

COMELZ

THE CUTTING EDGE COMPANY



CALIGOLA4
FOOTWEAR

CALIGOLA4

A quarter of a century since its debut, and more than a decade after its total renewal, the fourth generation of Comelz CAD is, more than ever, a fundamental product for the design of footwear and leather goods. Born from the need to provide data to the then rising volume of cutting machines, Caligola4 has grown over time, without ever betraying the vision of *powerful, effective, easy* and *intuitive* software, always attentive to the needs and suggestions of users and market.

Today, some of the key features making Comelz CAD a unique product are:

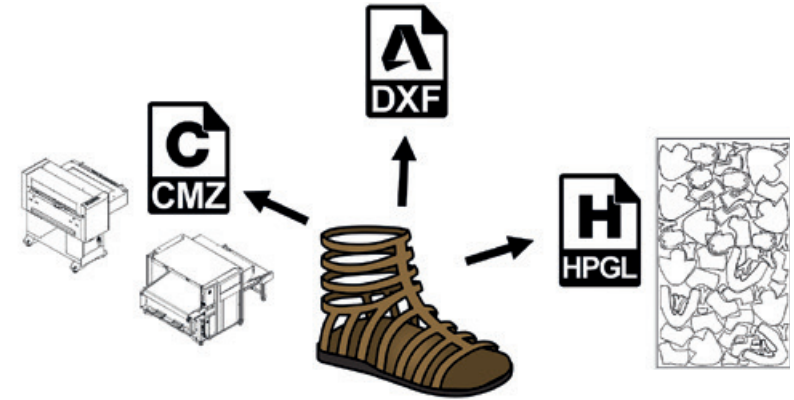
- **Open:** in input and output, to other CAD applications, to cutting peripherals (CAM), to PDM and management programs.
- **Modern:** recently redesigned to exploit the latest information technologies, that make it 'future proof' and offer superior graphics performance.
- **Interactive:** able to communicate directly with Comelz support for automatic error sending and problem reporting.
- **Unlimited** use, with an irrevocable and transferable license.
- **Continuously updated:** more versions published each year, with new features, are available to customers who sign a maintenance contract.
- **Specialized:** for *Footwear, Bottom, Leather goods*.
- **Totally parametric:** everything built on the basic entities remains connected to them and is updated automatically: from margins to mirrored entities, from pieces to graded sizes, from the processing sheets to consumption sheets.
- **Configurable,** allows each user to adapt it to their needs: with colors, the display, layout of the toolbars, and the definition of the various entities and their attributes. In menus there is the choice of which functions to present, and in what order.
- **Customizable,** through the writing of plugins, external software modules, to meet specific customer needs.
- **Multilanguage,** to be easily understood all over the world

Caligola4 is a real collator of design and production information for the companies that adopt it.

The integrated module of Technical Data Sheets adds to the project all the information useful for production, and keeps it connected to the model. Data includes the Envelope, (Cover), Processing sheets, Bill of Materials and Consumption sheets, with automatic nesting. It is also possible to create databases of Materials, Accessories and Processing, as well as to import them from management software.

Whatever your variant of Caligola4, it includes as standard:

- **The input of the basic elements of the model:** (lines, holes, references, etc.) using, *digitizers* (graphic tablets), *scanners*, *image files* (uploaded as background) and automatic vectorization. Files generated by other CAD applications in different formats such as; DXF, PAT and SHOE can be imported.
- **Outputs** can be in four formats: **CMZ**, the Comelz proprietary format for peripherals, cutting and punching machines. **DXF**, structured and configured according to the needs of the recipient using the *CalCon* software module. **HPGL**, through *CaligolaNP*, a management module with automatic nesting for cutter/plotters. **PDF**, for printing the model.
- **Calmanager**, an integrated search engine, helps you keep track of your project files in an intuitive way without having to remember exactly where you saved them.
- The means to define **quality areas** of pieces for automatic nesting on leather.



“Caligola4 is open software”



Style:	D80956A	
Last:	N865	
Year:	2019	
Season:	A-W	
Line:	Shoes	
Base:	37B	
Note:		

Puntina Pelle	Mancherina 2x1/Pelle	Gamb. est 2x1/Pelle	2x1
Gamb. INT Pelle	Rp. Och. EST 2x1/Pelle	Rp. Och. INT 2x1/Pelle	2x1
Operone Pelle			2x1

The screenshot shows the Caligola4 Calmanager software interface. It features a search bar at the top right. On the left, there is a 'Filters' panel with a tree view showing a hierarchy of project files, including folders like 'Franco Shoes', 'Designer', and 'Storie'. The main area displays a search results list with columns for 'Project' and 'File'. Below the list, there are 'Insert 1', 'Insert 2', 'Create new', 'Update current', and 'Delete' buttons. On the right, there is a 'Projects' panel showing a list of projects. The bottom right section contains a detailed view of a project, including a search bar, a list of materials (Materiale 1 and Materiale 2), and a list of project metadata such as Customer, Style, Designer, Last, C. model, Season, Modified, Row, Saved by, Line, and Tagli.

Caligola4 for Footwear

Is divided into a set of modules to give each user the most suitable CAD application for their needs.

2D for **base design** and **model engineering**. For the creation of *Axes* and *Mirrored entities* and the addition to the shell style lines details such *Stencils*, *Notches*, *Fillets* and *Margins*, for folding, underlays, lasting, trimming, seams, etc.

