

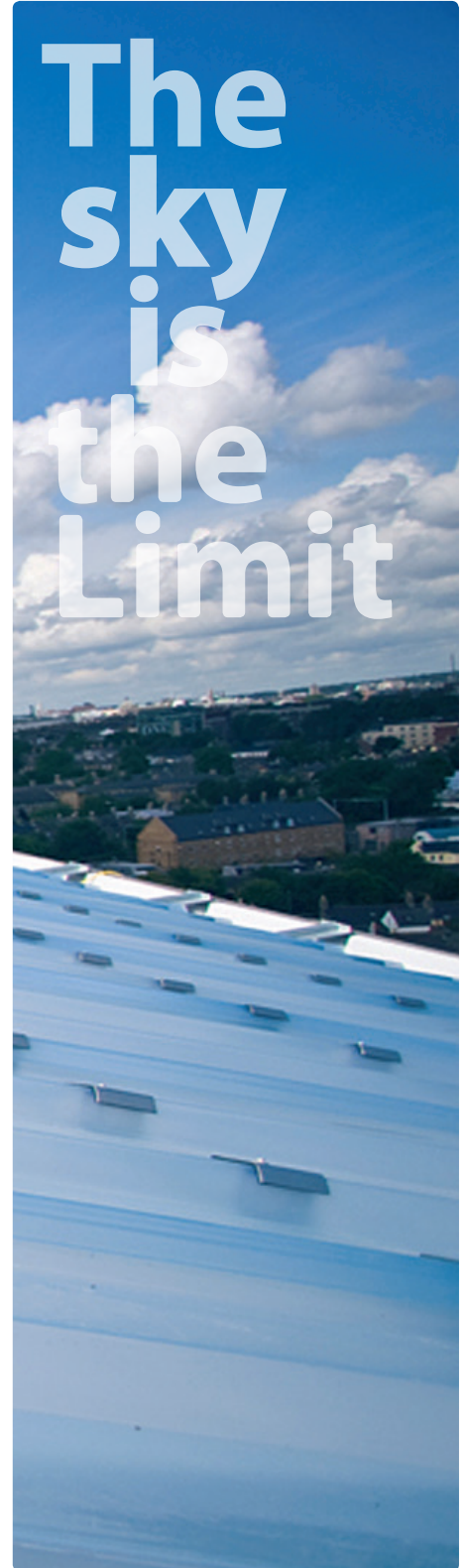


SUNTUF[®]

Corrugated Polycarbonate Sheet



SUNTUF® Corrugated Polycarbonate Sheet



Content

About Palram	2
Introduction	3
Unlimited Profile Matching	3
SUNTUF® Main Benefits	4
SUNTUF® Product range	8
Color Availability	8
Compatible Adhesives & Sealants	9
Weather Resistance	9
Resistance to UV Radiation	9
Protection from the Harmful Effects of UV Radiation	9
SUNTUF® Applications	10

About Palram

A Global Leader in Thermoplastic Sheets

Palram Industries Ltd is a leading multinational manufacturer of thermoplastic sheets, 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

