

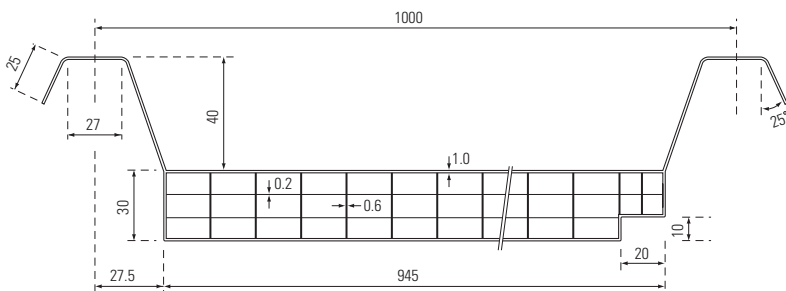


Product Data Sheet

Lexan® Thermopanel Sheet LTP30E/4RS3.6

Introduction

Lexan polycarbonate is a unique engineering thermoplastic which combines a high level of mechanical, optical and thermal properties. When extruded in multi-wall sheet form with calibrated side wings, its optical and impact properties in particular render this panel highly suitable as roofglazing for insulated corrugated metal industrial buildings. Lexan Thermopanel sheet, LTP30E/4RS3.6, is an impact resistant, energy saving multi-wall transparent sheet with calibrated multi form side wings matching any insulating corrugated metal panel.



Lexan Thermopanel Sheet LTP30E/4RS3.6 offers:

- Four wall structure offering excellent thermal insulation
- UV protected surface
- Long-term weather resistance
- High impact strength
- Good light transmission and light diffusion characteristics
- Extremely high stiffness
- Easy and fast installation

Property Profile LTP30E/4RS3.6		Test Method
Panel body part	945 mm (+4 mm; -2 mm)	
Standard length	<6 meter -0 +20 mm, >6 meter -0 +30 mm	
Panel thickness	30 mm ±0.8 mm	
Weight	3.6 kg/m ² ±5%	
Gardner impact	< 40 joules	
Temperature resist.	-40 up to +100°C	UL 746 B
K-Value	1.9 W/m ² ·K	NEN2444
Sound insulation	≤ 22dB	DIN 52210-75
Coeff.of linear thermal expansion	7 x 10 ⁻⁵ 1/C	DIN 53752
Light transmission	52% ±5% / 67% ±5%	ASTM D1003
Solar transmission	67% ±5% / 76% ±5%	DIN 67507
Color	opal white / transparent 112	



Impact Strength

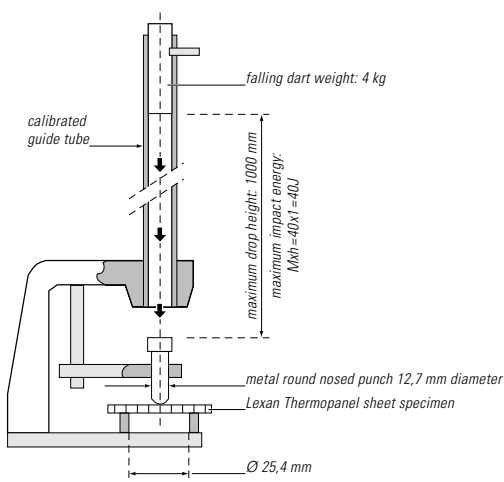
Lexan Thermopanel sheet has outstanding impact performance over a wide temperature range of -40°C to +100°C. The product has been shown capable of withstanding the extremes of weather : storms, hail stones, snowfall, and ice formation.

Gardner Impact

When tested according to the Gardner falling dart impact test, the maximum impact energy of 40 joules does not show any visible signs of surface cracks.

The principle of the GE Plastics modified Gardner falling dart impact test is as follows: The specimen is placed over a hole of 25.4 mm diameter in a die mounted on the anvil. The round nosed dart, 12.7 mm diameter is placed upon the specimen. The dart with a mass of 4.0 kg. is raised to the desired height in a 1.0 meter calibrated tube, and dropped. The maximum applied impact energy is given as:

$$m \times h = 40 \times 1 = 40 \text{ Joules}$$



Lexan Thermopanel sheet is backed by a Ten Years Limited Warranty covering loss of strength or impact performance due to weathering.

