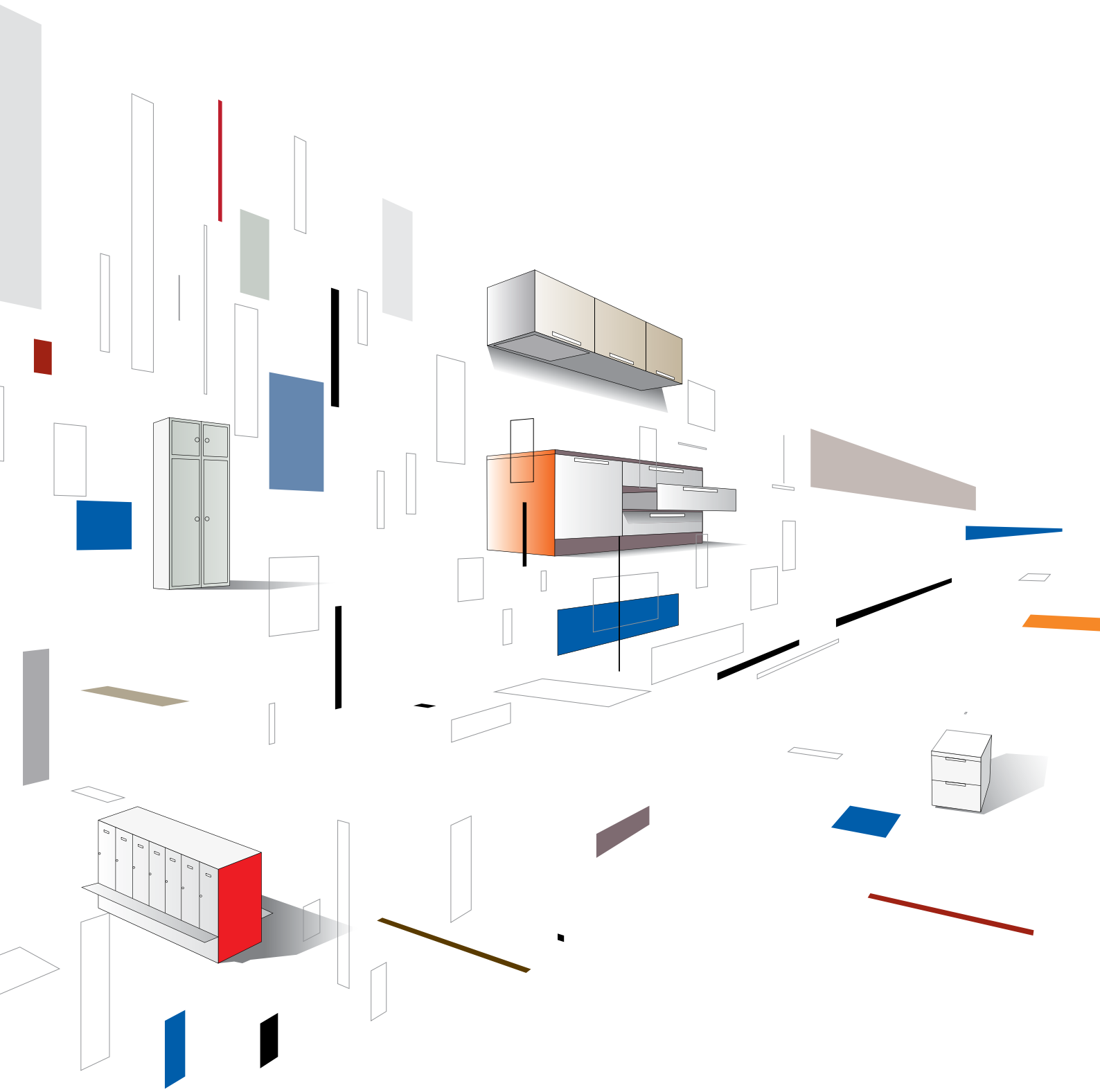
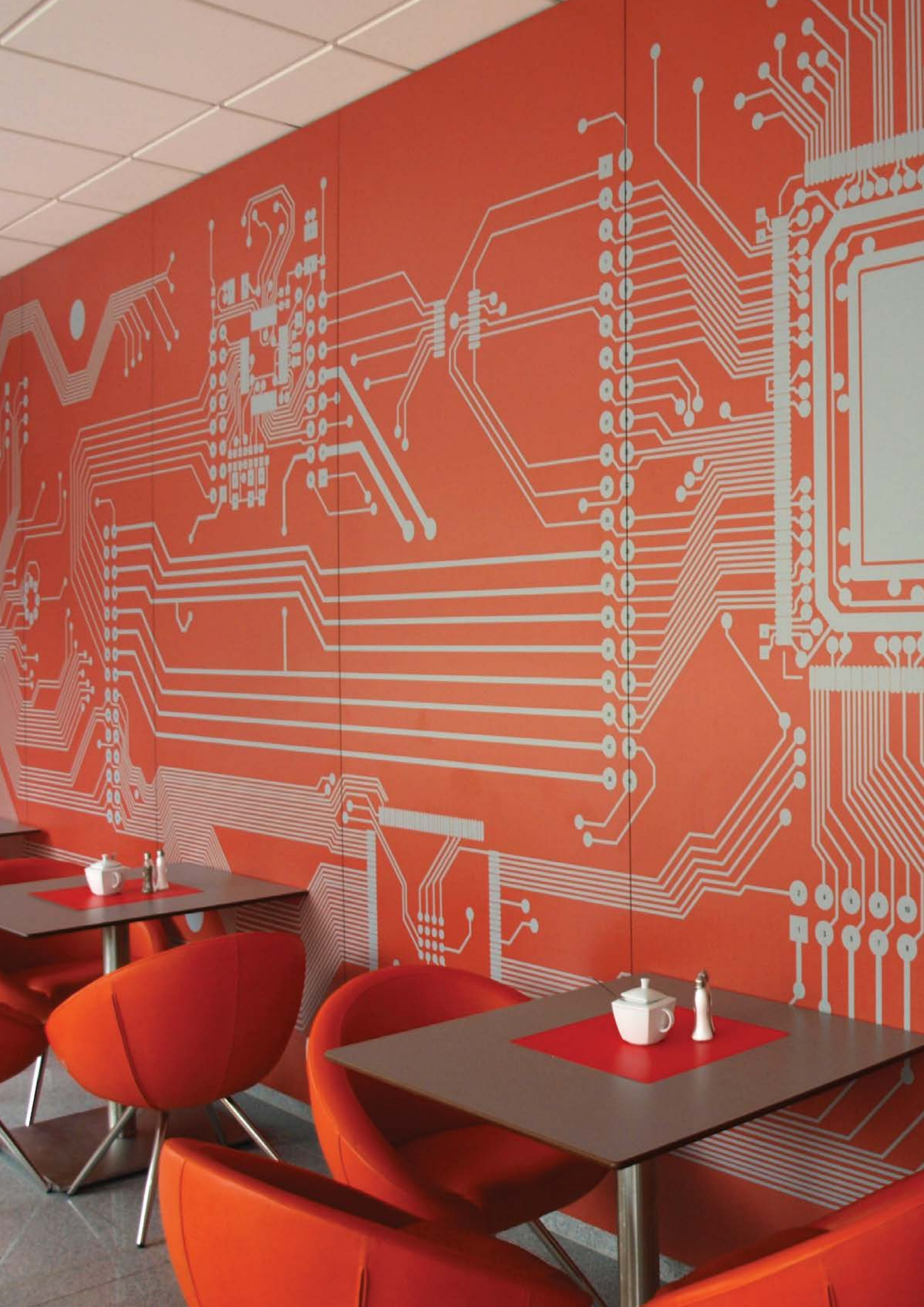
interior

Kronodesign®



Kronospan



Introduction

Krono Compact is a universal surface material which due to extensive selection of colours and surface finishing assures for architects and manufacturers the means for creative and unconventional designing of excellent interiors – in stores, offices, schools, hospitals, means of communication and many others.

Interior – is a place where we spend most part of our time. Therefore, so great influence on us has the texture, finishing and surface colour with which we have contact. The surfaces – wall linings, sanitary partitions and cabins, specialized furniture – all that is made with not a small participation of **Krono Compact** panels.

The **Krono Compact** panels are offered in over 150 different patterns. That means practically unlimited possibilities of selection and composition of individual interior. The **Digital HPL** print which allows to transfer every image on the panel surface completes this collection.

A variety of the **Krono Compact** panels of exceptional aesthetic qualities is the **Krono Multicore** panel. Due to application of colour core papers you can obtain unique effects also on the panel edges.