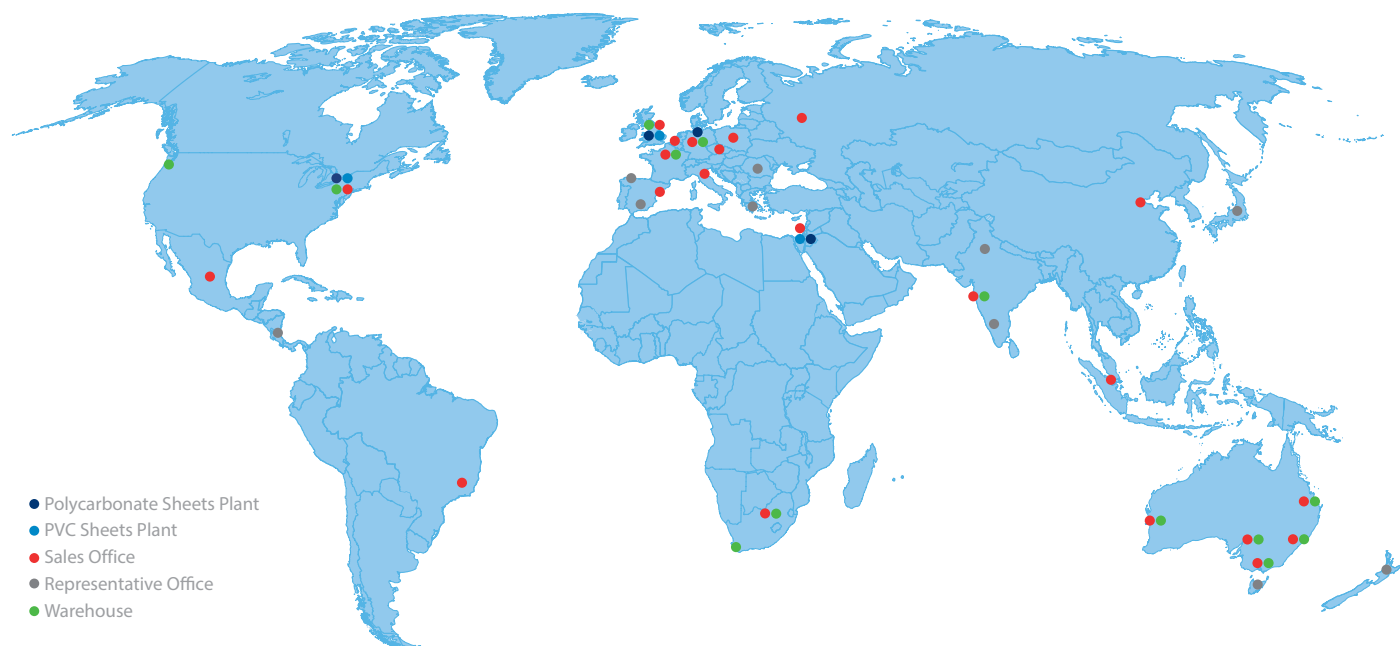
As part of the high quality sheet production tradition, Palram is constantly adapting new technologies to refine the existing manufacturing methods. The accumulated production knowledge and technology results in an ever growing product range, which allows specific matching of the most suitable product to be matched to each project.

Polycarbonate Corrugation Expertise

Palram has pioneered the production of corrugated polycarbonate sheets in 1985 and has maintained its leadership through constant research and innovation. Among our in-house developments is the breakthrough profile matching technology that enables almost infinite corrugation flexibility in SUNTUF sheets. Our polycarbonate corrugation know-how allows us to stretch SUNTUF specifications beyond standard boundaries and offer unique product characteristics.

Global Presence

Palram operates production plants in Europe, the Americas and on the shores of the Mediterranean, allowing close logistic support and SUNTUF supply.



Introduction to SUNTUF®

SUNTUF offers the excellent properties of polycarbonate in a durable corrugated structure. Its mechanical robustness, high light transmission, UV blocking, weather resistance and low weight make it superior to many alternatives. Coupled with Palram's manufacturing capabilities, SUNTUF is ideal for almost any roofing application, stadia or pergola, rooflight or cladding.

Unlimited Profile Matching

On top of SUNTUF's large profile catalog, it can be matched to any given pre-existing or custom ordered corrugation profile using Palram's proprietary production technology. The service is free of charge and does not delay supply schedules.

