POLYGAL MULTIWALL POLYCARBONATE SHEETS
USER GUIDE AND INSTALLATION INSTRUCTIONS

Packaging

Polygal products are generally delivered in 20' and 40' box containers, protected on both sides by polyethylene sheets against scratching, and secured to prevent damage from movement within the container.

The sheet ends are sealed with masking tape to prevent dust and insects from entering into the fluting of the sheets.

The maximum sheet length is 5.8 meters for a 20' container and 11.8 meters for a 40' container. Shipping of sheets of different lengths should be coordinated in advance with the regional sales manager. It is recommended to unload the containers by hand using a slanted roller conveyor with adjustable height.

Sheets must be stored away from exposure to sunlight and according to the company's storage guidelines.

Storage

Store in dry, dark & well ventilated area, with NO EXPOSURE to sunlight, wind, dirt or hard objects to prevent damage.

Store on a flat clean raised surface, and placed on a soft material (cardboard) to prevent damage.

Supported, sloped stacking is recommended. If stacked flat, stack to a maximum height of 3 feet.

Outdoors, sheets should be covered with an opaque material (cardboard, wood, EPDM sheet etc.) that provides protection from the sun.

Outdoors, storage of sheets exposed to sun light will cause the protective polyethylene film to bake onto the sheet, and it WILL NOT BE ABLE TO BE REMOVED.

Outdoors, DO NOT store sheets under flexible PVC coverings.

Cleaning

Polygal Sheets – standard and specialized – will give longer and better service life with simple cleaning:

   • Rinse sheet with water

   • Use warm soapy (mild liquid dish soap) water to clean sheets. If any dirt remains, gently wipe off with a soft cloth.

   • Apply final rinse and dry with soft cloth, if possible, to prevent water spotting.

DO NOT use sponges, squeegees, brushes or sharp instruments as they may damage the UV protective coating.

Cutting

Polygal Multi wall sheet can be cut easily and accurately with standard workshop equipment. This includes standard circular, jig, or table saw with a blade having 8-12 teeth per inch. Saw dust should be blown out of the channels using clean compressed air. Circular saws should have fine-toothed panel blades. Thinner gauges can be cut with a box knife. It is important that the knife is sharp.

Drilling - Holes can be drilled by a power drill using standard high speed steel twist drills or drills with an angular wedged bid. When drilling, support should be given immediately beneath the drill to avoid vibration. Very clean holes are easily obtained. The use of liquid cooling media is not recommended.

Trimming – standard box cutting knife.

Planning the Supporting Structure
• Install the sheets with the ribs parallel to rain flow and with a slope of at least 10°. In wall and gable applications always ensure that the ribs are positioned vertically.
• Supporting beams must be at least 30 mm wide to ensure good anchorage of sheets and fastening accessories.
• In case of arched structure, check the smallest permissible cold bending radius (R) according to the sheets thickness.
• Ensure that a qualified professional checks and approves the structure before execution.

Preparing the Supporting Structure
• Complete all the metalwork and painting before beginning sheet installation work.
• Check the dimensions on site, and plan the roofing requirements before ordering Polygal products for the project.

Preparing the Sheets
• Remove the grey protective film .
• Fold back the printed sheet protection film10 cm on each side.
• Attach Perforated Edge Tape to the upper and lower edges of the sheet.

Preparing the Edge Profiles
• Use an Aluminum Edge Profiles to protect the lower edge of the sheets. For the upper edges protection also a Polycarbonate Edge Profiles can be used.
• Use a metal saw to cut the aluminum Edge Profiles into pieces matching the width of sheets to which they will be attached.
• Drill drainage channels to allow for the flow of condensed water along the profiles used for the bottom section of the building's roof.
• Attach the edge profile to the sheet with the short side on top of the sheet.
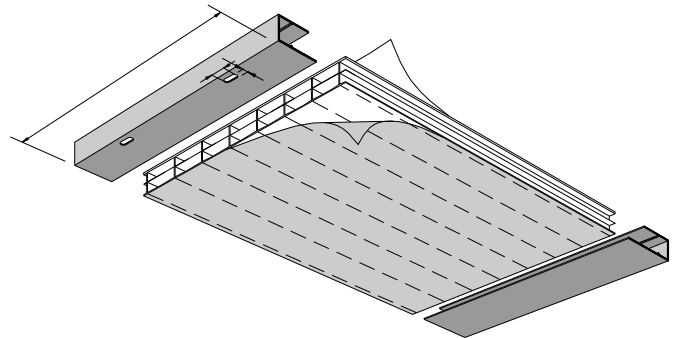
Sheets Installation
Step 1 – Place the sheets with the side protected by the printed film upwards.
Step 2 – Slide the base connecting profile underneath the sheet flank and use self drilling screws to anchor them to the structure
Step 3 –Position the connecting profile cap in place. For a Polycarbonate Connection Profiles with a shock-absorbing support under the sheet, use a rubber mallet to connect it to the base. For Aluminum Glazing Systems, anchor the Cap Profile to the Base Profile with a applicable screws (see Polygal Accessories Catalogue).
Step 4 Continue to add sheets, and profiles until reaching the end of the building. After completing installation, remove all the printed protective film from the sheets.