Characteristic of the Krono Compact panel

The surface of the **Krono Compact** panels is impenetrable and perfect in terms of hygiene, mechanical and thermal strength.

Hygienicity

Due to the closed structure of the surface and edges the **Krono Compact** panels are easy to clean. Dirt does nor deposit and the putrefactive bacteria cannot develop and so the material does not decompose. Due to that, both aesthetic properties as well as the physical and mechanical ones do not change almost at all for many years.

Chemical resistance

The panels have high resistance to aggressive chemicals. Due to the high cross-linking degree they can be used in places exposed to solvents, disinfectants, dyestuff, bleaching agents, cosmetics and other chemicals.

There are however extremely aggressive chemicals which can attack the surface of the panels. On request, the company Kronospan HPL can provide the table of resistance to chemicals.

Vandal proof

Due to combination of bending strength and elasticity the **Krono Compact** panels are to the great extent resistant to impact loads and are perfectly suited for use in the places under vandal threat.

Graffiti can be easily removed without leaving any traces using appropriate solvent without damaging the panel surface.

Fire resistance

The material from which the panels are made has high fire resistance (according to EN 13501, DIN 4102, EN 438) - it does not melt, does not drip, is not explosive and does not flake under the impact of fire as well as it keeps its stability for long time. Due to low smoke emission it is not dangerous toxicologically.

Cutting edges

Surfaces and cutting edges do not require painting or coating with protective coats. For machining, for instance, cutting, drilling or milling you can use all type of tools suitable for machining of hard wood. To prevent damage, the smoothing of cutting surfaces is recommended, for instance, using the flat metal file or cutter with carbide insert.

General recommendations how to proceed

Transport and unloading

The **Krono Compact** panels are characterized with excellent strength, however, during transport there is a danger they can get damaged, both the panels themselves and their decorative surfaces.

Therefore the following guidelines should be followed:

- the panels should be secured so to prevent them from shifting,
- before placing the panels on a palette they all should be cleaned and all obstacles removed,
- put maximum 5 palettes one on top another,
- to protect the panels against dirt use the protective foil.

During unloading do exercise caution; lifting should be carried out always in vertical position, don't pull and don't shift in relation to each other without lifting them.

Attention! Don't hit the edges and surfaces of the panels.

Storage

For storage the panels should be placed on flat and stable surfaces or racks in natural climatic conditions, dry and protected against water. During storage the edges of panels should be aligned.

Top panel should be covered on its entire surface with the cover board and the stack should be wrapped with plastics foil. Also, avoid humidity in places of application (installation) and machining by covering with foil. Original packing of the panels should be removed directly before they are used (from both sides at the same time).

The **Krono Compact** panels are protected with foil with special UV filter. Remove the foil after the panel is installed.

Never lean the plates against a wall; it can cause the irreversible bending of the panel.

Incorrect storage may lead to permanent deformation and surface damage, which cannot be used as a justification for lodging the complaint.

Cleaning

The **Krono Compact** panels are exceptionally easy in maintenance. Small contaminations can be wiped with a cloth wetted with water with addition of soap or other cleaning agents used in a household.

Difficult to remove dirt can be cleaned using the cleaning agents in commercial offer and suitable for household use. Cleaning should be started from a small part of the surface to check whether any changes occur.

Fig. Cleaning.

The **Krono Compact** panels can be washed up using alcohol solvents. The cleaning agents that can scratch the panel surface cannot be used

Thorough cleaning can be performed using pressure devices. During cleaning with pressure devices perform movements from the bottom up and crosswise.

Water temperature should not exceed 90-100°C. Working pressure should be maximum 100 bars.

Machining of panels

The panels are machined at the same way as the hard wood or laminated chip boards. For machining use the standard tools used for wood with parts covered with hard metal. The panels can be cut, drilled and milled.

To obtain straight cutting line and to avoid excessive heating of the edges the tools should be sharp.

The panels can be tapped as well as the self-threading screws can be used.

During machining of panels special attention should be paid that gluing or tight luting is possible only after grinding.

Optimum machining parameters

Cutting of **Krono Compact** panels can be performed using the circular saw blades, stationary or manual, with guides.

Best edge quality is obtained when using carbide saw blades with alternating flat-trapezoidal tooth FZ/TR. The saw should be guided with constant speed. The condition to obtain good cutting quality is optimization of the projection W of the circular blade over the board surface - its increasing improves the quality of upper edge of the cut material and deteriorates the lower one, and vice versa.

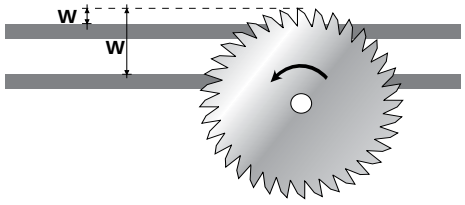


Fig. Optimization of projection W – improvement of cutting quality of the panel edge.

Panel feed speed is 6-10 m/min and depends on the panel thickness.

Technical parameters of circular saw blades

Tooth shape	Trapezoidal-flat or alternating
Tool	Hard alloy or diamond
Cutting angle	Entrance angle 45°

Tab. Recommended machining parameters.

Diameter [mm]	Number of teeth	Speed [rpm]	Saw blade thickness [mm]	Projection [mm]
300	72	6000	3.4	30
350	84	5000	4.0	35
400	96	4000	4.8	40

Tab. Parameters of saw blade for machining of panels.

Technical parameters of drills

HSS drills; cut 60 - 800, drill blade $\leq 90°$. In the case of using a drill from hard metals use the upright drilling machines.

Drill diameter [mm]	Speed [rpm]	Entrance speed [rpm]
5	3000	60-120
8	2000	40-80
10	1500	30-60

Tab. Parameters of drills.

The drills cannot go out into empty space. If necessary press a block to avoid cracking when the drill exits the panel.

Application of Krono Compact panels

The **Krono Compact** panels are intended for internal application, for instance

- interior decoration, wall facing,
- furniture and worktops,
- erection of partition walls,
- adaptation of sanitary and hospital facilities,
- wall protection systems,
- chassis and outfit of vehicles,
- building of cabinets, hospital beds,
- panelling of stair balustrades,
- bowling and skittle tracks.

Dimensions and thicknesses

The **Krono Compact** panels are manufactured in the following basic dimensions and thicknesses:

Dimensions [mm]	Surface area [m²]	Thickness [mm]
5600 x 2040	11,42	2-18
2800 x 2040	5,71	2-18
3050 x 1300	3,96	2-40
2800 x 1300	3,64	2-40

Tab. Dimensions of **Krono Compact** panels.

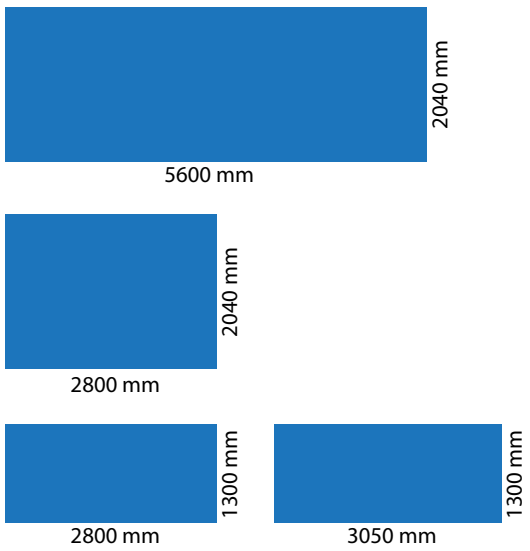


Fig. Available formats of **Krono Compact** panels.

Tolerance of dimension:
lengthwise / crosswise: -0 / +10 mm

Fire resistance rating

Krono Compact Standard

Type CGS, acc. to EN 438.

They are rated with regard to fire resistance according to:

Standard	Fire resistance class
EN 13501	up to the class C-s2, d0 (for the thickness 2-19 mm)
EN 13501	up to the class B-s2, d0 (for the thickness 20 – 40 mm)
DIN 4102	up to the class B2

Tab. Fire resistance rating according to standards.

Brown or black core.

Krono Compact FR

Type CGF, acc. to EN 438.

They are rated with regard to fire resistance according to DIN-4102, up to the class B1 (for the thickness 4 - 15 mm).

Brown core.

Besides, all Krono Compact panels meet the requirements of the standard 438.

Special applications

Due to excellent surface properties the **Krono Compact** panels are especially suited for sanitary rooms, laboratories and hospitals.

Due to extremely high resistance specially modified panels can be used as the bowling and skittle tracks.

Colouring

The **Krono Compact** panels are offered in over 150 single colours, wood-like and fanciful. They have two-sided decorative surface with various structures of the surface.