Benefits of SUNTUF Profile Matching

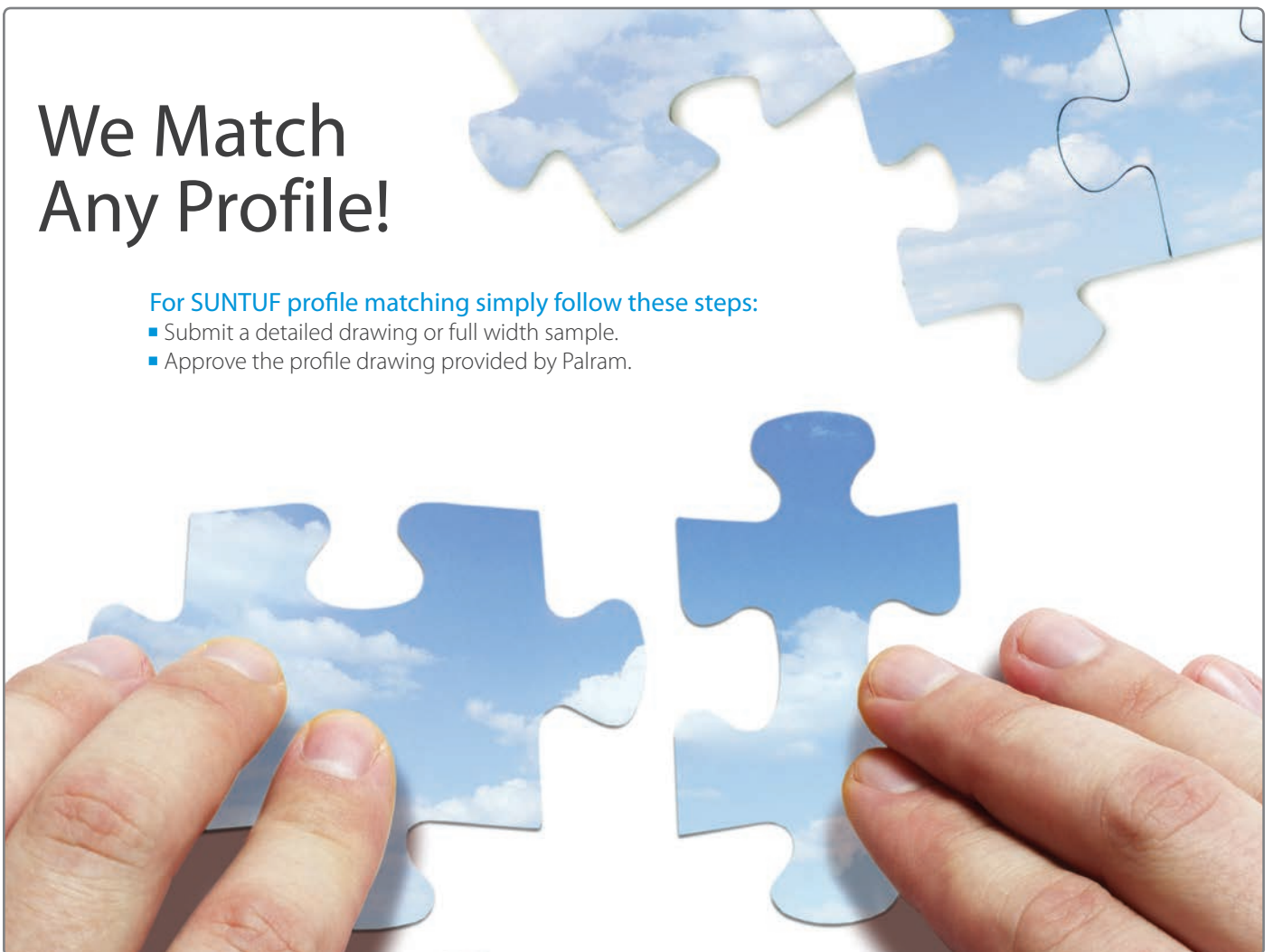
- Maintain an even and consistent roof assembly
- Simple and easy installation
- Rooflight implementation with no additional fittings
- Reduce duration and cost of the installation
- Maximum impermeability
- Maximum flexibility in new roof designs
- Maximum flexibility when matched to existing roof

SUNTUF is currently available in over 300 known profiles. For a complete profile listing please see "SUNTUF Rooflights Profile Catalog" available from the SUNTUF product page on www.palram.com.

We Match Any Profile!

