



PALOPAQUE™

Wall Cladding Solutions



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About Palram

A Global Leader in Thermoplastic Panels

Palram Industries Ltd. is a leading multinational manufacturer of thermoplastic panels, mainly from polycarbonate, PVC and acrylic. The products are used in a wide variety of applications and projects around the world, including the following market sectors: building and construction, architectural projects, advertising and printing, agriculture, fabrication and DIY. Palram's global presence and advanced technological abilities allow us to provide our customers with competitive products, while maintaining a high level of service. Palram delivers excellence to a global marketplace, backed by professional support and service on both local and regional levels. Palram is proud of its unique corporate culture that makes us agile, creative and committed to all our customers.

Research & Development

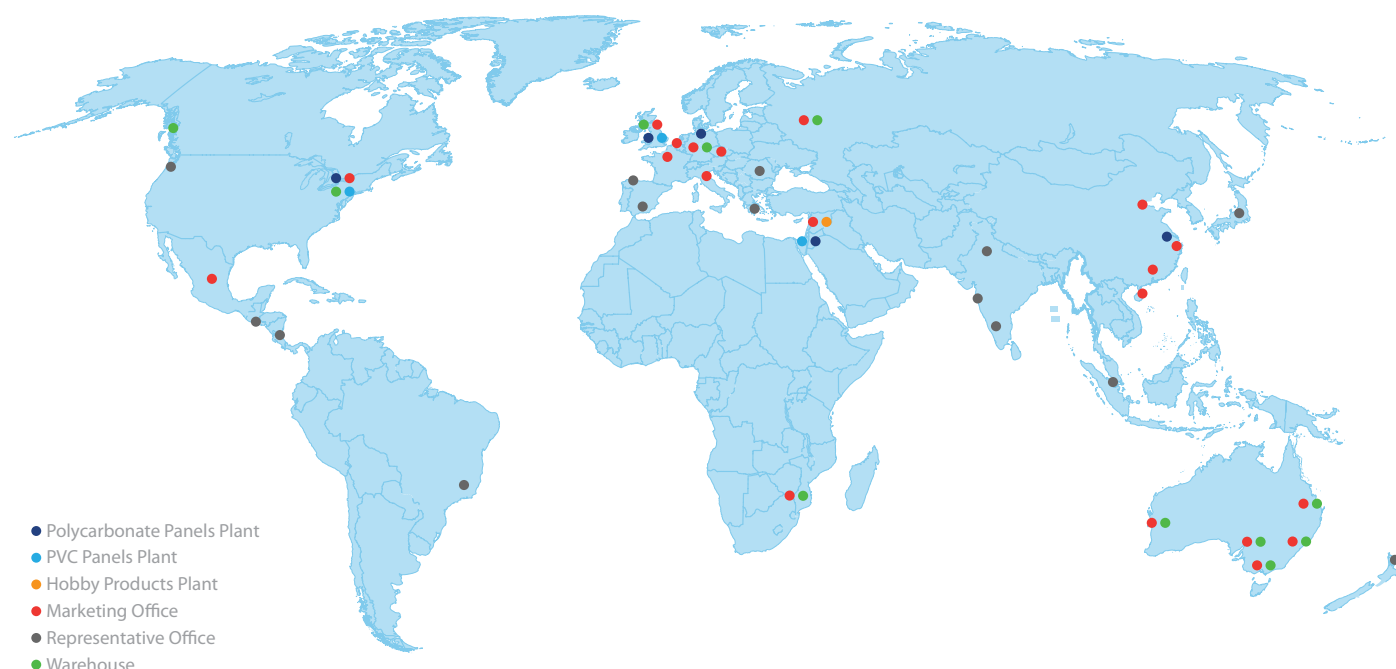
As part of the tradition of producing high quality panels, Palram is constantly adapting new technologies to refine its manufacturing methods. The accumulated knowledge and production technology expands our product range and allows us to match our products more specifically to every project and application.

Panel Extrusion History

Palram has pioneered the production of extruded PVC panels in 1963 and has relied on innovative product culture ever since. New technologies have been continuously adapted to refine the existing manufacturing methods. Palram also keeps track with market demands in order to create the most suitable panel for each application, including wall cladding.

Global Presence

Palram operates production plants in Europe, America and Asia, allowing close logistic support and PALOPAQUE supply.