Technical data of Krono Compact panels

Parameter	Unit	Standard	Requirements	
			CGS	CGF
Thickness	[mm]	438–2.5	2,0÷25,0 ± (0,2÷0,8)	
Lenght	[mm]	438–2.6	+10 / –0	
Width	[mm]	438–2.6	+10 / –0	
Flatness	[mm/m]	438–2.9	≤ (3,0÷8,0)	
Straightness of edges	[mm/m]	438–2.7	≤1,5	
Squarerness	[mm/m]	438–2.8	≤1,5	
Resistance to surface abrasion	IP [rpm]	438–2.10	≤150	
	Value [rpm]		≤350	
Resistance to impact with large diameter ball	Drop height [mm]	438–2.21	t=(2,0÷6,0); ≥1400 t≥6,0; ≥1800	
Scratch resistance	Appearance, grade	438–2.25	≥3	
Dry heat resistance	Appearance, grade	438–2.16	≥4	
Ligot fastness (Xenen-arc)	Grey scale rating	438–2.27	4÷5	
Resistance to immersion in boiling water	Mass gain [%]	438–2.12	t=(2,0÷5,0); ≤5 t=5,0; ≤2	t=(2,0÷5,0); ≤7 t=5,0; ≤3
	Thickness gain [%]		t=(2,0÷5,0); ≤6 t≥5,0; ≤2	t=(2,0÷5,0); ≤9 t≥5,0; ≤6
	Appearance, grade		≥4	≥4
Resistance to staining	Group 1 & 2, grade	438–2.26	≥5	
	Group 3, grade		≥4	
Resistance to water vapour	Appearance, grade	438–2.14	≥4	
Resistance to cigarette burns	Appearance, grade	438–2.30	≥3	
Resistance to crazing	Appearance, grade	438–2.24	≥4	
Flexural modulus	Stress [MPa]	EN ISO 178:2003	≥9000	
Flexural strength	Stress [MPa]	EN ISO 178:2003	≥80	
Tensile strength	Stress [MPa]	EN ISO 527–2:1996	≥60	
Density	[g/cm^3]	EN ISO 1183–1:2004	≥1,35	
Fire reaction classification		EN 13501–1	C–s1, d0	B–s2, d0

Tab. Parameters of **Krono Compact** panels, t - nominal thickness [mm].

Interior facings

The decorative **Krono Compact** panels are very good as durable and good looking elements of modern decoration, either of the whole interior or its part.

All panels for interior applications feature high impact strength, high resistance to scratching, are very easy to keep clean and have increased resistance to moisture. They are also resistant to mould and putrefaction.

Due to these qualities they are widely used in all those places where the surfaces are exposed to extensive use and/or or where one of pre-conditions are high hygienic properties.

Panel thicknesses used

The thicknesses used for internal wall facing (mm): 6, 8, 10.

Dimensions and structures

Structures of surface of the **Krono Compact** panels for every offered format.

Format [mm]	Structure
2800 x 2040	SM - smooth material BS - orange peel PE - pearly material
2800 x 1300	SM - smooth material BS - orange peel PE - pearly material SQ - gloss PR - wood pores
3050 x 1300	SM - smooth material BS - orange peel PE - pearly material SQ - gloss SN - supernatural
5600 x 2040	SM - smooth material BS - orange peel PE - pearly material PR - wood pores

Tab. Dimensions and surface structures.

Expansion of panels

When selecting a gap between subsequent formats you should consider the linear expansion both lengthwise and crosswise because the dimension of material may increase by about 2,5 mm per one current meter of lining.

Joining of panels

Most popular solution used for joining of panels is the open gaps. During their use the materials resistant to moisture and corrosion should absolutely be used and the thermo insulating layer should be protected from inside with insulation against wind.

Recommended size of the expansion gap is min. 8 mm.

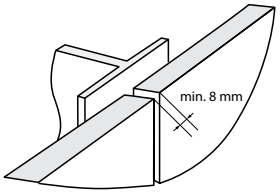


Fig. Open arrangement of gaps

When using the HPL panel of thickness 8 mm or more, you can join the subsequent panels making tongue and groove joint and the horizontal gaps with overlapping. In this way you can obtain the closed arrangement of gaps.

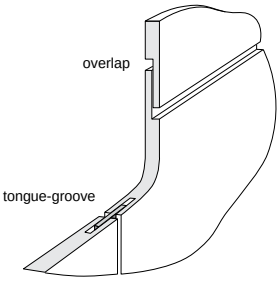


Fig. Closed arrangement of gaps

Minimal parameters of tongue and groove to be observed are given below.

Type of tongue	HPL	Aluminium
Dimension of tongue [mm]	3 x 30	2 x 30
Dimension of groove [mm	3,3 x 15	2,3 x 15
Dimension of overlap [mm]		21

Tab. Close arrangement of gaps – recommended minimal parameters for tongue and groove.

Corner finishings

Minimum thickness of the **Krono Compact** panels results from the necessity of correct setting the screw in material or necessity to make a groove for the tongue (installation using tongue and groove) of thickness up to 3 mm.

Number of connectors and their mutual distance between them is connected with the spacing of the substructure.

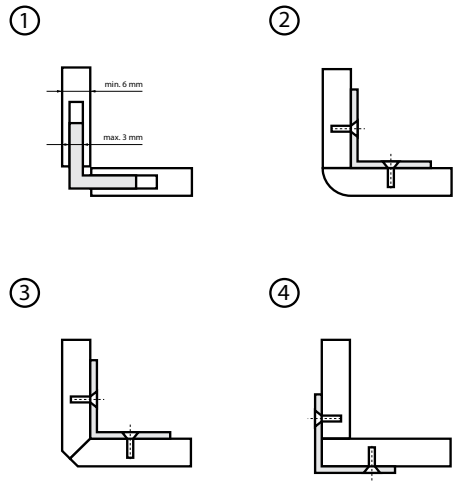


Fig. Corner finishings.

Types of corner finishing.

1. The corner joined using groove and tongue (system tongue or from aluminium).
2. Closed corner, straight joining from inside by means of aluminium corner – there are pass-through connections (rivets) and not pass-through (self-tapping screws).
3. Closed corner, slantwise connection from inside by means of aluminium corner.
4. Closed corner, straight connection from outside by means of aluminium corner.

Recommendations for installation

Before and during the installation a few rules should be observed that are listed below.

- The **Krono Compact** panels can be fixed to metal bearing structures (aluminium, galvanized steel) or from wood.
- The panels can be fixed to the bearing structure using rivets, bolts/elevation screws, adhesive systems or staples fixed to rear side (invisible mechanical fixing). All joints of panels with other elements and the substrate should be made in firm manner.
- Fixing elements should be spaced so as to enable the panel moving (by appropriate arrangement of fixed and non-fixed holes.
- No formats can be fixed at the same time with two different profiles of the substructure and fixed one on top of another with expansion joint as the facing panels should have a possibility of making the same movements.
- Installation of the panels should be carried out by qualified gang of fitters.
- Installation of lining from the **Krono Compact** panels should be carried out with permanent ventilation from both sides of the elevation material.
- Recommended ventilation distance between thermo insulating board and the panel should be min. 20 mm. Lack of distance between the panel and the bearing structure and thermal insulation can cause condensation and deformation of the panels.

Installation solutions

For installation of linings similar methods are used as for the external facades.

They can be divided into:

- Visible mechanical installation,
- Invisible mechanical installation,
- Invisible installation – adhesive systems.

Visible mechanical installation

The **Krono Compact** panels for interior lining can be fitted by means of blind rivets or screws.

Panel thickness should be 6 mm or more.

Fixed point / Non-fixed point

In order to assure a possibility of uniform expansion of panels, one fixed point should be made in the central part of the panel.

Making such fixed point always guarantees even facing of panels both lengthwise and crosswise.

The fixed point for multi-span installation should be made in the centre of the panel and for one-span installation in the central part of the panel edge. The other points must be made as non-fixed points.

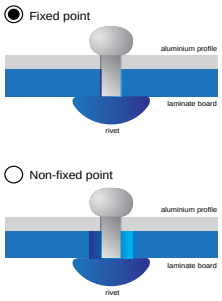


Fig. Fixed point and non-fixed point.

One-span fixing

Below are given the suggested distances of fixings for the one-span installation of elevation panels.

Thickness [mm]	max. D1 [mm]	max. D2 [mm]	a [mm]	b [mm]
6	400	400	20-40	20
8	550	500	20-50	20
10	700	600	20-60	20

Tab. Distribution of connectors – one-span fixing.

