezione esistente	Refine existing section
Ridisegna	Redraw (regenerate drawing)
Risultati	Results
Risultati	Results
Risultati: info ultimo calcolo	Information last calculation results
s	Thickness
S (staffe)	Spacing of the stirrups
Salva	Save
Salva con nome…	save as …
Salva disegno	Save drawing
Salva DXF	Save as .dxf file
Scala quota	Dimension scale
Segmenti	Segments
Servizio	Service
Sezione	Section
Sezioni	Sections
Siliceo	Acidic
Sistema	System
Sollecitazioni	Loads / Stress
Sollecitazioni esterne	External stress

	
Solo contorno attivo	Only active perimeter
Spessore contorni	Thickness contours
Spessore linea	Thickness line
Spezza tratteggi	Break dashed lines
Sposta	Move
Squadratura	Squaring
Staffe	Brackets
Staffe	shear reinforcement - stirrups
Standard	Standard
Stile quota	Dimension style
Suddividi elemento	Subdivide element
Temperature	Temperature
Tempo	Time
Tensione (T°)/Tensione Max. (20°)	Strength (T°)/Maximum Strength (20°)
Tensione (T°)/Tensione Max. (T°)	Strength (T°)/Maximum Strength (T°)
Tensione Max. (T°)	Maximum Strength (T°)
Tensione Max. (T°)/ Tensione Max. (20°)	Maximum Strength (T°)/ Maximum Strength (20°)
Tensioni nei materiali	Strength in the material
Termici	Thermal characteristics
Terne di sollecitazione	Terns of stress
Testi --> linee	Texts --> lines
Testo	Text
Tipi di esp.	Types of exposition to fire
Tipo contorno	Type perimeter
Tipo di grafico visualizzato	Type of graph displayed:
Tipo materiale	Type material
Tipo sezione	Type section
Trasla	Translation of the section
Trasla contorno attivo	Move the active perimeter
Trasla nodo	Translation node
Trasla vertici	Translation of the vertices
Tratteggiata	Dashed

	
Tratteggio	Dashed line
Tratto-punto	Dash-point
Tutti i contorni	All perimeters
Tutto	All
Tutto tranne colore attivo	Everything except the active color
Utente	User
Valori	Values
Verifica termica	Thermal verification
Vert.	Vertical
Vertici contorno	Number of vertex of perimeter
Vettoriale	Vector
Vis.	Show
Visualizza	View
Visualizza	Show
Vuoti interni	Internal holes
Z e Y	Coordinates of the bars
Zone di esp.	Sides exposed to fire
Zone di esposizione	Areas exposed to fire
Zoom in	Zoom in
Zoom out	Zoom out