



Rely on it.

RENOLIT BENDIT.

Processing guideline and assembly instructions.



The right way
to a good result.

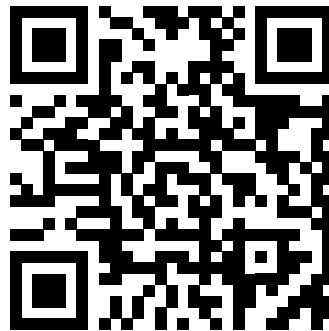
PRODUCT DESCRIPTION & APPLICATION

RENOLIT BENDIT is an edge bandable panel that can be used to create claddings around a window. Its surface consists of a laminated film specially developed for this application. It is available in a range of different colours, decors and textures and has all the well-known strengths of RENOLIT EXOFOL, such as being easy to clean and heat protection provided by Solar Shield Technology (SST).

With RENOLIT BENDIT, you can form jointless pillar and corner cladding, reveal and lintel cladding and many other solutions that look as if they have been cast from a single mold: With a visually seamless transition to the window profile or deliberately contrasting with the body of the building.

MATERIAL PROPERTIES

- extraordinary thermostability
- UV and weather resistance
- high bending stability
- flat surface
- sustainable and durable
- optics and embossing like window film
- universal application
- low dead weight
- bending up to 90° without white fracture



TOOLS

In principle, all standard machines for plastics and metal processing are suitable for processing RENOLIT BENDIT.



SAWING

Circular saws and jigsaws are suitable for cutting RENOLIT BENDIT, both as stationary and portable tools. Please always start the cut at the rear side of the panel. For machine and tool settings (such as number of teeth and revolutions) follow the recommendations of the machine and tool manufacturer.



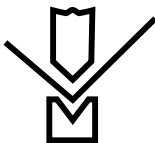
MILLING

RENOLIT BENDIT can be machined without any problems with common routers with end mill or plate milling cutters with disc milling cutters. For bending, it is mandatory to mill a V-groove on the rear side. It must be noted that the 0.5 mm thick and foiled cover sheet of the panel and 0.3 mm of the panel core remain (corresponds to a milling depth at the bottom of the V-groove of 3.2 mm).



DRILLING

For drilling RENOLIT BENDIT, stand and hand drills with metal bits are suitable. To reduce the burr on the hole, drill the hole from the visible side. Hole cutouts can be made with hole saws or circular cutters.



BENDING

Bending may only be carried out at appropriate temperatures above 18 °C. The bending area must be warmed up to hand temperature before edging. To create angles or other geometries, proper milling of the back side is required. RENOLIT BENDIT may only be bended once, bending back is not permitted.

CONNECTION & FASTENING

When mounting, please pay attention to the correct and prescribed method. The panels must be fastened without restraint due to thermal expansion.



SCREWS

The recommended fixing method for RENOLIT BENDIT is bolting to an aluminum substructure using centering sleeves and a suitable fixing tool. In this way, you create fixed and sliding points that take into account the linear expansion of the panel. Detailed instructions for screwing can be found in the chapter „Designing with RENOLIT BENDIT“ under step 8.



BONDING

For invisible fastening, bonding of RENOLIT BENDIT is possible. Both assembly adhesives and double-sided adhesive tapes are available. For proper bonding, the manufacturer's processing guidelines must be observed.

A video on how the RENOLIT BENDIT fastening system works can be found here:



DEALING WITH THE SURFACE

The same high quality standard applies to of RENOLIT BENDIT as to the wellknown RENOLIT EXOFOL coatings. Please observe the following basic aspects when handling the cladding panel and also pass on the information on the cleaning process to the end users.