Complete Wall Cladding Solutions

Introduction

PALOPAQUE wall cladding solutions help maintain high sanitation levels using a practical, cost efficient and comprehensive package. Palram profiling and welding rods are ideally combined with PALOPAQUE flat opaque PVC panel, which has been manufactured by Palram since 1963. Covering large areas is made easy with PALOPAQUE cladding systems, which have already helped achieve high resistance to fire and chemicals in hospitals, pharmaceutical plants, restaurants and other locations.

A wide range of colors and surface textures allows versatile design for many purposes. The high durability of PALOPAQUE ensures many years of service that is unaffected by repetitive cleaning routines.

Regulatory authorities are raising hygienic standards for food plants, medical facilities, restaurant kitchens, slaughterhouses, hospitals and other locations. PALOPAQUE HYG and PALOPAQUE SF provide additional benefits for meeting these requirements, such as active antimicrobial or anti-static action.

Product and Application Support

Palram's Wall Cladding Application Team provides extensive support to customers on various issues: product specification, installation, certification, suitable adhesives, general guidance and more. The team relies on decades of production expertise and many different environments around the globe where Palram products were used as cladding. Special support services include on-site support, professional seminars, tailor-made installation guidelines and more.

Typical Cladding Applications

Public Facilities

- Schools
- Rest rooms
- Airports
- Public transportation



Food Industry

- Food plants
- Food preparation areas
- Sorting halls
- Storage/refrigeration rooms



Healthcare

- Sterile/clean rooms
- Hospitals
- Clinics
- Pharmaceutical factories



Agriculture

- Livestock and dairies
- Egg sorting halls
- Storage rooms
- Refrigeration facilities



PALOAPAQUE™ Flat Opaque PVC Panel

Overview

PALOAPAQUE offers many mechanical and aesthetic benefits that make it a leading panel for cladding solutions. PALOPAQUE has evolved into the high quality product of today based on the results of almost 50 years of service. It offers exceptional resistance to impact, chemicals substances, moisture, stains and spills, which complements its aesthetic looks and easy maintenance. PALOPAQUE is easily formed and fabricated while retaining its physical characteristics. It is also an excellent printing substrate, which can be used to create elegant and appealing decorative walls.

Main Benefits

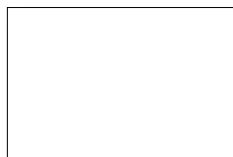
- ✓ Excellent chemical resistance
- ✓ Withstands repeated cleaning cycles
- ✓ High impact strength
- ✓ Easily fabricated and formed
- ✓ Highest fire rating
- ✓ Glossy, Matte or Embossed surface finish
- ✓ High electrical and thermal insulation
- ✓ Non toxic



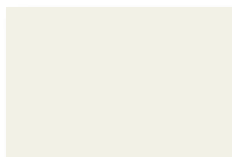
Color Range

PALOPAQUE is available in 28 colors and 3 surface finishes (glossy, embossed or matt), allowing great versatility in wall design.

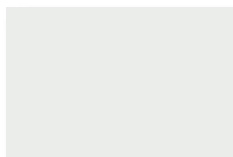
Color may vary slightly with different surface finishes.