Soft body impact

Lexan Thermopanel sheet withstands also the impact performance requirements for roof glazing set in BS 6206. In BS 6206 the roof glazing is subjected to impact from a 45 kg mass dropped from 1200 mm.

Light transmission

Transparent Lexan Thermopanel sheet has a light transmission value of 67% \pm 5%. And is almost opaque to radiation in the UV region which helps prevent discoloration of sensitive and valuable materials placed under or behind Lexan Thermopanel sheet.

UV Protection

Lexan thermopanel sheet has one proprietary UV protected surface to help protect the system against the degrading effects of ultra violet radiation of sunlight and ensures long-term optical quality under all kind of severe weather conditions.

Warranty

GE Plastics offers a Ten Year Limited Warranty on Lexan Thermopanel sheet covering discoloration, loss of light transmission and loss of strength due to weathering. See warranty for exact details.

Solar Control

For buildings with south facing aspects, Lexan Thermopanel sheet is available in translucent opal white color. This color with a light transmission of 52% and a solar transmission of 67% cuts down the brightness of the sun and reduces the solar heat gain through the panel.

Thermal Insulation

The multi-wall structure of Lexan Thermopanel sheet offers potential advantages where thermal insulation is a major consideration. The amount of energy transmitted through the material per square meter and per degree temperature difference, referred to as the K or U-Value is only 1.9 W/m².K.

Temperature Resistance

Lexan Thermopanel sheet is characterised by its excellent retention of impact strength and stiffness at elevated temperatures, even over an extended period. Lexan Thermopanel sheet has a continuous use temperature rating of -40°C up to +100°C.

Fire Test Performance

Lexan Thermopanel sheet has good fire performance in accordance with national fire standards.

More detailed information is available from GE Structured Products Service Center or your local authorised dealer.

General Guidelines

Storage

Lexan Thermopanel sheet should be stored and protected against atmospheric influences like rain, sun etc.

The masking should not be removed before installation.

Sawing / drilling

Lexan Thermopanel sheet can be cut easily and accurately with standard workshop equipment. This includes common circular, hand and hacksaws both with fine toothed blades.

The panel should be clamped to the worktable to avoid undesirable vibration and the saw dust should be blown out of the channels.

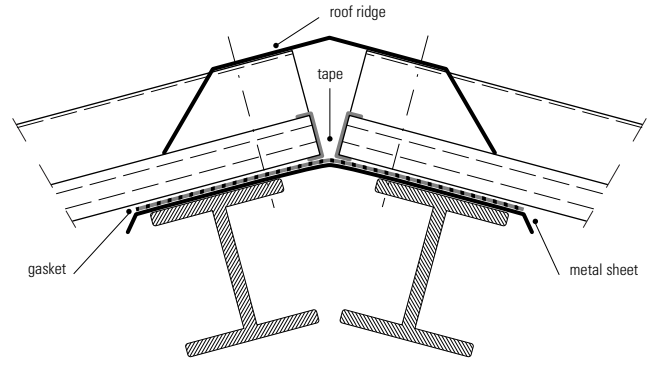
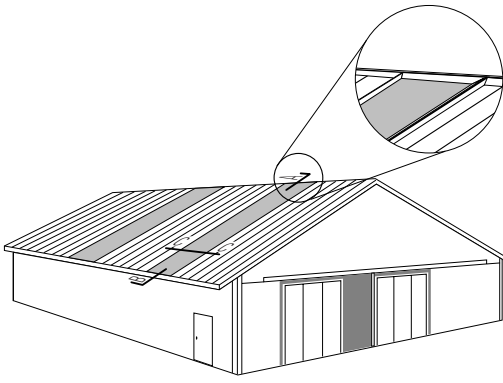
Holes in the side wings can be drilled by a hand or power drill using a metal working bit. When drilling, support should be given immediately beneath the drill.