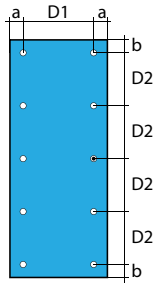


Fig. Distribution of connectors – one-span fixing.

Multi-span fixing

In the case of multi-span fixing of panel sit is recommended to distribute the installation holes as given in the table below.

Thickness [mm]	max. D1 [mm]	max. D2 [mm]	a [mm]	b [mm]
6	550	400	20-60	20-50
8	700	500	20-80	20-60
10	800	600	20-100	20-80

Tab. Distribution of connectors – multi-span fixing.

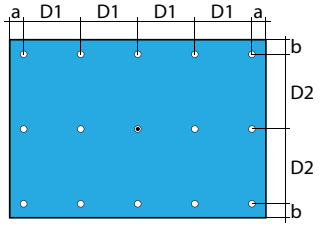


Fig. Distribution of connectors – multi-span fixing.

Diameters of installation holes

The diameter of the fixed point holes should be the same as the diameter of the fixing element. The diameter of holes in non-fixed points should be 1,5 larger than the diameter of the fixing element.

Remarks

It is recommended not to exceed the surface are of a format above 4 m^2, whereas the maximum acceptable side length should not be longer than 3050 mm.

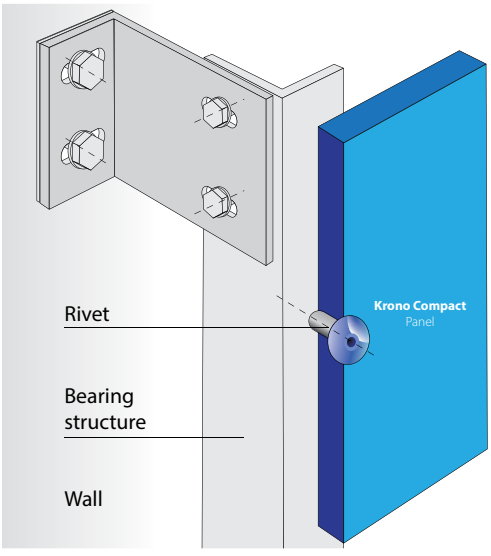


Fig. Installation of wall facing – blind rivets.

Invisible mechanical installation

The advantages of this system consist in high and more uniformly distributed fixing forces.

Joints of this type are durable and optimized in terms of bonding with substrate without expanding stress.

Minimum thickness of panels

Minimum thickness of panels is 8 mm.

Because of the perforation and fixing method it is recommended to use the panels of thickness 10 mm.

Recommendations for installation

Length of side edge for every format (Z, X) should not exceed 3050 mm.

There are used special, dedicated aluminium substructures enabling later easy de-installation of the panel from elevation without a risk of damage.

Distribution of connectors

Depending on the type of installation it is recommended to observe the distribution of the installation holes according to the below given tips.

One-span joints

Below are given the recommended distances of fixing for the one-span installation of **Krono Compact** panels.

Thickness [mm]	max. B, D [mm]	max. d [mm]	max. b [mm]
10	740	125	150

Tab. Distribution of holes – one-span installation.

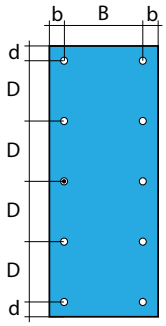


Fig. One-span installation, distribution of fixing points.

Multi-span joints

In the case of multi-span installation of panels it is recommended to observe the distribution of installation holes as in the table below.

Thickness [mm]	max. B, D[mm]	max. d [mm]	max. b [mm]
8	740	20-80	20-60
10	890	20-100	20-80

Tab. Distribution of holes – multi-span installation.

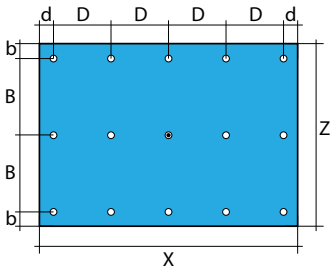


Fig. Multi-span installation, distribution of fixing points.

Preparation of construction

Invisible mechanical installation is carried out taking as a base the horizontal elements fitted to the wall. The panels are installed using special hanging connectors (hangers, safety pins and clips).

The connectors (screws, studs, clinch bolts) for invisible installation are selected depending on the type and thickness of material the panel is made from and conditions in which the facing is used.

Additional recommendations before installation

All installation parameters of the system should always be consulted with the manufacturers of the construction profiles as well as with the manufacturers of fixing elements.

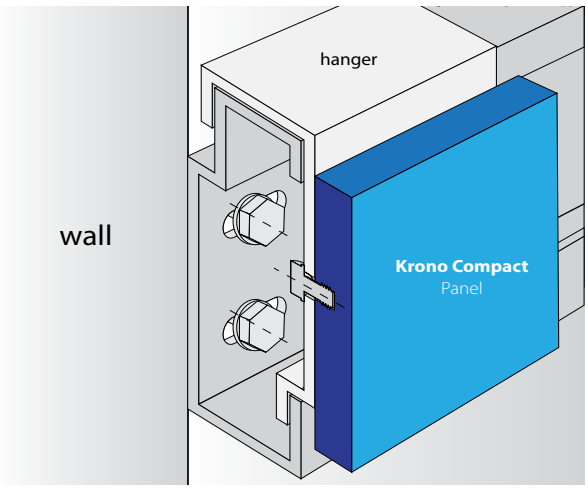


Fig. Installation diagram.

Invisible installation – adhesive systems

Popular method of installation consists in using the adhesive systems without visible installation elements. You can use the decorative elements between the joints of every element, giving in this way the lining even more aesthetic look.

The thickness of the panel should be 6 mm or more.

Lay out of substructure

Panel thickness [mm]	Maximum spacing B_{max} [mm]
6	440
8	590
10	640

Tab. Distribution of substructure elements – one-span installation.

Panel thickness [mm]	Maximum spacing B_{max} [mm]
6	540
8	640
10	640

Tab. Distribution of substructure elements – multi-span installation.

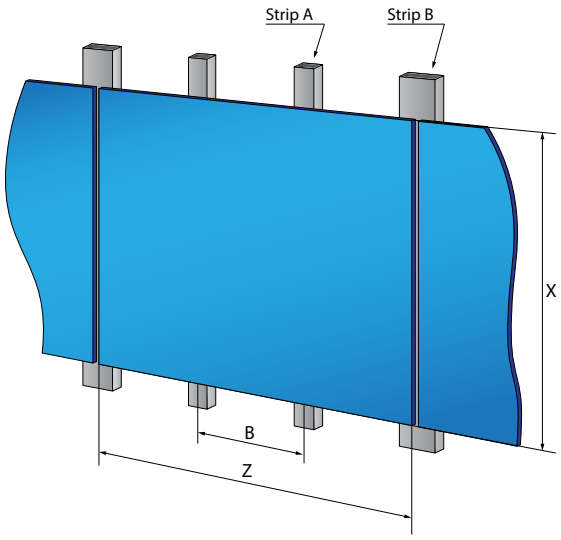


Fig. Installation – adhesive systems.

Format width Z [mm]	Max format height X_{max} [mm]
2800	890
3050	810

Tab. Dependence between the width and maximum height of the format.

Distances between adhesive layers and the tape

During application of the fixing tape and adhesive layers it is recommended to keep correct distances between them what is shown on below figures.

External strips – two adjoining panels

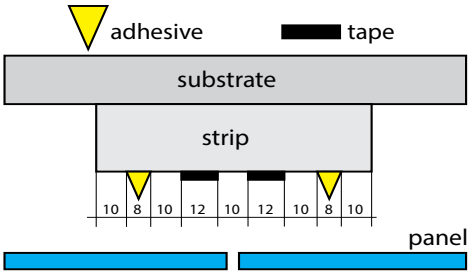


Fig. Recommended distances between the adhesive strips and tape, dimensions in mm.

Internal strips – one panel

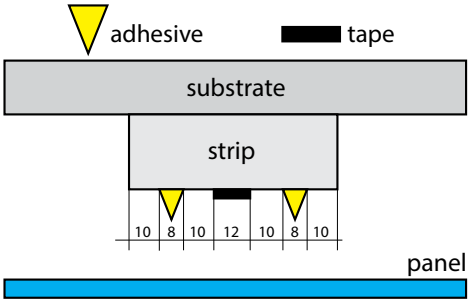


Fig. Recommended distances between the adhesive strips and tape, dimensions in mm.

Note! The distance 10 mm is necessary to prevent outflowing of adhesive on the tape during pressing the panel.

