www.alfer.com

alfer®
aluminium

combitech® system
Sheets and panels

Overview

Dear Customer,

The metal sheet range from **alfer**® offers you a broad selection of different material types, thicknesses, finishes and designs. Particularly worth mentioning is our newly developed, high-tech procedure which we use to give the aluminium finishes a variety of natural wood and stone designs. This not only makes the finish more UV-resistant but also considerably more resistant to water and scratches than conventional coatings.

alfer® sheets provide you with the ideal materials for making thousands of DIY and decorative ideas a reality:

- protect doors and furniture against scratches
- decorate or clad a wall or radiator
- create a protective windbreak, privacy screen or sun shade
- use perforated sheets and stretch metal as screens and filters to cover openings around the home and to protect against insects and pests
- use for hobbies, for example for constructing tunnels, bridges and hills for your model railway

Sheet processing tips

Cutting

There are various ways of cutting sheet metal. To create perfect and completely clean cuts, we recommend using a jigsaw for all sheet types and thicknesses. Manual sheet metal shears are only suitable on very rare occasions as they often leave curved and crooked edges. Do not use circular table saws for safety reasons. By using a jigsaw, you can avoid scratches and ‘chatter marks’ on the visual surface by working on the non-visual surface, using a protective layer of felt or putting the plastic cover on the jigsaw foot if available.

Our professional tip below helps you to achieve the best cut result:
Clamp the sheet between two wooden boards (e.g. 13 or 16mm particle boards) in a sandwich format. This prevents the sheet from wobbling, bending or becoming scratched during the cutting process. The thickness of the boards will give the sawblade ample support and guidance, preventing the blade from slipping or tilting. A low stoke rate is also recommended which is possible with conventional jigsaw blades.

Place the particle board on two trestles and stick on pieces of double-sided tape. These will adhere better if you first use a hand brush to clear away any dust.

Delicate sheets are packaged in protective sheeting. Stick the sheet with the protective sheeting to the wooden board. This optimally protects it against scratches and makes it extremely easy to remove from the particle board once it has been worked.

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Cutting

Now use countersunk screws to connect the two wooden boards. You can also drill through the part of the sheet that is not required and fix it with screws so that it cannot slip out of place.

Next, draw clearly visible circles, straight or curved cut lines on the particle board without leaving any annoying marks on your sheet.

Now use the jigsaw to cut out your desired shape. We recommend working with a low stroke rate.

Here, you can see the perfectly round, non-scratched circular piece of the round studded sheet. Even on the studs, the jigsaw has not slipped from the cut line thanks to the guidance from the particle boards.

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Cutting

7

For straight cuts, you can screw on an aluminium bracket as an end stop for a super-straight cut.

Tip: you can re-use your particle boards several times.

8

The instructions provided above can be followed to effortlessly saw even our thickest stretch metal or perforated steel sheets and achieve a perfect cut every time.

Finishing and smoothing sheet edges

Professional tip: uneven, rough or even frayed sheet edges can be easily smoothed off lengthwise with an electric orbital sander. This applies to not only aluminium sheets but also steel ones.

Screw or clamp the sheet between two particle boards in sandwich format (as in the cutting instructions above), ensuring that the uneven, rough edge of the sheet only protrudes 2–3 mm outside the particle boards. This reliably prevents the sheet from wobbling, bending or becoming scratched.

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Finishing and smoothing sheet edges

Clamp the ‘sandwich’ vertically in front of the workbench (ideally using an **alfer**® multi-clamp) and guide the orbital sander evenly along the protruding sheet at high speed.

When sanding a very rough sheet edge, we recommend first using very coarse-grained abrasive paper with a high material removing effect. Sand the sheet until it has the smooth edge that you desire.

For the final smoothing stage, remove the sheet from the sandwich and clamp it without the particle boards. Next, attach finely-grained abrasive paper to the orbital sander and move it over the sheet edge again at a flat angle.

This image shows you the perfectly smooth, flush and deburred sheet.
Caution: never use belt sanders or electric files for this sanding work as the sparks generated pose a fire hazard! Only use orbital sanders!

Rounded bends (tubes, circular blanks etc.)

1

If you want to bend a metal sheet to form a rounded structure, round timber in different diameters is the perfect solution. For the sheet to be bent exactly parallel, it must not slip during the powerful bending process. To this end, you must ensure that it is firmly clamped on the edge of the workbench (e.g. with **alfer**® multi-clamps or other vices).