For SUNTUF profile matching simply follow these steps:

- Submit a detailed drawing or full width sample.
- Approve the profile drawing provided by Palram.

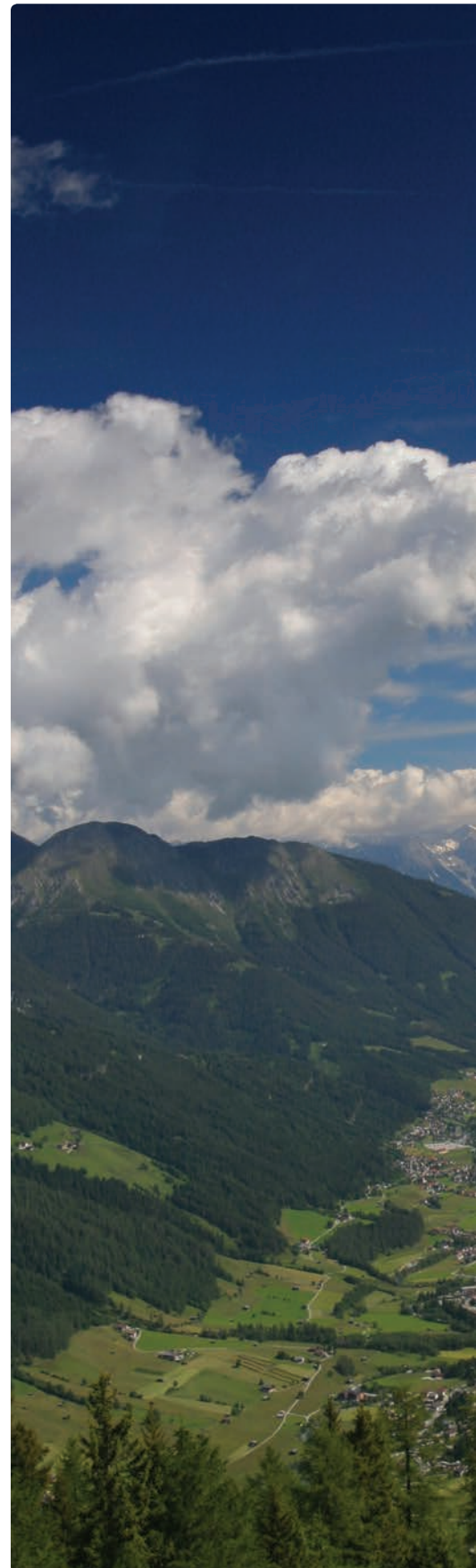


SUNTUF® Main Benefits

Strength



SUNTUF is manufactured from virtually unbreakable polycarbonate. It is extremely resistant to impact, hail and snow or wind loads.



Lightweight



Light in weight, SUNTUF is easy to handle and install.

Clarity



Natural, clear SUNTUF exhibits the clarity of glass, transmitting up to 90% of natural light.

Weather Resistance



SUNTUF resists wind, hail and extreme temperatures ranging from -50°C to $+120^{\circ}\text{C}$. An integrated UV protective layer enables SUNTUF to retain its transparency without yellowing over the course of a long service period.

Long Life



SUNTUF retains its attractive appearance over a long service time with minimum maintenance, backed by a 10 year warranty.



Protection



SUNTUF completely shields from harmful UV radiation and meets many fire rating standards.

SUNTUF® Product Range

Product	Description
SUNTUF®	Corrugated polycarbonate sheet with integrated UV protective layer on one side.
SUNTUF® UV2	Corrugated polycarbonate sheet with integrated UV protective layer on both sides.
SUNTUF® Plus*	UV protective layer on the exterior side and anti-condensation treatment applied to the interior side.
SUNTUF® Solar Control*	Transmits selected percentages of daylight (20%, 35%, or 50%) while reflecting and absorbing some of the heat-generating Infrared radiation.
SUNTUF® Embossed*	Embossed or Hair Cell finish on one sides.
SUNTUF® Smart	Advanced heat blocking combined with low haze.

*Also available with co-extruded UV protective layer on both sides.

