PLASTIC GUYS

HANDELING INSTRUCTION

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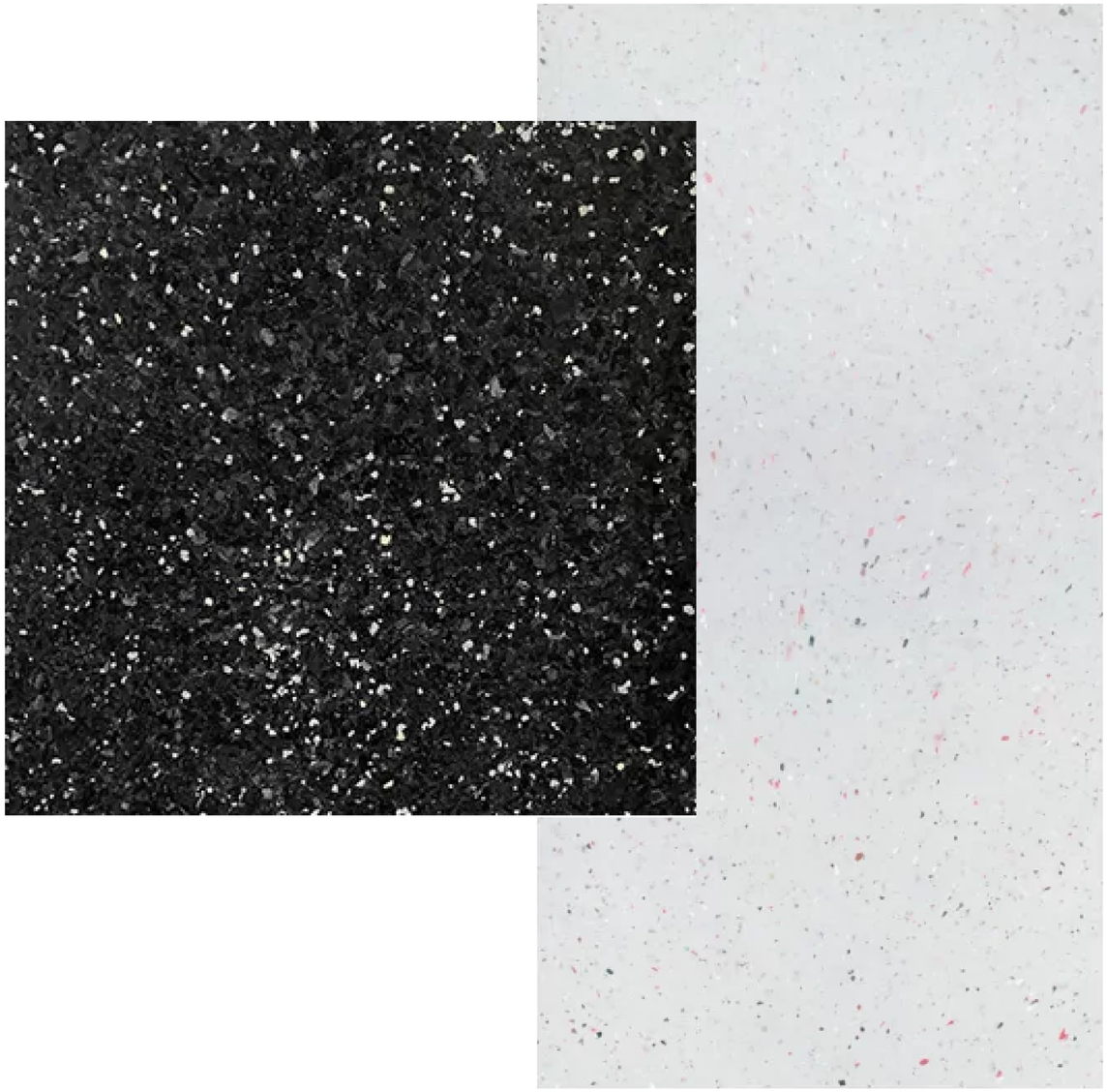


ABOUT US

Plastic guys is a groundbreaking company in the heart of Europe that produces panels and furniture from recycled plastic. The most important thing is to make people aware of the value of plastic and avoid the use of single-use plastics.