2

Always ensure that an exact right angle is formed with the longitudinal axis of the round timber! Next, roll the round timber towards yourself evenly and with a relatively high amount of force while also pushing it away from yourself, keeping it under pressure. Make sure that you roll the round timber in a straight line, so that the round body formed by the sheet is not spiral shaped. You can

check this straight course by ensuring that the rolled sheet edge is always precisely aligned with the edge of the sheet still lying flat. Due to the spring recoil of the sheet you must rotate it about 1.5 times. On unrolling the round timber, the diameter of the bent sheet will expand by approx. 30%.

You can now push the sheet into itself until you have created the precisely desired diameter. Next, fix this diameter by riveting, soldering, bonding or welding the sheet.

Straight bends (brackets or U-shapes)

For straight bends, start by drawing your bending edge. We recommend leaving the protective cover on the sheet. This provides it with optimal protection and helps prevent it from being scratched while you work.

Tape the sheet with the protective cover onto a particle board with the bending edge lying precisely along the edge of the board. Next, place the second particle board flush with the bending edge and screw the two boards together outside the sheet.

3

Use the **alfer**® multi-clamp to tightly clamp the sandwiched structure in front of the workbench.
Tip: the better the sheet can be prevented from slipping by taping, clamping or fastening it with screws (if possible at the edge of the sheet) the more dimensionally true the bent edge will be!

4

For the subsequent bend we recommend using a profile, roof strip or board to bend the projecting sheet forwards (towards the body) as uniformly as possible until it reaches the desired bend angle. If you do not want to bend just one angle, but rather create a U or Z-shaped sheet, simply repeat the process on the other side of the sheet.

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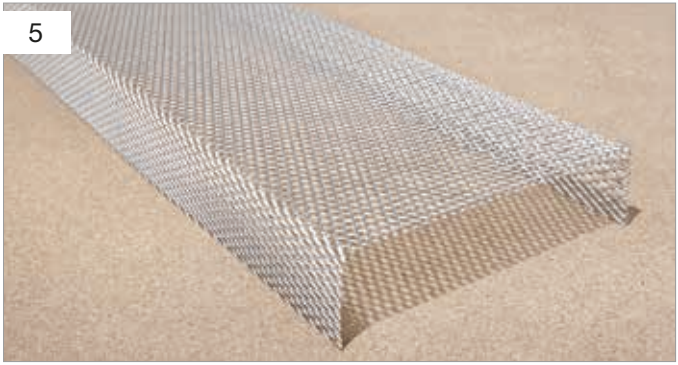
Straight bends (brackets or U-shapes)



This image shows you the finished U-sheet. It is precisely flush, parallel and rectangular.

If you are unable to create the bend manually due to the sheet being too long (over approx. 80 cm) or too thick, you can also use a hammer and impact shield (profile or wood batten) to assist you and carefully tap the sheet down.

Framing

It is in the nature of sheets that, due to their instability or sharp edges, they need to be framed by edge guards for almost all areas of use so as to offer protection and stability. This is the main focus of **alfer**® development work. Depending on the intended use, we provide you with four optimal edge guard ranges:
Prismatech, Multitube and checker plate edge guards made from aluminium as well as protective and even sealing plastic edge guards and piping.

Full instructions for use can be found in our **alfer**® folders '**combitech**® sheet accessories Prismatech and Multitube' and '**combitech**® sheet accessories checker plate'.

Crimping

Crimping means that a narrow sheet edge is folded back on itself by a full 180°. This creates an elegant and effective edge guard and stabilises the sheet to prevent it from sagging.

The procedure is the same as that described under 'Straight bends' on page 14 except that you only need a sheet to protrude by 10–15 mm in order to crimp the edge.

Due to the relatively high bend resistance of this very short strip of sheet, it must first be carefully bent to a 90° angle with a hammer.

Next, anchor the sheet flat to the workbench and carefully tap down the short strip of sheet along its full length. The small sheet deformations do not impair the appearance of the finished product as they are on the underside of the sheet.

Painting

Metal sheets can be successfully painted. We recommend car spray paints because they ensure a uniform coat of paint and good bonding. Before painting, the sheets must be clean, free of grease and dust and totally dry.
The sheet to be painted and the can of spray paint must also be at room temperature.

