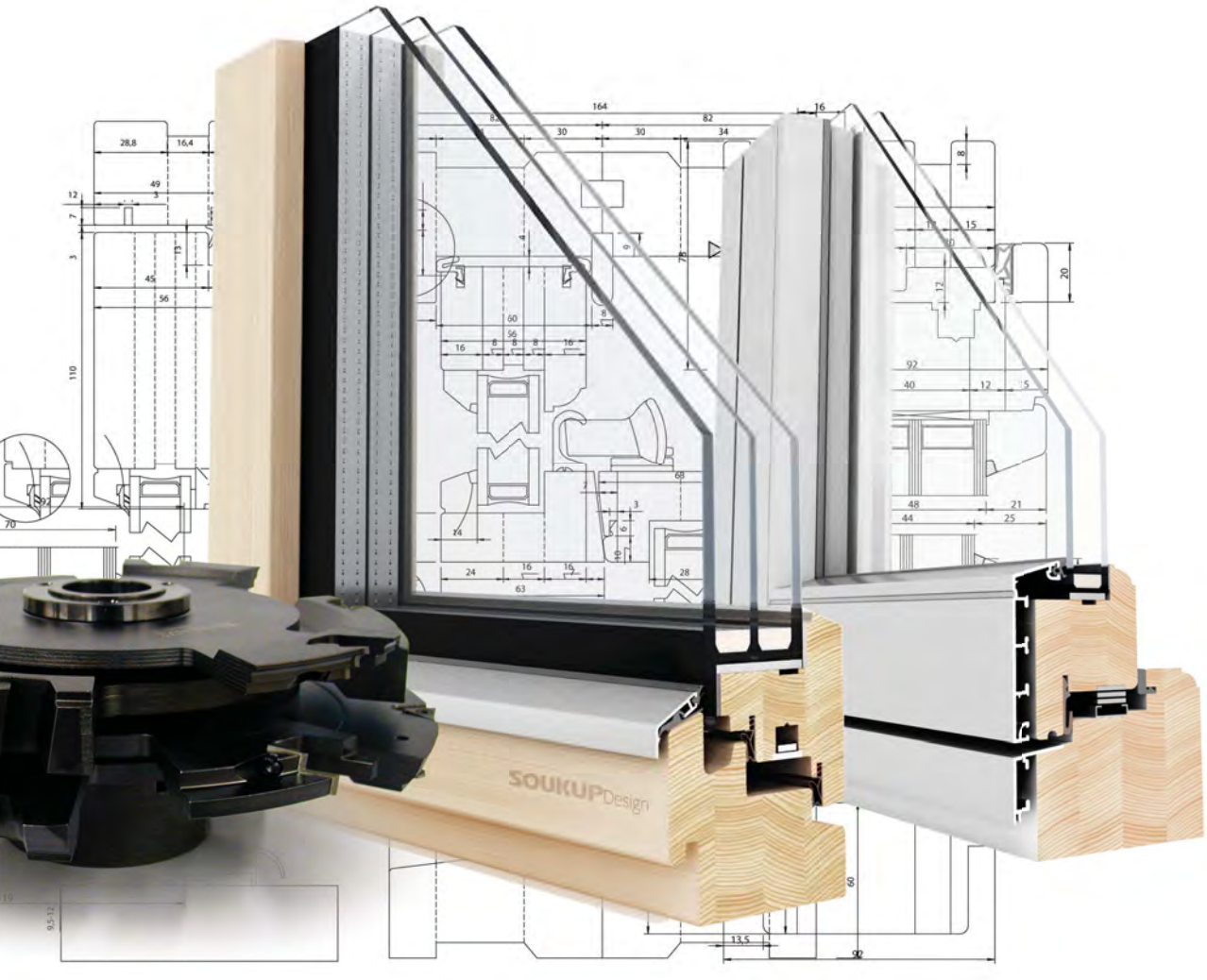
SOUKUP Design

Window Project



ONE PROFILED INSERT

HIGH TECH DETAILS

TIME SAVING, LESS COSTS

FINISHING QUALITY

EASY MAINTENANCE

The correct choice of window manufacturing machinery coupled with the careful preparation of the window design in cooperation with a tooling manufacturer are the key factors to future production success. Our team has the technical knowledge and practical experience to cope with the most demanding projects and can offer tailor made solutions for your business.

The SOUKUP team is engaged in the development of window design for two decades and has always reflected current market demands, both technical and legislative. In its development, it relies on cooperation with an important TWT window tool manufacturer. TWT is a successor of ZUANI, REKORD and GARNIGA, which connects not only its place of business in Rovereto, but also long-time experience in the production of tools for windows and doors.