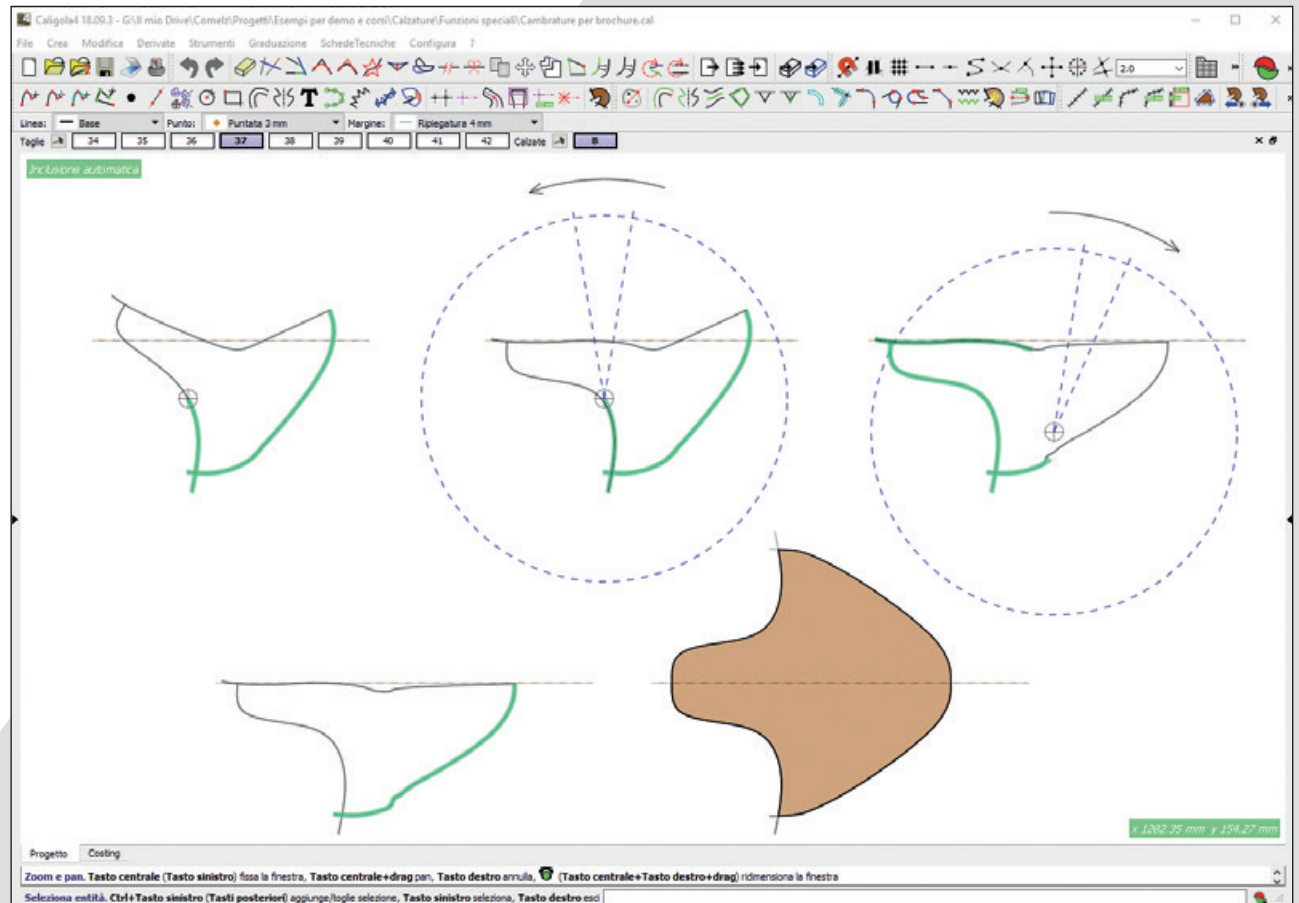
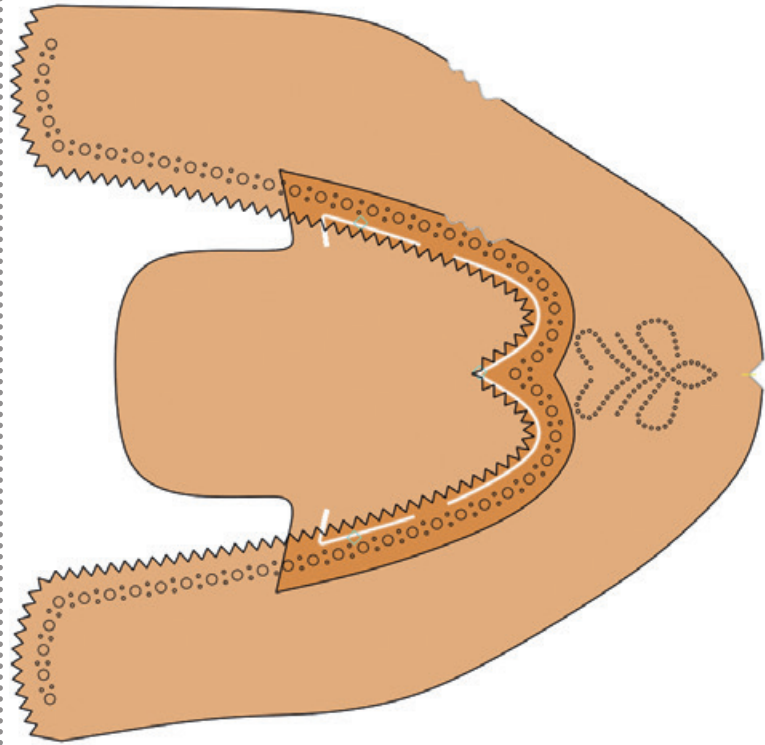
Entities such as: *Eyelets*, *Cuts for zip*, *Texts* and geometric entities such as: *Parallels*, *Midlines*, *Circles*, *Ellipses*, *Rectangles*, etc. can also be used.

Spring is one of the more specific and structured functions, and is fundamental because it allows the generation of lines for pieces straddling the midline of the last, starting from the original lines of the shell, with precise control of rotation, extension, compression and elastic fillets.

Pieces are quickly and easily created, qualified by type such as: *upper*, *lining*, *reinforcement*, *patch*, *insole*, *sole*, etc.

Entity sets such as, *Hole lines*, *Nicking*, *Embroidery lines* can be fully controlled applying various parameters. *Dimensions*: a practical tool for the insertion of dynamic dimensioning. *Blocks* (optionally active and linked) are powerful tools for creating, inserting and managing common project data. *Punched image* is an artistic tool that allows you to translate any image, loaded as a background, into a series of holes of different diameters.

“Standard features, specific features, special features”



“All variants in a single project”

The ability to freely create Categories and Visibility sets, structuring them hierarchically, makes Caligola4 unique for clarity in the display of entities and pieces. In fact, by turning the different layers on and off, a user can hide what, occasionally complicates the view: from single entities to entire categories such as *quotes*, *grading controls*, *background images*, etc.

The ease and rapidity with which you create and fine-tune models with Caligola4 also depends on a complete and effective set of editing tools.