Always paint sheets in a warm, non-dusty room.

Tip: for the best results, apply the paint in multiple stages, leaving it to dry for at least 5 minutes between each application. This prevents paint runs and provides optimal paint coverage.

Working with plastic panels

Our hard PVC plastic panels are self-adhesive and easy to work with.

Curved sheets in use

Even with our steel stretch metal, a precisely flush angle bend has been achieved.
Above: mat for hot pans and pots on a serving trolley.

Double-angle bend or Z-bend with granite-coloured aluminium sheet.
Above: decorative flower pot dish on a wooden window ledge for protection against rain and irrigation water.

Semi-circular bend of an aluminium checker plate.
Above: Cover for electrical kit on vehicle trailers.

Cylindrical bend of a copper sheet.
Above: Extension or repair of the copper drainpipe or extra pipe to the rain water butt.
Tip: make the side hole in the copper sheet while still flat (i.e. before bending it).

Straight sheets and plates in use

Attractive lantern made from our cross-slatted sheet

Practical equipment shed and rubbish bin box

Elegant and useful magnetic notice board

Attractive splashback for the kitchen

Plain aluminium sheets

Uncoated

Anodised, brass

Alunox, anodised, stainless steel look

Powder coated, beech

Powder coated, white

Plain steel and stainless steel sheets

Steel, galvanised

Steel, untreated

Stainless steel

Plain copper and brass sheets

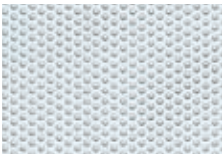
Copper, solid

Brass, solid

Perforated sheets

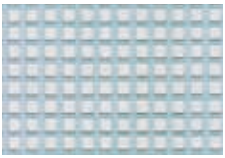
Slotted hole sheet, aluminium, anodised

Cross hole sheet, aluminium, anodised



Round hole sheet, aluminium, anodised

Round hole sheet, aluminium, uncoated

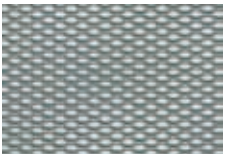


Square hole sheet, aluminium, anodised

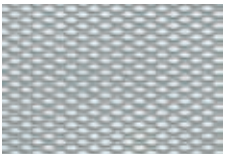
Square hole sheet, aluminium, anodised

Round hole sheet, steel

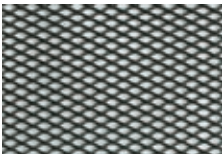
Stretch metal



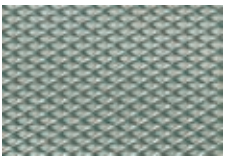
Aluminium, uncoated



Aluminium, anodised



Aluminium, powder coated

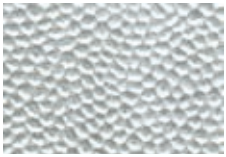


Steel, untreated

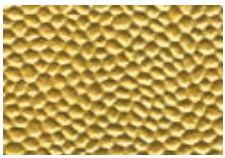
Embossed aluminium sheets

Round studded sheet, anodised

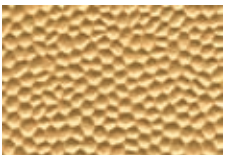
Square studded sheet, anodised



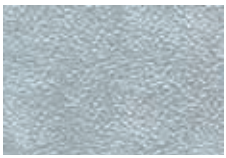
Hammer effect sheet, anodised



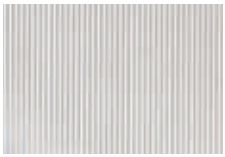
Hammer effect sheet, anodised, brass



Hammer effect sheet, anodised, copper



Roughcast sheet, anodised



Corrugated sheet, uncoated

Barleycorn sheet, uncoated

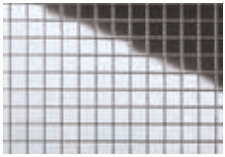
Checker plate, uncoated

Checker plate, anodised

Design and plastic plates, self-adhesive

Design sheet, smooth

Design sheet, structure



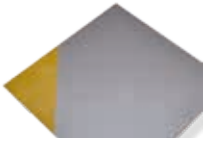
Design-sheet, flexible

Design sheet with square holes

Design sheet, corrugated

Design sheet with square studs

Plastic panel (PC, transparent)



Plastic panel hard PVC), hot-embossed

Notes – materials

Uncoated aluminium sheets (ALU)
Over time, untreated aluminium can develop a thin oxide layer, which makes the material highly corrosion resistant. For a shiny finish, simply use our high-gloss Alu-Magic polish.