A continuous development and search for new technical solutions since 1972 brought TWT woodworking tools for CNC machining centers and conventional machines to the highest level. A very important step for quality management is the certification ISO 9001, which together with the implementation of standard EN 847-1, ensure the safe performance of tools for customers.

A fully automatic production system from design, CAD CAM manufacturing operations to assembling and testing of the tools, delivers ultimate quality and a reliable product.

The company teams of SOUKUP and TWT are focused on needs of the customers. and during development of window projects they do tests, assessment of thermal insulation and stress tests of tools. They have knowledge of window constructions from many countries of all continents.

TWT HIGH TECH TOOLS

ZUANI

REKORD®

GARNIGA

LOGIFIX – NaDia

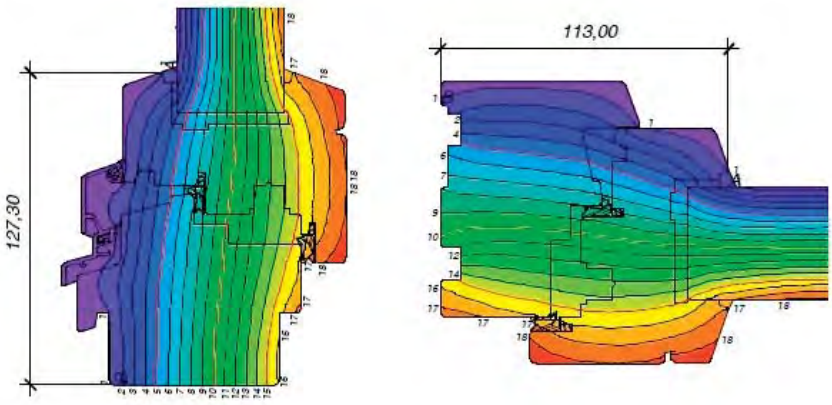
Shaped LOGIFIX knives operate in a recess placed at a compound angle and it provides a higher quality finish than the machining tool composed of straight knives, spurs and chamfering knives. LOGIFIX system allows you to change a design by using another shaped knife in the same tool.
The nanotechnology coating **NaDia** is applied specifically to a woodworking insert carbide knife to extend its quality and longevity. Extensively tested by the largest woodworking factories internationally, the working life of these diamond-coated insert knives is increased by up to 300% due to its high hardness, low friction and anti-gripping properties. This means increased performance and less maintenance time in the shop.

IV 78 - 92

Based on decades of practical experience we have improved the window system IV78 -92, reflecting the requirements of architects, investors and subsequently manufacturers of windows. The main reason for updating of window design is satisfying in 92 mm thickness conditions for installation in low energy buildings and passive houses.

In particular, the maximum constriction of sash and frame profiles reduces the participation of wood in the total area of windows and maximizes the space of glazing. This solution is also to avoid ingress of moisture inside of the windows and solve the overall airtightness system, which is reviewed Blower Door test of the building envelope. The new design also includes installation of windows in buildings using means for sealing the connecting joint.

- Glazing rebate 21x22 mm for higher surface temperature of the glazing using isulation tape or directly siliconed.
- The maximum offset of the first seal from the outer contours of the window using the trapezoidal shaped frame rebate to improve the drain of water.
- Ability to use profiling frame as a credible alternative where aluminum profile Spree is not acceptable.
- Hardware rebate for keeps 30x12 mm (optional 24 mm) with the possibility of extension to 35 mm in width of 92 mm for heavy-duty concealed hinges. Hardware axis is 13 mm.
- Internal overlap of height 20 mm to prevent infiltration of interior moisture into the window profile room.
- Use two identical gaskets 5x12 mm for interior and central rebate and sealing of slave profile by flag seal with endcaps. To increase resistance can still add third seal the outer frame rebate.
- Ventilation holes of glazing space are cut by tenoning tools on an area of 52 mm2.
- Optimizing of the outside part of the frame for installation and sealing in buildings.



