

ACRYLITE® Installation Guidelines

Wave Profile Acrylic Sheet

STORAGE

- Store pallets under a solid roof out of direct sunlight with the white cover securely wrapped over the pallet. This prevents solar heating, which may reduce material strength, and slows moisture absorption, which may warp the acrylic.

CUTTING

- Cut with a handheld circular saw and an acrylic cutting blade.
 - Reputable acrylic blade suppliers include Forrest, Freud, and Amana.
 - Support the sheet under both sides of the cut.
 - Clamp a straight guide board on top of the sheet; prevent the sheet from vibrating.
- Drill fastening holes with a ¼" to ¾" step drill.
 - Insure the drilled hole is smooth and free of burrs.
- Rip sheets 1 ¼" from the nearest wave crest. This insures overlapped sheets nest properly and shed water.

SAFETY

- DO NOT WALK ON THE ACRYLIC. Lay 2'x10' walking planks across the sheets.
 - A non-slip foam or rubber sheet under the plank will help protect the acrylic from scratches.
- Use only approved paints, cleaners, sealants and gaskets. Non-approved products may attack acrylic.
 - Recommended sealants include DOWSIL™ 795 and GE SilPruf™ SCS2000.

ROOF STRUCTURE

- Pitch roofs at least 1" for every 12" of run to insure water sheds off.
- Support sheets on continuous purlins across the width of the roof.
 - Most building codes specify a minimum live load of 20 psf, which requires purlins 30" on center.
 - Consult www.acrylite.co or ACRYLITE® Technical Support for proper purlin spacing.
- Paint the top of the roof structure (rafters and purlins) with a reflective white paint; prevent overheating.
- Design for expansion due to temperature and humidity.
 - From cold and dry to hot and humid, plan on 1/8" expansion for every 1' of length.
 - Sheets 12' 0" long in winter may grow to 12' 1 ½" in summer.
 - Allow sheets to expand by limiting clamping forces and including sufficient flashing at the peak and wall intersections to cover the expected movement.

FASTENING

- Install a row of fasteners at every purlin. Fasten at the crest of the wave profile, 9" or 12" on center.
- Recommended fasteners include #14-10 roofing screws for wood and sheet metal purlins, and ¼"-20 threaded J-bolts for galvanized tube structures. Always include a gasketed washer under the fastener.
- ACRYLITE® sells a special gasketed aluminum saddle washer that spread clamping force over the crest of the wave profile and seals the fastening hole.
- Allow for expansion by drilling oversized fastening holes: for ¼" fasteners drill holes ½" to 5/8".
 - When sheets overlap, drill the bottom hole 1/8" larger than the top hole to allow the sheets to expand against each other.

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- Tighten fasteners $\frac{1}{4}$ " turn beyond contact with the acrylic.
 - DO NOT OVERTIGHTEN FASTENERS. APPLY LIGHT CLAMPING PRESSURE ONLY.
- Overlap side-by-side sheets by at least one crest (single lap).
- Plan the layout if multiple sheet are required up the roof slope:
 - Each sheet up the roof slope must overlap the sheet below by 3".
 - The overlapping joint must be above a purlin, with a row of fasteners through the two sheets.
 - Offset rows by a half sheet to avoid four corners meeting.

MORE HELP

- Call ACRYLITE® Technical Service at 207-490-4230 and visit www.acrylite.co.

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Röhm GmbH and its affiliates are a worldwide manufacturer of PMMA products sold under the PLEXIGLAS® trademark on the European, Asian, African and Australian continents and under the ACRYLITE® trademark in the Americas.

Fire Precautions

ACRYLITE® sheet is a combustible thermoplastic. Precautions should be taken to protect this material from flames and high heat sources. ACRYLITE® sheet usually burns rapidly to completion if not extinguished. The products of combustion, if sufficient air is present, are carbon dioxide and water. However, in many fires sufficient air will not be available and toxic carbon monoxide will be formed, as it will when other common combustible materials are burned. We urge good judgement in the use of this versatile material and recommend that building codes be followed carefully to assure it is used properly.

Compatibility

Like other plastic materials, ACRYLITE® sheet is subject to crazing, cracking or discoloration if brought into contact with incompatible materials. These materials may include cleaners, polishes, adhesives, sealants, gasketing or packaging materials, cutting emulsions, etc. See the Tech Briefs in this series for more information, or contact your ACRYLITE® sheet Distributor for information on a specific product.

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