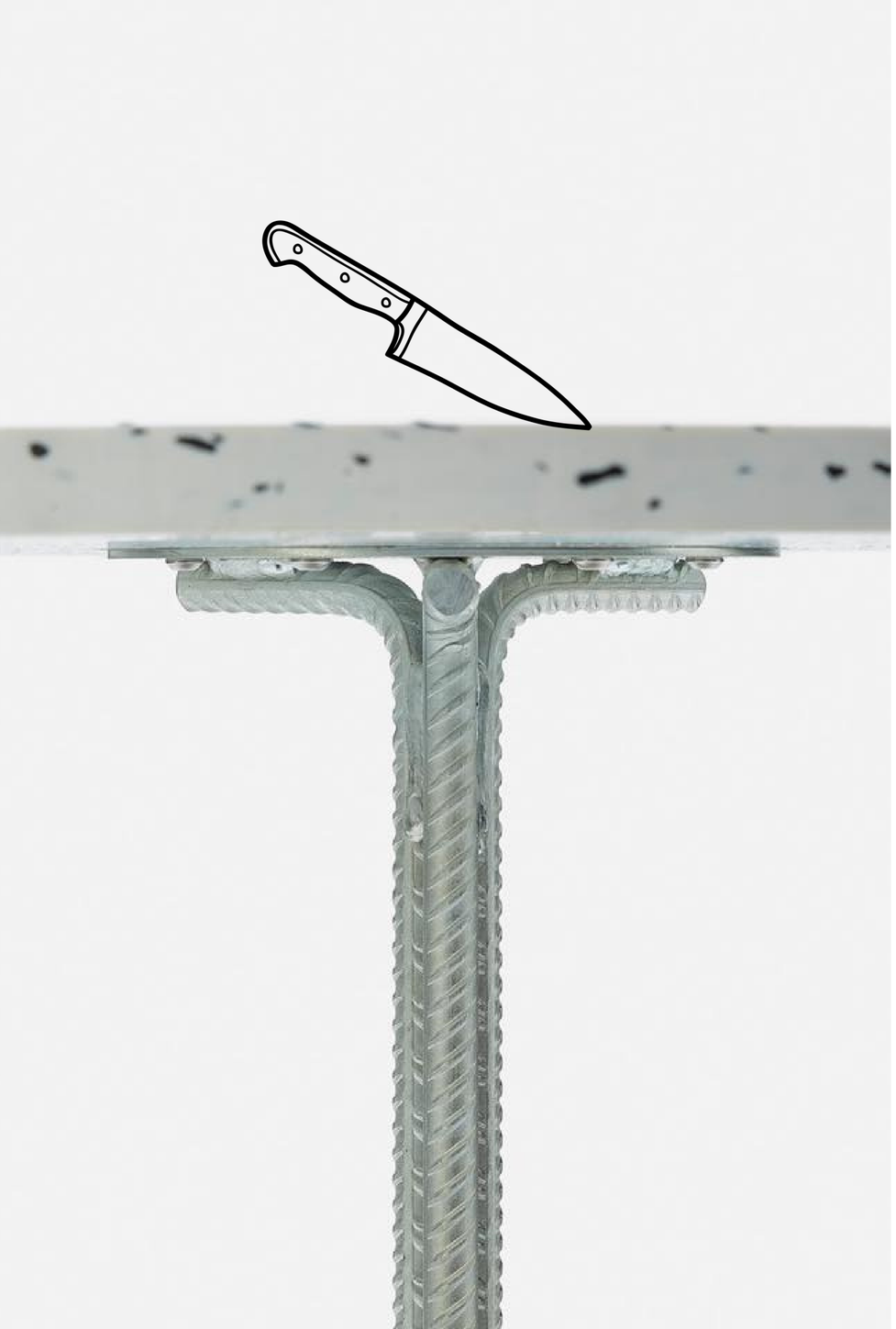
GOD panels manufactured by our company will always be 100% recycled and even recyclable again after they are used up. These panels can be used in a wide range of products. Both for exterior and interior use. They will always be environmentally friendly. Even in 200 years!