Remarks

When making the wall facings from the **Krono Compact** panels it should be remembered to carry out the installation according to the technical requirements for adhesive joints.

It is very important to determine the air humidity and the lowest temperature at which installation work can be carried out.

Maximum surface area of single format is 2,5 m2.

Recommended dimensions of installation strips of substructure:

- (A) aluminium internal strip
  50 x 30 x 2,5 mm
- (B) aluminium external strip
  (at the place of contact of two panels) 85 x 30 x 2 mm

Protective fenders

The protective fenders from the **Krono Compact** panels are used for protection of walls at places exposed to damage and in particular in areas of intensive traffic and zones of use:

- in health care facilities,
- schools,
- offices,
- sport facilities,
- other public objects

IThere are many possible variants of fenders. They can be mounted on special spacing fixtures or by means of aluminium shapes.

Depending on the installation method they can be divided in:

- visible mechanical installation
- invisible installation – adhesive systems

Description of these systems you can find on pages 10 and 12.

Recommendations for installation

- The panel for fender should not be thinner than 8 mm.
- Spacing of aluminium elements of bearing base depends on the panel thickness and the type of selected installation system.
- Solutions for corners and joining of panels according to information on page 8.
- Edges of fenders should be rounded or milled.
- In the case of mechanical visible system the distribution of fixed and non-fixed points is illustrated on the figure below.

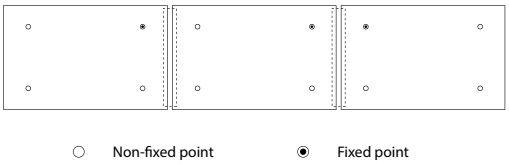


Fig. Exemplary distribution of fixed and non-fixed points.

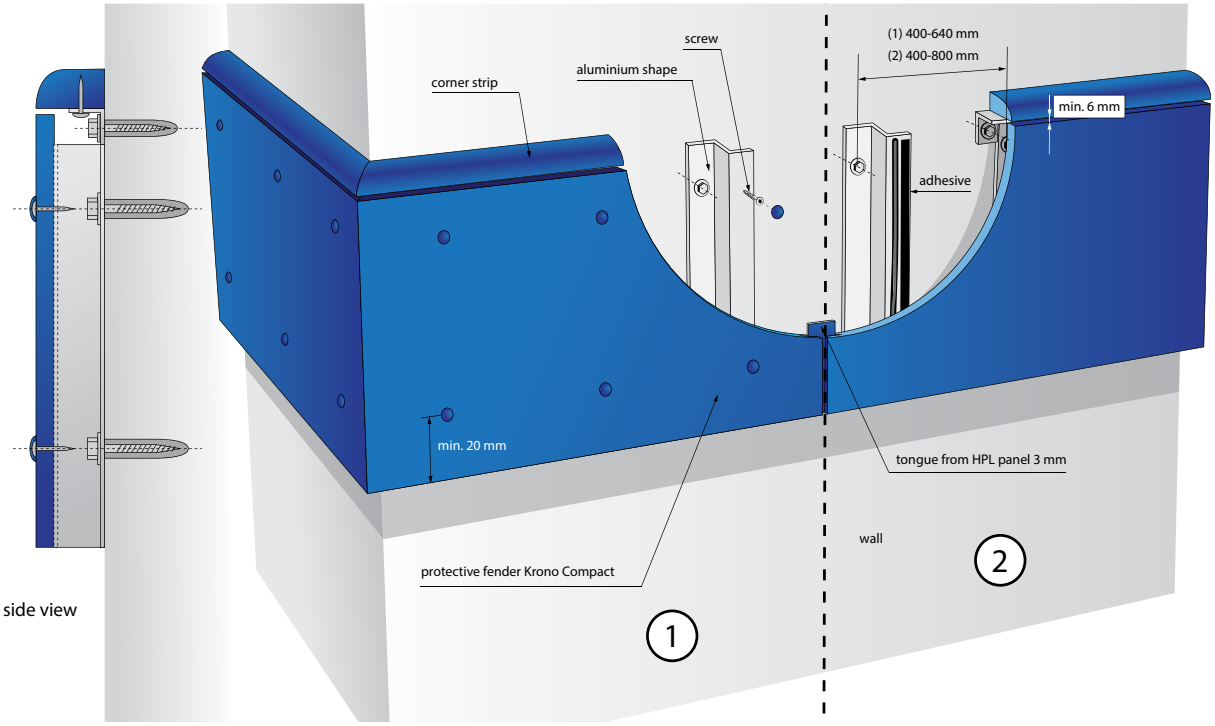


Fig. Installation of the fender - visible (1) and invisible (2).

Fixing elements

Nity malowane

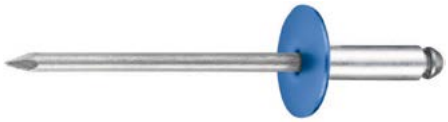


Fig. Blind rivet, closed from one side, painted.

Rivets with large head, powder painted are used in the systems of visible fixing on balconies, to aluminium supporting elements to the extent allowed by certificates.

Element	Type of material	No of material
Sleeve	Al Mg 5	3.3555.10
Stem	stainless steel	1.4541 (Alfo®), 1.4301 (SFS)

Tab. Parameters of blind rivets.

Breaking force of the rivet is 4,4-5,2 kN.

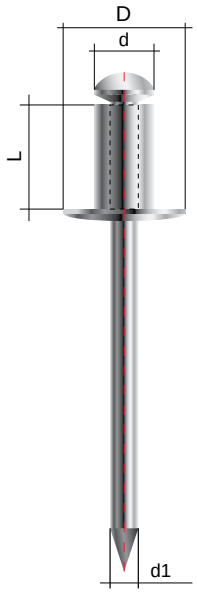


Fig. Blind rivet – construction and dimensions.

Diameter Ø d / lenght L [mm]	5 / 18	5 / 21
Max. thickness of material [mm]	12	15
Diameter Ø d1 [mm]	2,7	2,7
Diameter Ø D [mm]	14	14
Catalogue No (Alfo®)	12250180/14	12250210/14
Quantity	500 / carton	500 / carton
Catalogue No (SFS)	AP14-50180-S	AP14-50210-S
Quantity	500 / carton	500 / carton

Tab. Technical data of the recommended connectors.

In most cases for fitting will be suitable the connectors recommended in the table above.

Most colours are available from our stock. For fitting the fixtures PVC – catalogue no 0010000050 can be used.

The tools for riveting and accessories are available from the supplier of fixing elements. Among them there are tools for manual and machine riveting, distancing tips, positioner for centering during drilling and the positioning tip for centering during drilling of preliminary hole.

Facade screw with Torx 20

It is used for installation of HPL panels to wooden bearing elements. It is made from austenitic steel with colour coat powder painted.

Fixing screw without a washer from stainless steel, single or double thread.

No of material	1,4301
Diameter Ø d2 [mm]	12
Diameter Ø d1 [mm]	5,2
Lenght L [mm]	24
Screw driver tip	TORX T20W
Pitch of the screw P [mm]	2,2

Tab. Technical data of fitting screws Torx.

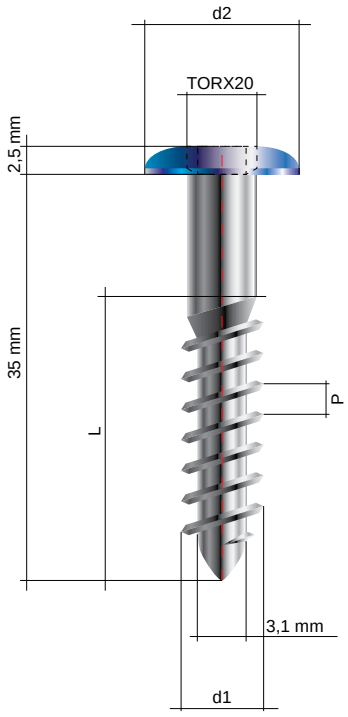


Fig. Fixing screw Torx – construction and dimensions.

Connector KEIL

Construction of connector

Basic connector consists of a sleeve and a locking screw.

D_1	Hole diameter (7 mm)
D_2	Undercut diameter (9 mm)
H	Panel thickness (od 6 mm)
H_S	Anchorage depth
X_A	Bolt height (3 mm)
X_Z	Aluminium profile thickness in the structure

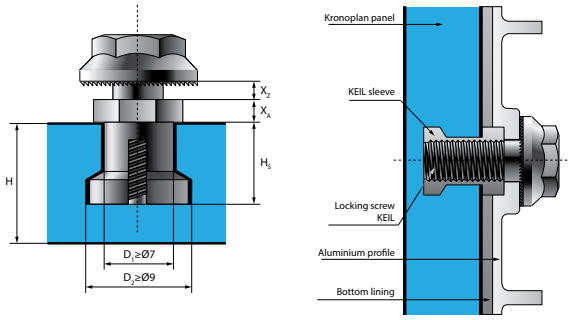


Fig. KEIL Connector – Construction and dimensions.