STD White



Off White | RAL 9016



Light Pistachio | PAN 9062



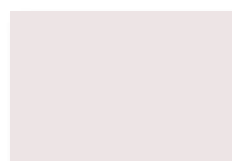
Cream | PAN 9143



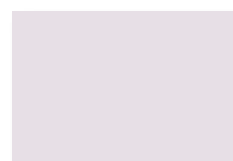
Stone | PAN 9081



Deep Ice



Light Pink | PAN 9022



Lilac | PAN 9023



Red Wine | PAN 242



Dark Pink | PAN 214



Red | PAN 201



Orange | PAN 159



Crimson Pink | PAN 4725



Avocado | PAN 5783



Green Grape | PAN 7492



Light Blue | PAN 9443



Light Turquoise | PAN 9044



Ocean Blue | PAN 651



Mouse Grey | Warm Grey 9



Medium Grey | RAL 7043



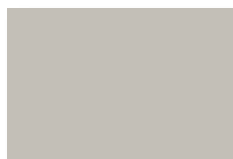
Black | Black Gloss



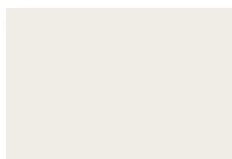
Dark Grey | RAL 7015



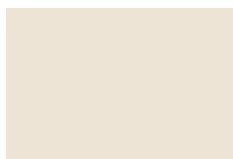
Light Grey | RAL 7040



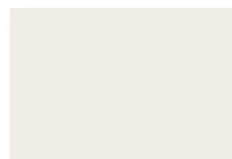
Mink | RAL 7044



Grey Cream | RAL 9002



Beige Cream | PAN 9185



Beige 1015 | RAL 1015



Desert Sand | PAN 155

PALOAPAQUE™ Project Gallery

Recreational & Public Facilities

Project: Sports club | Installation: PALOAPAQUE™ Green shades and Orange with welding rods



Project: Public school kitchen | Installation: PALOAPAQUE™ White with profile system



Decorative Cladding

Project: Youth club | Installation: Printed PALOAPAQUE™ and profiles



Project: Designed Door Skins | Installation: Various PALOAPAQUE™ colored panels cut and glued



Food Preparation

Project: Pizzeria | Installation: PALOAPAQUE™ White and Red with profile system



Pharmaceutical Industry

Project: Pharmaceutical plant | Installation: PALOAPAQUE™ White with profile system



PALOPAQUE™ SF (Anti-Static)

Overview

PALOPAQUE SF has a built-in mechanism that prevents static electricity buildup. By reducing the electric charge generation on the sheet's surfaces, PALOPAQUE SF avoids partial attraction and electrostatic discharge (ESD) towards the human body and equipment. Preserving all benefits of standard PALOPAQUE, it offers greater efficiency in achieving static-free areas for industry and healthcare, including anti-static wall cladding, door skins, machine covers and more. The anti-static feature of PALOPAQUE SF is active throughout the sheet and will not be affected by fabrication and scratches.

Main Benefits

- ✓ Prevents buildup of anti-static charge
- ✓ Anti-static feature is not affected by fabrication and scratch
- ✓ Retains all features of standard PALOPAQUE

Typical Applications

- Clean rooms and sterile manufacturing areas
- Storage rooms
- Semiconductors industry

Project: IT server room at an industrial plant | **Installation:** PALOPAQUE™ SF White with profile system





PALOPAQUE™ HYG

Active Antimicrobial Protection

Palram's HYG technology sets a higher standard for hygienic cladding and facilitates high levels of sanitation. Breakthrough HYG products incorporate silver ions, a natural antimicrobial agent with proven biocidal behavior that highly inhibits microbe reproduction. With silver ions, HYG products bring active microbe elimination to a whole range of applications, taking hygienic care one step further.

PALOPAQUE HYG have either killed or inhibited the growth of all the pathogens tested to date. This includes microorganisms that can affect the appearance of the panel. Since silver ions are uniformly distributed throughout the panel, a scratched or damaged surface will be equally effective.

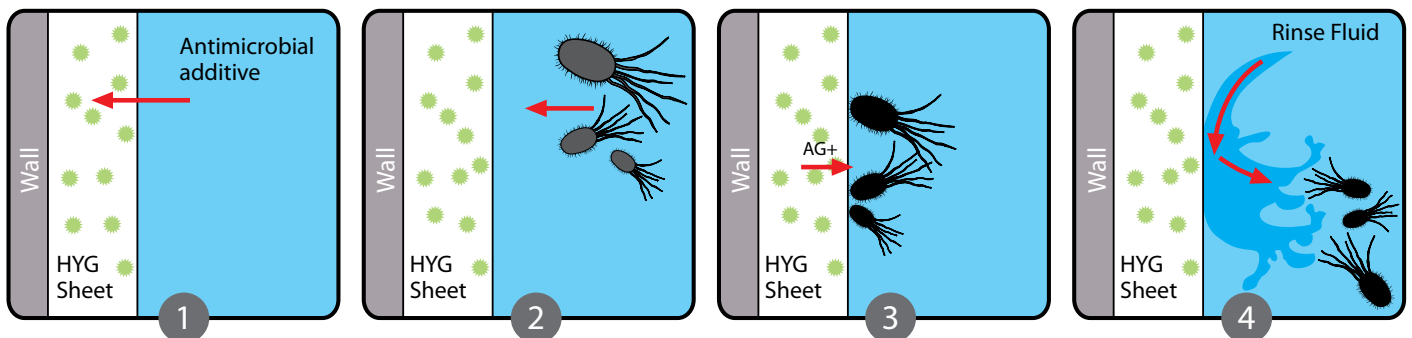


Main Benefits

- ✓ Active protection from various microbes
- ✓ Biocidal capabilities proven by independent tests
- ✓ Long lasting antimicrobial effect
- ✓ Formable: HYG properties are maintained throughout the product's lifetime.