STORAGE

Just like wood, our GOD panels can bend when under load and not held flat, so it is best to store them completely flat onto a firm, smooth surface.

Despite the high scratch resistance some of our materials, panels can scratch when dragged or stored in a dirty environment.

We recommend interspersing with wrapping, notched-coated, double-layered paper or plastic foil/film.



RESISTANCE

Plastics sheets must not be exposed to excessive heat as this will melt and eventually burn the material. They will withstand hot water, but prolonged application of boiling water will soften the sheet and cause it to lose rigidity. On a supported horizontal surface this may not be important but unsupported, it will suffer a rapid decrease of physical properties between 95°C and 200°C.

We would advise against using our materials anywhere they would come into regular contact with high heat, for example a kitchen counter around a hob or oven. Thermal expansion of some sheets can be 2 mm per 1 m over a 10 degrees Celcius change.

Organic solvents, like acetone, may cause the rHIPS to swell and should be used with caution. Organic solvents MUST NOT be used with the rHIPS or rPET materials.

PLASTICS ARE FLAMMABLE AND CAN GIVE OFF TOXIC FUMES WHEN BURNED. DO NOT USE PLASTICS PRODUCTS CLOSE TO A NAKED FLAME OR WHERE THERE IS A HIGH RISK OF FIRE.

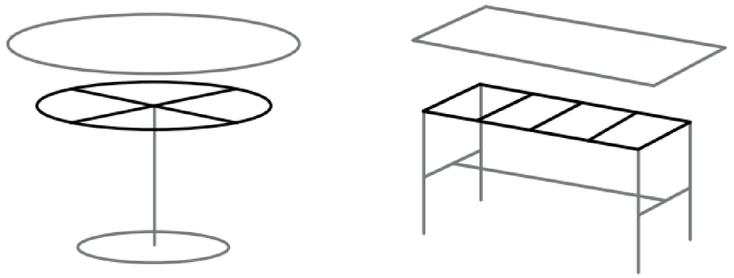
SUPPORTING OF SHEETS

If you are planning to use the sheets for tables or work surfaces, ensure you have sufficient supporting structure so the material does not buckle or warp over time. This is particularly important when using 10 mm sheets.

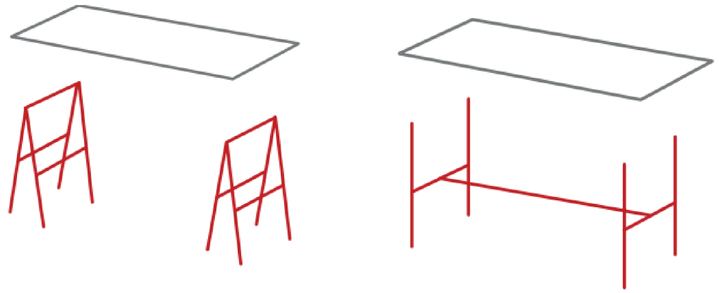
We would recommend using our 20mm sheets for any tabletop or horizontal work surface and support it with a good substructure. If you are creating a tabletop that is going to receive a lot of use, we would recommend using the structures shown on the following pages.

If you are using our materials without a solid substructure, we would recommend having regular supporting beams underneath, so there are no unsupported spans of material.