$H_S = 5,5$ mm $H_S = 7,0$ mm $H_S = 8,5$ mm

Fig. KEIL Connectors.

Supplier of fittings

KEIL Befestigungstechnik GmbH

Postfach 1158

51751 Engelskirchen

mail01@keil.eu

Phone: +49 (02263) 807 0

Fax: +49 (02263) 807 333

Clinch bolt TU-S

The sleeve is made from austenitic steel (AISI 316, grade 1,4401 acc. to PN-EN), whereas the stem is from carbon steel (stem is completely removed during setting).

Type	Material S = steel	Ø	L	Panel thickness	Thickness of joined elements
TU-	S-	6,0x	9	8	2.5 - 3.5
				10-13	0,5 – 3,5
TU-	S-	6,0x	11	8	4,5 – 5,5
				10	2,5 – 5,5
				13	0,5 – 5,5
TU-	S-	6,0x	13	10	4,5 – 7,5
				13	2,5 – 7,5

Tab. Dimensions and designations of connectors (all dimensions in mm).

Exemplary designation for the connector: **TU-S-6,0x9**.

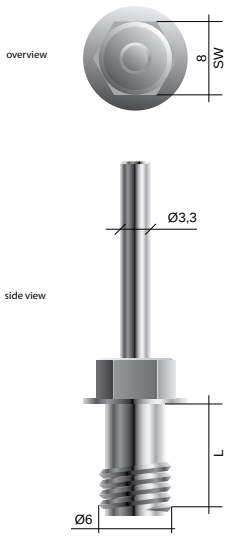


Fig. Clinch bolt – Construction and dimensions (mm).

Supplier of fittings

SFS Intec Sp. z o.o.

ul. Torowa 6,

61-315 Poznań

Phone: +48 61 660 49 00

Fax: +48 61 660 49 10

http://www.sfsintec.biz/pl

System adhesive

Elements of the system

The SPS® system includes:

- Flexible adhesive SPS®
- Wood primer - SPS Wood Primer®
- Substrate cleaning liquid - SPS Cleaner®
- Non porous substrates Activator - SPS Activator®
- Double sided adhesive tape - SPS Tape®

After installations of panels the seam between them can be durably filled with flexible filling compound Soudaseal 215 LM® (certificates: ATG 98/2241, ISO 11600-25F).

Gluing process

The structure of bearing framework from aluminium (AlMgSiO,5 or F25, according to DIN 1748-1) and the joined surfaces should be cleaned and degreased using the liquid Surface Activator®. Gluing of panels can be started just after Surface Activator® is completely dry, that is after about 5 minutes.

Then stick the tape SPS Bonding Tape® to vertical elements of substructure. It is used for preliminary fixing of elevation panels to the bearing framework for the time necessary for the adhesive to be completely cured.

Apply the adhesive with continuous bands using special application ending available from the adhesive manufacturer in order to obtain correct cross section in the form of the letter “V”. Remove the parchment layer securing the double sided adhesive tape SPS Bonding Tape®. In 10 minutes position the panel in correct position and press preliminary to correctly set it on the elevation.

After the panel has contacted the tape no adjustments of its position are possible. After installations of panels the seam between them can be durably filled with flexible filling compound Soudaseal 215 LM which is available in many colours.

Installation accessories

EPDM

Installation tape made from elastomer on basis of the modified EPDM is used for sealing the contact between facade elements.

It is very resistant to weather conditions and highly flexible. It keeps stability of shape in elevated temperatures.

Fig. EPDM tape.

It is also available as one-sided adhesive tape facilitating the installation.

Item	DIN	Property
Class of construction material	4102	B2 (normally flammable)
Water vapour diffusion resistance factor		- 40°C - +130°C
Temperature of use		+ 5°C - + 35°C
Durability		Two years
Storage temperature		+ 5°C - + 25°C
Colour		black

Tab. Technical details of EPDM tape.

Type	Width [mm]	Thickness [mm]	m/roll
EPDM-	60/	0,7	25
EPDM-	100/	0,7	25
EPDM-Adhesive-	60/	0,7	25
EPDM-Adhesive-	100/	0,7	25

Tab. Types and designations of EPDM tapes (Supplier: SFS).

Exemplary designation: EPDM-60/07

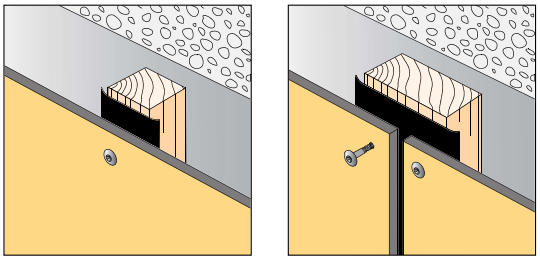


Fig. EPDM – examples of application.

Furniture

The **Krono Compact** panels, due to their technological qualities fulfill the requirements for all usable surfaces. High esthetic values of HPL panels make possible their use in manufacturing of furniture both for private and public utilities. **Krono Compact** panels are used among others in production of furniture for:

- Hotels,
- Kitchens,
- Offices,
- Stores,
- Bathrooms,
- Laboratories,
- Hospital beds,
- Swimming-pool lockers.

From **Krono Compact** panels you can make complete furniture or their elements such as: bodies, kitchen countertops, worktops, conference tables or lockers.

Fig. Furniture made from **Krono Compact** panels.

Construction of furniture elements

Individual furniture elements are manufactured from panels of different thicknesses depending on requirements.

Element	Minimum panel thickness [mm]
Fronts	10
Base	10
Rear wall	3
Shelves	10
Locker top	10
Seats (optionally)	10
Worktops	10

Tab. Panel thickness for furniture elements.

Hinges used in furniture should be made from stainless steel. It is recommended that the hardware used in furniture is made from galvanized steel with a coat of plastics or from stainless steel or aluminium.

The bearing structure should be made from anodized aluminium shapes. Depending on purpose, the furniture from HPL panels is of various constructions and can be assembled on legs, can have shelves, drawers and hangers for dress.

Visible edges of doors and walls as well as corners should be rounded by milling.

Foots should have a possibility of height adjustment.

Finishing of panel edge

Exemplary solutions in finishings of panel edges of the **Krono Compact** panel are shown on the drawing below:

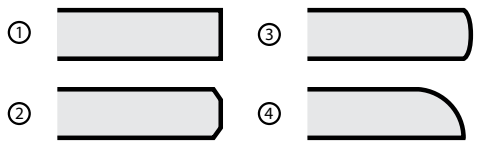


Fig. Finishing of panel edge.

Exemplary finishings of compact panel edge:

1. Straight finish,
2. Finish with beveling,
3. Rounded finishing,
4. Finishing „quarter roll”.

Technical solutions

Fitting of doors

Small formats (fronts of furniture) can be assembled on two hinges.

Multi format doors should be mounted on two hinges in order to assure stability of shape.

In order to eliminate any deformations in case of long term influence of moisture and/or high temperature the suitable air circulation should be assured.

Remember to keep clearances for material movement when selecting hinges.

Fig. Fitting of hinges.

Latches, locks and seals cannot cause any constant stresses.

Frame construction cannot cause internal stresses, it must be stable.

Fitting of panels

Pass through connections

This type is most often used for fitting of hardware, profiles and strips. The holes should be 1,5 times larger than the diameters of screws.

Not pass through connections:

Expansion bolts from brass

They guarantee highest pull out strength.

The expansion bolt should not be used for fitting of panel edge (parallel to panel surface). The holes should be matched to the type of bolt.

At least 1,5mm of material under the hole should be left.

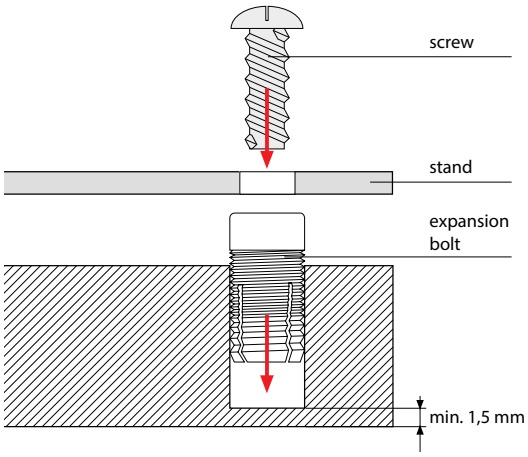


Fig. Fitting of expansion bolts from brass.