Anodised aluminium sheets (ALX)
A protective oxide coating is created on anodised aluminium during production. Anodised sheets are available in several shades such as silver, copper, brass, bronze and stainless steel look.

Coated aluminium sheets (ALP)
We use our newly developed, high-tech procedure to give aluminium finishes a variety of natural wood and stone designs. This not only makes the finish more UV-resistant but also considerably more resistant to water and scratches than conventional coatings.

Copper sheets (CU)
Following the production process, copper has a metallic, uncoated finish. Over time, a dark-green to brown protective layer can develop. This protects the copper against environmental influences over the years. For an uncoated copper finish, use our high-gloss Alu-Magic polish.

Galvanised or untreated steel sheets (STA)
These sheets can withstand high levels of mechanical stress. However, they are also ideal for use as a magnetic notice board.

Stainless steel sheets (stainless steel)
These sheets can withstand high levels of mechanical stress and are largely resistant to chemicals. They are often used in the food industry, hospitals and swimming pools etc.

Polycarbonate plastic (PC)
The transparent plastic panels are impact resistant and can be dyed, welded and glued.

Plastic (hard PVC)
The hard PVC sheets are hot-embossed and self-adhesive. They are largely weather and UV-resistant. However, if PVC is continually exposed to natural light, the colour can fade over time. The material is fragile when cold.

Notes – technical diagrams

Dimensions
The dimensions indicated in this brochure are approximate values and may deviate slightly in either direction.

Product versions
We reserve the right to make modifications in the interest of technical progress and product improvement.

Warranty
As this is an abridged brochure, no liability can be accepted for either individual cases or the reproduction of the models shown.

Colours
The colours depicted may vary slightly from the original products.

Important notice
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alfer®	EU CH CAN GB
alferpro®	EU
aluvalley®	EU
clipstech®	EU MEX
coaxis®	EU MEX
combitech®	EU CH MEX
ferroplatan®	EU
logika®	EU
verando®	EU CH
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alfer® hardware range

combitech® system · basis
System profiles · metric threaded rods and threaded tubes · system accessories · tool range

combitech® system · connect 23.5 mm
Connect connectors 23.5 mm · system profiles 23.5 mm · system accessories

combitech® system · model construction
Connect connectors 7.5mm · System profiles 7.5 mm · system accessories **logika®** profiles · metric threaded rods · expanded metal, smooth, embossed and perforated sheets

combitech® system · sheets, plates and accessories
Plastic panels · smooth, embossed, perforated and expanded sheets · Prismatech · Multitube · checker plate profiles · accessories

Profiles for DIY and professional purposes
Standard profiles made from aluminium, brass, plastic, steel, stainless steel clampline clamping aluminium profiles

Steel profiles

alfer® building material range

Tile edgings

Angle, round, quarter-circle and square tile edgings · tile edgings for steps LED profiles · joint cover profiles and expansion joint profiles · wet sealing profiles **clipstech**® system profiles · balcony angle · mats and accessories

Floor and room profiles

Cover and joint cover profiles · edging, level balancing, angle edging and end profiles · step edging profiles · Edge protecting profiles · Baseboard and buckling angles

Profiles for parquet, laminate and designer floors

clipstech®, **clipstech**®-vario, **clipstech**®-plus, **clipstech**®-mini, optifloor and renovation System profiles and accessories · cover, level balancing, wall edging and edging profiles · Edge profiles, drilled

verando® Decking boards

verando® combines sophisticated design and sustainability.
The weatherproof profiles, mainly made of rice husks, are more durable than other wood or wood substitute products, they don´t splint, crack or swell.

alfer® classification system range

combitech® system · **logika**®

The logically perforated profile range: **logika**® profiles and **logika**® accessories

combitech® system · **coaxis**®

The coaxial system profiles: system profiles, accessories and tools · wall and ceiling hooks

Storage range

System rails and accessories · profile hooks, clothes hooks and utensils supports · bicycle stands · shelving brackets · Furniture construction profiles and plant trolley

alfer®
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