

Klear-Vu™ Edgebanding Processing Information



A SURTECO COMPANY

1. The characteristic features of Canplast Klear-Vu™

Canplast Klear-Vu™ Edgebanding is made of highly transparent acrylic. The special three-dimensional effect is achieved by applying the finish to the back of the edgebanding.

Because of the fact that the decorative finish is applied to the back of the edgebanding, it is retained in the milled radius, thus ensuring an all-round uniform appearance. There is no frame effect and the joint between the edgebanding and the board is seamless.

The silk matt surface can be buffed to any desired gloss level. The positioning of the decorative finish on the back of the edgebanding means that it is entirely protected from abrasion or damage, even when subjected to considerable wear or tear. Mechanical damage to the acrylic surface, such as scratches or drag marks, can be redressed without a problem.

Canplast Klear-Vu™ Edgebanding is shatterproof, hygienic and resistant to normal ambient air humidity.

2. Acrylic material characteristics

Acrylic (PMMA= polymethyl methacrylate) is a very high-grade and well-established thermoplastic, that sets new technical and aesthetic standards for furniture edgebandings in the form of Canplast Klear-Vu™ Edgebanding. It also has a higher transparency than glass.

3. Application for Canplast Klear-Vu™ Edgebanding

Canplast Klear-Vu™ Edgebanding is suitable for practically all applications e.g. furniture fronts in kitchens and bathrooms, on kitchen worktops, on office desks as well as for shop fittings and interior design applications. The edgebanding also makes an innovative design statement when incorporated in frontages.

4. Processing

Due to its special processing friendly material formula, Canplast Klear-Vu™ Edgebanding can be processed mechanically and manually without a problem.

Straight processing

Canplast Klear-Vu™ Edgebanding can be straight processed on all edgebanding gluing machines. Attention has to be paid to the edgebanding transport /or edgebanding rollers, as damage to the edgebanding is likely to happen here with these processing features. Specially developed rubberised rollers have been proven extremely successful with the handling of the edgebanding.

Work station processing

Canplast Klear-Vu™ Edgebanding can be use on curved panels manufactured on CNC controlled work stations (BAZ) or manual contour edgebanders.

As for every thermoplastic material, it is essential to achieve a thorough warming of the material itself to ensure a satisfactory radius. Here the colour of Canplast Klear-Vu™ Edgebanding plays an essential role. Standard colours like solid or wood grain absorb heat energy through the infra red of the processing machine. Metallic colours reflect a big part of the infra red, therefore it is recommended to work with additional heating units. Hot air aggregates and/or edge-furnaces serve as a perfect addition for the working process.

For work station processing a lot of machinery manufacturers such as IMA or HOMAG work with a melting glue applied directly to the edgebanding. In order to avoid damage the machinery manufacturers have developed special rollers for the glue application. These glue rollers are modified versions of the ordinary steel rollers. The manufacturing of all primed edgebanding material can be done on these special glue rollers. CNC controlled work stations (BAZ), which apply the melting glue directly on to the panel (e.g. BIESSE-Millennium or MORBIDELLI-Planet) do not need the special glue application rollers. Generally speaking for the transport and the guidance of Canplast Klear-Vu™ Edgebanding there is need for special glue application rollers.

Gluing

Canplast Klear-Vu™ Edgebanding is coated with a universal primer that guarantees an easy gluing for all appropriate hot glues.

For manual gluing, the use of dispersion glues is possible, considering an appropriate pressing time. (See manual use)

Canplast Klear-Vu™ Edgebanding can be used with most of the hot melt glues available such as EVA-, PA-, APAO- (PO), or PUR¹ types. Generally speaking the gluing quality is best if unfilled or partially filled glues are used. We strongly recommend the use of these glues.

Together with high-heat resistant glue types, like PUR¹, APAO- (PO) or PA- hot melting glues, the low shrinkage recipes of Canplast Klear-Vu™ Edgebanding ensures a secure gluing even for items encountering higher usage temperatures. This characteristic is especially helpful when used in stove and oven unit areas of a kitchen or for furniture transport in containers.

