Perspex® Royals
Technical Data Sheet

1. Introduction
Perspex® Royals acrylic sheet is a single sided product which offers a metallic shimmer with a silk surface finish. It exhibits a goniochromatic effect, whereby the surface of the sheet appears to gradually change colour as the angle of view or the angle of illumination changes, creating a unique colour shift.

2. Range
Perspex® Royals is produced as a 3050mm x 2030mm cast acrylic sheet in a range of thicknesses, typically in 3 or 5 mm thickness.

Product Code	Colour Name
SK 4PY2	King Henry Red
SK 5PY8	Queen Marie Gold
SK 6PY0	Queen Isabella Green
SK 7PY0	Queen Elizabeth Blue
SK 8PY0	King George Purple
SK 9PY5	King Louis Silver

3. Masking
Perspex® Royals is supplied with double-sided, non-thermoformable PE masking. The showface masking is printed with the Perspex® logo.

4. Fabrication Details
The following points should be considered when working with Perspex® Royals acrylic sheet:

- Perspex® Royals has a single sided surface effect on the showface. That is to say the effect is not seen on both surfaces. The underside still has an attractive appearance but is less scratch resistant than standard Perspex®. We do not recommend using the underside as a display or “working surface”. The removal of the protective masking can sometimes leave marks on the backside of the sheet.
- The beauty of the Perspex® Royals effect is due to the nature of the pigments used reflecting light in a number of directions. Some variation in natural or perceived colour across a sheet, between sheets and batches will occur.
- The natural variation of the sheet colour will also provide a directional effect. Adjoining samples should therefore be cut in the same plane.
- In the centre of each sheet there is a dark 'eye', which should be taken into consideration of fabrication designs. This is not a defect but a visual effect caused by the alignment of particles.
- Due to the pigments used and the resulting metallic effect, the appearance will change after thermoforming and line bending. Please note that this is not due to deterioration of the pigments but the fact that during stretching and shaping the particles are re-aligned and are therefore in a different plane to surrounding non-thermoformed areas.
- Standard fabrication techniques (e.g. cutting, routing and gluing) may be used with these products. If bonding to the rear surface of the product to another acrylic sheet, it is recommended that a polymerisation cement such as Tensol 70 cement is used. For advise on bonding Perspex® Royals to other materials, please contact our Perspex® Technical Service Team

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5. Table of Properties

Values quoted for the properties of Perspex® Royals acrylic sheet are the results of tests on representative samples and do not constitute specifications.

Property	Test Method	Unit	Value
General			
Density	ISO 1183	g cm^{-3}	1.19
Rockwell Hardness	ISO 2039-2	M scale	102
Water Absorption	ISO 62	%	0.2
Flammability	BS 476 Part 7	Class	3
	DIN 4102	-	B2
	NFP 92-507	-	M4
	UL94	-	HB
	ISO 11925-2	-	E
Thermal Properties			
Vicat Softening Point	ISO 306 A	°C	> 110
Coefficient of Thermal Expansion (Linear)	ASTM D696	x 10^{-5}. K^{-1}	7.7
Mechanical Properties			
Tensile Strength	ISO 527 (5 mm/min)	MPa	75
Elongation at Break	ISO 527 (5 mm/min)	%	4
Flexural Strength	ISO 178 (2 mm/min)	MPa	116
Flexural Modulus	ISO 178 (2 mm/min)	MPa	3210
Impact Strength – Charpy (unnotched)	ISO 179	kJ M^{-2}	12
Electrical Properties			
Surface Resistivity	IEC 93	Ω.m-2	> 10^{14}
Electrical Strength	IEC 243	kV.mm-1	15