How Does HYG Technology Work?

Silver ions are incorporated into the PVC compound before the extrusion process, and improve the already existing antimicrobial activity of the rigid PVC panel. They enable the panel to kill a wide variety of microbes on contact, including those resistant to antibiotics.



1 PALOPAQUE HYG is installed as wall cladding.

2 Microbes approach the wall.

3 Upon contact, active silver ions are transferred onto the microbes, cease their mitosis and ultimately eliminate them.

4 Dead microbes are removed by simple cleaning routine.

PALOAPAQUE™ HYG Project Gallery

Hospitals

Project: Operating room | Installation: PALOAPAQUE™ HYG Beige with welding rods



Project: Operating room | Installation: PALOAPAQUE™ HYG Beige with profile system



Project: Hospital operating theatres and other facilities | **Installation:** PALOAPAQUE™ HYG White with welding rods



Project: Maternity ward | **Installation:** PALOAPAQUE™ HYG with profile system



Food Industry

Project: Laboratory at a food manufacturing plant | Installation: PALOAPAQUE™ HYG White with welding rods and profile system



Sanitation

Project: Hospital toilet and shower | Installation: PALOAPAQUE™ HYG with profile system



PALOPAQUE™ Technical Data

Standard Dimensions

Width x Length mm (inch)	Thickness mm (inch)
1220 x 2440 (48" x 96")	1 to 15 (0.04" - 0.59")
1000 x 2000 (39" x 79")	1 to 10 (0.04" - 0.4")
1500 x 3000 (59" x 118")	1 to 6 (0.04" - 0.24")

* Custom dimensions are available, subject to a minimum quantity.

Flammability

HYG panels are self-extinguishing and comply with the most demanding international fire resistance standards defined in the field of plastics, as indicated by representative results in the attached table.

Standard	Classification
EN 13501	B, s3, d0
DIN 4102	B-1
BS 476/7	Class 0
NSP 92501,5	M-1
ASTM E 84	Class A

Resistance to Chemicals

PALOPAQUE and Palram's cladding accessories have excellent resistance to a wide range of chemicals. A detailed chemical resistance list is available on the Palram website and from your Palram distributor.