CELANING

For normal soiling, cleaning with water and a soft sponge or cloth is sufficient. If necessary, a neutral cleaning agent or washing-up liquid (in unconcentrated form) can be used. Abrasive cleaners or cleaners containing solvents must not be used. For heavier soiling, a cleaner specially developed by RENOLIT is available to specialist companies. <https://shop.renolit.com/en/home-building/windows-doors/accessories/professional-cleaner.html>



CHEMICAL RESISTANCE

The surface of RENOLIT BENDIT is resistant to water, aliphatic hydrocarbons and weak alcohol solutions. It is essential to avoid contact with organic solvents and other substances critical for PMMA, as well as strong acids and alkalis.

Chemical resistance depends on environmental conditions such as temperature, exposure time, concentration and aggregate state of the chemical. Therefore, a compatibility test is always required.

TRANSPORT & STORAGE



TRANSPORT

During transport, the RENOLIT BENDIT panels must be secured against slipping. The transport pallet must be at least as large as the panel dimensions to avoid damage.



STORAGE

RENOLIT BENDIT may only be stored horizontally in dry, well-ventilated places. Protect the boards from direct sunlight and heat as well as from moisture and rain.

DESIGN

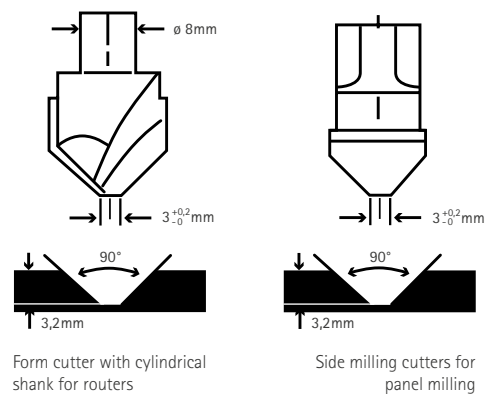
Step by step to the perfect cladding result

Step 1 BENDING

For production reasons, we cannot guarantee an optimal coating at the beginning and end of the RENOLIT BENDIT boards. Please therefore trim the end edges by 10 mm in each case.

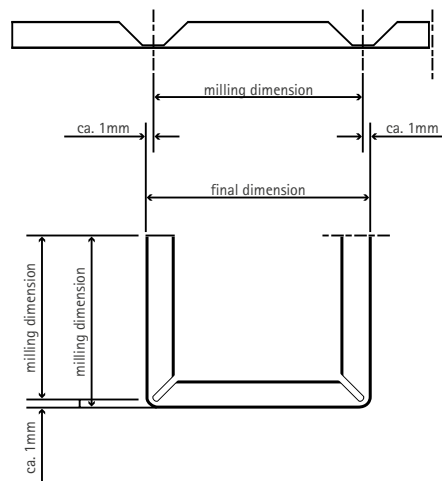
Step 2 SELECTION OF THE MILLING MACHINE AND MILLING HEAD

As described in the „Tools“ chapter, you can use routers with end mills or panel milling cutters with disc cutters suitable for processing metal for this machining step.



Step 3 MILLING DIMENSION DETERMINATION

To determine the milling dimension for right-angled bends, subtract please subtract 1mm per bend from the final dimension.

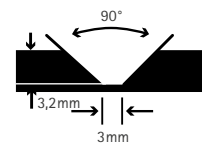


DESIGN

Step 4

BACK MILLING

After determining the milling dimension (step 3), the back milling required for the bending is performed. Mill the back of the panel at the points where you want to bend the panel so that a V-groove is created. Ideally, this should leave a uniform residual thickness of the core material of 0.3 mm, which corresponds to a milling depth of 3.2 mm.

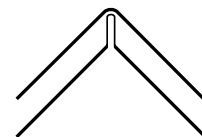


Milling groove 90° (V-shape) for
Bends up to 90

Step 5

CREATE CORNER SOLUTION

You can now bend the corners at the milled V-grooves. Please check the depth and shape of the groove before bending and then simply bend on a stable, flat work surface by hand (slowly and evenly). For best results, the bending area should be kept warm by hand (e.g. with a hair dryer). A reverse bend is not permitted.



Bending over Back milling

Step 6

OPTIONAL

The visible cut edges of RENOLIT BENDIT can be color-matched to the film surface if required.