Sealing Recommendations

Since moisture build up and dust contamination inside the channels could be a problem, edge sealing of the open ended channels is very important. An anti dust impermeable tape, for the top channel ends, and an anti condensation venting tape, for the bottom channel end, have been developed by the company Multifoil - Holland; tel +31 30 2896333 fax +31 30 2894545.

In extreme dusty environments such as saw mills, welding stations etc. it is usually advisable to seal the both channel ends with an impermeable tape.

No tape should be left exposed and therefore additional aluminum or metal 'U' profile covering the tapes is required.

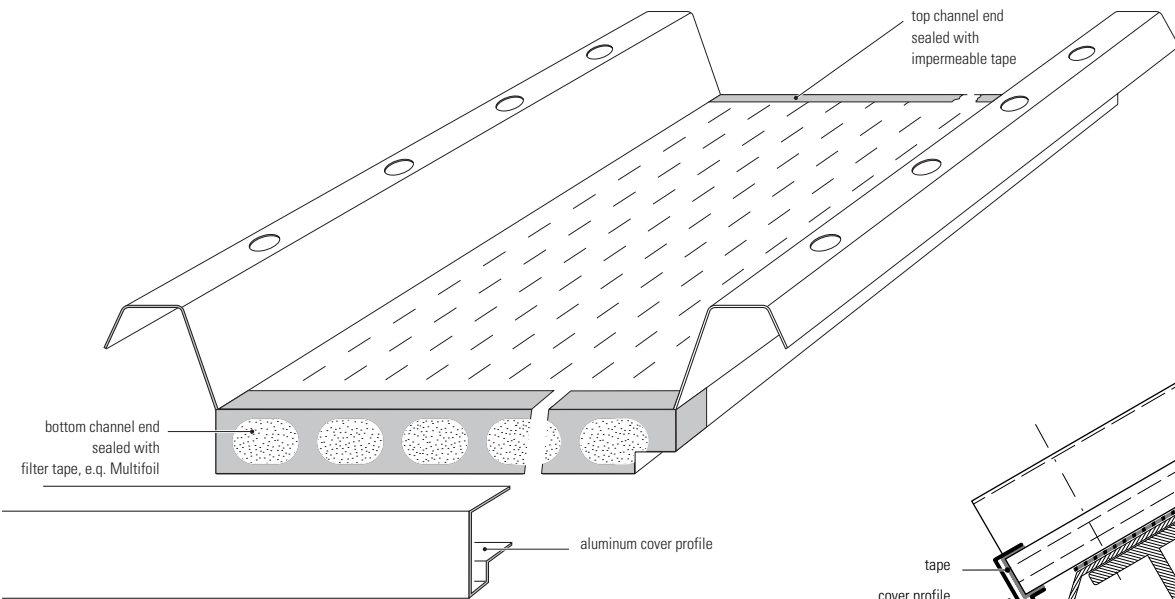
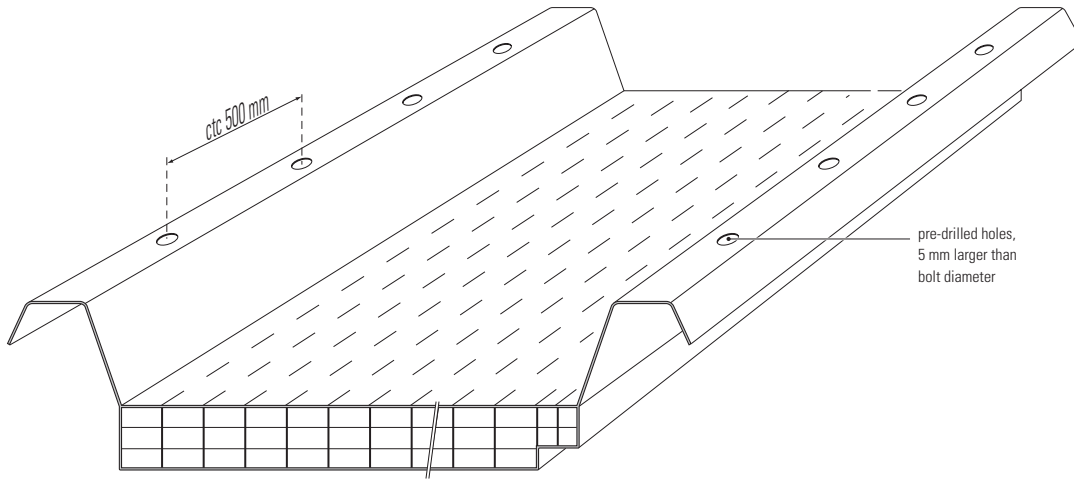


