



Bonded Series Fabrication Guide

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PANELITE Bonded Series – Handling and Storage

General

- The plastic film protects panel surfaces.
- Keep the protective film in place for as long as possible, until panel installation.
- Store in a sheltered location (warehouse) with temperatures between 40°F and 90°F, avoiding direct sunlight, exposure to rain and snow, and presence of corrosive substances and/or solvents.
- Handling of a single panel must be done in a vertical position. Avoid rubbing between panels.
- Horizontal storage is advised with the following recommendations:
 - Keep the original factory packing intact and place it on an even and regular surface.
 - If stored outside factory packaging, place the panels on an even and regular surface, avoiding the presence of dirt particles between panels (it is advisable to protect surfaces with a secondary protective layer between the panels).

PANELITE Bonded Series - Panel Cleaning

Dust and Smudges

- Edge cleaning: blow with compressed air on the edges.
- Surface Cleaning: blow with compressed air and/or use an antistatic cloth wiping gently in order to avoid abrasions.
- Dirt and Fingerprint Removal: Use a solution of lukewarm water (max 40°) with neutral detergent or isopropyl alcohol diluted with water at 50% strength, gently rub with a soft sponge and rinse with cold water. Dry with a soft cloth or a wet buff.

Do Not:

- Use detergents others than those indicated above
- Use a dry cloth for dry dirt removal
- Clean panels under direct sunlight or high temperatures.
- Use abrasives, squeegees, blades, pointed tools, roto-brush systems

PANELITE Bonded Series – General Processing

General

- Do not cut or fabricate panels more than 10 days before installation.
- Avoid overheating the material: tools must be correctly sharpened, clean, and not damaged.
- Use appropriate tool cooling systems (compressed air, water) in order to avoid material overheating which can cause formation of flares and chips, which are difficult to remove.
- Firmly anchor and clamp the pieces under processing in order to avoid the presence of vibrations, which can cause panel delamination, and tearing of covering sheets/layers/spalling of sheets.
- Keep equipment and pieces under processing clean: potential scales and/or flashes can be transmitted from tools/equipments and damage panel surface.
- Keep the protective film on as long as possible even during processing in order to avoid superficial abrasions during panel handling.
- During processing, panels can become electro-statically charged, making the removal of chips difficult: the problem can be solved vacuum cleaning the chips and via anti static sprays.
- The heating of material due to machining and thermoforming can cause the release of fumes toxic for operators and potentially inflammable. Provide an adequate ventilation of the environments.

PANELITE Bonded Series – General Fabrication

Cutting With Circular Saw

- Cutting Machine: use a cutting machine with a disk and mobile track-blade, according to the scheme illustrated below; the machine should be equipped with a sharp, high-tooth-count blade and a system for feeding blade through material at consistent rate.

Gluing and Assembling

- Panels can be assembled one to the other and can be glued to other materials joining them at the covering sheets.
- Reinforced joints can be made inserting transparent polycarbonate splines inside slots in the panel.

