



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 advice on bonding Perspex® Royals to other materials, please contact our Perspex® Technical Service Team



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 |

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Perspex® Royals

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