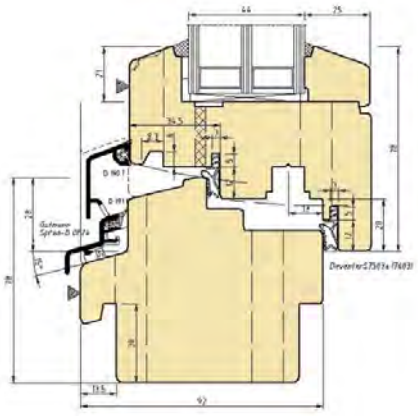
Simulation IV92
acc ISO 10077/2 and 10077/1 - value of frame Uf=0,94 and with aluminium waterbar Uf=1,10 W/m2°K
Uw = 0,89 W/m²°K with Ug= 0,7 W/m²°K with TGI/Termix spacers (soft wood)

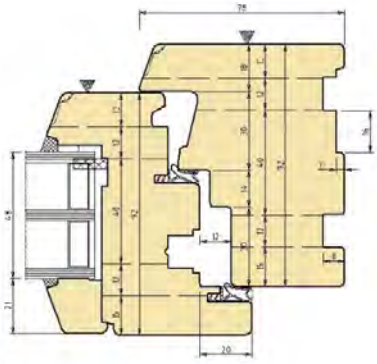
The set of tools for windows IV78 and 92 is optimized for tenoning (or doweling) with easy adjustability without any disassembly of tooling sets. The design of internal and external profiles allows knock down method of production and also traditional procedure. Types of tenons are ready for the combination opening sashes and fixed glazing in one frame and a special profiling of the inside of the frame, then neat fixed glazing directly into the frame.

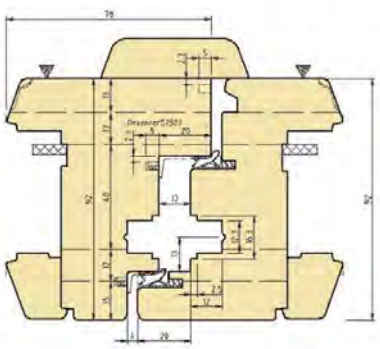
Toolset can be used as a basis for windows IV68 with 13 mm axis fittings and in particular for double rebated entrance doors to complement window system for low energy and passive houses.

The tools are intended for tenoning and profiling machines, as well as the spindle moulders; CNC tool then the machining by CNC routers.