Colors

Group	Description	Colors
Clear	Transmits up to 90% natural daylight, resulting in high lighting within the structure.	 <p>Clear</p>
Transparent	Low haze colors offering high clarity. Breeze and Smart colors offer advanced heat blocking that reduces heat buildup while allowing a clear view through the sheet.	    <p>Solar Gray Bronze Sky Blue Transparent Green</p>   <p>Smart Gray Breeze</p>
Translucent	<p>White Opal: Transmits 24-45% visible light with high light dispersion, produces mild and even lighting within the structure.</p> <p>Diffuser: Transmits 85% visible light with complete light dispersion, produces diffused and consistent lighting within the structure.</p>	    <p>White Opal White Diffuser Solar Control (Solar Metallic Grey) Solar Ice</p>   <p>Mist Green Smooth Cream</p>
Opaque	Colors that transmit very little to no light.	    <p>White Green Blue Red Brick</p>

Adhesives & Sealants Compatibility

Although SUNTUF resists the majority of widely available adhesives and sealants for roof installations, some of the products are not chemically compatible with SUNTUF and are not allowed to be used in installations. For a complete listing please refer to "Recommended Adhesives and Sealants for Palram Polycarbonate Products", which is available as part of the SUNTUF marketing kit or from your local distributor. The list also appears on the Palram global website (www.palram.com). Palram offers compatibility tests for specific sealing materials submitted through an authorized representative.

Weather Resistance

SUNTUF will resist all that nature has to offer. Wind will not buckle it. Hail bounces off. Extreme temperatures will not render or brittle it.