Finish and Fixing Reinforcements
- Place fixing screws with fixing gaskets only in the support frame lines.
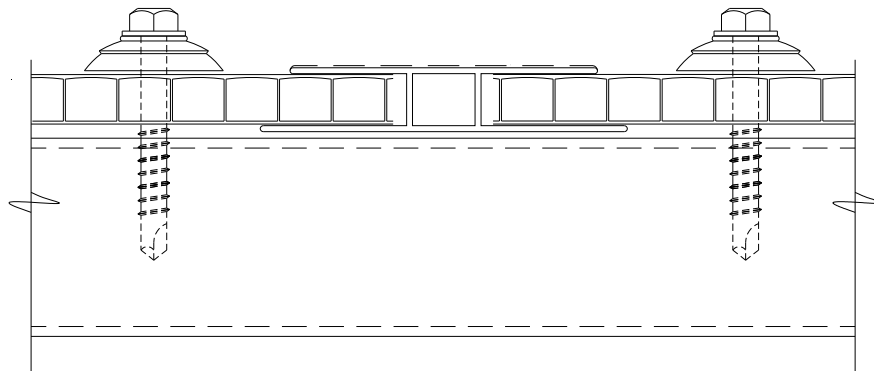- Do not over-tighten screws.

For best results always use Polygal screws and accessories, designed especially for use with Polygal sheets.
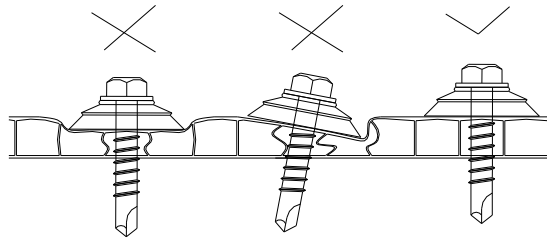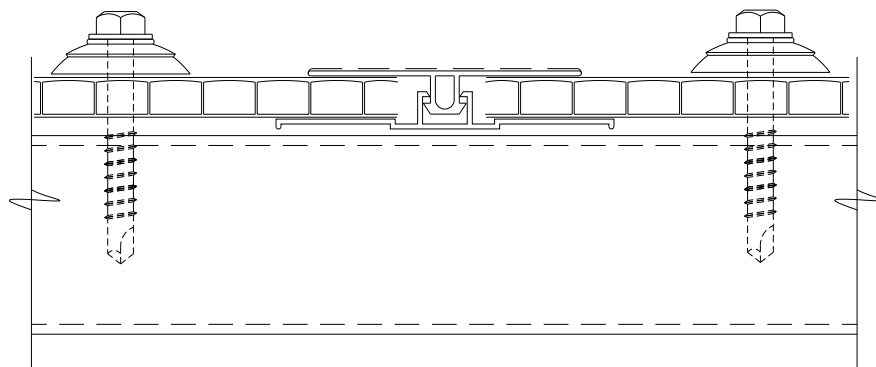

Appendix 3: Connection Systems

Polycarbonate connection profiles

HP connector – 4 to 16 mm sheets connection. For vertical (cladding) light structures