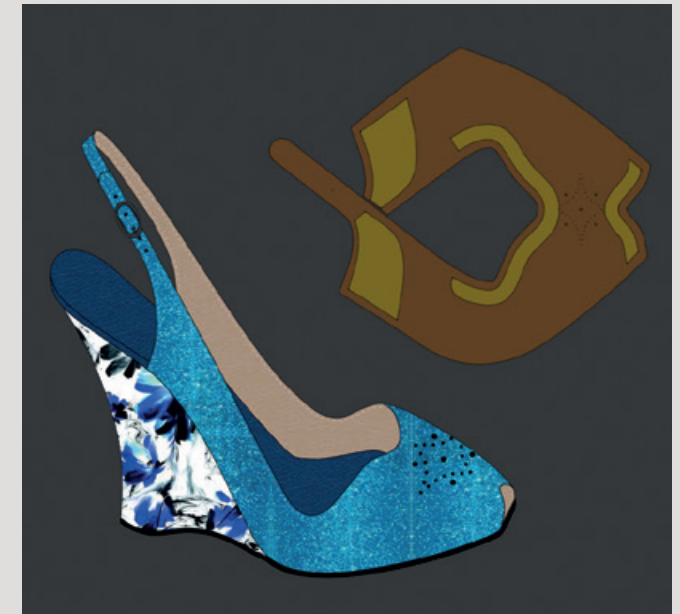
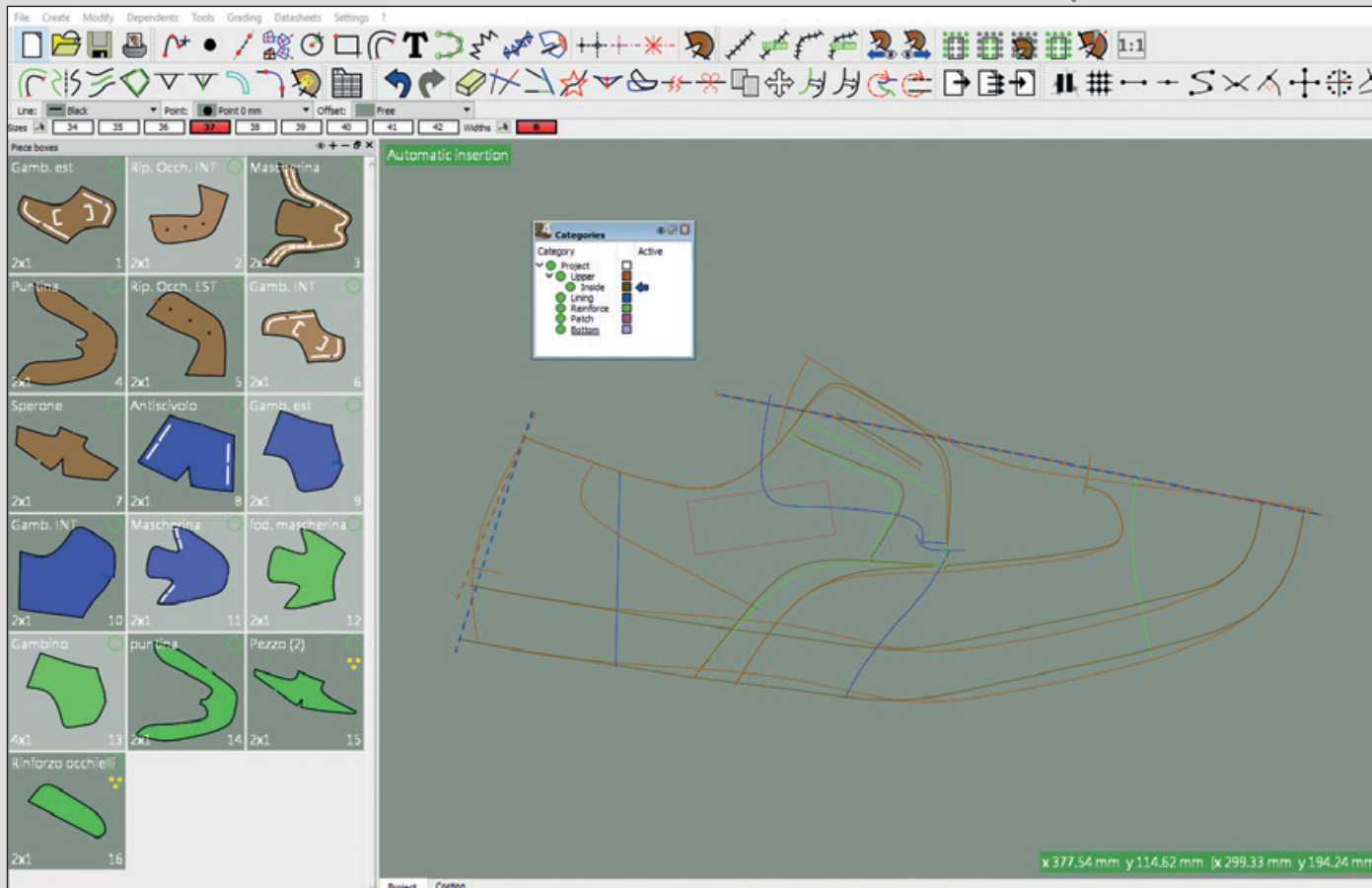
The base lines, already smooth with minimal control points, can be adjusted in a completely natural way by simply moving the guide points, inserting or removing new ones, turning smooth points into corner points and vice versa.

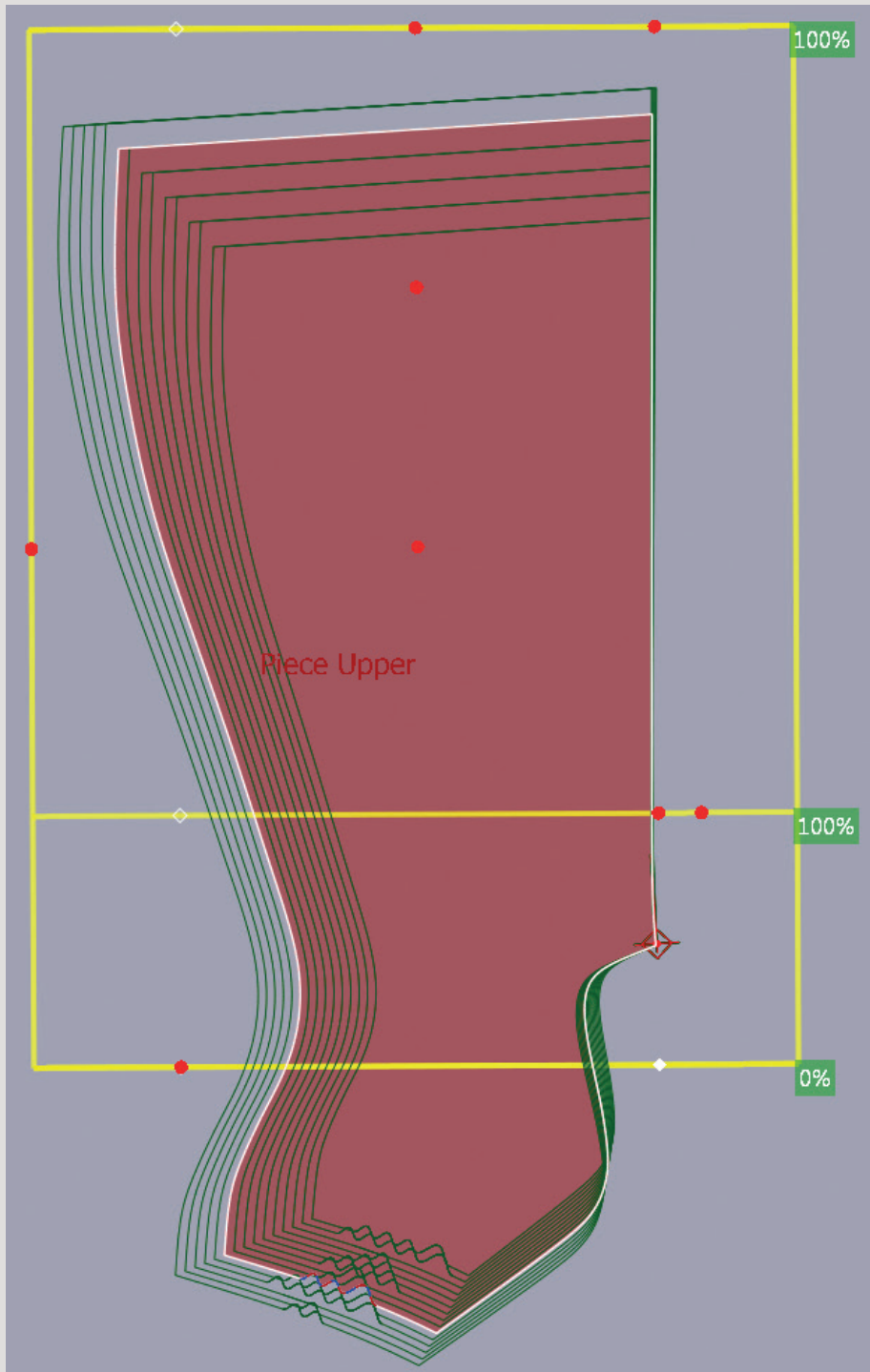
Base lines can also be *Trimmed*, *Extended*, *Smoothed*, *Bent* (curve adjusted), *Broken* (split) and *Merged* (joined).

