

# SUPERCOAT™

## PERFORMANCE PROPERTIES

## HARD-COATING FOR POLYCARBONATE

- ✦ Post-Coated, applied after polycarbonate has been formed
- ✦ Superior Abrasion & Scratch Resistance
- ✦ Solvent / Chemical Resistance

| Property                    | Method  | Values            |
|-----------------------------|---|-------------------|
| Transparency                | 550nm, 2mm thick  | 90.0%             |
| Adhesion                    | ASTM D3359-87   | 100/100           |
| #0000 Steel Wool            | Haze Gain – ASTM D1044 Z26.1 100 cycle, 500 gram                                      | <3%               |
| Pencil Hardness             | ASTM D 3363   | 7H                |
| Chemical/Solvent Resistance | 5% HCL - Acetic Acid - Xylene - Petroleum Ether Acetone - Isopropanol - Nitro-Methane | All Pass          |
| Weathering Resistance       | QUV Weathering Exterior Exposure (Arizona, Florida)                                   | 1000 hrs; 5 years |

# ANTI-FOG

## PERFORMANCE PROPERTIES

## PERMANENT ANTI-FOG COATING FOR POLYCARBONATE

- ✦ Post-Coated, applied after polycarbonate has been formed
- ✦ Mar / Scratch Resistance

| Property          | Method                    | Values  |
|-------------------|---------------------------|---------|
| Transparency      | ASTM D E284, E1348, E4060 | 97.0%   |
| Adhesion          | ASTM D3359-B              | 100/100 |
| Pencil Hardness   | ASTM D 3363               | 3H – 4H |
| Water Resistance  | ASTM D70                  | Pass    |
| Impact Resistance | ASTM D2794                | Pass    |
| Steam             | 30 Second Steam Test      | Pass    |
| Freeze            | 10 Minute Freeze Test     | Pass    |

## POLYCARBONATE vs. GLASS

Using formed polycarbonate (Lexan®) gives you multiple advantages over glass:

- ✦ 1/2 the weight
- ✦ 250 times stronger
- ✦ Noise reduction
- ✦ Light transmittance
- ✦ Thermal Properties
- ✦ Ability to fit custom cabs/enclosures

| WEIGHT                        |  | Lbs./ft. <sup>2</sup> |       |       |       |       |
|-------------------------------|--|-----------------------|-------|-------|-------|-------|
| Sheet Thickness:              |  | .118"                 | .177" | .236" | .375" | .500" |
| <b>SHIELDS®</b>               |  | .73                   | 1.10  | 1.46  | 2.34  | 3.12  |
| <b>Glass</b>                  |  | 1.60                  | 2.40  | 3.20  | 4.80  | 6.40  |
| <b>% Advantage Over Glass</b> |  | 54%                   | 54%   | 54%   | 51%   | 51%   |

| DROP DART IMPACT RESISTANCE                             |   |    |    |     |     |
|---|---|----|----|-----|-----|
| 5-pound steel dart, 1" diameter tip, Measured in Ft-Lbs |   |    |    |     |     |
| 1/4" Polycarbonate                                      | 5 | 10 | 20 | 200 | /// |
| 1/4" Acrylic  | 5 | 10 | 20 | 200 |     |
| 1/4" Tempered Glass                                     | 5 | 10 | 20 | 200 |     |
| 1/4" Laminated Glass                                    | 5 | 10 | 20 | 200 |     |

| LIGHT TRANSMITTANCE |                          |
|---------------------|--------------------------|
| Sheet Thickness     | % Value of Visible Light |
| .118"               | 86                       |
| .177"               | 85                       |
| .236"               | 83                       |
| .375"               | 79                       |
| .500"               | 75                       |

| IMPACT STRENGTH |                             | ASTM D3763 |
|-----------------|-----------------------------|------------|
| Sheet Thickness | Max. Load Energy for Impact |            |
| .118"           | 55 Ft-Lbs                   |            |
| .177"           | 80 Ft-Lbs                   |            |
| .236"           | 110 Ft-Lbs                  |            |
| .375"           | 160 Ft-Lbs                  |            |
| .500"           | 220 Ft-Lbs                  |            |

| SOUND TRANSMISSION            |       |       |       | STC Rating |
|-------------------------------|-------|-------|-------|------------|
| Sheet Thickness:              | .118" | .236" | .500" |            |
| <b>SHIELDS®</b>               | 25    | 31    | 34    |            |
| <b>Glass</b>                  | 23    | 27    | 32    |            |
| <b>% Advantage Over Glass</b> | 8%    | 13%   | 6%    |            |

| SUMMER HEAT GAIN              |  | BTU/hr.-sq.-°F |       |       |       |       |
|-------------------------------|--|----------------|-------|-------|-------|-------|
| Sheet Thickness:              |  | .118"          | .177" | .236" | .375" | .500" |
| <b>SHIELDS®</b>               |  | .97            | .93   | .90   | .83   | .77   |
| <b>Glass</b>                  |  | 1.04           | 1.04  | 1.04  | 1.03  | 1.03  |
| <b>% Advantage Over Glass</b> |  | 7%             | 11%   | 14%   | 19%   | 25%   |

| WINTER HEAT LOSS              |  | BTU/hr.-sq.-°F |       |       |       |       |
|-------------------------------|--|----------------|-------|-------|-------|-------|
| Sheet Thickness:              |  | .118"          | .177" | .236" | .375" | .500" |
| <b>SHIELDS®</b>               |  | 1.05           | 1.01  | .96   | .88   | .82   |
| <b>Glass</b>                  |  | 1.16           | 1.15  | 1.14  | 1.11  | 1.09  |
| <b>% Advantage Over Glass</b> |  | 10%            | 12%   | 16%   | 21%   | 25%   |