SP connection profiles - 6 to 10 mm sheets connection. Light structures, agricultural applications, DIY.
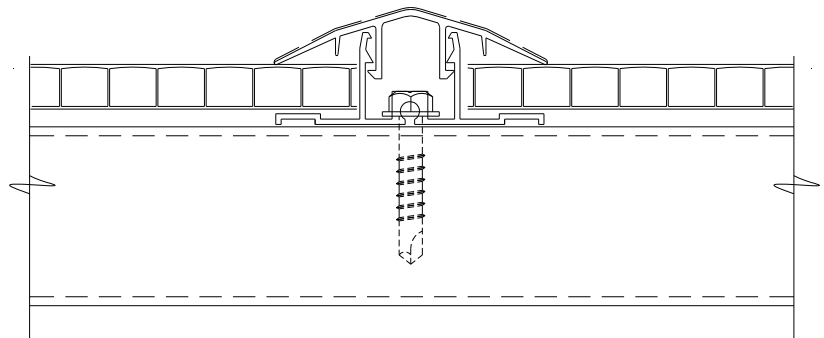

HCP connection profiles – 4 to 16 mm sheets connection. Polycarbonate Cap Profile and Aluminum or Polycarbonate base profile. Wide range of architectural projects.
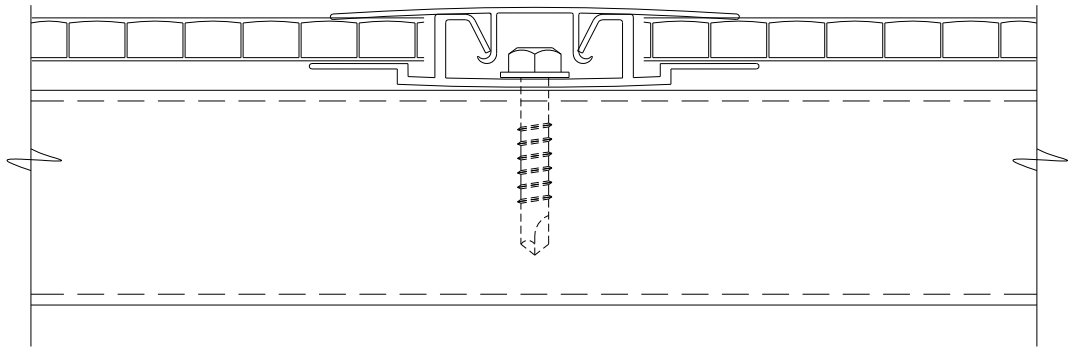
HCP with *Polycarbonate* Base profile
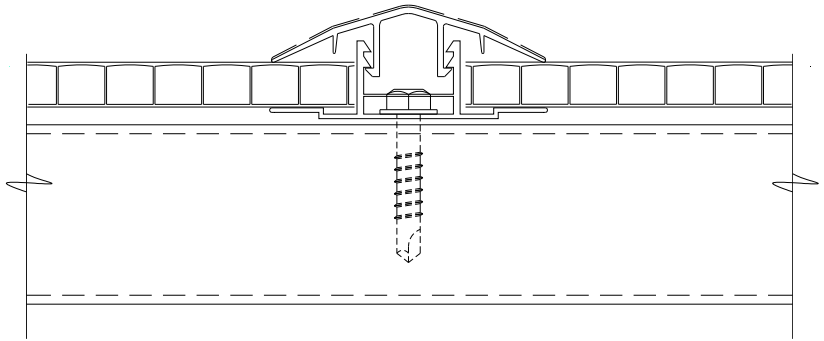
HCP with *Aluminum* Base profile

Easy Clip (ECP) connection profiles – 6 to 10 mm sheets connection. Wide range of architectural projects.