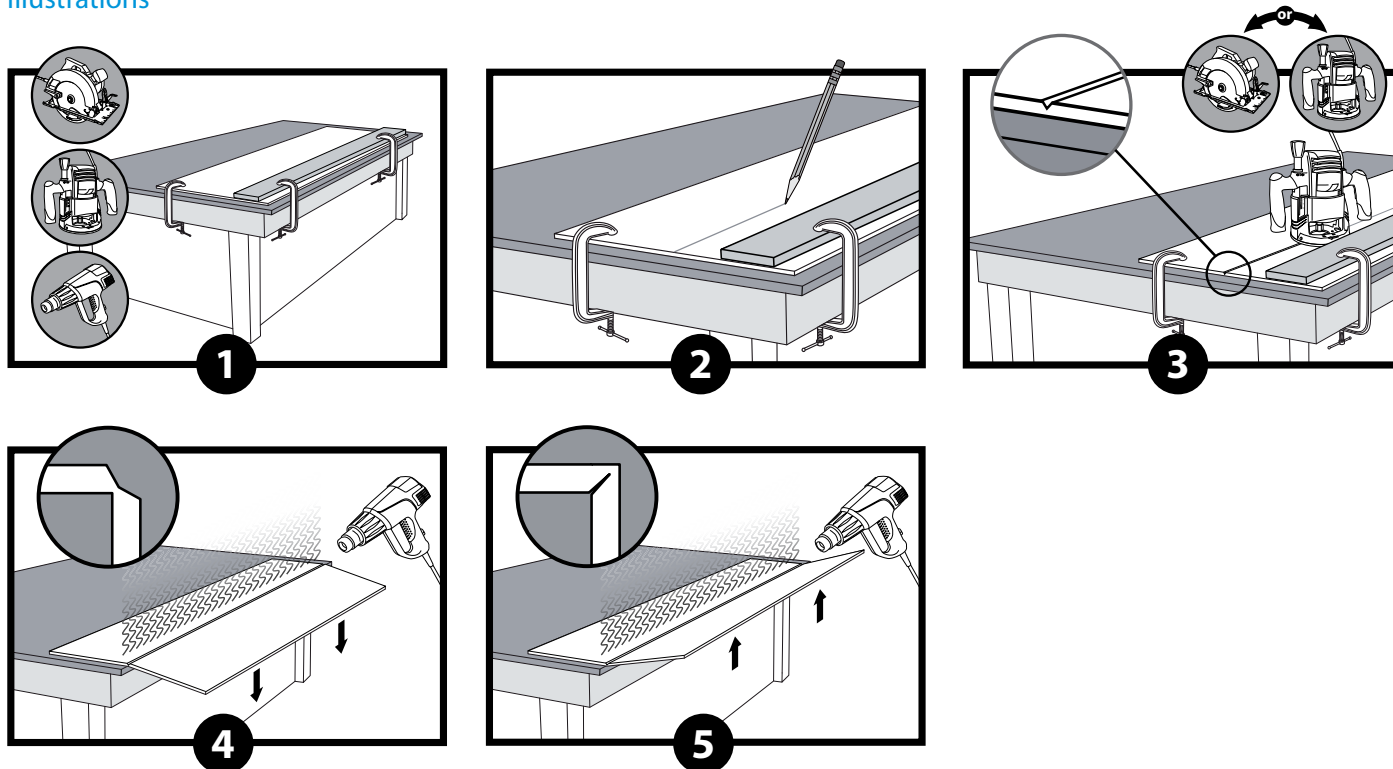
Grooving and Bending for Corner Installation

Installation Guidelines

The following guidelines relate to the corresponding illustrations below.

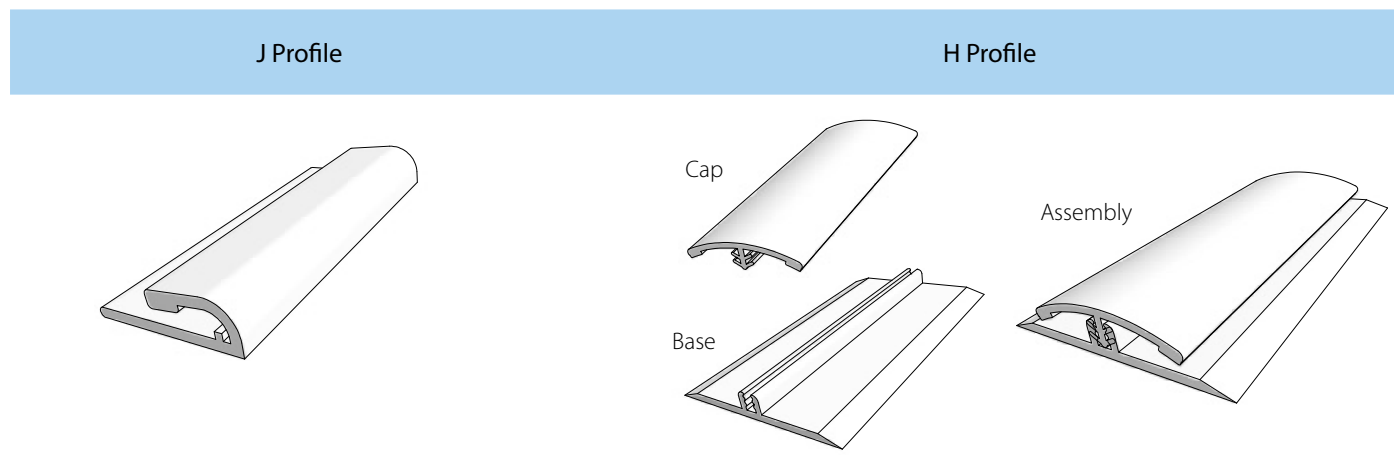
Illustration	Guidelines
1	Measure the distance from the panel edge to the corner. Place the panel on a working surface and secure it.
2	Draw the bending line on the back side of the PALOPAQUE panel.
3	It is advised to prepare a groove on the back side ,prior to bending, along the marked line. The depth should not exceed half the thickness of the panel.
4	For internal corners, place the groove over a straight table corner and use an industrial hot blower to soften the groove. The panel temperature must not exceed 70°C. Once softened, bend down to the desired angle.
5	For external corner place the grove over a straight table corner and use a hot industrial fan to soften the groove. Once softened, bend up to the desired angle.