Editing tools provide such functions as: *Copy*, *Move*, *Rotate*, *Scale*, *Transform*, *Make independent* (convert) dependent entities, *Change* their type and style, *Export* and *Import*.

Each operation is made simpler by measuring instruments such as *Rulers* and *Rollers*, two dynamic, and by an intelligent set of snap options: *Endpoints*, *Midpoint*, *Base point*, *Near point*, *Orthogonal point*, *Intersections*, etc.

More sophisticated tools allow, in a simplified way, complex technical constructions such as *Borders*, *Pleats*, and *closed areas* to which background images can be applied for a photorealistic rendering of the textures of the materials. Typically for a cover sheet.



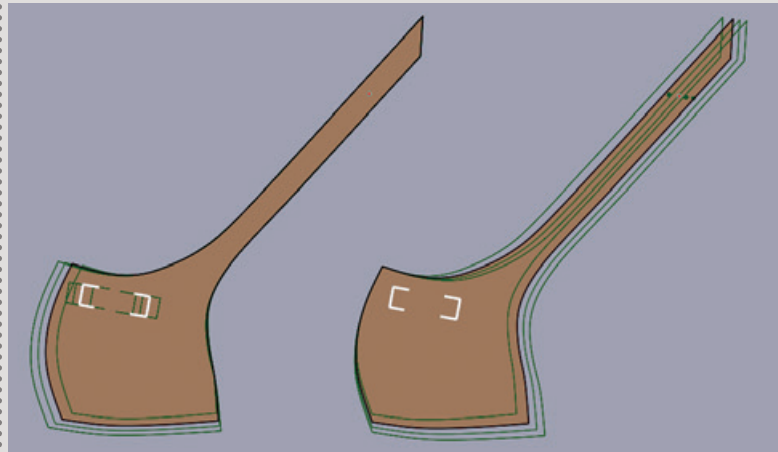


GR, is the grading module

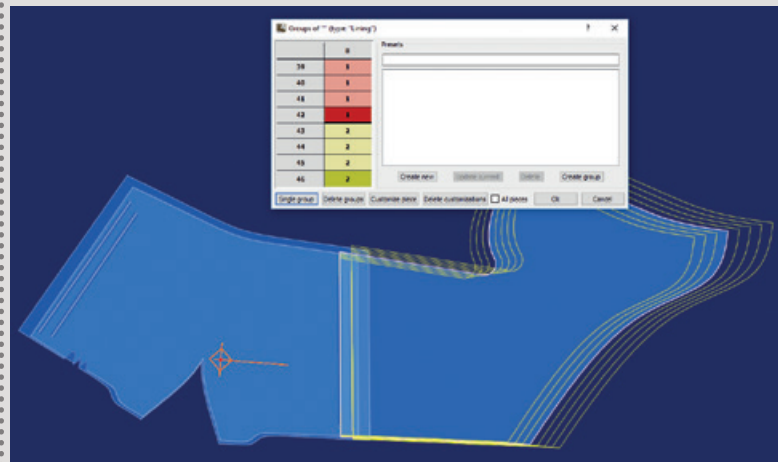
Starting from a choice of several standard grading scales, but totally customizable, you set or choose your size range and scale. Then, as soon as the *Main grading axis* is placed, all the entities of the shell drawn in the working area are immediately available in all sizes. That is, you can choose to view any size.

Caligola is unique in this, allowing you to move along the size scale and work in sizes other than the base one, giving absolute control of the project, even before cutting a single piece. To the standard grading it is possible to make an almost unlimited number of changes, both through the insertion and customization of *Secondary grading axes* (linked to the Main one, other secondary axes or lines). Other specific functions that solve particular but typical cases for some footwear or components are available such as: *Grading area for bootlegs*, *Strip grader* for straps and *Grading groups* for heel seat lining, heels, logos and minimising tooling, etc.

There is also the possibility, for very special cases in which one or more pieces do not follow the grading rules, to customize them, both for geometry and for internal entities. With this it is possible to insert predefined elements, deriving for example from molds or from external suppliers. That is, at some sizes you can actually change lines.



“No grading limits”



RP, is the pattern detector

For those who deal with the separate pieces of the shell, the opportunity is provided to work with Independent pieces, in order to make extremely fast the acquisition of boundaries and automatic creation of pieces.

For those who copy physical patterns, Caligola4 offers a unique and practical system combined with the digitizing tablet where, using a mouse with a special guide, you can read the outline of the piece, keeping the guide on the edge of the cardboard and following the contour almost without looking.

