# DuraSurf™ BSR

by CROWN PLASTICS

Crown Plastics **DuraSurf**™ BSR tapes are specifically designed to meet the demands of the automotive industry to help eliminate Buzz, Squeak and Rattle issues in auto interiors. **DuraSurf**™ BSR tapes eliminate wear and noise between dissimilar materials, reduce warranty issues, allow movement between adjoining parts, protect painted surfaces, reduce marring and extend vehicle life. **DuraSurf**™ BSR tapes are easily die-cut to fit within existing designs.

**DuraSurf**™ BSR tapes are tested to major automotive specifications, including GM9985804, GM6419, Ford ESB-M3G123-B, Chrysler MS-CH612 and GMW 16879.

## AVAILABLE THICKNESS

**.003" (.076 mm), .005" (.127 mm), .010" (.25 mm), .015" (.38 mm), .020" (.5 mm)**

## AVAILABLE WIDTHS

**All dimensions between 1/4" (6.35 mm) and 24" (610 mm)**

## UHMW PROPERTIES

- **Bonded with acrylic adhesive**
- **Excellent abrasion and wear resistance**
- **Very high impact strength**
- **Available in Natural and Black**
- **C05 and C10 available in Black**
- **Natural color meets FDA and USDA guidelines**
- **No moisture absorption**
- **Self-lubricating – no need for oils or lubricants**
- **Excellent noise abatement properties**
- **Chemical resistance and corrosion resistant**
- **Maintains performance and properties at -30°C**
- **Meets ASTM-D-4020**
- **Low coefficient of friction**
- **Conforms to flammability rating UL 94 HB**

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| MECHANICAL PROPERTIES | Test Method | Units Metric(u.s.) | UHMW Thickness Gauges | | |
|---|---|---|---|---|---|
| | | | .005" | .010" | .020" |
| Density | ASTM-D 792 | gm/cc | 0.93 | 0.93 | 0.93 |
| Tensile Strength @ Yield | ASTM-D 638 | MPa/psi | 22.5 | 22.1 | 20.9 |
| Tensile Strength @ Break | ASTM-D 638 | MPa/psi | 62.2 | 64.9 | 56.7 |
| Elongation @ Break | ASTM-D 638 | % | 356 | 350 | 360 |
| Youngs "E" Modulus | ASTM-D 638 | MPa/psi | 642 | 564 | 570 |
| Izod Impact Strength | ASTM-D 256 | J/m (ft-lb/in notch) | N/A | N/A | N/A |
| Hardness Shore "D" | ASTM-D 2240 | | 55 | 58 | 63 |
| Water Absorption | ASTM-D 570 | % | 0.04 | 0.01 | 0.02 |
| Rel. Solution Viscosity | ASTM-D 4020 | dl/gm | 2.3 - 3.5 | 2.3 -3.5 | 2.3 -3.5 |
| Coefficient of Friction | ASTM-D 1894 | Static | 0.4 | 0.47 | 0.4 |
| Coefficient of Friction | ASTM-D 1894 | Dynamic | 0.39 | 0.41 | 0.38 |
| Coefficient of Linear Thermal Expansion | ASTM-D 831 | °C | N/A | N/A | N/A |

| UHMW THERMAL PROPERTIES | ASTM Test | Units Metric (U.S.) | UHMW Thickness Gauges | | |
|---|---|---|---|---|---|
| | | | .031" | .062" | .125" |
| Crystalline Melting Range | Polarizing | °C(°F) | 136 (276) | 134 (273) | 134 (273) |
| Crystallinity | D3417-96 | % | 48 | 47 | 50 |

| UHMW ELECTRICAL PROPERTIES | ASTM Test | Units Metric (U.S.) | UHMW Thickness Gauges | | |
|---|---|---|---|---|---|
| (For Conductive Black Only) | | | .031" | .062" | .125" |
| Volume Resistivity | D257 | Ohms/cm | $5.9544 \times 10^{7}$ | $1.4516 \times 10^{7}$ | $>2 \times 10^{7}$ |
| Dielectric Strength | D150 | Kv/cm(V/mil) | * | * | 142 |
| Dielectric Constant | D150 | | 2.481 | 2.454 | 2.542 |
| Surface Resistivity | D257 | Ohms | $10^{3}$ | $10^{3}$ | $10^{3}$ |
| Static Decay | | Seconds | <.01 | <.01 | <.01 |
| Dissipation Factor | | | | | |
| At 50Hz | D150 | | 0.0594 | 0.0213 | 0.0082 |
| At 10KHz | D150 | | 0.1085 | 0.0690 | 0.0022 |
| At 5MHz | D150 | | 0.1035 | 0.2340 | 0.0034 |

## Comparison of Dynamic Coefficient of Friction on Polished Steel

| Material | UHMW-PE | Nylon 6 | Nylon 6/6 | Nylon MoS2 | PTFE | Acetal Polymer |
|---|---|---|---|---|---|---|
| Dry | .10 – .22 | .15 – .40 | .15 – .40 | .12 – .20 | .04 – .25 | .15 – .35 |
| Water | .05 – .10 | .14 – .19 | .14 – .19 | .10 – .12 | .04 – .08 | .04 – .20 |
| Oil | .05 – .08 | .02 – .11 | .02 – .11 | .08 – .10 | .04 – .05 | .05 – .08 |

* No reading could be taken due to material thickness

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ADVANCED THERMOPLASTIC SOLUTIONS

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