IV 92



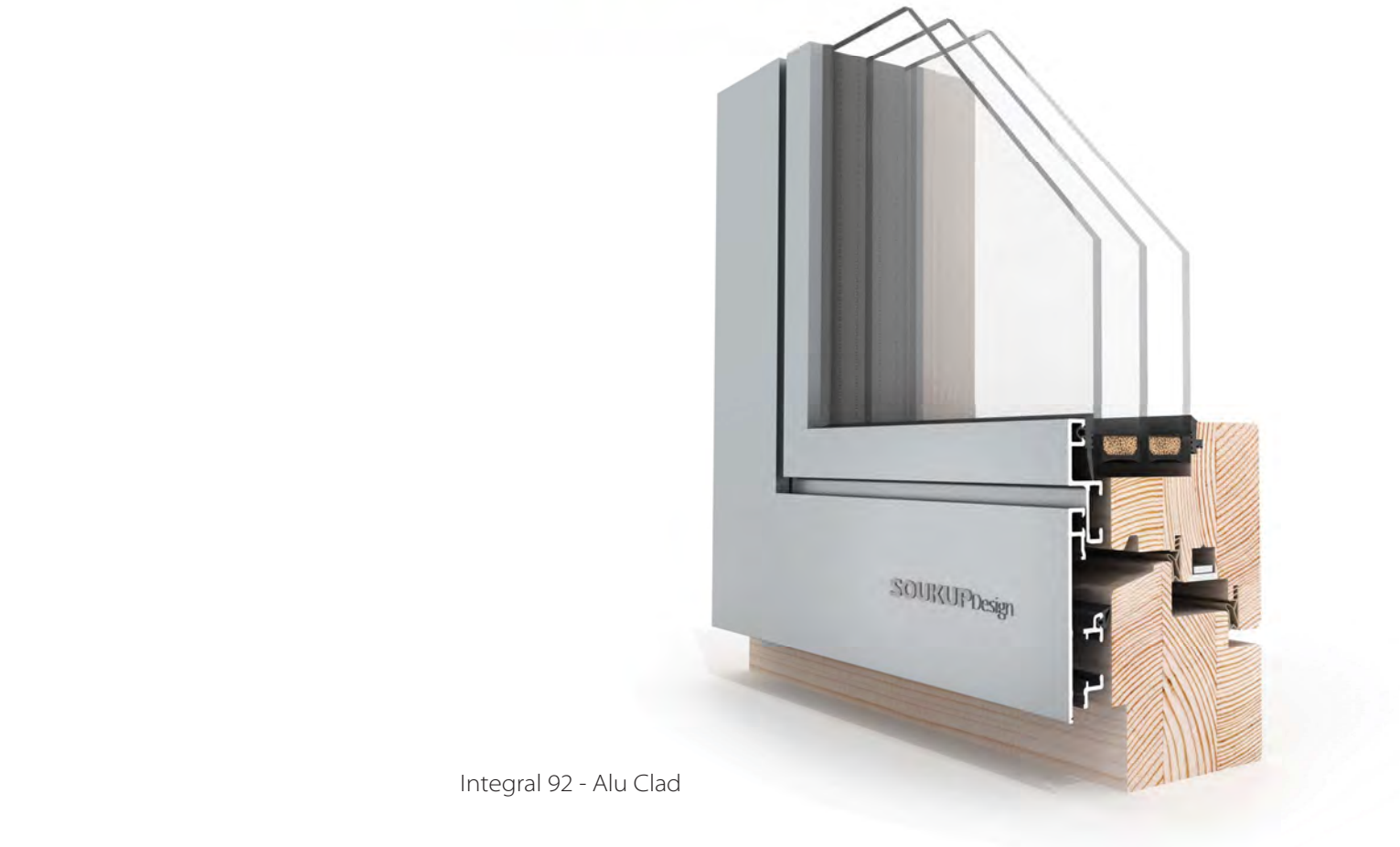




IV 78 - 92 Alu-Clad

- Nadstavba nástrojů pro IV 78 - 92 nebo plná sestava
- frame and sash thickness 78 - 92 mm
- inside profile possible according to the individual request
- for aluminium profiles from renowned manufacturers Gutmann, Europrofili, Uniform with a gap between frame and sash 15 mm
- aluminium frames for glazing with dry sealing
- for gasket 5 x 8 mm and optional counter-noise gasket 5 x 10 mm or 3 x 5 mm
- Eurofalz 12 mm

Integral 78 - Alu Clad



Integral 92 - Alu Clad

Minimal 78 - Alu Clad

IV 92 Integral

Windows with a flush design of the sash in the frame and invisible hardware are a good choice for buildings of modern architecture and also meet all the requirements for window sealing and insulation properties.

IV 92 Screen

Window with a distinctive design, glued glass to a hidden wing with an internal face and the use of hidden hinges.

IV 92 Quattro

Construction of a window using thermo-wood, invisible wing and flush design inside gracefully fits into the window opening.

Double sash window for historical buildings

Window with single glazing Old Vienna 44+44

This construction aproaches to the original window with putty. Beading from inside offers confortable glazing and shape from outside looks like traditional design.

Window with outside double glazing Old Vienna 58+44

This window is intended for buildings where the improoved isulation is required and window allows using of wider scantlings in frames.

Window with inside double glazing Old Vienna 44+58

When facade asks for subtile window design and also better isulation is needed than this construction is the optimal solution.

Window with double glazing Old Vienna 58+58

The best solution on noisy streets keeping traditional design of window.

Lift & Slide

Tools for Lift & slide doors are either as the set of single cutters for grooving of respective mouldes for bottom trolley top sliding track and for door lock or as a complete set for machning centres where each side has its own cutterblock. The desing follows the most used systems on the European market.

Main entrance door DV 68 - 78 - 92

Main entrance door DV 68 - 78 - 92 designed either as window with glazing bead from one side or as frame with two glazing bead from both sides.

- single-rebate frame , double-rebate leaf battened from one side
- Connection bytenons or dowsls
- Eurofalz 4 mm, overlap 22 mm
- Both-sides gasket in the frame and sashes
- Hardware gŕoove in axis 9 or 13 mm

Entrance door DV 78 - 92 with window profile are rebated for double gasket for perfect sealing of the system and for passing Blower door test. The tools are a complement to the IV 78-92 window tools.

Main entrance door DV 78 - Alu Clad

Interior door with door frame

- toolset with LOGIFIX knives in MAN or MEC performance for spindle moulder or CNC working center
- door leaf thickness 40 - 48 mm
- rebating for doorlock case 25/27x15 mm
- adjustable door frame -5/+10 mm

Traditional windows for the United Kingdom

- the new collection of most required window designs in the UK.

Flush sash windows

Required window due flush design and variable opening mechanism. Sashes may either be top hung on fully reversible or side opening with easy access for outside cleaning. Window section is designed for friction stays or IPA/PN hardware system.