The RENOLIT EXOFOL professional corner pen is available for this purpose.

<https://shop.renolit.com/en/home-building/windows-doors/professional-corner-pen/>

Step 7

STRUCTURE OF THE SUBSTRUCTURE

We recommend using aluminum substructures for RENOLIT BENDIT. Dimension fastening distances and construction according to the static requirements and take into account the thermal expansion of all components. The RENOLIT fastening system is designed for substructures with a wall thickness of 2 mm.

Use of substructures made of other materials is at your own risk, as these are neither tested nor approved by RENOLIT.

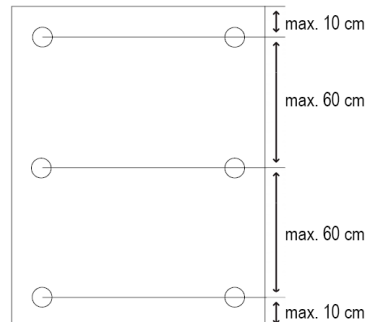
DESIGN

Step 8

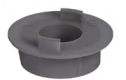
MOUNTING THE CORNER TRIM

For proper installation of RENOLIT BENDIT cladding panels, please observe the following procedure:

- Drill an 11 mm hole in the panel at the point to be screwed
- The distance from the edge of the panel to the center of the hole should be at least 27.5 mm when using the RENOLIT BENDIT screwing system
- The maximum distance between the fixing points and the upper and lower edges of the panel is 10 cm
- The maximum distance between the fastening points is 60 cm



- Insert centering sleeve (sliding/fixed point) into the drill hole
- Cut the protective foil and the decorative foil by turning the centering sleeve with the aid of a cordless screwdriver and inserted fastening tool
- Guide screw over centering sleeve into drill hole
- Screwing the panel to the substructure with the help of a cordless screwdriver and inserted mounting tool



Centering sleeve
fixed point



Centering sleeve
Sliding point



Screws
(in all colors)