Illustrations



Cladding Installation Guidelines for Palram Profiles

Palram Cladding Profiles



Preparation

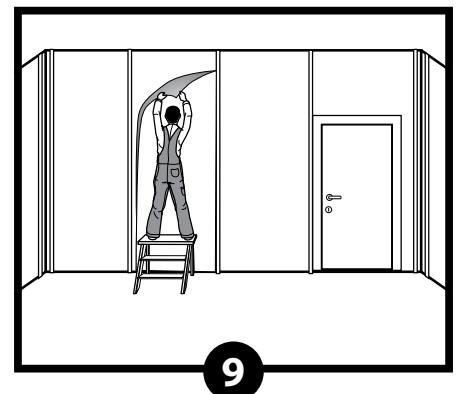
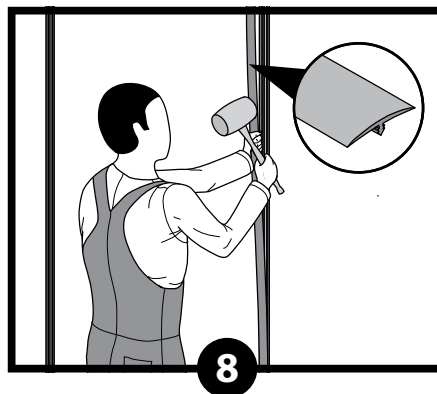
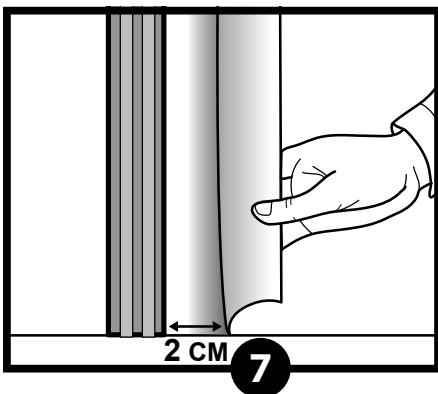
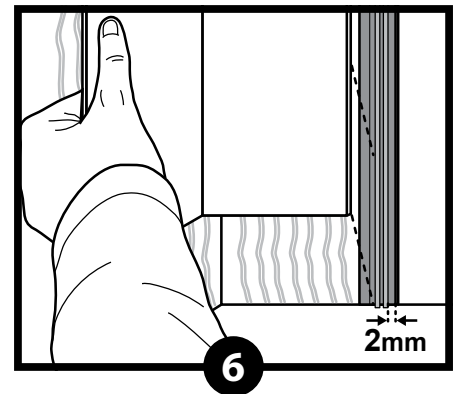
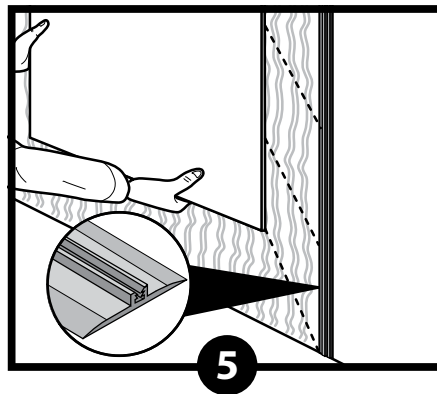
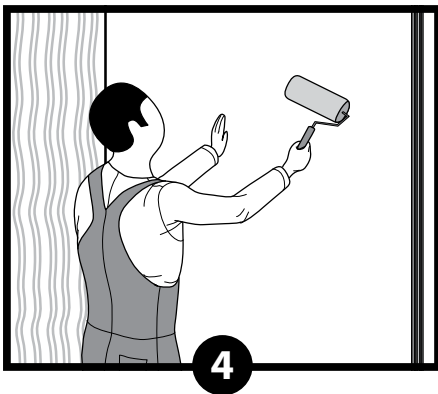
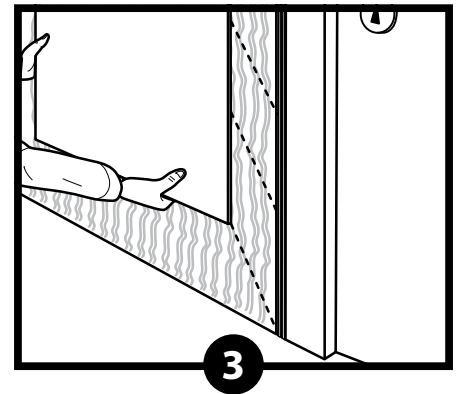
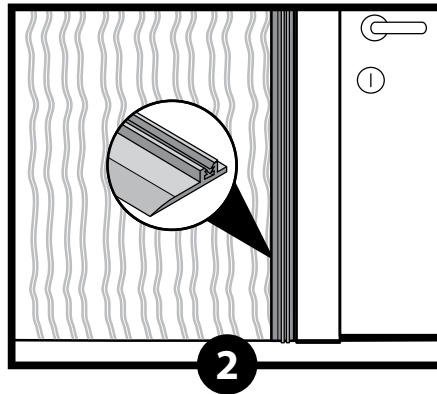
- Store panels on a flat surface and away from direct sunlight.
- Panels should be acclimated to room temperature for 24-36 hours prior to installation.
- Walls should be reasonably level and flat. Remove high spots and fill dents.
- All surfaces must be clean and dry.
- If necessary, cut the panels and profiles to suitable dimensions for the intended surface.