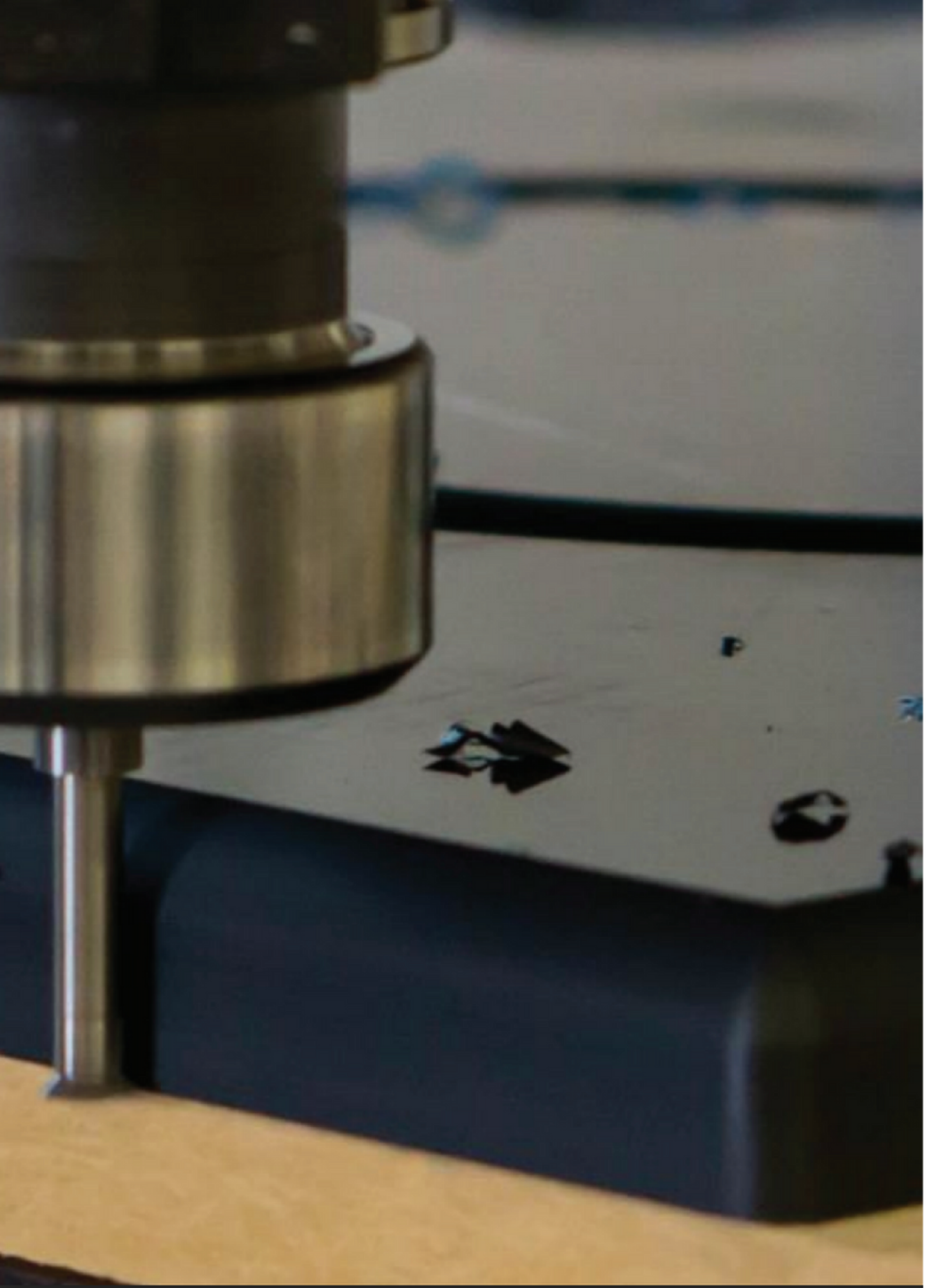
We would strongly advise against using table styles where the top is only supported at the four corners or trestle-style legs without any cross beams.



perfect solution for support



it will work, but it will bend



CORNERS

Edges can be processed using a special chamfering tools. For example, a router. You can work with milling machines attachments, manually or by machine. Milling machine for machining of edges, corners and for the production of special edge shapes from semi-circular to complex custom forms.

After sawing with a jigsaw, you will need to sand edge to get a smooth surface. We do not recommend using a hand-held circular saw as a tool as it requires proper precautions and extensive handling experience.

We recommend always holding the boards firmly to the work table so that the boards do not bend during milling and the milling machine does not damage the clean edge of the board.