Mounting tool fixed

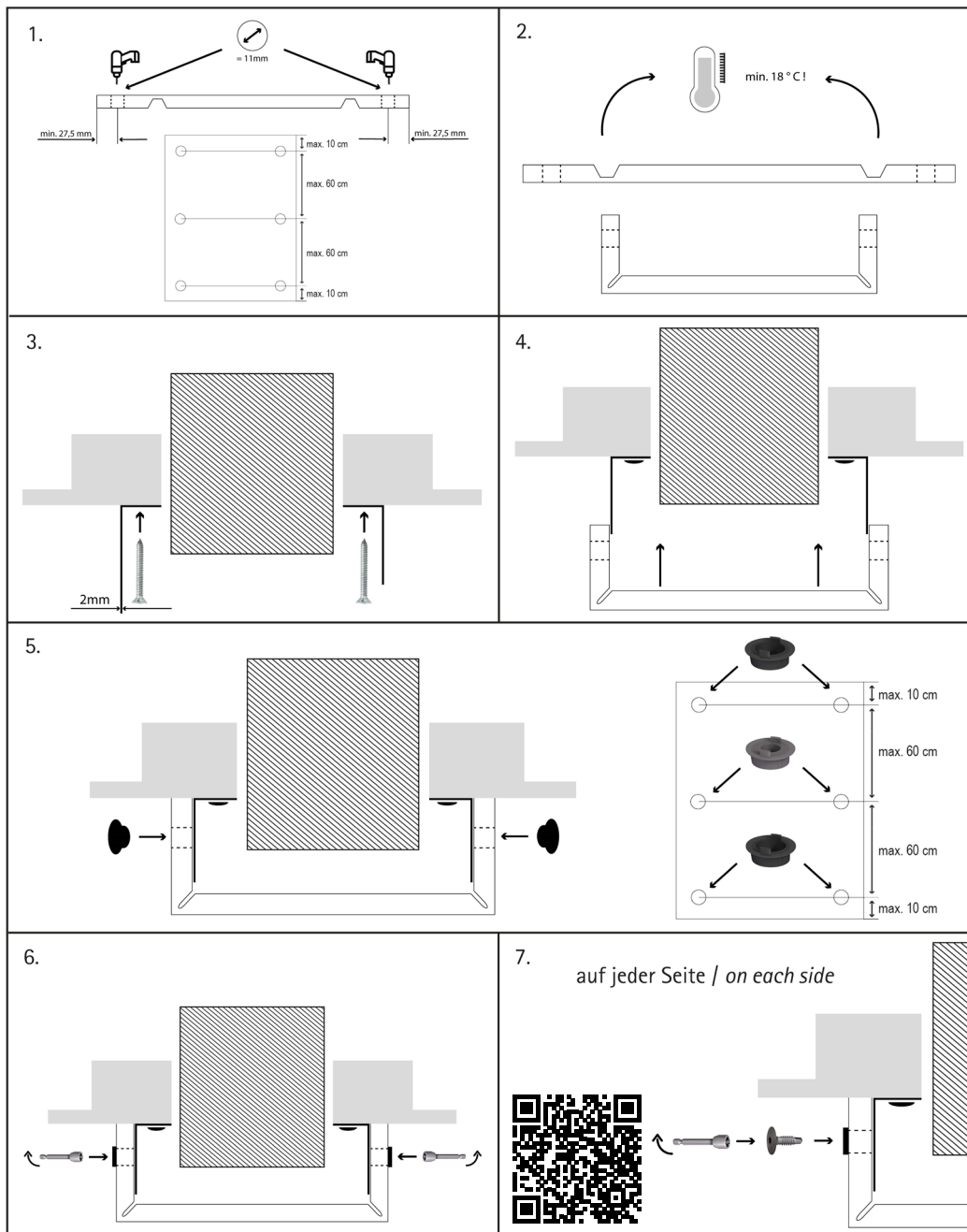
Step 9

REMOVING THE PROTECTIVE FILM

RENOLIT BENDIT is supplied with a transparent protective film on the visible side. Remove the protective film as soon as possible (6 weeks after installation at the latest) to avoid adhesive residues and adhesions. We would like to point out that the protective film on the back must be removed before mounting.

ASSEMBLY INSTRUCTION

RENOLIT BENDIT Assembly Instructions



PRODUCT PROPERTIES

	NORMS	UNIT	VALUE
Panel dimensions			
Thickness of aluminum layers		mm	0,5 (Tolerances acc. to EN 485-4)
Panel width		mm	1.250 -0,0 + 4,0
Panel length		mm	2.800 -0,0 + 4,0
Panel thickness		mm	4,2 ± 0,2
Panel weight		kg/m ²	7,7

Technical features			
Resistive torque (W)	DIN 53293	cm ³ /m	1,54
Effective stiffness (ExJeff,cal)		Nm ² /m	206
Alloy	EN 573-3		EN AW - 3105
Material condition of the aluminum sheets	EN 515 / EN 1396		H44
Modulus of elasticity (E)	EN 1999 1-1	N/mm ²	7000
Tensile strength (Rm)	EN 1396	N/mm ²	≥ 150
Yield strength (Rp0,2)	EN 1396	N/mm ²	≥ 120
Stretch (A50)	EN 1396	%	≥ 3%
Linear thermal expansion		mm/m	2,4 (ΔT=100 °C)
Fire Classification	DIN EN 15301-1		Class E

Surface			
Design			Filming
Film surface			PMMA
Gloss	EN 13523-2		Depending on the embossing
Scratch resistance	DIN EN 15186	cN	≥ 0,2
IR reflection	DIN EN 410	%	≥ 20
Weatherproof	EN 513 ISO 105-A02 (grey scale)	GJ/m ² GM	20 ≥ 3
UV resistance	EN 13523-10 (UV-B; 4.000h)	GM DE	≥ 4 < 0,7
Rubbing fastness	ISO 105 - X 12		Note 5
Moisture resistance	EN 13523-26		No change

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