Installation Guidelines

The following guidelines refer to the corresponding illustrations in the next page.

Illustration	Guidelines
1	Apply the glue on the wall according to the instructions of the glue manufacturer. When using Palram glue, please note that its color should turn from white to clear, usually within 20-30 minutes.
2	Position and attach a trimmed H base or a profile to the wall.
3	Attach the first PALOPAQUE panel to the wall and profile.
4	Apply pressure to the entire Panel to ensure good adhesion and removal of trapped air.
5	Position the H section base and leave at least a 2 mm gap for expansion (See illustration 6). Repeat steps 2 + 3 + 4.
6	Internal and external corners should include prepared grooves. See "Grooving and Bending for Corner Installation" on page 17.
7	When all panels are in place, peel off the edges of the protective film approximately 2cm from edge.
8	Attach the profile caps onto the bases using a rubber mallet.
9	Peel off the protective films after all other jobs on site are finished.

Illustrations



Cladding Installation Guidelines for Palram Welding Rods

Preparation

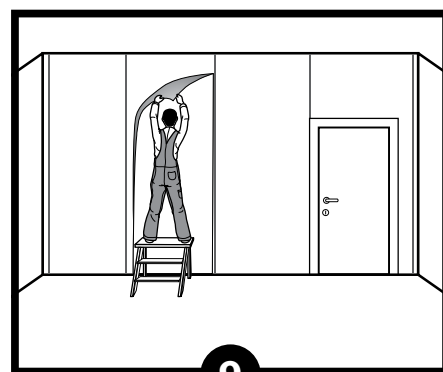
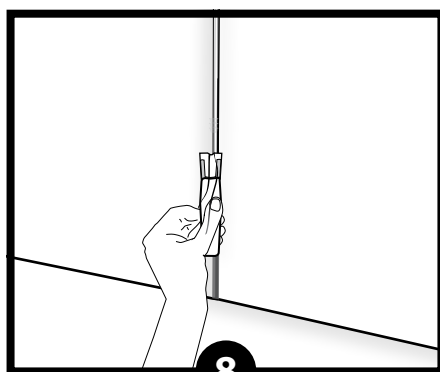
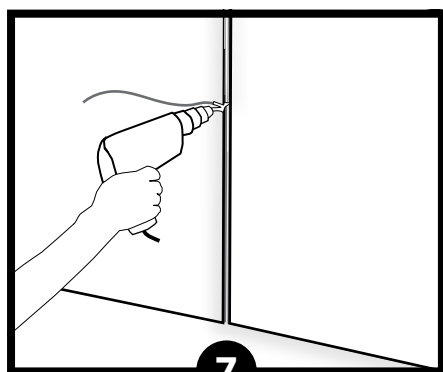
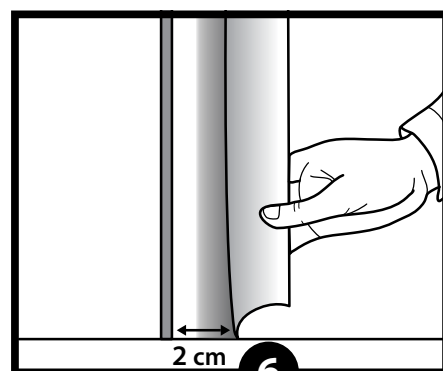
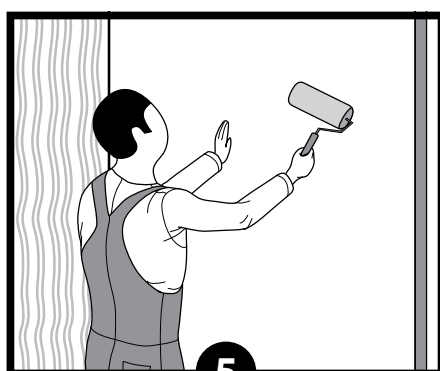
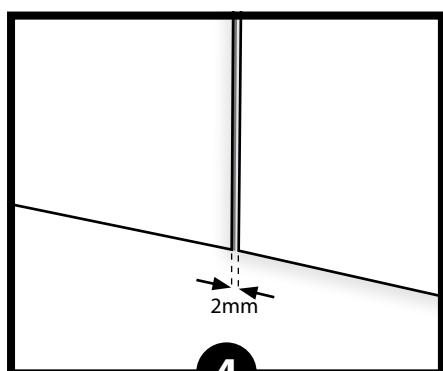
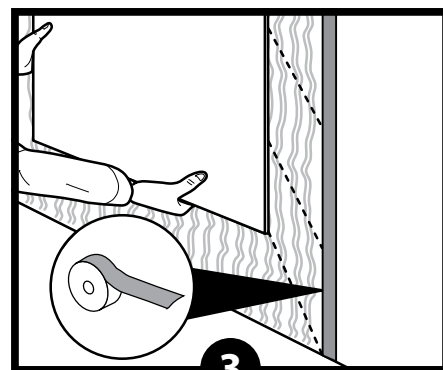
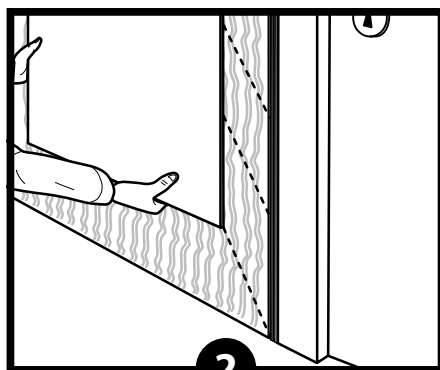
- Store panels on a flat surface and away from direct sunlight.
