

# DURAPLEX IMPACT MODIFIED ACRYLIC

DURAPLEX® impact modified acrylic sheets (also known as Sign Grade (SG) acrylic) have higher impact strengths than general-purpose acrylic. They have the superior optical properties necessary for high-quality sign and lighting systems, and are easy to fabricate and form, with exceptional UV stability, for many interior and exterior applications.

DURAPLEX® is available as a custom blend for impact strength and is available in a wide range of gauges, sheet sizes, colors and patterns. DURAPLEX® is also available in sheets or roll stock.

## APPLICATIONS

Indoor and outdoor displays, skylights, signage, replacement windows

### Typical Properties

| Property                                   | Test Method | Units     | Duraplex 30%           | Duraplex 50% (SG05)  | Duraplex 70%           | Duraplex 100% (SG10) |
|--|-------------|-----------|------------------------|----------------------|------------------------|----------------------|
| <b>PHYSICAL</b>                            |             |           |                        |                      |                        |                      |
| Specific Gravity                           | ASTM D792   | -         | 1.18                   | 1.17                 | 1.16                   | 1.15                 |
| Light Transmission - Total                 | ASTM D1003  | %         | 92                     | 92                   | 90                     | 90                   |
| Light Transmission - Haze                  | ASTM D1003  | %         | 2                      | 2                    | <3                     | <3                   |
| Water Absorption                           | ASTM D570   | %         | 0.3                    | 0.3                  | 0.3                    | 0.3                  |
| Mold Shrinkage                             | ASTM D955   | mils/in   | 3-6                    | 3-6                  | 3-6                    | 3-6                  |
| <b>MECHANICAL</b>                          |             |           |                        |                      |                        |                      |
| Tensile Strength                           | ASTM D638   | psi       | 9,000                  | 8,000                | 7,100                  | 5,600                |
| Tensile Modulus of Elasticity              | ASTM D638   | psi       | 376,000                | 340,000              | 304,000                | 250,000              |
| Flexural Strength                          | ASTM D790   | psi       | 13,690                 | 12,000               | 10,610                 | 8,300                |
| Izod Impact Strength - Notch               | ASTM D256   | ft-lb./in | 0.6                    | 0.7                  | 0.9                    | 1.1                  |
| Rockwell hardness                          | ASTM D785   | -         | M-78                   | M-68                 | M-59                   | M-46                 |
| <b>THERMAL</b>                             |             |           |                        |                      |                        |                      |
| Deflection Temperature @ 264 psi (1.8 MPa) | ASTM D648   | °F        | 198                    | 194                  | 190                    | 185                  |
| Coefficient of Thermal Expansion           | ASTM D696   | in/in/°F  | 3.5 x 10 <sup>-5</sup> | 4 x 10 <sup>-5</sup> | 4.5 x 10 <sup>-5</sup> | 5 x 10 <sup>-5</sup> |
| Flammability (Burning Rate)                | ASTM D635   | in/min    | 0.85                   | 1.25                 | 1.53                   | 1.97                 |
| Flammability                               | UL 94       | -         | HB                     | HB                   | HB                     | HB                   |
| Smoke Density Rating                       | ASTM D2843  | %         | 5.2                    | 8.5                  | 11.5                   | 16.5                 |
| Self-Ignition Temperature                  | ASTM D1929  | °F        | >850                   | >850                 | >850                   | >850                 |

These suggestions and data are based on information we believe to be reliable. They are offered in good faith, but without guarantee, as conditions and methods of use are beyond our control. We recommend that the prospective user determines the suitability of our materials and suggestions before adopting them on a commercial scale.

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