

Optical Clear Sheet

MAKROLON[®] OP Sheet is a clear polished surface, transparent, UV stabilized, polycarbonate product. It features outstanding impact strength, and superior dimensional stability. MAKROLON OP Sheet has a five (5) year warranty against breakage. The terms of the warranty against breakage are set forth in the warranty, which is available upon request.

Applications

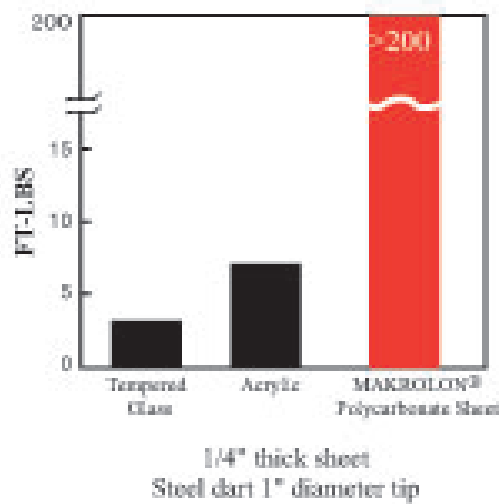
Industrial and structural applications, including thermoformed and fabricated components

| Typical Properties | | | |
|---|-------------|-------------------------------|-------------------------|
| Property | Test Method | Units | Values |
| PHYSICAL | | | |
| Specific Gravity | ASTM D792 | - | 1.2 |
| Refractive Index | ASTM D542 | - | 1.586 |
| Light Transmission, Clear @ 0.125" | ASTM D1003 | % | 86 |
| Light Transmission, Gray, Bronze | ASTM D1003 | % | 50 |
| Light Transmission, Dark Gray | ASTM D1003 | % | 18 |
| Water Absorption, 24 hrs | ASTM D570 | % | 0.15 |
| Poisson's Ratio | ASTM E132 | - | 0.38 |
| MECHANICAL | | | |
| Tensile Strength, Ultimate | ASTM D638 | psi | 9,500 |
| Tensile Strength, Yield | ASTM D638 | psi | 9,000 |
| Tensile Modulus | ASTM D638 | psi | 340,000 |
| Elongation | ASTM D638 | % | 110 |
| Flexural Strength | ASTM D790 | psi | 13,500 |
| Flexural Modulus | ASTM D790 | psi | 345,000 |
| Compressive Strength | ASTM D695 | psi | 12,500 |
| Compressive Modulus | ASTM D695 | psi | 345,000 |
| Izod Impact Strength, Notched @ 0.125" | ASTM D256 | ft-lbs/in | 18 |
| Izod Impact Strength, Unnotched @ 0.125" | ASTM D256 | ft-lbs/in | 60 (no failure) |
| Instrumented Impact, 0.125" | ASTM D3763 | ft-lbs | >45 |
| Shear Strength @ Yield | ASTM D732 | psi | 6,000 |
| Shear Strength, Ultimate | ASTM D732 | psi | 10,000 |
| Shear Modulus | ASTM D732 | psi | 114,000 |
| Rockwell Hardness | ASTM D785 | - | M70/R118 |
| THERMAL | | | |
| Coefficient of Thermal Expansion | ASTM D696 | in/in/°F | 3.75 x 10 ⁻⁵ |
| Coefficient of Thermal Conductivity | ASTM C177 | BTU·in/hr·ft ² ·°F | 1.35 |
| Heat Deflection Temperature @ 264 psi | ASTM D648 | °F | 270 |
| Heat Deflection Temperature @ 66 psi | ASTM D648 | °F | 280 |
| Brittleness Temperature | ASTM D746 | °F | -200 |
| Shading Coefficient, Clear 0.125" | ASHRAE | - | 1.02 |
| Shading Coefficient, Gray, Bronze 0.125" | ASHRAE | - | 0.70 |
| U factor 0.25" (summer gain, winter loss) | ASTM D1363 | BTU/hr·ft ² ·°F | 0.90, 0.96 |

Product Data

MAKROLON[®] OP Sheet

Impact Resistance



Disclaimer

The manner in which you use and the purpose to which you put and utilize our products, technical assistance and information (whether verbal, written or by way of production evaluations), including any suggested formulations and recommendations are beyond our control. Therefore, it is imperative that you test our products, technical assistance and information to determine to your own satisfaction whether our products, technical assistance and information are suitable for your intended uses and applications. This application-specific analysis must at least include testing to determine suitability from a technical as well as health, safety, and environmental standpoint. Such testing has not necessarily been done by us. Unless we otherwise agree in writing, all products are sold strictly pursuant to the terms of our standard conditions of sale which are available upon request. All information and technical assistance is given without warranty or guarantee and is subject to change without notice. It is expressly understood and agreed that you assume and hereby expressly release us from all liability, in tort, contract or otherwise, incurred in connection with the use of our products, technical assistance, and information. Any statement or recommendation not contained herein is unauthorized and shall not bind us. Nothing herein shall be construed as a recommendation to use any product in conflict with any claim of any patent relative to any material or its use. No license is implied or in fact granted under the claims of any patent.



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