- Panels should be acclimate to room temperature for 24-36 hours prior to installation.
- Walls should be reasonably level and flat. Remove high spots and fill dents.
- All surfaces must be clean and dry.
- If necessary, cut the panels to suitable dimensions for the intended surface.
- Use appropriated tools for welding. For tool recommendations please contact your Palram distributor.

Installation Guidelines

The following guidelines relate to corresponding illustrations in the next page.

Illustration	Guidelines
1	Apply the glue on the wall according to the instructions of the glue manufacturer. When using Palram glue, please note that its color should turn from white to clear, usually within 20-30 minutes.
2	Attach the first panel to the wall.
3	It is recommended to place a bonding tape (two sided adhesive) between the wall and panels. This small overlap between both panels will prevent the glue from penetrating the 2 mm gap used for welding.
4	Attach the rest of the panels and ensure a 2 mm gap between them.
5	Apply pressure to the surface of the Panel in order to ensure good adhesion and removal of any trapped air.
6	After all of the panels are in place and prior to welding, peel off the edges of the protective film approx. 2cm from edge.
7	Weld the panels using Palram welding rod at a temperature of 140°C.
8	Trim the welding rod using a suitable trimming knife. For tool recommendations please contact your Palram distributor.
9	Peel off the protective films after all other jobs on site are finished.

Illustrations



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