Aluminum Glazing Systems

Mega Lock (MGL) glazing system – is specially designed for use in glazing with 6 to 16 mm polycarbonate multi wall sheets. The system has a rabbet depth of 20 mm, which enhances its fastening properties and prevents glazing failures due to wind and snow loads or thermal expansion.
Wide range of architectural projects.
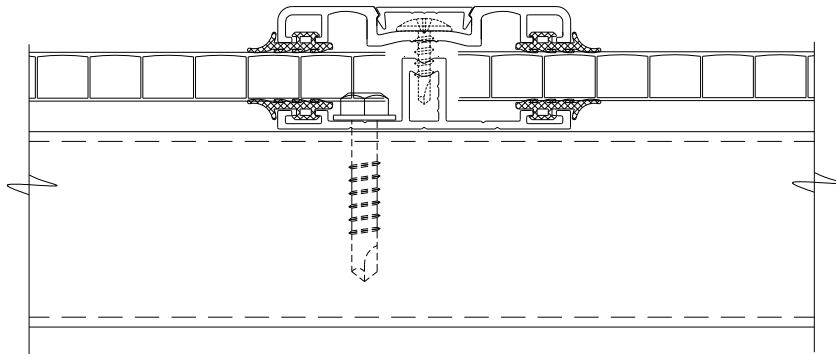
6-36 Glazing System is a large span clamping system specially developed for glazing applications using 25 to 35 mm polycarbonate multi wall sheets. Sheets are mounted on the system's load-bearing elements during construction of transparent and semi-transparent roofing. The system's large rabbet depth (30mm overlap) makes sheets fastening easier, and helps prevent glazing failures due to wind and snow loads or thermal expansion.
Wide range of architectural projects.
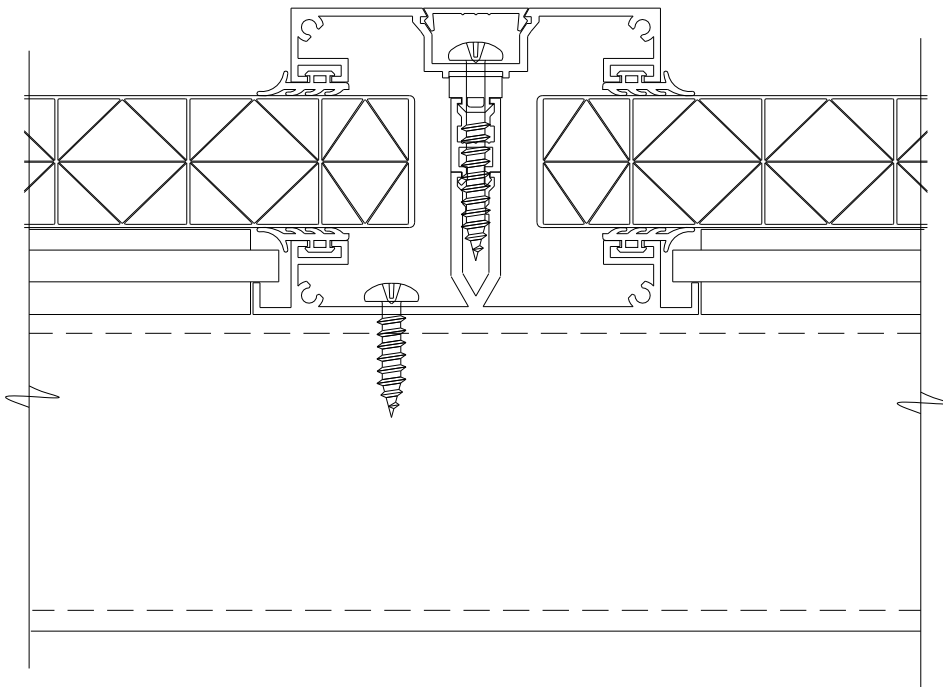
Finishing Accessories

EPDM + INOX Fixing Dome
EPDM dome gasket and metal washer together with self drilling screws provide a high-performance, trouble free fastening system with highly effective dual point sealing between the EPDM gasket and the screw and between screw head and metal washer. It is strongly recommended to use self drilling, special coated corrosion resistant screws.
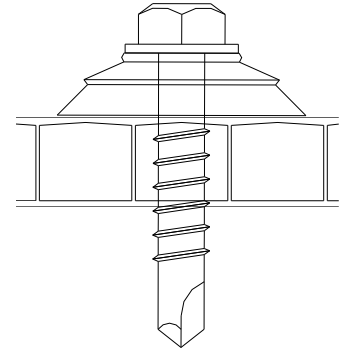
Sealing Tapes
AntiDUST tape is non-woven tape system used for sealing the top and bottom edges of multiwall polycarbonate and acrylic sheets.
AntiDUST tape is specifically designed to stop mold, algae, insects and dust from accumulating within the walls of multiwall polycarbonate sheets.
Advantages of AntiDUST tape over other products include:
- Ease of application
- Proper drainage of condensation
- Maintains clarity of multiwall polycarbonate sheets
- Extra durable construction and long life of tape materials

AntiDUST tape is made of a strong non-woven material which is designed to adapt without difficulty to the expansion and contraction of multiwall sheets

U-shape edge profiles
For trimming the sheets upper and lower edges U-shape aluminium or polycarbonate profiles should be used. (See drawing of edge detail in Appendix 4)