

SAN-uv Manipulation

Cleaning

SAN can be cleaned with a solution of neutral detergent and water. Always clean and dry with a soft cloth, applying very little pressure.

Cutting

IMPORTANT! Do not remove the surface protection film from the SAN sheet before cutting; after finishing, blow or vacuum away any resulting shavings.

Manual cutting:

- When sawing by hand, use a fine bladed saw. The sheet should be well secured to prevent vibration. Saw teeth must be sharp.

Knife cutting:

- When knife cutting, score the sheet several times until the desired depth is reached (minimum half the thickness), applying even pressure.
- The sheet should be well secured to prevent slippage. Then place it on a flat surface and apply gentle pressure until it snaps.
- Sandpaper may be used to remove any rough edges.

Circular saw cutting:

- Saw blade diameter: 350-400 mm.
- No teeth: 84-106.
- Rotational speed: 2800/4500 rpm.
- Cutting speed: 12-18 m/min.

Types of saw tooth:

Alternate or combined straight and trapezoidal teeth.

- Sheet must be well secured to prevent it from cracking due to vibration during circular saw cutting.
- Cutting speed must be as uniform as possible.
- Saw blades should be sharpened regularly.

Polishing

- Sheet edges must be smoothed first to remove the marks left by the circular saw.

The following may be used:

- Rigid fabric rotary discs with cleaning paste followed by soft fabric discs with cleaning paste for the final finish.

Drilling

- Drill bits for wood and metal may be used.
- Reduce the drill bit rpm for larger diameters.
- Use water or air to cool the sheet.
- Use a hole diameter 1.5 times larger than the screw diameter to allow for sheet expansion.
- The sheet should be well secured to prevent breakage.
- A pointed object may be used to start the drilling.

Recommended drill speeds:

Diameter (mm)	r.p.m.
1,6	7.000
6,4	1.800
12,7	900

Bonding

Solvents:

- The most common solvent used for bonding SAN is MEK (methyl-ethyl-cetone).
In general, aromatic solvents can be used and applied with a syringe or a brush.
- Other solvents used are: acetone and styrene.
- To thicken the adhesive, we recommend dissolving 5% SAN into the solvent.
Before applying a solvent, the surfaces to be joined must be degreased with alcohol.

Adhesives:

- These are solvent-free adhesives with two polyurethane-based components.
- They are transparent, odourless and do not attack plastic.
- They can be used to bond different plastics to each other and also plastic to other materials such as glass, aluminium or steel.

Welding:

- SAN sheet can be welded by ultrasound or thermal pulsation. The quality of the weld will improve as the distance between the sonotrodes is reduced.
- High-frequency welding is not possible as the material has low dielectric losses.

Thermoforming

- SAN sheet is easily thermoformed using an air circulation oven.
- The temperature of the sheet should exceed 120°C.
- When the sheet has been stored in a humid atmosphere it should first be dried for 2 to 4 hours at a temperature of approximately 80° to 85°C prior to thermoforming.
- To obtain a good finish, the mould to be used can be heated to between 50° to 60°C.
- Excess temperature, however, may damage the sheet.
- Remove the printed film before thermoforming to prevent print from the film marking the sheet.

Bending

- To bend SAN sheet, the sheet should be locally heated by an electrical resistance wire and then quickly bent.
- It is advisable to cool the part of the sheet close to the bending line.
- To bend thick sheet it is recommended that it is heated from both sides and, after bending, secured in jig to maintain the exact position as the sheet is cooled.
- We recommend that the smallest radius be double the sheet thickness.

Decoration

- The surface of the sheet must be clean and free of grease, demoulding agents or any other form of contamination. A 50/50 mixture of isopropanol and isobutanol can be used for cleaning.
- SAN sheet can be easily printed, lacquered and painted with a wide range of products. Many of the coatings recommended for acrylic sheet are also suitable for SAN.

- It is essential to ensure that any solvent contained in the lacquer or varnish will not attack the sheet and to consult the paint manufacturers regarding products adapted to SAN coating.

Vacuum metallising:

- SAN sheet can be vacuum metallised. It is important to stress that the resulting finish will depend on the surface finish of the sheet prior to this process.
- Remove the printed film before printing to avoid that the film illustration picture could be fixed on the sheet.

Transport

- Dirt and abrasive objects can damage the surface if rubbed.
- During transport, always use flat, stable pallets, securing the sheets to prevent them sliding.
- Ensure the sheets do not slide over one another when loading or unloading.

Storage

- An incorrect position during storage may cause permanent deformation.
- Store under cover in dry temperate conditions.
- Stack the sheets on a flat, horizontal surface.
- Cover the top sheet in each stack with a sheet of polyethylene or cardboard, etc. ...
- Do not store SAN in direct sunlight or in conditions of high humidity or temperature as these may adversely affect the adhesion of the surface protection film.