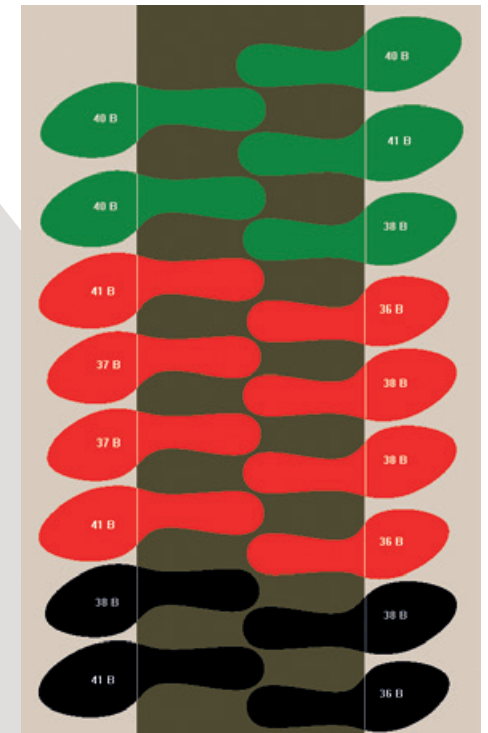
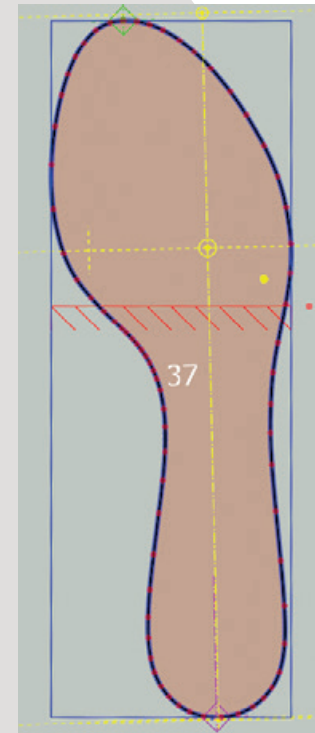
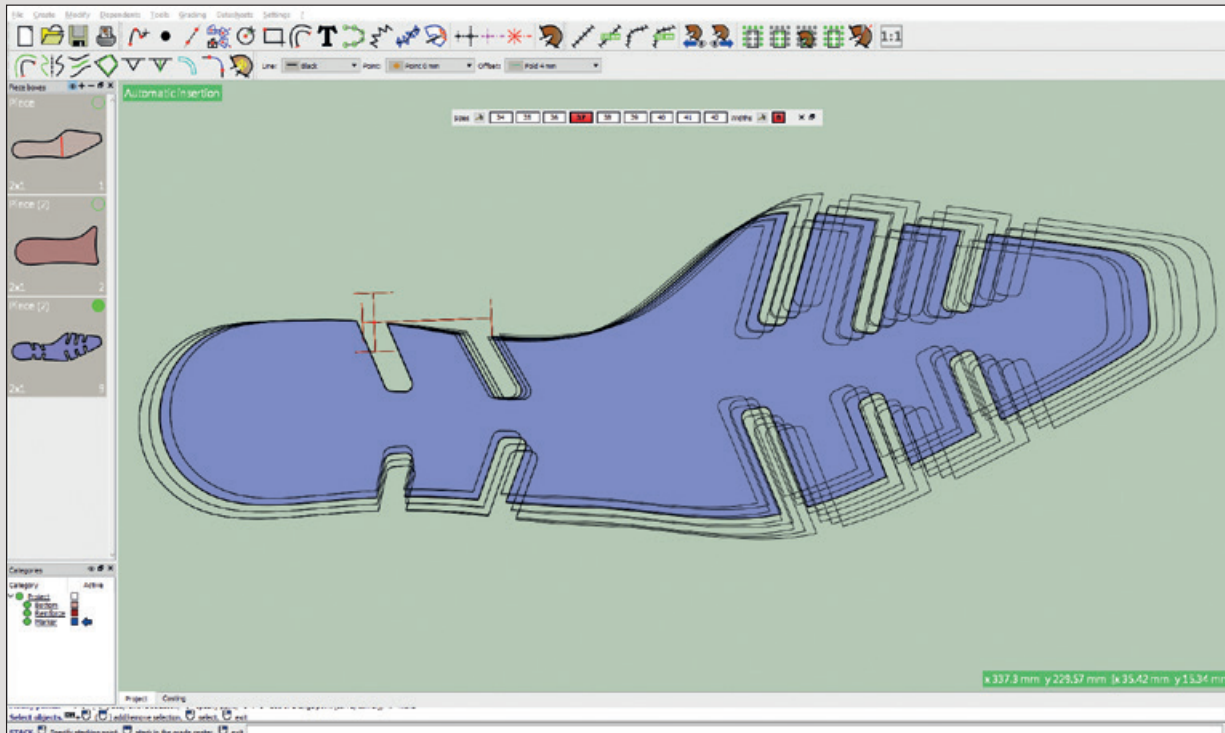
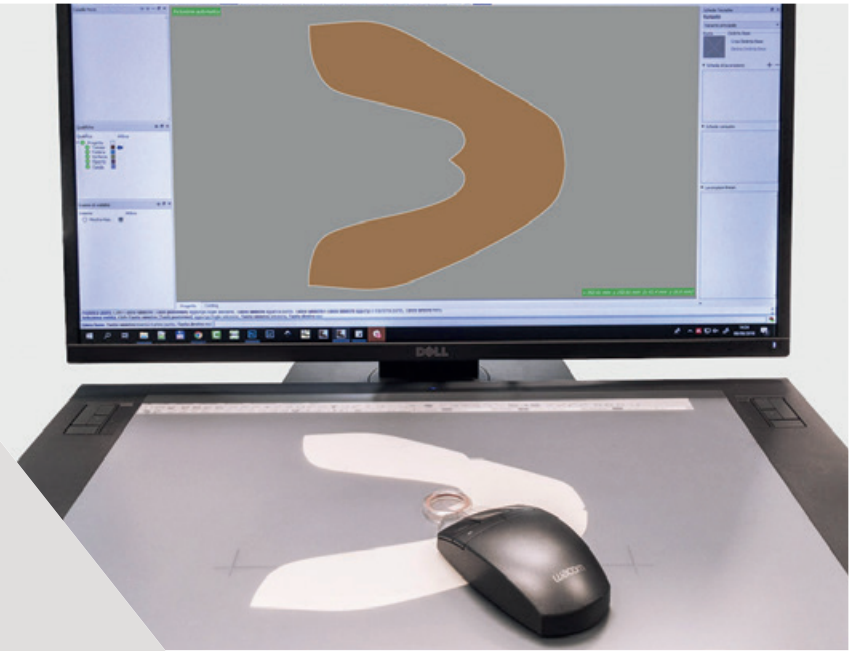
When each single boundary is completed, the software automatically and correctly compensates for the offset caused by the radius of the guide and creates a net path.

RP combined with **GR** is the perfect program for third-party developers.