When drilling near the edge left minimum 3 mm

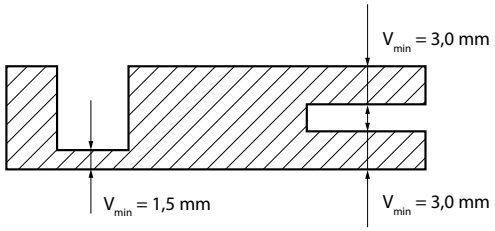


Fig. Minimum thickness of the material left – not pass through fitting.

Self-drilling screws

The screws should be lubricated before screwing in.

Hole diameter should be smaller than screw diameter by the depth of thread.

The hole must be at least 1 mm deeper than the depth of screw.

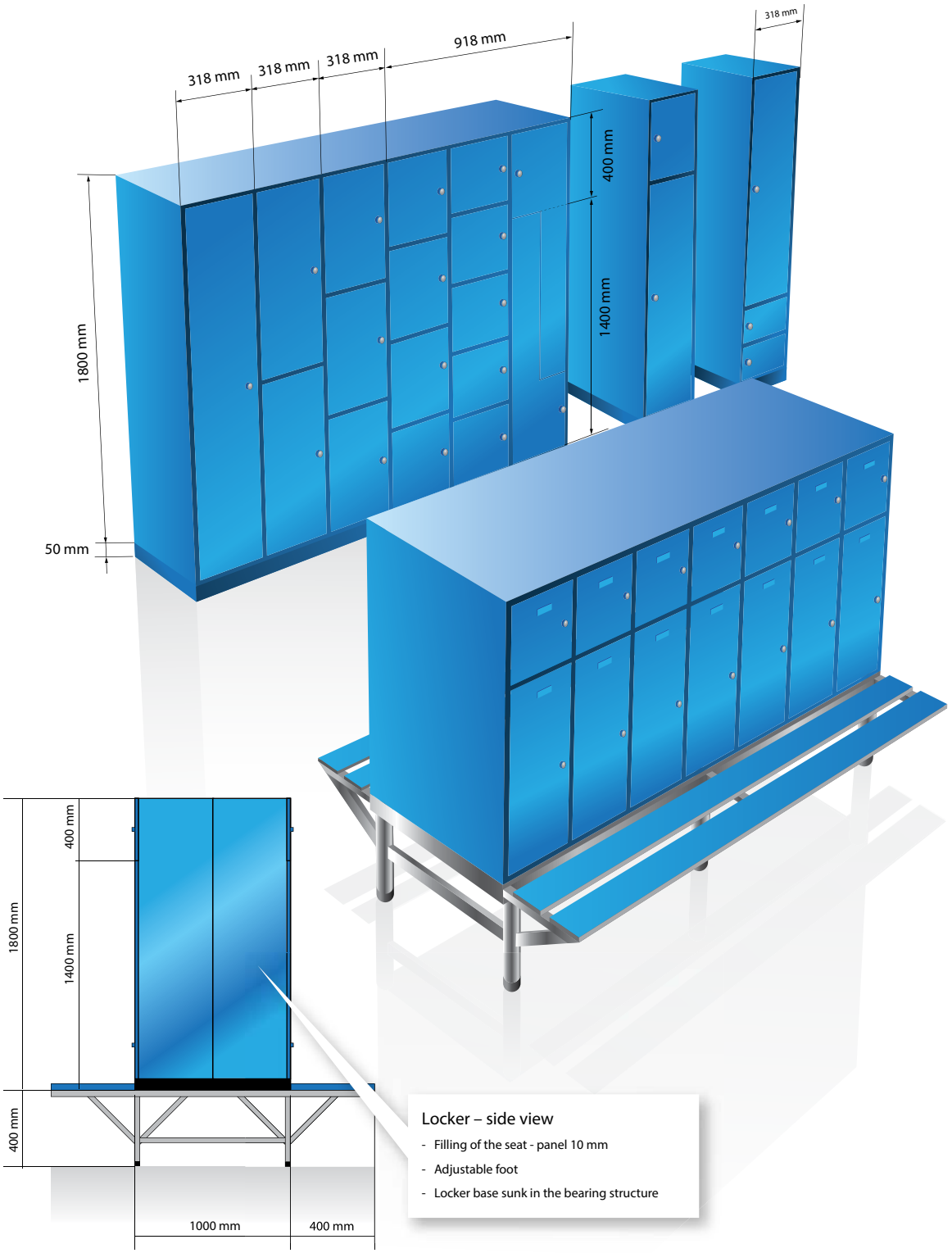


Fig. Examples of application of **Krono Compact** panels – modular furniture in many variants.

Worktops

Worktops based on the **Krono Compact** panels fulfil highest requirements for working surfaces. They are resistant to scratches, high temperature and commonly used chemicals.

They are used in kitchen, office, laboratory, conference and restaurant furniture.

Fitting of worktops

Installation of worktops to stands is carried out by means of self-drilling screws (after preliminary having drilled the holes).

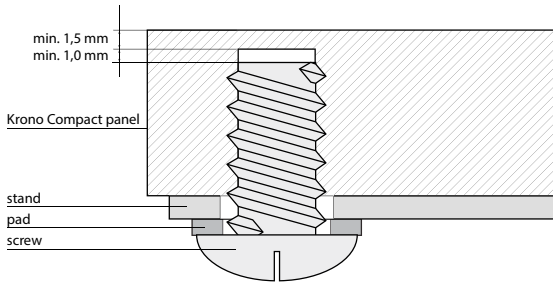


Fig. Fitting of worktop to stands.

You can also fit using threaded sleeves.

Fitting worktop to the body made from any furniture board (chip board, MDF, **Krono Compact**) can be done using threaded sleeves/anchors.

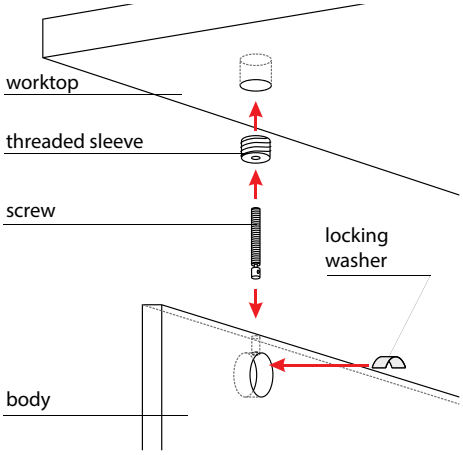


Fig. Fitting of worktop to the body from chip board.

Worktops can also be fitted using one of corner solutions with corner profile (see: Corner finishings, page 9).

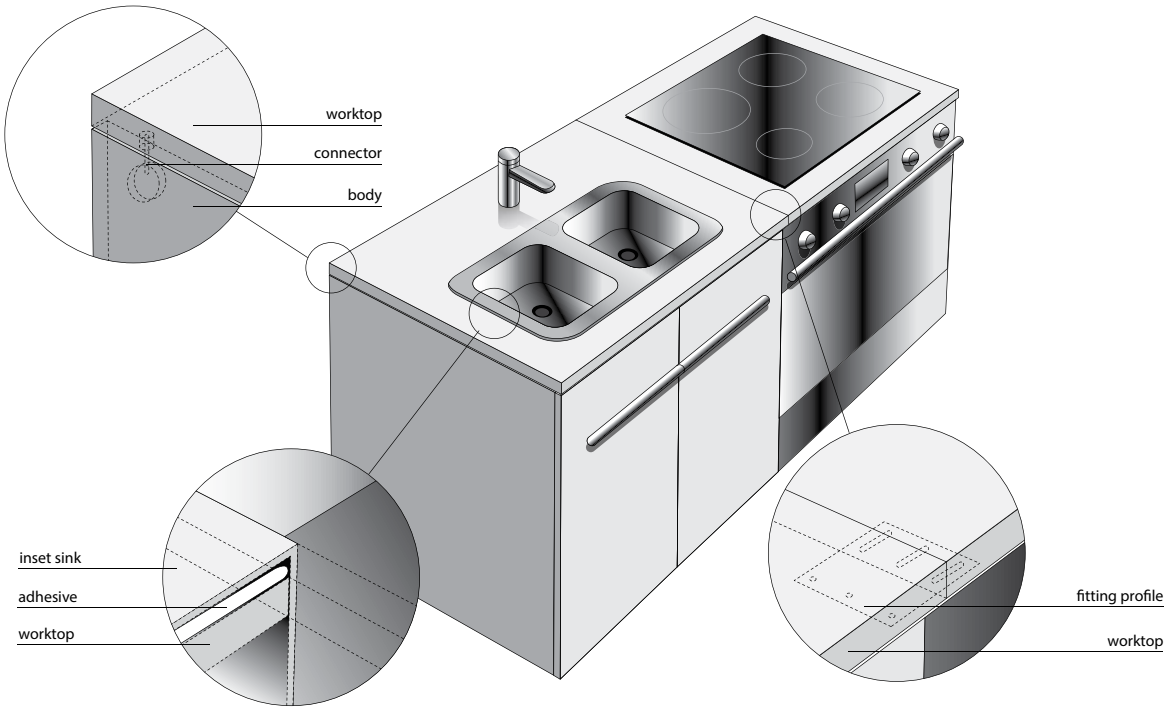


Fig. Installation of furniture based on the **Krono Compact** panels – on the example of a kitchen.

