

PERSPEX™

Cast Perspex UVT
(Ultra Violet Transmitting)
0UV0 sheet

PERSPEX®



PXTD 301
FIRST EDITION

Introduction

Perspex™ Cast acrylic sheet has been produced and developed for over 60 years and in many of the most enduring applications extreme UV resistance and clarity have been important features of the performance of Perspex™.

A new Perspex™ product, Perspex™ UVT cast (Product Code 0UV0) has been added to the range for use in applications requiring Ultraviolet transmission e.g. tanning beds, therapeutic appliances, whilst maintaining many of the renowned physical properties of Perspex™ cast sheet.

Perspex™ 0X02, an extruded sheet, has been available from Lucite International for many years. An extruded product that provides good definition during thermoforming but lacks the superior chemical resistance of Perspex™ UVT cast.

To maximize the UV resistance of Perspex™ UVT cast, Lucite International have developed a modified acrylic formulation and **Table I** shows details of the typical standard physical properties.

Figure I shows the UV transmission of sheet:

- a) prior to exposure
- b) after thermoforming and subsequent exposure for 100 hrs
- c) and after 200 hours exposure

Sheets were exposed to High Power (180 W) Cosmolux VHR 200 lamps.

Product Range

Perspex™ UVT cast is supplied in:

- A standard sheet size of 3050mm x 2030mm (cut to size on request)
- A range of sheet thicknesses (3, 4, 5 and 8mm)
- Other variants of Perspex™ including single sided satin finish are available on request

Benefits of Perspex™ UVT cast sheet are:

- High vicat softening point (improved resistance to heat generated in service)
- High flexural modulus (rigidity)
- Excellent resistance to the yellowing effects of UV irradiation - longer service life
- Increased resistance to chemical cleaners and essential oils compared to extruded acrylic sheet

Table I

Typical Physical properties of Perspex™ 0UV0	Physical Performance Property	Test Methods
Tensile Strength	70 MPa	ISO 527 (a)
Tensile Modulus	3 GPa	ISO 527 (a)
Flexural Strength	115 MPa	ISO 178 (b)
Flex Modulus	2.9 GPa	ISO 178 (b)
Charpy Impact	12 kJm ⁻²	ISO 179 (c)
Vicat Softening Point	100°C	ISO 306A
Density	1.19	ISO 1183
Co-efficient of linear thermal expansion	7.7 × 10 ⁻⁵ .K ⁻¹	ASTM D696
Transmission in UVA range from 315-380nm	87%	DIN 5036, part3

- (a) 5mm/min
- (b) 2mm/min
- (c) un-notched

Figure I UV transmission characteristics of Perspex™ cast 0UV0. Measured using 4mm sheet prior to and after exposure to Cosmolux VHR200, 180 Watt lamps.