RP/S, Pattern detector for insoles

Adds to the features of **RP**, specific tools for those who work on the bottom: *Anchor-line for insole reinforcement*, to correctly position the pieces on reinforced materials and, starting from the insole line, the automatic calculation of the grading measures and of the heel axis and its insertion.


RP/S combined with **GR** is the ideal solution for sole and insole factories.

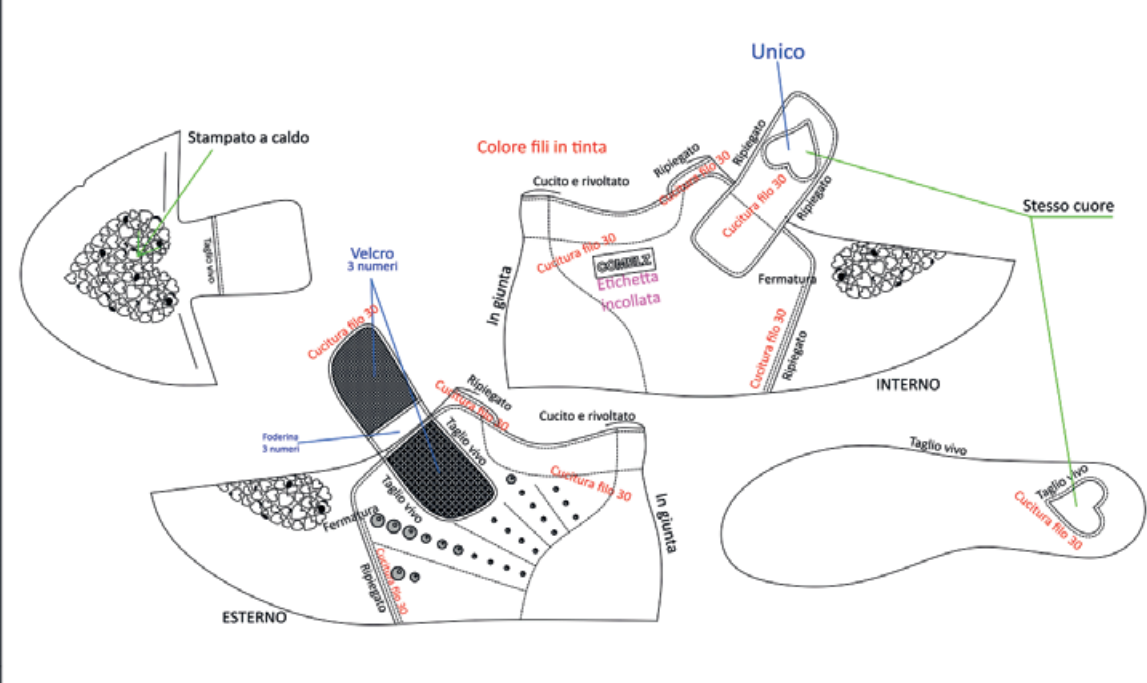


Datasheet


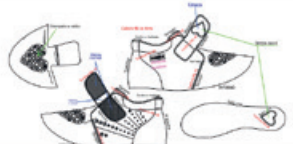
All Caligola4 CAD packages include the **ST** module, a tool that allows you to create or import databases of Materials, Accessories, Processing and to generate a complete set of datasheets:

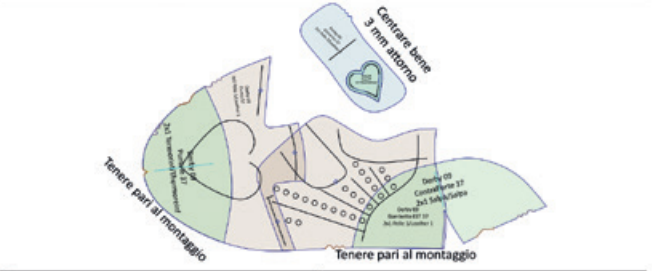
- **Envelope or Cover.** Using the normal drawing tools and functions such as *Blocks*, *Embroidery lines*, *Hole-lines* and adjusting the lines with *Extend* and *Trim*, it is easy and fast to obtain, from the shell, a prospect of the shoe finished with eyelets, seams, zippers, etc. and technical notes on processings.
- **Pre-defined processing sheets.** These are generated automatically and collect, in a grid, the pieces accompanied by specific information (name, type, material, quantity, net area, dimensions), as well as notes, if compiled by the user.
- **Customized processing sheets**, which the user can create for particular annotations by adding texts, lines, images, on the single piece or on sets of pieces to specify the assembly order.
- **Linear, area and time processing sheets.** Through specific functions it is possible to define **linear processing** (sewing, skiving, folding), **area processing** (gluing, pairing, equalization), **time processing** (putting in studs, adding eyelets, lacing) and automatically create sheets, divided by working center, and where they appear, the pieces involved, the materials used, and the notes.
- **Summary sheets**, related to the single pieces that indicate all their processing.

	Style: Derby 09	Note:
	Year: 2018	Season: A-1














Stampato a caldo
Unico
Colore fili in tinta
Stesso cuore
ESTERNO
INTERNO
Base: 37B
Last: Jamil 220

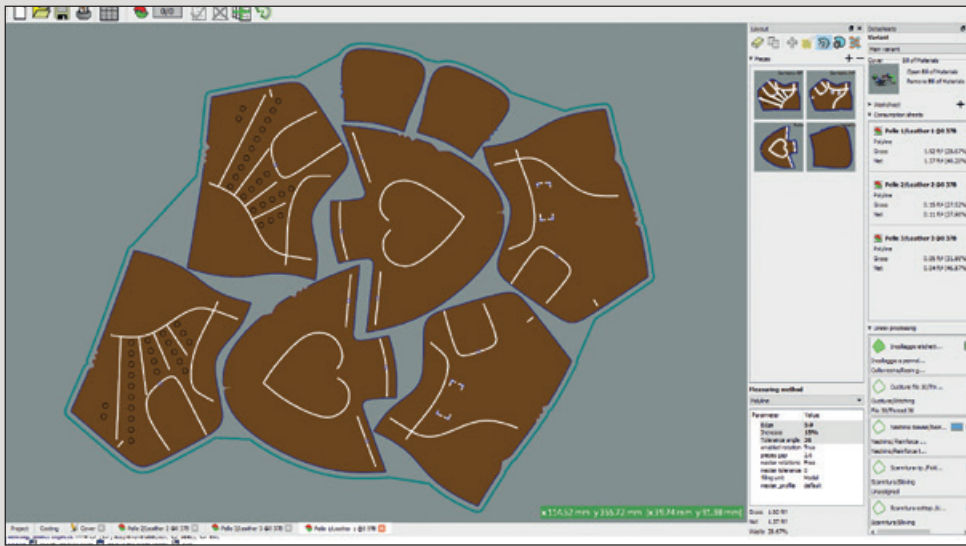
		
Style:	Derby 09	
Last:	Jamil 220	
Year:	2018	
Season:	A-1	
Line:	Semplice	
Base:	37B	
Note:		