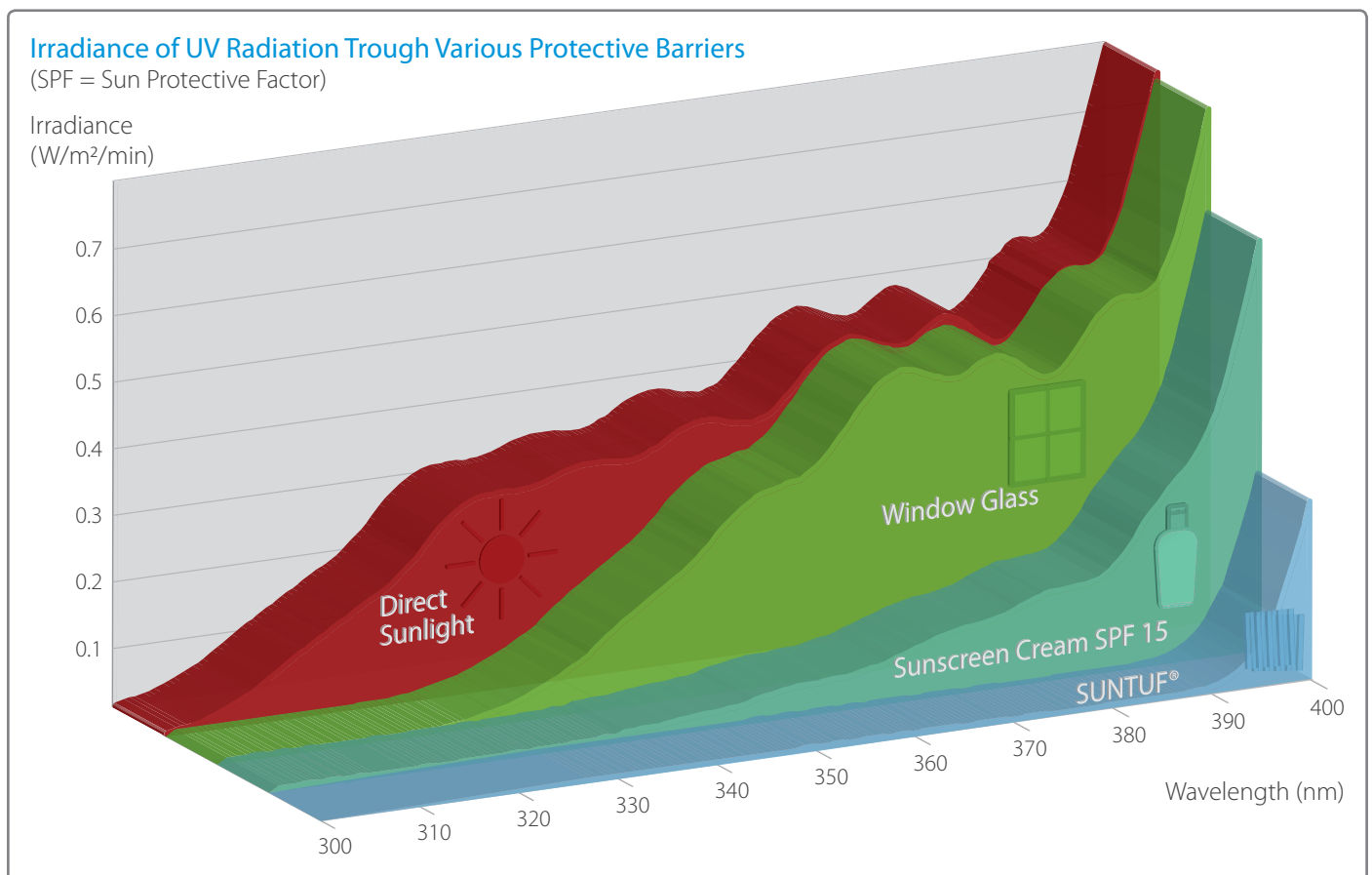
Resistance to UV Radiation

SUNTUF is manufactured with an integrated UV resistant layer that will not separate or peel over time. Accelerated weathering tests in laboratory conditions (2000 hours QUV, equivalent of 20 year of exposure) show a negligible decrease in light transmission, and invisible increase in yellowness index.

Protection from the Harmful Effects of UV Radiation

Exposure to Ultraviolet (UV) solar radiation is a well known and major health concern. In addition to skin cancer, premature aging has been associated with exposure to UV. SUNTUF sheets completely block out UV radiation.

The graph below shows a comparison of the UV protection offered by SUNTUF and alternative factors. The graph clearly shows that no barrier is as effective as a SUNTUF sheet. Activity under SUNTUF will be more protected than that offered by proper application of sunscreen, though the latter is sufficient in most cases.



Typical Applications

Construction and Architecture

SUNTUF's unique characteristics and endless specification options can be stretched to match unique architectural designs and help achieve a sophisticated look.