Section A

Roof glazing

Lexan Thermopanel sheet will be mainly used as roof lights covering the roof from ridge to eaves.

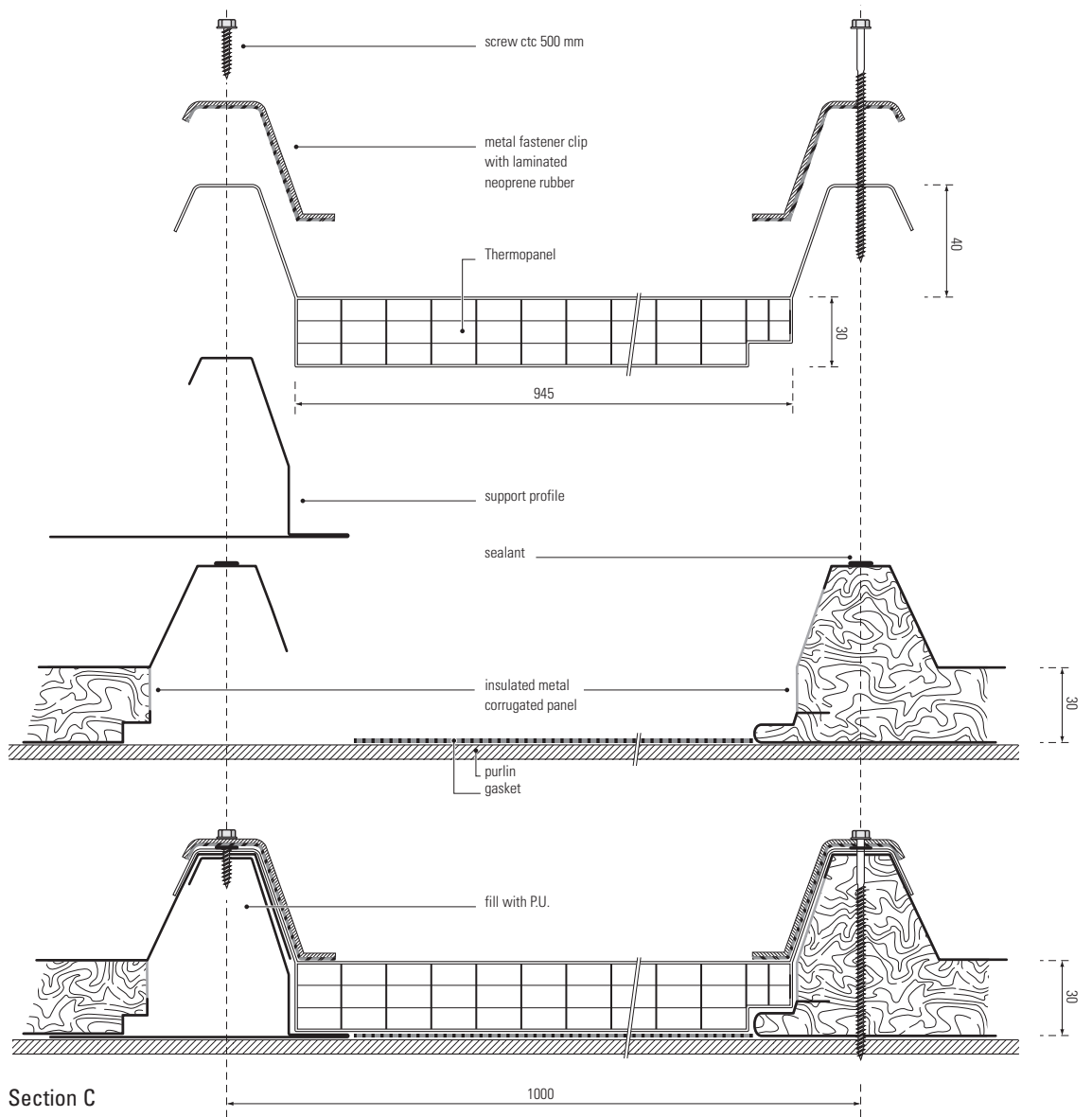
To obtain a water tight connection on the roof ridge well known metal flashing accessories can be used. See section A. Fixing holes at the both side wings must be pre-drilled approx. 5 mm larger than the diameter of the shank of the fixing to allow for thermal expansion. The center to center distance between the fixings may not exceed 500 mm.



