

## KYDEX® Thermoplastic Sheet vs. FR-ABS

TB - 102

### KYDEX® Sheet vs. FR-ABS

| Property   | Test Method          | KYDEX® 100                   | KYDEX® T                     | Royalite R-59                | Royalite R-57                | Royalite R-24              |
|--|----------------------|------------------------------|------------------------------|------------------------------|------------------------------|----------------------------|
| Specific Gravity(0.125")   | ASTM D-792           | 1.33 - 1.37                  | 1.33-1.37                    | 1.18-1.25                    | 1.18-1.26                    | 1.02-1.08                  |
| Tensile Strength   | ASTM D-638           | 42 MPa<br>(6,100 psi)        | 42 MPa<br>(6,100 psi)        | 35 MPa<br>(5000 psi)         | 33 MPa<br>(4800 psi)         | 35 MPa<br>(5000 psi)       |
| Elongation at Break, %   | ASTM D-638           | 160                          | 110                          | n/a                          | n/a                          | n/a                        |
| Flexural Strength  | ASTM D-790           | 64 MPa<br>(9,300 psi)        | 66 MPa<br>(9,600 psi)        | 54 MPa<br>(7800 psi)         | 53 MPa<br>(7700 psi)         | 54 MPa<br>(7800 psi)       |
| Modulus of Elasticity  | ASTM D-790           | 2310 MPa<br>(335,000 psi)    | 2482 MPa<br>(360,000 psi)    | 1931 MPa<br>(280,000 psi)    | 1931 MPa<br>(280,000 psi)    | 1931 MPa<br>(280,000 psi)  |
| Rockwell Hardness, R   | ASTM D-785           | 94                           | 94                           | 93                           | 93                           | 98                         |
| Notched Izod Impact Resistance, 23°C J/m (73°F, ft-lbs/in)       | ASTM D-256           | 961 J/m<br>(18 ft-lbs/in)    | 801 J/m<br>(15 ft-lbs/in)    | 427 J/m<br>(8 ft-lbs/in)     | 427 J/m<br>(8 ft-lbs/in)     | 400 J/m<br>(7.5 ft-lbs/in) |
| Gardner Dropdart   | ASTM D-5420          | > 640                        | 640                          | n/a                          | n/a                          | 320                        |
| Heat Deflection Temperature, HDT, at 1.82MPa (264 psi), annealed | ASTM D-648           | 78°C<br>(173°F)              | 75.5°C<br>(168°F)            | 79°C<br>(175°F)              | 79°C<br>(175°F)              | 99°C<br>(210°F)            |
| Flammability Resistance Underwriters Lab., Inc® UL Standard 94   | V-0                  | > .028                       | > .028                       | > .085                       | > .085                       | HB @ .060                  |
|  | 5VA                  | >.078                        | >.118                        | > .085                       | n/a                          | n/a                        |
| Federal Aviation Administration                                  | FAR 25.853a1ii (12s) | Pass*                        | Pass*                        | n/a                          | Pass                         | n/a                        |
|  | FAR 25.853a1i (60s)  | Pass*                        | Pass*                        | n/a                          | n/a                          | n/a                        |
| Motor Vehicle Safety Standard                                    | MVSS 302             | Pass                         | Pass                         | Pass                         | Pass                         | Pass                       |
| Radiant Panel  | ASTM E-162           | < 35                         | 15                           | 50                           | n/a                          | n/a                        |
| Forming Temperature  |                      | 163 - 199°C<br>(325 - 390°F) | 163 - 199°C<br>(325 - 390°F) | 163 - 204°C<br>(325 - 400°F) | 163 - 204°C<br>(325 - 400°F) | 171 - 202°C<br>(340-395°F) |

Values based upon literature values.  
 Not intended for specification purposes.  
 Typical Data Based on 3.18mm (0.125") sheet.  
 \*Passes in all thicknesses and colors.

**SEKISUI SPI**  
 ISO 9001 and 14001 Certified

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## KYDEX® Thermoplastic Sheet vs. FR-ABS TB - 102

### KYDEX® Sheet vs. FR-ABS

ROYALITE® R59 is a Fire Rated ABS/PVC thermoplastic sheet product.

ROYALITE® R57 is a Fire Rated ABS/PVC thermoplastic sheet product.

ROYALITE® R24 is Fire Rated ABS thermoplastic sheet product.

*Note:* Plastics such as ABS, PP, and HIPS may contain Polybrominated diphenyl ether (PBDE) as a flame retardant to meet the stringent UL 94 standard. KYDEX® sheet does not and has never contained any of the chemicals in the PBDE family, such as PentaBDE, OctaBDE, or DecaBDE.

The Directive 2002/95/EC of the European Parliament; Restriction of Hazardous Substances in Electrical and Electronic Equipment (ROHS) states that from July 1st 2006, lead, mercury, cadmium, hexavalent chromium, Polybrominated diphenyl ether (PBDE) will be banned from new electrical and electronic equipment.

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This information supersedes all previously published data.