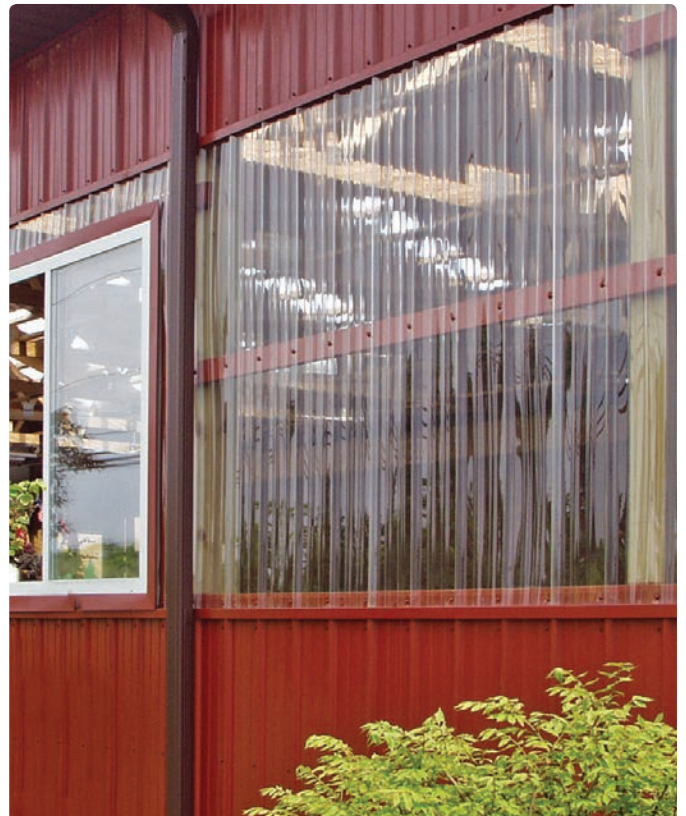
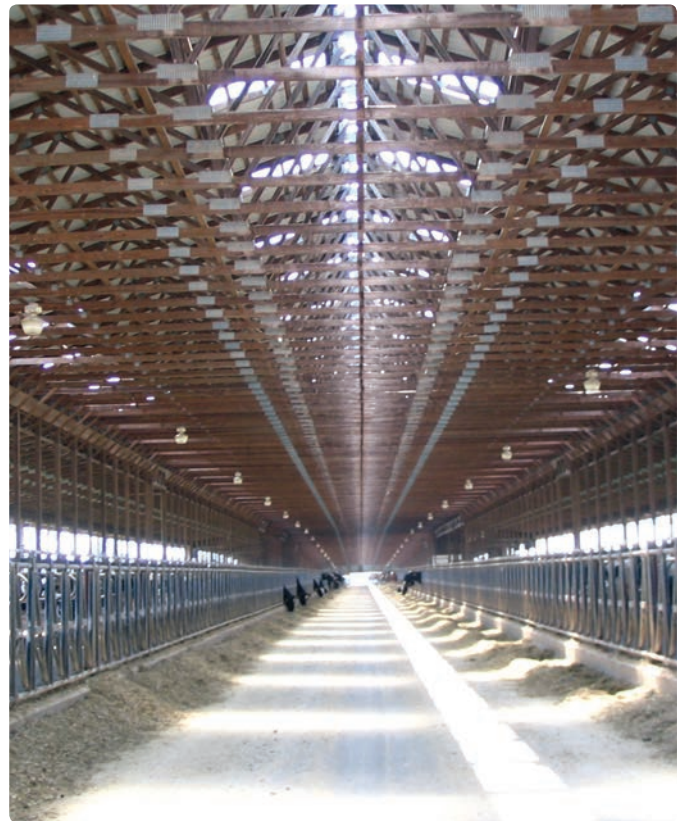
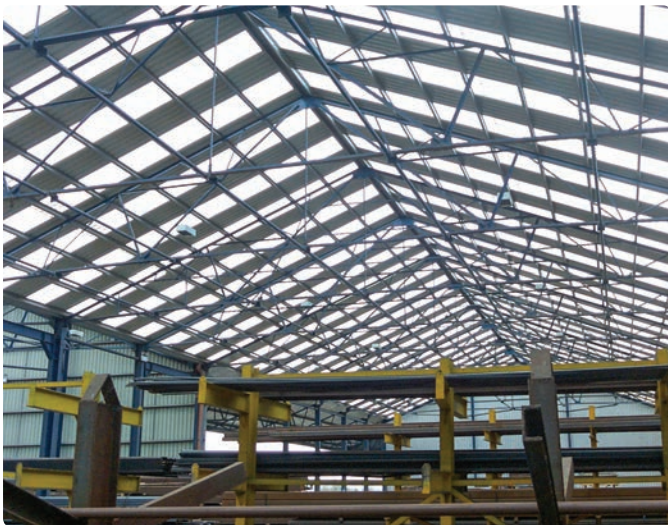
- Roofing and siding in architectural, industrial and public buildings.
- Canopies and awnings
- Garages
- Swimming pools
- Partitions
- Covered walkways and sidewalks



Rooflights (Industrial Skylights)

SUNTUF offers high light transmission and unlimited profile matching, which makes it ideal for nearly any given structure. Color and solar properties have virtually endless specification options that can be defined to create specific climatic and lighting conditions within the structure.