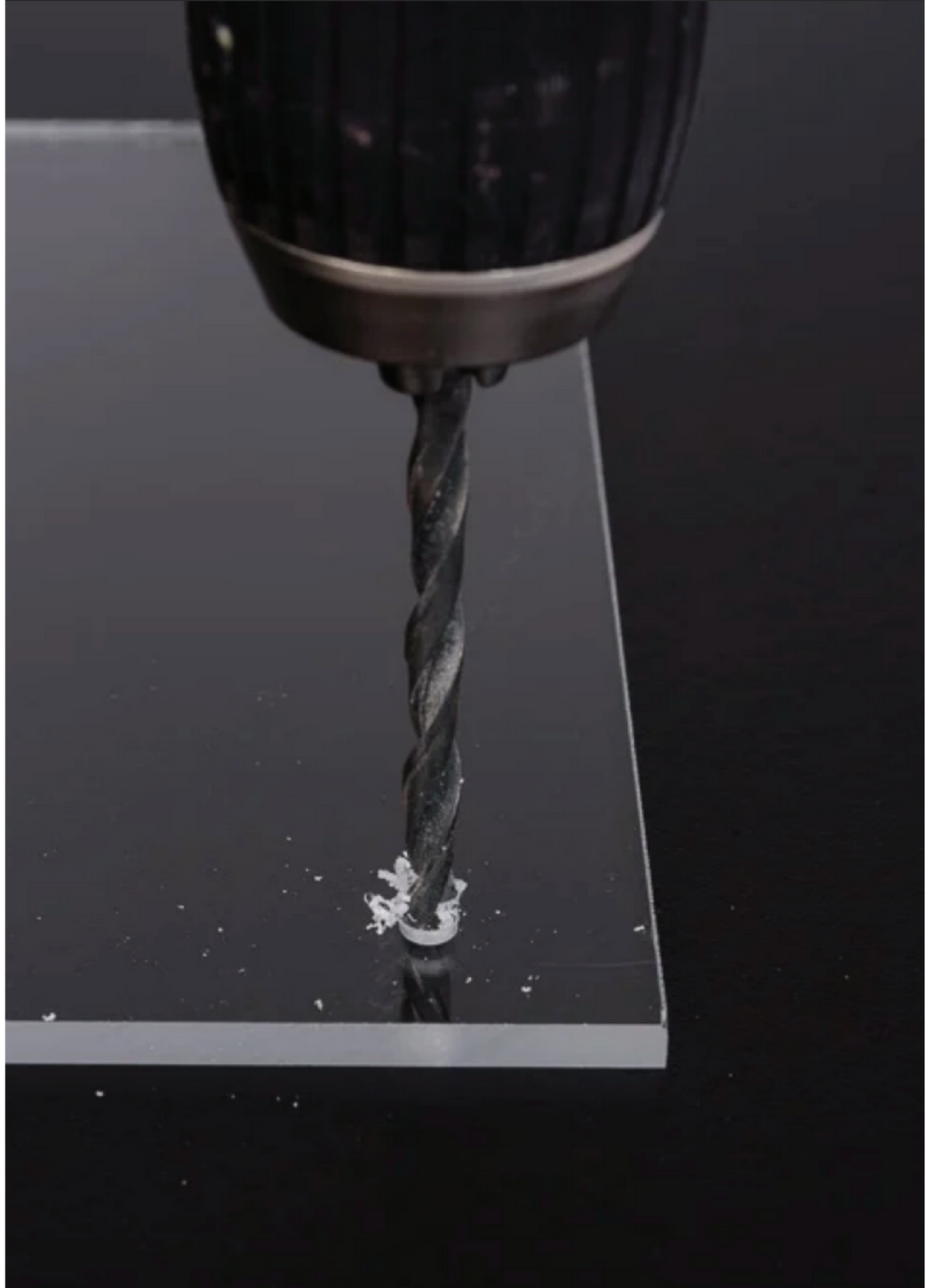
We recommend slow passes to get the boards on they didn't sting at the beginning or end. At worst, a chipped corner can be welded back with a heat gun.