Joining of worktops

It is recommended to join the worktops using special connectors or profiles.

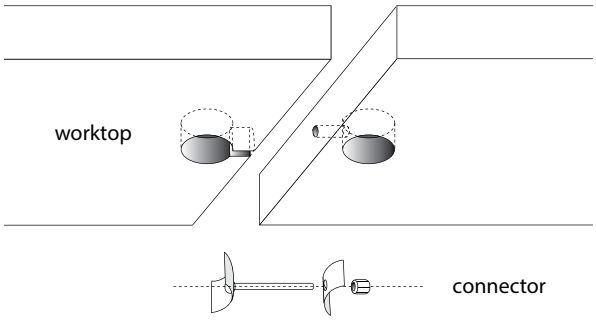


Fig. Joining of worktops using connectors.

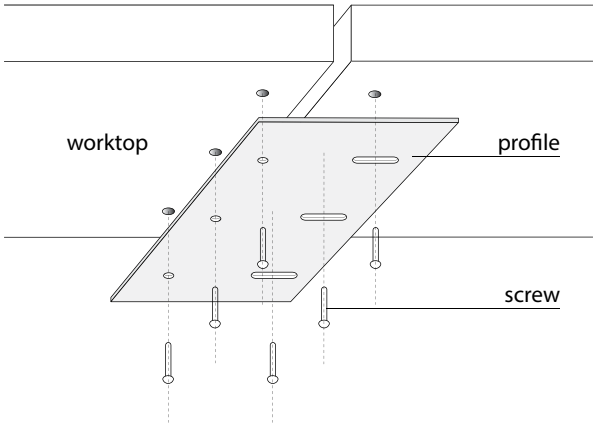


Fig. Joining of worktops using profiles.

Fitting of sinks

With the **Krono Compact** panels you can use sinks and basins of all types. Fitting of a sink should be carried out according to guidelines of sink manufacturer.

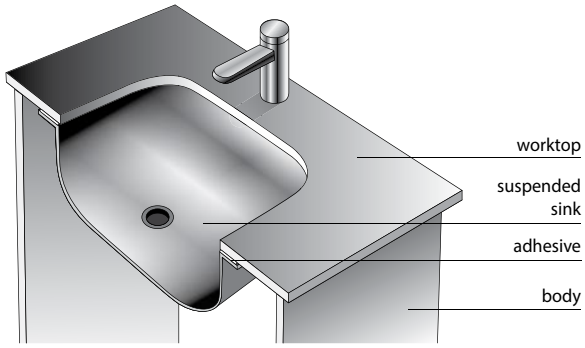


Fig. Fitting of suspended sink - cross section.

Recommendations for installation

- Cut out the hole according to the stencil provided by the sink manufacturer remembering about rounding of internal corners.

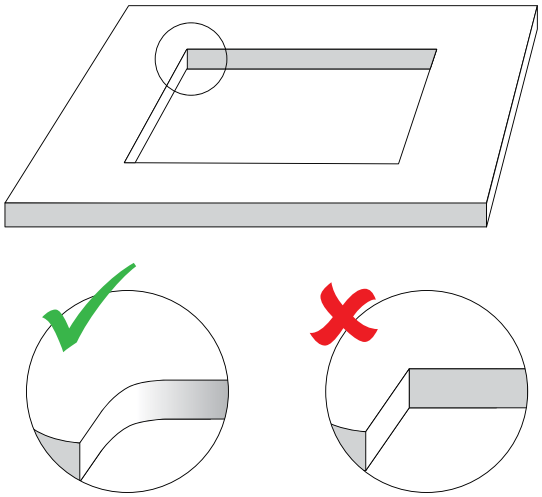
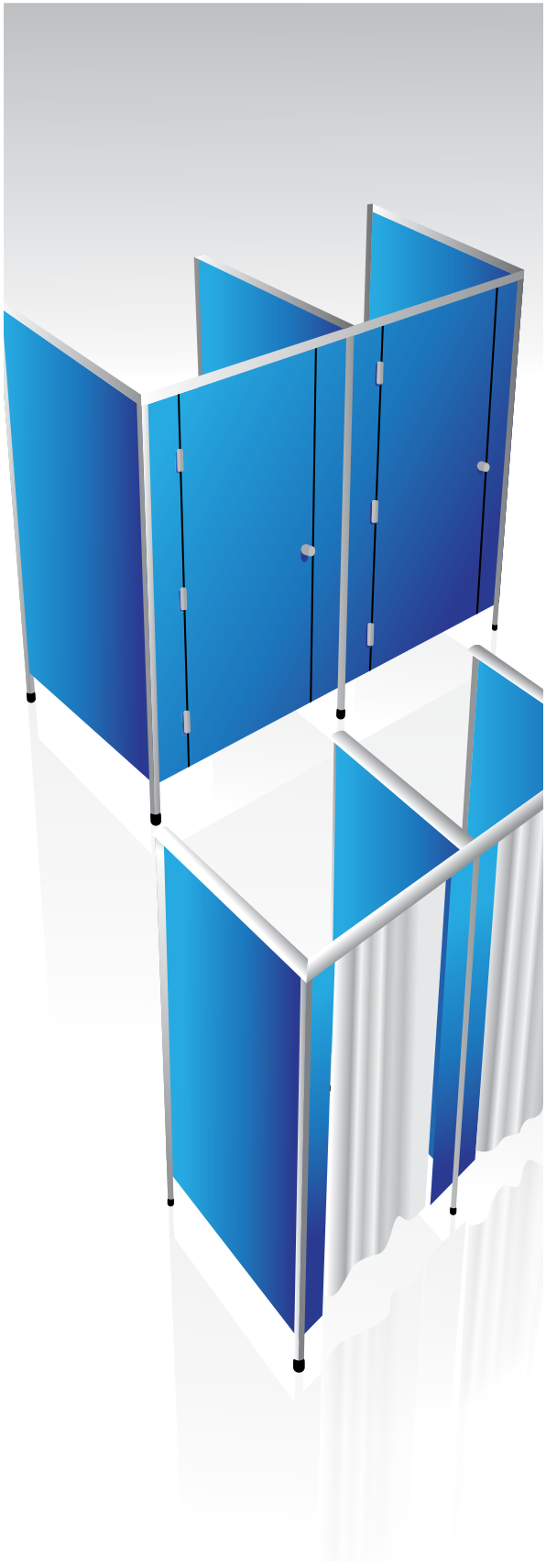


Fig. Correct completion of internal corners.

- Mill out all edges according to the design (exemplary solution on page 17).
- Fix the sink according to instruction of installation of the sink manufacturer.



Sanitary facilities development

Sanitary facilities development based on the **Krono Compact** panels due to their unique values and qualities make an indispensable element of interior decoration of all rooms with increased air humidity and high content of steam.

Applications:

- Sanitary cabins,
- Shower room partitions,
- Washbasin tops,
- Benches.

Advantages of sanitary development:

- High resistance to impacts, abrasion, scratching and chemicals,
- Functionality and aesthetics,
- Large selection of colours,
- Easy to keep clean using commonly used domestic chemicals; no dirt deposits on the surface as well as algae and fungi,
- Flame resistant and non-toxic,
- Do not absorb smells.

Recommendations for installation

- Cabin doors should be made from panels of thickness min. 12 mm, whereas the walls from panels of thickness min. 10 mm.
- Recommended number of hinges per one door leaf - min. 3 pcs.
- All connections in sanitary development with walls should be made using specially designed aluminium profiles in any RAL colours or using a system hardware for cabins from high quality plastics or from stainless steel.
- From both sides should be absolutely assured the same parameters in terms of humidity in order to avoid deformation.
- The panels should be conditioned at the place of fitting according to general guidelines for the HPL panels (page 4).

Kronodesign®

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