Canplast Klear-Vu™ Edgebanding, even if unglued, achieves good "free shrinkage" values. Another plus point is the good form stability of Canplast Klear-Vu™ Edgebanding . The softening of the material occurs above 89 °C – Vicat B 50 testing.

When machine gluing, attention has to be paid that there is a sufficient amount of glue in the container. The glue has to be applied evenly and sufficiently, so that beads of glue are not visible at the edges of the freshly applied edgebandings, and any gaps of wood in the panels are completely filled. The amount of glue needed is dependent on the density of the chipboard of the panel. The lower the density of the panel the higher is the amount of glue needed.

The amount of glue recommended by the adhesive manufacturer should be followed.

Depending of the glue type and the glue basis the usage temperature can vary between 90 - 210 °C. Please do consider that the thermostat of the melting container may not be exact and can vary considerably from the actual temperature of the application rollers.

Gluing Canplast Klear-Vu™ Edgebanding with ordinary white glues is not possible.

Processing temperature

For best results when coating the edgebandings, the board and edgebanding should be processed at room temperature (not less than 18 °C). If the edgebandings are stored outdoors, the material should be warmed up overnight. If the boards or edgebandings are too cold, the hot melt adhesive will bond before the edgebanding is applied to the board. This is why it is also necessary to avoid draughts.

Wood moisture

Optimal wood moisture of the board material for processing is 7 - 10 %.

Rate of feed

Speeds of up to 20 (m/min) are possible without a problem.

Pressure rollers

Taking machine conditions into account, the correct number and setting of pressure rollers is decisive for optimal glue line free bonding. To avoid gaps and hollow spaces, the pressure setting must be high enough to ensure the all-over bonding of the edgebanding. The pressure rollers must be completely clean to prevent pressure marks on the edgebanding.

Capping knives

The capping knives should have sharp blades to cut the edgebanding material without splintering, whereby the excess length for cross-cut milling should be kept to the minimum to simplify subsequent milling off.

Capping saws

Once suitably adjusted in terms of cutting rate the capping saws should cut the edgebanding material without causing splintering. The single sided tapered denticulation "ES" has proven preferable, because it is able to cut the edgebanding material smoother than any ordinary capping blades, which have the alternating double sided denticulation "WS".

Depending on the width of the edgebanding a positive or negative denticulation angle has to be chosen with the capping blades.

Flush or radius milling

The excess length for cutting should be the same on both sides and should not exceed the width of the edgebanding. An excess length that is too high increases the possibility of splintering. Processing with chamfer milling cutters creates special design effects. Always use multiblade milling tools with at least 4-6-blades and a speed of 12,000 - 18,000 rpm¹.

Scraping

Canplast Klear-Vu™ Edgebanding is highly suitable for scraping without cracking. To further lessen the likelihood of cracking, the scraper chip should be no more than 0.1 mm if possible.

Buffing

After machining, the material can be buffed using a soft polishing wheel. With the aid of polishing agents, the material can be buffed to any desired level of gloss without any problem.

Suction

Thermoplastic edgebandings require higher suction than duroplastic edgebandings and melamine edgebandings. One advantage of Canplast Klear-Vu™ Edgebanding is its low static charge compared with other thermoplastic edgebanding materials.

5. Manual processing

Canplast Klear-Vu™ Edgebanding can also be processed manually at room temperature without any problems. Suitable equipment for processing includes gluing benches and edgebanding clamps. If the edgebandings are processed without assistance of machinery, the following adhesives should be used:

- Dorus LD 084 Spezial, Dorus PU 301²
- Jowat Jowacoll 17870, Jowapur 68532²
- Fuller Racollit 77 (+ hardener if necessary)
- Cartridge adhesives on PUR basis, such as
- Klebchemie Supratac 569.0²
- Henkel Ponal Construct²
- So called "contact adhesives" for Canplast Klear-Vu™ Edgebanding on melamine fronts (tarsi a)

The above advice is not binding, and it is recommended that the glues be tested by the user.