DRILLING

We recommend wood drills. Plastic has a tendency "pull" the drills in and thanks to the properties of the plates means that heat can build up in the drilled hole if no preventive measures will be taken.

Use the "pecking" or in-out technique. You drill a few millimeters and push out the resulting splinters. This helps in removing accumulated chips and heat reduction. Drill bits are recommended for wider holes
into wood, especially into medium-soft plastics such as polypropylene, polyethylene and polystyrene. Wider holes can be started with a guide hole in the middle speed and then to expand more slowly. Larger holes in hard plastics such as ABS or polycarbonate, may benefit from a two-stage drilling technique: an initial first hole drilled at low speed followed by the use of a boring bar with a carbide insert.

Special plastic drill bits are also available. Cooling liquid and the use of special "slow spiral" drills or low helix drill bits can help with drilling holes thicker and harder stock. You can cool the drill with water or oil, as with metal.



CUTTING

Sharp woodworking bits and discs work well they play with our panels. Common saw blades on wood will work in circular saws and formatting machines, but special saws plastic discs give the best result. Low friction will help eliminate any risk melting, so we recommend knives with fine toothing and the use of fast by rotating and slowly feeding the panels into the saw.

Avoid damaging the panel with hard clampsme. If I fly away clean chips, boards they will not melt. Saws with a greater distance between the teeth and whose teeth they are set slightly out they work great.

Cut slowly. Temperature doesn't play a big role. Bad cuts can result from the use of saws, whose teeth are not planted, which causes their fall into the groove of the blade or saw rubbing the edge of the plastic; these factors cause it to splinter they catch in the cut instead of falling off.

This can happen with hacksaws. In case of doubt contact your dealer or us for advice.

MOULDING

You can shape our panels simply by using heat gun and vice. It is important to work slowly, heat both sides of the panel and apply pressure to dull. Once the panel is sufficiently warm, begin bend slowly, then stop heating and hold the panel in the desired angle position until it cools down.

You may see tiny blisters when overheated and imperfections, but a light sanding will cause that the surface looks like new again. Our GOD panels can also heat in a special press for vacuum forming.
The required temperature depends on the type of plastic.

Polyethylene 80-100 °C
Polystyrene and polypropylene 120-150°C
Polycarbonate 170-180 °C
Acrylic plastics 110-120 °C

The temperature will also vary according to the equipment that will be use for shaping, eg automatic or manual. You can heat the whole panel or just it part, but watch out for that uniform heating of the area, on which you work. Presses with infrared heating are only suitable for thin materials. Stronger materials (10 mm up) require clamping presses double-sided heating and temperature control.

SURFACE
SANDING / POLISHING

You can use sanding tools to sand wood and other surfaces such as vibrating sanders, disc or vibrating sanders including a drill attachments and angle polishers. Another option is manual or a stationary belt sander. It is also available oscillating multifunctional tool with grinding attachments suitable for our materials.

We recommend not using high speeds, because so overheating occurs at high speeds material and melting occurs at the grinding point and surface damage. It is necessary to monitor the condition of the surface of grinding wheels or belts. If they become clogged, they must be cleaned or replaced in time.

There are different polishing methods according to different species plastics in our products and the purpose of polishing for example for finishing, gluing, etc. For polishing we recommend very fine sandpaper (e.g. 2000 grit) and silicone oil.

BONDING

All our panel materials are suitable for welding of plastics. The boards can also be used as fasteners. Sand both surfaces a clean from impurities. Then apply glue and fasten with clamps. Let it harden at least
hour under pressure.

PS and PC: these materials can be bonded by welding. Use the same group of plastics to weld the two boards together.

You can also use suitable chemical adhesives la, such as acrylic adhesive for polystyrene and polycarbonate, which are chemically active. PE and PP can be bonded using the above methods, with the exception of chemical adhesives.

If you do use solvent glues, or other adhesives, do not let the glue sit on the finished surface as it can damage and melt the surface of the material. For any seam bonding we recommend using masking tape to mask off the face of the panel to prevent surface damage.

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