Section B

To cover the tape and to facilitate condensation drainage out the channels a 'U' profile as indicated on section B is suggested.

To avoid sheet damaging and to restrict the rattle noise effect during extreme wind pressure/suction it is recommended to apply a neoprene or foam gasket on the metal purlins.



Section C

Metal fastener clips with laminated neoprene rubber, as indicated above, can be used to fix the side wings of the Lexan Thermopanel sheet with bolts to the sides of the metal corrugated insulated panel. The metal fasteners forced the Lexan Thermopanel sheet downwards and hold it in place during loading.

The arised empty place on one side between the metal corrugated insulated panel and the multi-wall part of the Lexan Thermopanel sheet must be filled with a metal support profile, filled with P.U.

As an alternative an infill piece may be cut out the metal corrugated insulated panel.

It is recommended to use a barrier system, such as Polyester film or foam tape, if PVC coating is applied on the metal panel.

Considering an acceptable sheet deflection behaviour of $1/50$ of the panel width, the Lexan Thermopanel installed as indicated may be exposed to a windpressure/suction of 1500 N/m^2 .

AMERICAS

United States

GE Plastics
1 Plastics Avenue
Pittsfield, MA 01201
Tel. (1) (413) 448 5400

Brazil

GE Plastics South America
Av. Das Nacoes Unidas, 12995 - 20 Andar
Edificio Plaza Centenario
04578 - 000 Sao Paulo, Sp
Brazil
Tel. (55) 11 5505 2800
Fax (55) 11 5505 1757

Argentina

GE Plastics South America
Av. L.N. Alem 619 9 Piso
1001 Buenos Aires
Argentina
Tel. (54) 1 317 8753
Fax (54) 1 313 9560

EUROPE

European Headquarters

General Electric Plastics B.V. SPE
Plasticslaan 1
PO Box 117
NL - 4600 AC Bergen op Zoom
The Netherlands
Tel. (31) (164) 29 27 42
Fax (31) (164) 29 19 86

United Kingdom

GE Plastics Ltd
Old Hall Road
Sale
Cheshire M33 2HG
United Kingdom
Tel. (44) (161) 905 50 01
Fax (44) (161) 905 50 04

Italy

General Electric Plastics Italia S.p.A.
Viale Brianza 181
I - 20092 Cinisello Balsamo (Mi)
Italy
Tel. (39) 02 61 83 42 61
Fax (39) 02 61 83 42 09

Germany

General Electric Plastics GmbH
Eisenstraße 5
D - 65428 Rüsselsheim
Germany
Tel. (49) (61 42) 601 101
Fax (49) (61 42) 601 259

Spain

GET sl (Gestión y Especificaciones Técnicas)
Agente Oficial España y Portugal
C/Girona, 67, 3º-2a
08009 Barcelona
Spain
Tel. (34) (93) 488 03 18
Fax (34) (93) 487 32 36

