

PRODUCT SPECIFICATION

1. Physical Properties of PERSPEX™

To assist you in specifying the correct grade of PERSPEX for a given application you need to know some of the key properties of the product.

Properties	Test method	Units	PERSPEX™ GS Cast Sheet	PERSPEX™ XT Extruded Sheet
Tensile Strength	ISO 527 (1)	MPa	75	70
Elongation at Break	ISO 527 (1)	%	4	4
Flexural Strength	ISO 178 (2)	MPa	116	107
Flexural Modulus	ISO 178 (2)	Mpa	3210	3030
Charpy Impact Strength	ISO 179 (3)	KJ.m -2	12	10
Vicat Softening Point	ISO 306 (4)	Degrees C	ca 110	>105
Rockwell Hardness	ISO 2039-2	M Scale	102	101
Light Transmission	ASTM D1003	-5%	>92	>92
Refractive Index	ISO 489/A	-	1.49	1.49
Water Absorption	ISO 62	%	0.2	0.2
Relative Density	ISO 1183	-	1.19	1.19

- NB:**
- (1) 5 mm/min
 - (2) 2 mm/min
 - (3) un-notched
 - (4) Method A
 - (5) in 3 mm thickness

2. Flammability and Fire Performance

Details of the main regulatory fire tests to which cast and extruded PERSPEX have been tested.

Country	Product Type	Test	Result/Class
France	Cast	NFP 92-307	M4 without drips
	Extruded	NFP 92-307	M4 with drips
Germany	Cast	DIN 4102	B2
	Extruded	DIN 4102	B2
Holland	Cast	NEN 6065	Flame propagation Class 3. Flame transfer: Class 4
	Extruded	NEN 6065	Flame propagation and Flame transfer: Class 4
United Kingdom	Cast	BS 476:Pt 7	Class 4 under 3 mm
	Cast	BS 476:Pt 7	Class 3 for 3 mm and above
	Extruded	BS 476:Pt 7	Class 4 all thicknesses
United States	Cast	UL 94	HB
	Extruded	UL 94	HB

3. Light Transmission Values of 3 mm Perspex™ GS Sign Colours

Perspex GS Grade	% Light Transmission (380-780 nm)
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Clear 000	92
Cream 128	16
Cream 133	32
Yellow 229	21
Yellow 250	34
Yellow 260	19
Yellow 261	31
Yellow 2252	25
Amber 300	48
Orange 324	20
Orange 363	5
Red 431	3
Red 433	3
Red 440	4
Red 4238	2
Red 4401	10
Red 4403	9
Red 4450	9
Red 4494	1

Brown 504	58
Brown 543	0
Green 606	67
Green 635	11
Green 650	3
Green 692	18
Blue 706	67
Blue 727	4
Blue 743	3
Blue 744	<1
Blue 750	1
Blue 751	1
Blue 7703	5.5
Violet 886	5
Neutral 901	60
Neutral 923	11
Neutral 9T01	50
Neutral 9T13	54

Neutral 9T20	40
Black 962	0
Black 9T30	0.1
Black 9T32 (962)	0
Grey 9981	5.5

- Note:
- 1 Figures in brackets refer to previous colour codes
 - 2 Light transmission measurements have been measured on apparatus conforming to ASTM D 1003, Illuminant C. (Values to Illuminant D65 are virtually identical in most instances.)
 - 3 All figures quoted are the results of tests of typical samples and do not constitute a specification.
 - 4 The above figures are for typical standard colours and are only a small representation of the PERSPEX colour range. For details of other colours, or the procedure for ordering special colours, please contact your nearest PERSPEX sales office.

4. PERSPEX™ Product Data Summary

Property	Test Method	Units	PERSPEX GS Cast Sheet 000/0000	PERSPEX GS IM Cast Sheet OM14
General				
Relative Density	ISO 1183	-	1.19	1.18
Rockwell Hardness	ISO 2039-2	M Scale	102	98.5
Flammability	DIN 4102	-	B2	B2
Flammability	UL 94	-	HB	HB
Flammability	BS 476, Pt 7	Class	3	3
Mechanical				
Tensile Strength	ISO 527 (a)	MPa	75	62
Elongation at Break	ISO 527 (a)	%	4	-
Flexural Strength	ISO 178 (b)	MPa	116	105
Flexural Modulus	ISO 178 (b)	MPa	3210	2960
Charpy Impact Strength	ISO 179 (c)	kJ.m -2	12	21.7
	ISO 179 (d)	kJ.m -2	-	1.2
Izod Impact Strength	ISO 180/1A (d)	kJ.m -2	-	-
Thermal				
Vicat Softening Point	ISO 306A	°C	>110	>110

Coefficient of Thermal Expansion	ASTM D696	X 10 ⁻⁵ .K-1	7.7	-
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The above data represents typical results obtained using standard test pieces.

- a = 5 mm/min
- b = 2 mm/min
- c = un-notched
- d = notched

5. Optical Properties of 3mm Opal/White PERSPEX™ Grades

Grade	% Light Transmission	% Reflection	Diffusion Factor
PERSPEX GS			
Opal/White 028	26	74	0.89
Opal/White 030	70	25	0.46
Opal/White 040	51	39	0.87
Opal/White 041	54	39	0.83
Opal/White 050	37	61	0.89
Opal/White 069	9	91	0.89
Opaque White 1209	<1	•	•
PERSPEX XT			
Opal/White 1X10	28	69	0.87
Opal/White 1X20	35	52	0.85
Opal/White 1X30	45	48	0.75
Opal/White 1X70	79	•	•

Perspex
XT IM
Impact
PERSPE **Modifie**
X XT **d**
Extrude **Extrude**
d Sheet **d Sheet**
OX00 **IM50** **IM60**



	1.19	1.17	1.16
	101	65	45
B2	B2	B2	
HB	HB	HB	
	4 -	-	



	70	68	50
	4	18	25
	107	90	70
	3030	2500	2000
	10	50	65
-		5	7
-		5	7



>105	>105	>105
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