- Rooflights and skylights
- Sidelights



Typical Applications

Do It Yourself & Residential

SUNTUF is lightweight and extremely easy to handle and install. The sheets will shield from harmful UV radiation, maintain their appearance with minimum maintenance and withstand extreme weather conditions for well over 10 years.

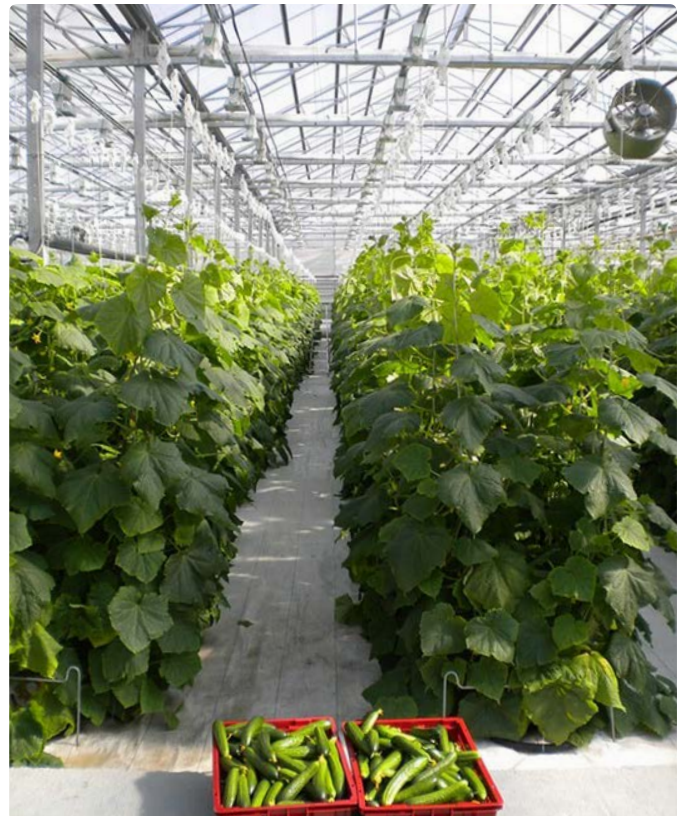
- Pergolas, canopies and awnings
- Patios and porches
- Parking shelters
- Domestic swimming pools
- Sun rooms
- Outdoor play or family areas
- Hobby greenhouses



Agriculture

SUNTUF® Plus prevents condensation drip through a special built-in feature. Various types can be selected from in order to transmit or diffuse desired amounts of natural daylight for optimum plant growth.

- Commercial greenhouses
- Hobby greenhouses
- Garden centers
- Barns
- Livestock sheds





PALRAM H.Q.

Tel: +972 4 8459900
Fax: +972 4 8444012
palram@palram.com
www.palram.com

PALRAM EUROPE LTD.

Tel: +44 1302 380777
Fax: +44 1302 380778
sales.europe@palram.com
www.palram.com

PALRAM AMERICAS

Tel: 2859918
Fax: 2859928
palramamericas@palram.com
www.palramamericas.com



71954-05.2019

All marketing materials and any content therewith provided by Palram® are provided solely for the purpose of supporting and enhancing the marketing of Palram® products. These materials are protected by Palram's intellectual property rights and may not be used for any other purpose or in connection with the sale of products of any other manufacturer. These materials may not be transferred to or used by any third party without prior permission of Palram.

In as much as Palram Industries has no control over the use to which others may put the material, it does not guarantee that the same results as those described herein will be obtained. Each user of the material should make his own tests to determine the material's suitability for his own particular use. Statements concerning possible or suggested uses of the materials described herein are not to be construed as constituting a license under any Palram Industries patent covering such use or as recommendations for use of such materials in the infringement of any patent. Palram Industries or its distributors cannot be held responsible for any losses incurred through incorrect installation of the material. In accordance with our company policy of continual product development you are advised to check with your local Palram Industries supplier to ensure that you have obtained the most up to date information.

©1997 Palram Industries Ltd. | SUNTUF is a registered trademark of Palram Industries Ltd.