France

General Electric Plastics France S.à.R.L.
Z.I. de St. Guénault B.P. 67
F - 91002 Evry-Cedex
France
Tel. (33) (1) 60 79 69 00
Fax (33) (1) 60 79 69 21

PACIFIC

Australia

GE Plastics (Australia) Pty. Ltd.
175 Hammond Road
Dandenong, Victoria 3175
Australia
Tel. (61) 39 794 4204
Fax (61) 39 794 8563

Beijing

GE Plastics
Citic Building, 3rd Floor
No. 19 Jian Guo Men Wai Avenue
Beijing 100004
China
Tel. (86) 10 6500 6538
Fax (86) 10 6500 6476

Guangzhou

GE Plastics Guangzhou
Room 1212, Yi An Plaza
No. 38, Jian She 6 Road
Guangzhou, 510060
China
Tel. (86) 20 8387 2818
Fax (86) 20 3128 or 3118

Hong Kong

GE Plastics Hong Kong Ltd.
Rm 1008, Tower 1, The Gateway
25 Canton Road
Kowloon
Hong Kong
Tel. (852) 26 29 0880
Fax (852) 26 29 0801

Indonesia

GE Plastics Indonesia
Menara Batavia 5th Floor,
JI KH Mas Manyur kav.126
Jakarta 10220
Indonesia
Tel. (62) 21 574 4980
Fax (62) 21 574 7101

Japan

SP Pacific Ltd.
Nihonbashi Hamacho Park Bldg. 5th Floor
2-35-4 Nihonbashi Hamacho
Chuo-ku, Tokyo 103
Japan
Tel. (81) 3 569 6301
Fax (81) 3 569 6306

Korea

GE Plastics Korea Co. Ltd.
#231-8 Nonhyun-Dong
Kangnam-Ku
Seoul 135-010
Korea
Tel. (822) 510 6273
Tel. (882) 510 6291
Fax (822) 510 6299

Shanghai

GE Plastics Shanghai
10th Floor, Shartex Center
88 Zunyi Road(s)
Shanghai 200335 China
Tel. (86) 21 6270 6789
Fax (86) 21 6270 9973
Fax (86) 21 6270 9974
Fax (86) 21 6270 9975

Singapore

GE Singapore
GE Tower, 240 Panjang Pagar Road
#500 Singapore 088540
Tel. (65) 326 3900
Fax (65) 326 3946

Taiwan

GE Plastics
13th Floor, #168
Tun Hua North Road
Taipei
Taiwan
Tel. (886) 2 514 9842
Fax (886) 2 514 9921

Thailand

GE Plastics Thailand
15th Floor, Thaniya Plaza Buiding
52 Silom Road, Bangkok 10500
Thailand
Tel. (662) 231 2918
Fax (662) 231 2322



GE Structured Products

www.GEStructuredProducts.com

All information, recommendation or advice contained in this document or given by General Electric Company, USA, or any of its subsidiaries, affiliates or authorised representatives, whether written or oral, is given in good faith, to the best of its knowledge and based on current procedures in effect. The products of General Electric Company or, if applicable, of its subsidiaries or affiliates are sold subject to Conditions of Sale, printed on the back of order acknowledgements, invoice or available upon request. Nothing in this or any other document shall alter, vary, supersede or operate to waive any of the Conditions of Sale. Each user of the products shall convince himself, through all available sources (including finished product testing in its appropriate environment) of the suitability of the products supplied for its own particular purpose. Because actual use of the products by the user is beyond the control of General Electric Company, its subsidiaries and affiliates, such use is within the exclusive responsibility of the user. General Electric Company, its subsidiaries and affiliates cannot be held responsible for any loss incurred through incorrect or faulty use of the products. Information, recommendation and/or advice are neither made to infringe on any patents, nor to grant a license under any patent or intellectual property right of General Electric Company or any of its subsidiaries or affiliated companies, nor to grant the right to file for any patent protection.

Lexan® is a Trademark of General Electric Co., USA.