CONTACT ADHESIVES CONTAINING SOLVENTS MAY NOT BE USED AS A RULE

For special applications e.g. for kitchen worktops (requiring waterproofing and thermal dimensional stability), it is best to use PUR² adhesives, or systems that have a similar adhesive system. Generally speaking with manual processing it is recommended to tape the chipboard at the joint in order to avoid overspills of excess glue.

Thermoforming the radii

The areas to be formed are heated up with infrared heaters or hot air to the thermoelastic temperature range (100 °C to 120 °C) . While still soft, the edgebanding is adapted to the board shape and held in place with wood and fixed with a template. It is necessary to ensure that the material is not drawn. The edgebanding must be held in shape until it has cooled down. When completely cool, it can be bonded in the usual way. (Pressing time according to the glue manufacturer's instruction).

² With the exception of all Canplast Klear-Vu™ Edgebanding edgebandings with the designation DC XXX F, which are not suitable for bonding with PUR adhesives.

The excess length of the edgebanding can be cut off with a manual surface milling cutter. Due to their durability, diamond tools or carbide cutters should be used. If any smear effects occur, it is necessary in most cases to adjust the r.p.m. or the direction of rotation of the cutting tool. Optimal results are achieved with reverse rotation.

Any chatter marks that remain after milling can be removed or smoothed out with emery paper or an abrasive sponge (240 to 400 grain). First rate results can be achieved by buffing the material subsequently with a polishing wheel and, if desired, a polishing agent. In this way, it is very simple to attain the required level of gloss, both on the milled edge and on the front surface.

6. Joints

Because Canplast Klear-Vu™ Edgebanding is delivered ex-factory with defined concavity, they always produce tight and perfect joints. Concavity also ensures optimal bonding properties due to the uptake of excess adhesive at the midpoint of the underside of the edgebanding.

7. Mechanical properties

Resistance to abrasion

Because the decor is printed on the back of the Canplast Klear-Vu™ Edgebanding, it is protected against any mechanical damage (such as abrasion and scratching).

Indentation hardness/shore hardness D

According to DIN 53 456/DIN 53 305 Canplast Klear-Vu™ Edgebanding has good results concerning its surface resistance. Surface damages on the base material, such as abrasion and scratches, can be buffed away easily.

Thermal dimensional stability

With a value of ≥ 89 °C (as per Vicat B 50), Canplast Klear-Vu™ Edgebanding is perfect for furniture and interior finishing applications.

8. Chemical properties

In accordance with DIN 68 861, Canplast Klear-Vu™ Edgebanding have been tested in conjunction with many standard household cleaners. However, contact with many aggressive substances, such as alcohol or solvent additives in any form, should be avoided (see cleaning instructions).

Canplast Klear-Vu™ Edgebanding has also been tested at the LGA in Nürnberg. Canplast Klear-Vu™ Edgebanding can be burned just like any wooden materials. Thermal decomposition commences at approximately 300 °C.

9. Light fastness

The results of light fastness tests on Canplast Klear-Vu™ Edgebanding range from excellent to exemplary. This corresponds to a value of 7 to 8 on the wool colour scale.

10. Surface quality

Silk matt to high gloss. This is achieved through polishing with buffers in cotton or a similar fabric. Polishing agents that are suitable for acrylic may also be used.

11. Cleaning

Canplast Klear-Vu™ Edgebanding should be cleaned with pure lye or special cleaners that are explicitly suitable for cleaning acrylic materials.

Substances containing solvents or alcohol may not be used as a rule.

12. Storage

Canplast Klear-Vu™ Edgebanding does not rot and can be stored for an unlimited time in a frost free environment at room temperature.

13. Disposal

Canplast Klear-Vu™ Edgebanding leftovers can be incinerated with the chipboard shavings. No chlorine compounds are produced. Other limit values are specified in the Technical Guidelines on Air Quality (TA-Luft).