Centrare bene 3 mm attorno
Tenere pari al montaggio
Note:

		
Style:	Derby 09	
Last:	Jamil 220	
Year:	2018	
Season:	A-1	
Line:	Semplice	
Base:	37B	
Note:		

Gambetto EST Pelle 1/Leather 1 2x1 	Gambetto INT Pelle 1/Leather 1 2x1 	Punta Pelle 1/Leather 1 2x1 Dopo tagliato dare i pezzi a Simone! 
Linguetta Pelle 1/Leather 1 2x1 	Cinturino Pelle 2/Leather 2 2x1 	Cuore Pelle 3/Leather 3 4x1 
Velcro SOPRA Velcro/Velcro 2x1 	Velcro SOTTO Velcro/Velcro 2x1 	Punta Fodera pelle/Leather lining 2x1 



- **Automatic consumption sheets**, calculate the consumption of the material based on the percentage of waste set.
- **Manual consumption sheets**. On placing pieces, different calculation methods can be applied: *grid*, *polygon*, *rectangle*, *single rectangles*, *parallelogram*. Furthermore you can place: on **Sheet**, displayed in the working area of the set dimensions; on **Roll**, with set width displayed in the work area and with repetitions of the group of placed pieces; on **Leather** with boundary and quality areas as a background.
- **Consumption sheets for sizes**, derived automatically from the consumption sheet of the single size: gives consumption for all graded sizes.
- **Quality areas sheets**. Shows the quality areas of pieces in separate cells.
- **Bill of materials**. List of all the components of the model (materials, accessories, processing) with the related costs, to print or export in PDF, JSON, CSV

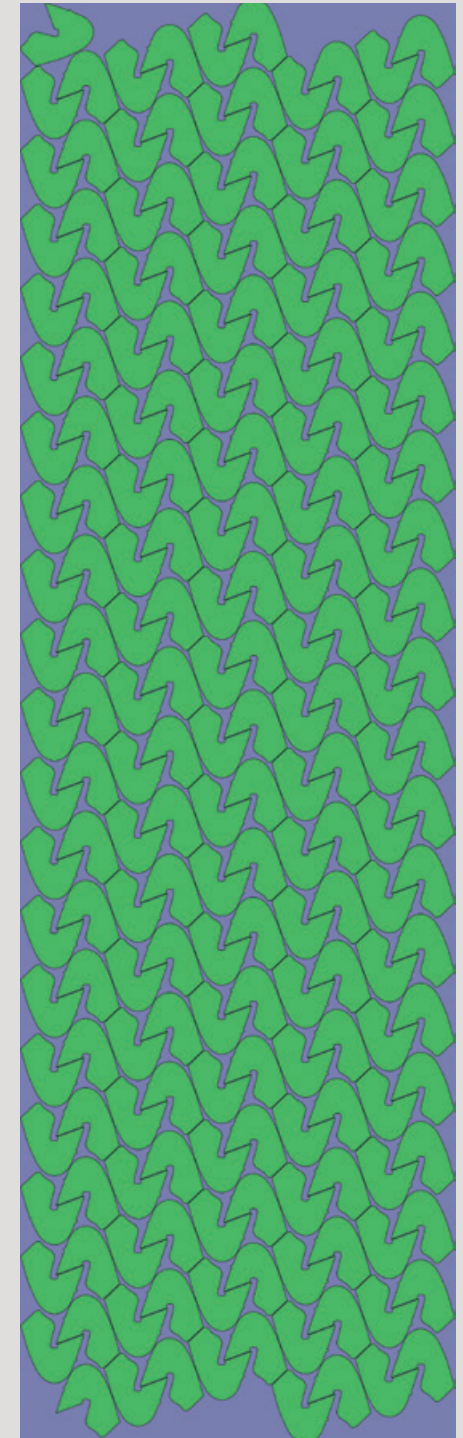
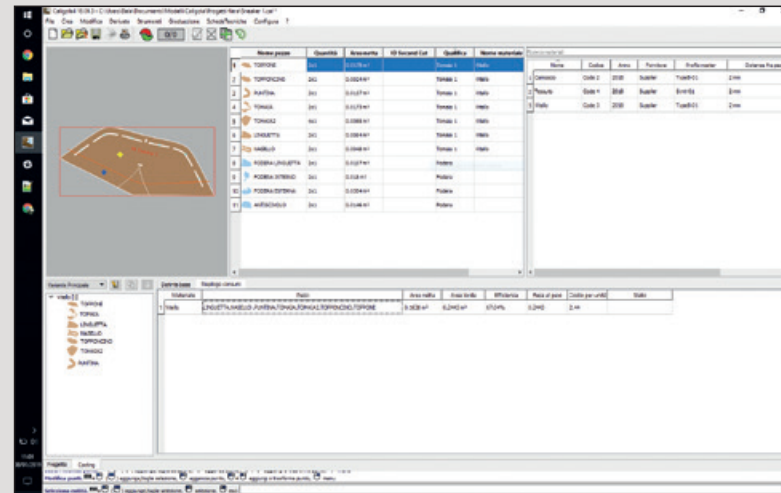
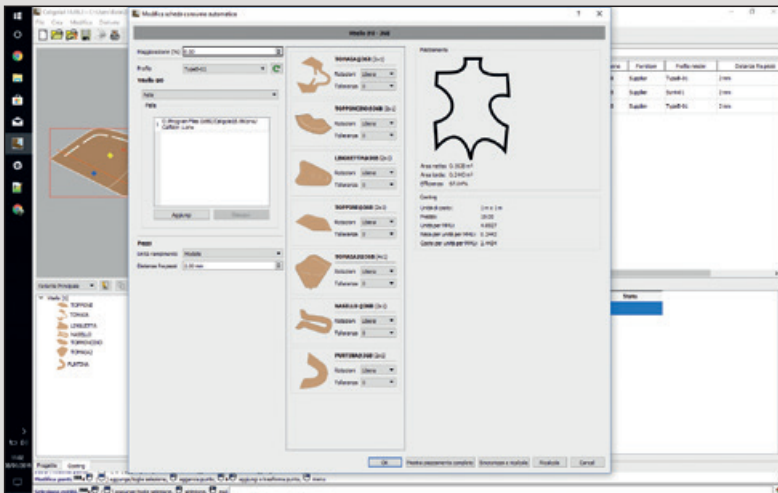
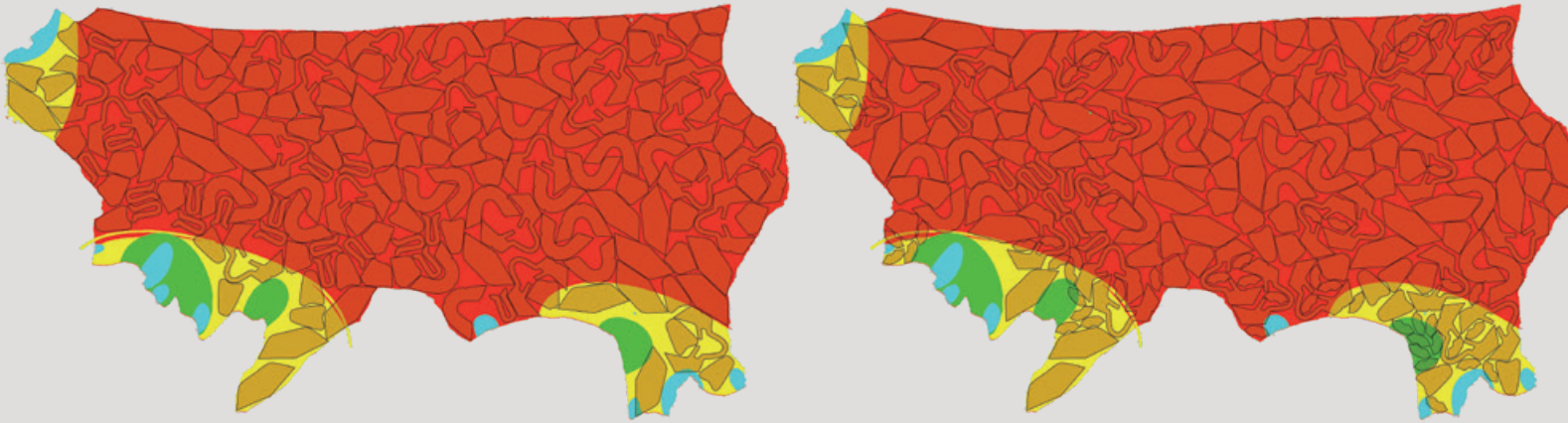
All datasheets, whose layout can also be customized, are printable and exportable in PDF. Moreover **ST**, like the CAD packages to which it is aggregated, provides the management of the multiple variants in a single project.