Stormproof casement windows

Casements windows with overlapped rebating hung on butt hinges or equipped with friction stays to enable cleaning from inside the building

Traditional windows for the United Kingdom

High performance casement windows

Improved stormproof window with required flush design with second gasket, friction stays for opening and the latest hardware for bolt locking. Excellent thermal and acoustic performance due triple glazing.

Sliding sash windows

The most traditional construction for conservation requirements for lead weights on cord with pulley. Alternative design accommodates spiral balance mechanism with additional tilt facility for room maintenance and cleaning. Horns are the further option for heritage windows applicable on Soukup Crafter window machine.

Mock sash windows

The timber Mock Sash Window is used as a less expensive alternative to keep the authenticity of the look of the Sliding Sash Window. The system is based on a High Performance Flush Window design utilising scribed sash horns to maintain the traditional appearance. The superior sash opens outwards using either stormproof top hung hinges or friction stays. A dummy bottom sash ensures equal sight lines of the window. The bottom sash can be side hung when a fi re escape window is required.

Entrance doors

Design of inward and outward opening entrance doors is based on Traditional Window System and enables using aluminium thresholds or plastic door frame threshold weatherbars.

Alu-Clad windows for the United Kingdom

The aluminium clad profiles from leading European manufacturers can be applied on the High Performance Flush Window or on the Flush Window system even with fully reversible hardware.

Aluminium Flush sash window

Aluminium High performance casement

Examples of windows for the USA

Certificate

Certified Passive House Component
for cool, temperate climates; valid until 31.12.2015

Passive House Institute
Dr. Wolfgang Feist
64283 Darmstadt
GERMANY

Category: **Window Frame**
Manufacturer: **Casagrande Woodworks, Inc.**
Paso Robles, CA 93446, USA
Product name: **Synergist**

This certificate was awarded based on the following criteria:

Given a Ug value of 0.70 W/(m²K) and a window size of 1.23 m by 1.48 m,

U_W = 0.79 W/(m²K) ≤ 0.80 W/(m²K)

Taking into account the installation based thermal bridges and provided that the installation is, with regard to the thermal bridges, equal or better than shown in the data sheet, the window meets the following criterion.

$U_{W,installed}$ ≤ 0.85 W/(m²K)

Thermal data

	U_f-value [W/(m²K)]	Width [mm]	Ψ_g [W/(mK)]	$f_{Rsi=0.25}$ [-]
Spacer			Swisspacer Ultimate*	
Bottom	0.84	98	0.020	0.70
Side/top	0.84	98	0.020	

*Spacers of lower thermal quality, especially those made of aluminium, lead to significantly higher thermal losses and lower temperature factors.

Passive House Efficiency Class

phA
phB
phC

phA
CERTIFIED COMPONENT
Passive House Institute

For further information, please see the data sheet

www.passivehouse.com 0539wi03

Data Sheet Casagrande Woodworks, Inc., Synergist

Manufacturer Casagrande Woodworks, Inc.
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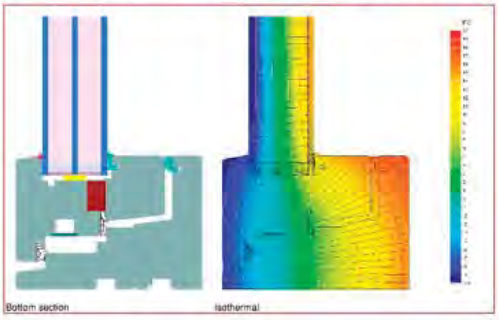
Tel.: + 1 805 226 2040
Email: Jeff@casagrandewoodworks.com, www.casagrandewoodworks.com

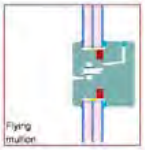


Description

Timber window frame (spruce, lr 0.11 W/(mK)) with cork insulation in the frame and Spacelott (0.016 W/(mK)) in the glazing rebate. Secondary seal: Butyl (0.24 W/(mK)). Pane thickness: 44 mm (4/16/4/16/4). Rebate depth: 15 mm.

Thermal data for the window frame

	U_f-value [W/(m²K)]	Width [mm]	Ψ_g [W/(mK)]	$f_{Rsi=0.25}$ [-]
Spacer			Swisspacer Ultimate*	
Bottom	0.84	98	0.020	0.70
Side/Top	0.84	98	0.020	
Flying Mullion	0.84	144	0.020	0.71



* Spacers of lower thermal quality lead to higher thermal losses and lower glass edge temperatures.

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SOUKUP Design

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