14. Quality/ tolerance

The constant high quality of Canplast Klear-Vu™ Edgebanding is the result of comprehensive quality assurance measures and a policy of ongoing improvements to raw material properties by our own Technology Department. The manufacturing tolerances for all Canplast edgebandings are precisely defined and regularly checked in every production run.

a. Width tolerances:

Width	Klear-Vu™ Edgebanding
0 – 30 mm	± 0,5 mm
> 30 mm	± 0,5 mm

b. Thickness tolerances:

Thickness	Klear-Vu™ Edgebanding
0 – 1.0 mm	+ 0.10 mm
	- 0.15 mm
1.1 – 2.0 mm	+ 0.15 mm
	- 0.25 mm
2.1 – 4.0 mm	+ 0.20 mm
	- 0.30 mm
> 4.0 mm	+ 0.25 mm

c. Concavity tolerances:

Thickness	Concavity < 30 mm thickness	Concavity > 30 mm thickness
0 – 1.0 mm	0.20 – 0.50 mm	0.30 – 0.70 mm
1.1 – 2.0 mm	0.10 – 0.30 mm	0.15 – 0.35 mm
2.1 – 4.0 mm	0.10 – 0.20 mm	0.10 – 0.30 mm
4.1 – 6.0 mm	0.00 – 0.20 mm	0.00 – 0.25 mm
> 6.0 mm	0.00 – 0.10 mm	0.00 – 0.15 mm

d. Plane parallelism:

Thickness	Maximum deviation
0 – 1.0 mm	max. 0.10 mm
1.1 – 2.0 mm	max. 0.10 mm
2.1 – 4.0 mm	max. 0.15 mm
> 4.0 mm	max. 0.20mm

e. Longitudinal warpage:

Max. 3.00 mm distortion per 1 m length.

The given information and the application advice, in word, writing and through experiences, was given according to our best knowledge and expertise. They are for information only and not binding especially with respect to intellectual property rights of third parties. The discretionary advice does not remove the need for individual testing with regards for the individual use of our products. We have no control regarding the use and processing of our products, therefore responsibility for safe use must pass to you. The sale of our products is done according to our terms of sale. (See the next page)

15. Overview of technical data

Properties	Test standard	Canplast Klear-Vu™ Edgebanding
Working properties		
Light-fastness for indoor applications	DIN 53 384 c	7 - 8 in accordance with the wool colour scale. Due to its excellent colour-fastness, it is ideal for indoor application.
Indentation hardness	DIN 53 456	≥ 70 MPa
Shore hardness D (Sensitivity to mechanical forces)	DIN 53 505/ISO 868	82 (± 2) Good scratch-resistance and surface hardness. Mechanical damages can be easily eliminated through buffing.
Linear thermal expansion coefficient	DIN 52 328	9 - 11 [1/(K × 105)] Dimensional stability of the glued edgebanding is good (if the appropriate adhesive systems are used).
Thermal dimensional stability Vicat B 50 Shrinkage/ 1 h at 90 °C	DIN 53 460/ISO 306	≥ 89 °C Ideal for applications in the furniture industry. ≤ 1.5 %
Resistance to chemicals	DIN 68 861	Resistant to most standard household cleaning products. Limited resistance to substances containing solvents and alcohol.
Behaviour in fire		Combustible
Surface quality		Silk matt to high gloss, achieved by glossing, optionally using polishing agents that are suitable for acrylic materials.
Static charge		Low
Processing properties • Cross-cutting • Cutting direction³ • Stock cutting • Cutting radii • Profiling • Scraping • Buffing • Gluing with hot melt adhesives Buffability Susceptibility to cracking		Good Downcut / upcut Good Good Good Good Good Good All standard adhesives (EVA, PA, PUR ⁴ , APAO/PO) Very good Low
Disposal properties		Canplast Klear-Vu™ Edgebanding leftovers can be incinerated with the shavings. No chlorine is produced. Please observe other limit values as specified in the Technical Guidelines on Air Quality(TA-Luft).
Physiological properties		Generally recognised as safe when coming into contact with food. Not harmful to general health.

The technical data was collected, if not expressly listed differently, at room temperature. The data is meant as a benchmark and not as a binding minimum value. Please do consider that the product may vary due to the tool in use, the manufacturing and the colouring of the product. (See previous page)

³ Upcutting is recommended

⁴ Except all Canplast Klear-Vu™ Edgebanding with the designation DC XXX F, which are not suitable for bonding with PUR adhesives.