Style: Derby 09 Last: Jamil 220 Ask to: Simone Base: 378

Comp.	Code	Description	U.m	Qty	Unit cost	Total
Materiale 1	003	Fodera pelle/Leather lining	ft²	2.0502	5.0	10.251
Materiale 2	001	Pelle 1/Leather 1	ft²	1.6546	8.5	14.0639
Materiale 3	005	Pelle 2/Leather 2	ft²	0.1454		2.6165
Materiale 4	006	Pelle 3/Leather 3	ft²	0.0587		0.8223
Materiale 5	007	Salpa/Salpa	Sheets	0.0323		0.1613
Materiale 6	004	Spugna/Sponge	Sheets	0.0078		0.0977
Materiale 7	008	Tela/Reinforce	m	0.0928		0.0928
Materiale 8	022	Termorinf/Thermoreinf	Sheets	0.0172		0.9914
Materiale 9	023	Velcro/Velcro	Sheets	0.0114		0.1818
Suola/Outsole	012	Suola gomma nera/Black rubber sole	Pair	1	5.0	5.0
Soletta/Insole	015	Soletta rinforzata/Shank insole	Pair	1	1.9	1.9
Scatola/Box	023	Scatola 40x20 bianca/40x20 white box	PC	1	1.4	1.4
Borchia/Stud	011	Borchia oro sfera/Sphere gold stud	PC	24	0.2	4.8
Lavorazione 1	001	Scamitura/Skiving	m	0.1m 49s		0.1635
Lavorazione 2	003	Cuccura/Stitching	m	0.9m 44s		0.876
Lavorazione 3	007	Borchitura/Studs placement	s	0.1m 58s		2.36
Lavorazione 4	010	Incollaggio a pennello/Brush gluing	mm	20s		0.03
Lavorazione 5	011	Nastri/ Reinforce ribbon	m	0.4m 20s		0.39
Process 1	012	Stampa a caldo/Hot stamping	s	12s		1.08
Componente lavorazione 1	011	Filo 30/Thread 30	m	8.1932	0.02	0.1639
Componente lavorazione 2	013	Colla resina/Resin glue	kg	0.0002		0.0048
Componente lavorazione 3	021	Nastri/Reinforce tape	m	1.7311	0.1	0.1731
Processing component 1	010	Borchia argento sfera/Sphere silver stud	PC	48	0.2	9.6
TOTAL:						57.22

ST-Plus

- The Comelz *costing* is the module for the calculation of production costs of footwear related to materials: synthetic and natural. It is a self-contained and independent software that can receive data in DXF format from any CAD application but it is above all a module perfectly integrated with Caligola4.
- In the leather industry, where the most important and difficult to estimate costs are those of the material, **ST-Plus**, which integrates the powerful *nesting* used by Comelz on its cutting islands, represents a revolution because it allows an accurate and precisely matching consumption calculation.
- Furthermore, the possibility of mixing different pieces and sizes in the placings, optimizes consumption and provides more realistic estimates.
- The dominance of the production process and the efficiency of cut allowed Comelz to develop a unique program for superiority to other software on the market.
- In addition to printing data and reports, importing from and exporting to PDM and management programs is ensured by standard formats (XML, JSON, CSV).



“ST-Plus use the powerful Comelz nesting engines”

“Everyone can choose his CAD”

Caligola4 is made up of different modules to provide the most suitable product for their needs and to contain the purchase costs. Some of these modules are fundamental and determine the type of CAD (Footwear, Bottom, Leather goods), while others, like the GR grading module, are optional.

Description	Module	Footwear				Bottom	Leather goods
		2D-GR	2D	RP-GR	RP	RP/S	2D/P
2D footwear design	2D	●	●				
2D Leather goods design	2D/P						●
Pattern detector	RP	●	●	●			●
Pattern detector for insole	RP/S					●	
Grading	GR	●		●		●	
Datasheets	ST	●	●	●	●	●	●
Universal converter CMZ <=> DXF	CALCON	●	●	●	●	●	●
HPGL Plotter manager	NP	●	●	●	●	●	●

ST-Plus consists of two main modules: one for nesting on synthetic materials, the other that adds nesting on hides.

Description	Module	ST Plus	
		ST-Plus/S	ST-Plus/A
Automatic nesting for synthetic	ST-Plus Synth	+	+
Automatic nesting for leather	ST-Plus Leather		+



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