

TUFFAK LD polycarbonate sheet

LIGHT DIFFUSING

TUFFAK LD sheet is a polycarbonate product designed with an advanced light diffusion technology that provides excellent light uniformity without sacrificing light transmission. The proprietary diffuser technology eliminates visible hot spots from pinpoint LED lights in typical flat and formed sign applications. LD is available in a range of standard sign colors and can be custom matched to any color. TUFFAK LD is easy to form, fabricate, and decorate, and has excellent impact strength and dimensional stability. The product's UV resistance technology assures long lasting outdoor weathering performance. TUFFAK LD is offered with a ten (10) year limited product warranty against breakage. The terms of the warranty are available upon request.

APPLICATIONS

Flat and formed sign faces, channel letters, and lighting fixture covers

Regulatory code compliance and certifications

UL 879: Electric Sign Components, UL File #E146154

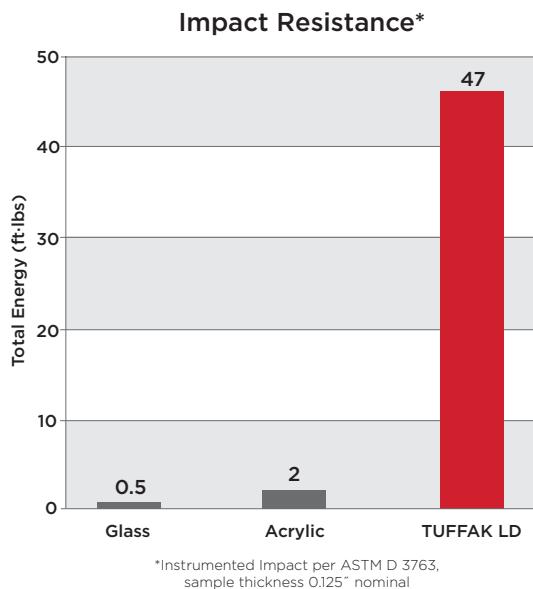
UL 94: Flammability File #E87887

| Typical Properties* | | | |
|--|-------------|-----------------|-------------|
| Property | Test Method | Units | Values |
| PHYSICAL | | | |
| Specific Gravity | ASTM D 792 | - | 1.2 |
| Light Transmission, B27 white @ 0.118" | ASTM D 1003 | % | 27 |
| Light Transmission, B48 white @ 0.118" | ASTM D 1003 | % | 50 |
| Water Absorption, 24 hours | ASTM D 570 | % | 0.15 |
| MECHANICAL | | | |
| Tensile Strength, Ultimate | ASTM D 638 | psi | 9,500 |
| Tensile Strength, Yield | ASTM D 638 | psi | 9,000 |
| Tensile Modulus | ASTM D 638 | psi | 340,000 |
| Elongation | ASTM D 638 | % | 110 |
| Flexural Strength | ASTM D 790 | psi | 13,500 |
| Flexural Modulus | ASTM D 790 | psi | 345,000 |
| Compressive Strength | ASTM D 695 | psi | 12,500 |
| Compressive Modulus | ASTM D 695 | psi | 345,000 |
| Izod Impact Strength, Notched @ 0.125" | ASTM D 256 | ft-lbs/in | 16 |
| Izod Impact Strength, Unnotched @ 0.125" | ASTM D 256 | ft-lbs/in | No Break |
| Instrumented Impact @ 0.125" | ASTM D 3763 | ft-lbs | 47 |
| Shear Strength, Ultimate | ASTM D 732 | psi | 10,000 |
| Shear Strength, Yield | ASTM D 732 | psi | 6,000 |
| Shear Modulus | ASTM D 732 | psi | 114,000 |
| Rockwell Hardness | ASTM D 785 | - | M70 / R118 |
| THERMAL | | | |
| Coefficient of Thermal Expansion | ASTM D 696 | in/in/°F | 3.75 x 10-5 |
| Coefficient of Thermal Conductivity | ASTM C 177 | BTU·in/hr·ft·°F | 1.35 |
| Heat Deflection Temperature @ 264 psi | ASTM D 648 | °F | 270 |
| Heat Deflection Temperature @ 66 psi | ASTM D 648 | °F | 280 |
| Brittleness Temperature | ASTM D 746 | °F | -200 |
| ELECTRICAL | | | |
| Dielectric Constant @10 Hz | ASTM D 150 | - | 2.96 |
| Dielectric Constant @ 60 Hz | ASTM D 150 | - | 3.17 |
| Volume Resistivity | ASTM D 257 | Ohm·cm | 8.2 x 1016 |
| Dissipation Factor @ 60 Hz | ASTM D 150 | - | 0.0009 |
| Arc Resistance | - | - | - |
| Stainless Steel Strip Electrodes | ASTM D 495 | Seconds | 10 |
| Tungsten Electrodes | ASTM D 495 | Seconds | 120 |
| Dielectric Strength, in air @ 0.125" | ASTM D 149 | V/mil | 380 |
| FLAMMABILITY | | | |
| Horizontal Burn, AEB | ASTM D 635 | in | <1 |
| Flame Class @ 0.093" | UL 94 | - | V2 |
| Flame Class @ 0.236" | UL 94 | - | VO |

*Typical Properties are not intended for specification purposes

*Some values based upon clear sheet

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TUFFAK LD Standard Colors

| Standard Plaskolite Color | Standard Industry Color | Standard Gauge |
|---------------------------|-------------------------|-----------------|
| White/ B48 | 2447 | 0.093" - 0.236" |
| White/ B27 | 7328 | 0.093" - 0.236" |
| Red/ D96 | 2283 | 0.118" - 0.177" |
| Red/ D99 | 2793 | 0.118" - 0.177" |
| Blue/ F84 | 2114 | 0.118" - 0.177" |
| Blue/ F85 | 2051 | 0.118" - 0.177" |
| Green/ H87 | 2108 | 0.118" - 0.177" |
| Yellow/ M72 | 2037 | 0.118" - 0.177" |
| Orange/ C59 | 2119 | 0.118" - 0.177" |

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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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