



## MAKROLON<sup>®</sup> FI

**MAKROLON<sup>®</sup> FI** polycarbonate sheets are flame-inhibiting formulations for electrical and electronic device applications. MAKROLON FI polycarbonate sheets offers V-0 ratings under the UL 94 test criteria in thicknesses from .060". MAKROLON FI polycarbonate sheet also is UV stabilized in gauges greater than 1/8".

### APPLICATIONS

Typical applications include transparent interior aircraft components, switchgear covers, electrical devices, thermoformed equipment housings, and other current-carrying components.

| Typical Physical Properties            |             |           |                         |
|--|-------------|-----------|-------------------------|
| Property                               | Test Method | Units     | MAKROLON                |
| <b>PHYSICAL</b>                        |             |           |                         |
| Specific Gravity                       | ASTM D792   | -         | 1.2                     |
| Light Transmission, Clear 1/8"         | ASTM D1003  | %         | 85                      |
| Water Absorption, Equilibrium, 24 hrs  | ASTM D570   | %         | 0.15                    |
| <b>MECHANICAL</b>                      |             |           |                         |
| Tensile Strength, Yield                | ASTM D638   | psi       | 9000                    |
| Tensile Strength, Ultimate             | ASTM D638   | psi       | 9500                    |
| Tensile Modulus                        | ASTM D638   | psi       | 340000                  |
| Flexural Strength                      | ASTM D790   | psi       | 13500                   |
| Flexural Modulus                       | ASTM D790   | psi       | 345000                  |
| Compressive Strength                   | ASTM D695   | psi       | 12500                   |
| Elongation                             | ASTM D638   | %         | 95                      |
| Izod Impact Strength, Notched @ 1/8"   | ASTM D256   | Ft-lbs/in | 2-3                     |
| Izod Impact Strength, Unnotched @ 1/8" | ASTM D256   | Ft-lbs/in | 60 (No failure)         |
| Instrumented Impact, 1/8"              | ASTM D3763  | Ft-lbs    | >45                     |
| <b>THERMAL</b>                         |             |           |                         |
| Coefficient of Thermal Expansion       | ASTM D696   | In/in/F   | 3.75 x 10 <sup>-5</sup> |
| Heat Deflection Temperature, @ 264 psi | ASTM D648   | F         | 270                     |
| Heat Deflection Temperature, @ 66 psi  | ASTM D648   | F         | 280                     |
| <b>ELECTRICAL</b>                      |             |           |                         |
| Dielectric Constant, @ 10 Hz           | ASTM D150   | -         | 2.96                    |
| Dielectric Constant, @ 60 Hz           | ASTM D150   | -         | 3.17                    |
| Volume Resistivity                     | ASTM D257   | Ohm-cm    | 8.2 x 10 <sup>16</sup>  |
| Dissipation Factor, @ 60 Hz            | ASTM D150   | -         | 0.0009                  |
| Dissipation Factor, @ 1 MHz            | ASTM D150   | -         | 0.01                    |
| Arc Resistance                         | ASTM D495   | Seconds   |                         |
| Stainless Steel Strip Electrode        |             |           | 10-11                   |
| Tungsten Electrodes                    |             |           | 120                     |
| Dielectric Strength, in air, 125 mils  | ASTM D149   | V/mil     | 380                     |
| <b>FLAMMABILITY</b>                    |             |           |                         |
| Horizontal Burn, AEB                   | ASTM D635   | Inches    | <1                      |
| UL 94, Clear @ .060"                   | UL 94       | -         | V0                      |
| FAA Flammability @ .040" to .125"      | FAR 25.853  | -         | Passes A&B              |
| Oxygen Index                           | ASTM D2863  | %         | >28                     |

*Sheffield Plastics Inc. will not be responsible for the use of this information relative to actual application. Users must make their own determination of its suitability for their specific application. No warranty is made for the fitness of any product, and nothing herein waives any of the seller's conditions of sale.*

# Product Data

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