Recommended Adhesives

Rohm & Co. GmbH KG

Acrifix®

Anglo Adhesives Ltd

Anglosol® 1200

Anglosol® 2000

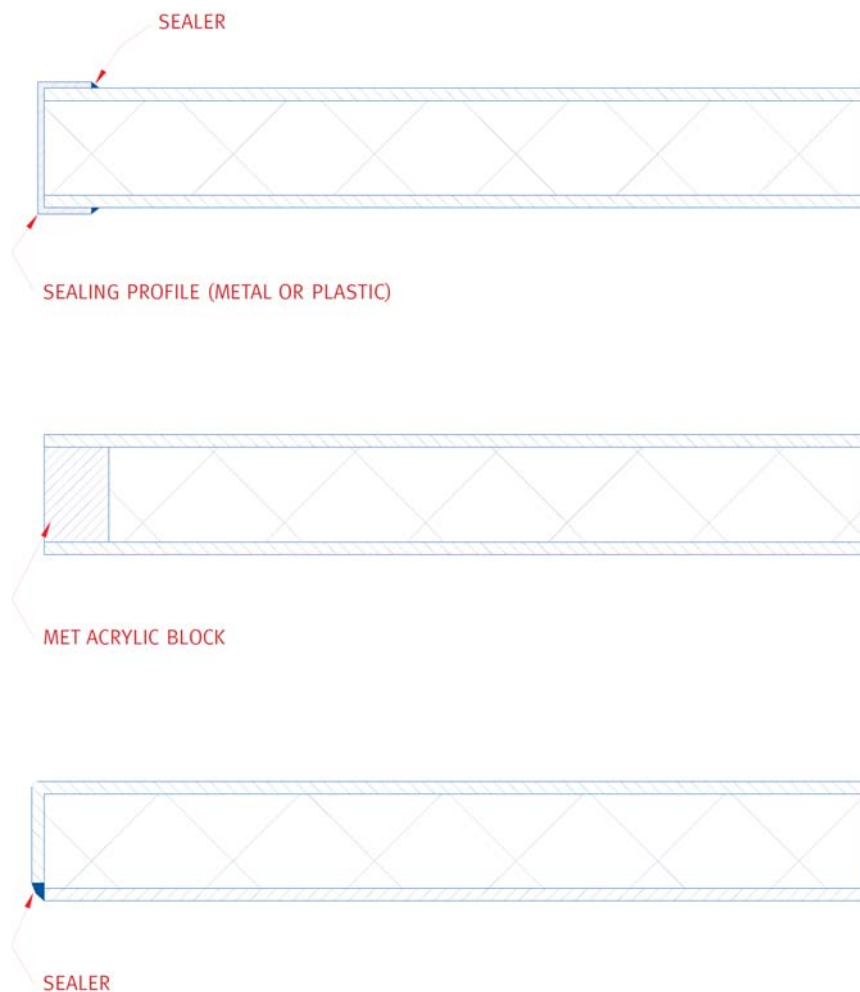
Anglo® Extru-fix

Anglo® Tu 1908

Anglo® Ta 431

- If other adhesives are used, run a test on several small pieces and carefully observe the results.

Edge Detailing - Examples



Polishing

Bonded Series panels can be polished:

- to restore original gloss of surfaces damaged by scratches or abrasions due to faulty repairs
- to finish surfaces deriving from cutting/milling operations, giving them a look very similar to those of the external sheets of the panel;
- to refine (give a final touch) after edging

Instructions:

- Step 1: Removal of material up to the disappearance of processing scratches-marks.
 - Use a rotor-orbital polishing machine (orbit: mm) with speed regulation and rigid sanding disk diam. 150mm treating in succession the surfaces with abrasive paper grain (150, 240-360 (dry), abrasive 3M 260L P600 (dry) and abrasive 3M TRIZACT P1000 (wet)
- Step 2a: Polishing (glossy surfaces), using an electronic polishing machine with speed regulation and sanding disk for sponges 3M09552 treating the surfaces either a felt 3M 0358 and universal abrasive paste 3M 09375 or orange sponge pad 3M 09550 with universal abrasive paste 3M 09375
- Step 2b: Polishing matt surfaces, it is possible to carry out an opacifying treatment in alternative to polishing with a rotating orbital (orbit mm) with speed regulation, rigid sanding disk 3M 02329, with abrasive 3M TRIZACT P3000 (WET)

Sealing Edges

If panels are exposed to weather conditions or if they are placed in very humid environments (such as bathroom, saunas, etc.) edges MUST be sealed with acid-free silicon protecting surfaces near the edges with masking cellar tape.

PANELITE Bonded Series – Troubleshooting

Scratches or Tears of the Protective Film

If during panels transportation or successive handling the protective film is removed or altered, damage to panel surfaces can occur. If it is necessary to remove the protective film to inspect the plastic surface, it is important to recover the surface with the film and to use a low adhesive tape to keep the film in place.

If damages are present on the panel surface small scratches and abrasions can be removed.

Partial Detachment of External Skin

If the surface sheet separates from the core:

- Trimming: apply tape to the affected areas to prevent further delamination.
- Repairing: gently lift the detached skin (without causing a further detachment) and place a light layer of Anglosol 2000 or Anglo 731 adhesive over the core. Clamp the area to be repaired and allow approximately 2 hours for the adhesive to harden.

Condensate Within Core Cells

When Bonded Series panels are placed in environment at low temperature, even after edge sealing, condensate can occur inside the cells of the core. This phenomenon is not to be considered a panel defect, as it is transitory and tends to disappear when temperature increases.

PANELITE Bonded Series – Safety Notes

- Bonded Series panels are hard materials with sharp corners: use protective gloves and clothes during handing in order to avoid possible injury.
- In case panels are exposed to high temperatures (for examples, during mechanical processing, thermo formation, etc.) environments need to be adequately ventilated in order to avoid potential hazards due to gas formation, which could be potentially inflammable and dangerous for the operators.
- Bonded Series panels may form and emit sudden electrostatic charges, therefore the presence of inflammable liquid or gases in the nearby areas has to be avoided.

PANELITE Bonded Series – Technical

Mechanical Properties

	modulus of elasticity UNI-EN 310 (n/mm ²)	bending strength UNI-EN 310 (n/mm ²)	bending stiffness (nxm ² /m)	compressive strength (n/mm ²)
19	700	22	400,1	1,0
21	850	25	656,0	1,0

Technical Data

	standard panels			tolerances			others					
	length (mm)	width (mm)	thickness (mm)	length (mm)	width (mm)	thickness (mm)	fire class (DM 26/6/84 UNI 9177) ¹ (DIN 4102) ²	coefficient of thermal expansion (mm/m ² K)	service temperature (°C)	weight per unit area (Kg/m ²)	thermal insulation U-value (W/m ² ·K)	sound insulation Rw (db)
19	3015	1000	19	±2	+1 / -2	± 0,5%	-	0,065	-30° +80°	6	3	22
21	3015	1000	21	±2	+1 / -2	±10%	-	0,065	-30° +80°	8,2	2,9	22