

## SABIC Innovative Plastics Lexan® DMX9455 PC Copolymer (Europe-Africa-Middle East)

Category : Polymer , Thermoplastic , Polycarbonate (PC)

### Material Notes:

Lexan® DMX9455 is a standard flow, flame retardant, V0/1.5mm, opaque polycarbonate copolymer resin with improved scratch resistance. This data was supplied by SABIC-IP for the Europe-Africa-Middle East region.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_SABIC-Innovative-Plastics-Lexan-DMX9455-PC-Copolymer-Europe-Africa-Middle-East.php](http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Lexan-DMX9455-PC-Copolymer-Europe-Africa-Middle-East.php)

| Physical Properties                | Metric                            | English                           | Comments   |
|------------------------------------|-----------------------------------|-----------------------------------|--|
| Specific Gravity                   | 1.20 g/cc                         | 1.20 g/cc                         | ASTM D 792   |
| Density                            | 1.17 g/cc                         | 0.0423 lb/in <sup>3</sup>         | ASTM D 792   |
|                                    | 1.17 g/cc                         | 0.0423 lb/in <sup>3</sup>         | ISO 1183   |
| Water Absorption                   | 0.080 %                           | 0.080 %                           | ASTM D 570   |
|                                    | @Time 86400 sec                   | @Time 24.0 hour                   |  |
| Moisture Absorption at Equilibrium | 0.13 %                            | 0.13 %                            | 23°C / 50% RH; ISO 62                                |
|                                    | 0.13 %                            | 0.13 %                            | 50% RH; ASTM D 570                                   |
|                                    | 0.28 %                            | 0.28 %                            | ASTM D 570   |
|                                    | @Temperature 23.0 °C              | @Temperature 73.4 °F              |  |
|                                    | 0.040 %                           | 0.040 %                           | 50% RH; ASTM D 570                                   |
|                                    | @Time 86400 sec                   | @Time 24.0 hour                   |  |
|                                    | 0.27 %                            | 0.27 %                            | ISO 62   |
| Water Absorption at Saturation     | @Temperature 23.0 °C              | @Temperature 73.4 °F              |  |
|                                    | 0.0050 - 0.0080 cm/cm             | 0.0050 - 0.0080 in/in             | SABIC Method   |
| Linear Mold Shrinkage, Flow        | @Thickness 3.20 mm                | @Thickness 0.126 in               |  |
| Melt Flow                          | 13 g/10 min                       | 13 g/10 min                       | [cm <sup>3</sup> /10 min] Melt Volume Rate; ISO 1133 |
|                                    | @Load 1.20 kg, Temperature 300 °C | @Load 2.65 lb, Temperature 572 °F |  |
|                                    | 14.5 g/10 min                     | 14.5 g/10 min                     | ASTM D 1238  |
|                                    | @Load 1.20 kg, Temperature 300 °C | @Load 2.65 lb, Temperature 572 °F |  |

| Mechanical Properties | Metric | English | Comments |
|-----------------------|--------|---------|----------|
|-----------------------|--------|---------|----------|

| Hardness, Rockwell L<br>Mechanical Properties | 108<br>Metric          | 108<br>English             | ASTM D 785<br>Comments             |
|---|------------------------|----------------------------|------------------------------------|
| Hardness, Rockwell M                          | 93                     | 93                         | ASTM D 785                         |
| Hardness, H358/30                             | 128 MPa                | 18600 psi                  | ISO 2039-1                         |
| Tensile Strength at Break                     | 60.0 MPa               | 8700 psi                   | 50 mm/min; ISO 527                 |
|   | 65.0 MPa               | 9430 psi                   | Type I, 50 mm/min; ASTM D 638      |
| Tensile Strength, Yield                       | 80.0 MPa               | 11600 psi                  | Type I, 50 mm/min; ASTM D 638      |
|   | 80.0 MPa               | 11600 psi                  | 50 mm/min; ISO 527                 |
| Elongation at Break                           | 40 %                   | 40 %                       | 50 mm/min; ISO 527                 |
|   | 70 %                   | 70 %                       | Type I, 50 mm/min; ASTM D 638      |
| Elongation at Yield                           | 7.0 %                  | 7.0 %                      | Type I, 50 mm/min; ASTM D 638      |
|   | 7.0 %                  | 7.0 %                      | 50 mm/min; ISO 527                 |
| Tensile Modulus                               | 2.45 GPa               | 355 ksi                    | 1 mm/min; ISO 527                  |
|   | 2.90 GPa               | 421 ksi                    | 50 mm/min; ASTM D 638              |
| Flexural Yield Strength                       | 108 MPa                | 15700 psi                  | 2 mm/min; ISO 178                  |
|   | 120 MPa                | 17400 psi                  | 1.3 mm/min, 50 mm span; ASTM D 790 |
| Flexural Modulus                              | 2.45 GPa               | 355 ksi                    | 2 mm/min; ISO 178                  |
|   | 2.60 GPa               | 377 ksi                    | 1.3 mm/min, 50 mm span; ASTM D 790 |
| Izod Impact, Notched                          | 0.300 J/cm             | 0.562 ft-lb/in             | ASTM D 256                         |
|   | @Temperature 23.0 °C   | @Temperature 73.4 °F       |                                    |
|   | 0.300 J/cm             | 0.562 ft-lb/in             | ASTM D 256                         |
|   | @Temperature -30.0 °C  | @Temperature -22.0 °F      |                                    |
| Izod Impact, Unnotched                        | NB                     | NB                         | ASTM D 4812                        |
|   | @Temperature 23.0 °C   | @Temperature 73.4 °F       |                                    |
| Izod Impact, Notched (ISO)                    | 4.00 kJ/m <sup>2</sup> | 1.90 ft-lb/in <sup>2</sup> | 80*10*3; ISO 180/1A                |
|   | @Temperature -30.0 °C  | @Temperature -22.0 °F      |                                    |
|   | 5.00 kJ/m <sup>2</sup> | 2.38 ft-lb/in <sup>2</sup> | 80*10*3; ISO 180/1A                |
|   | @Temperature 23.0 °C   | @Temperature 73.4 °F       |                                    |
| Izod Impact, Unnotched (ISO)                  | 45.0 kJ/m <sup>2</sup> | 21.4 ft-lb/in <sup>2</sup> | 80*10*3; ISO 180/1U                |

| Mechanical Properties          | @Temperature -30.0 °C<br>Metric<br>NB            | @Temperature -22.0 °F<br>English<br>NB              | Comments                                      |
|--------------------------------|--|---|---|
|                                | @Temperature 23.0 °C                             | @Temperature 73.4 °F                                | 80*10*3; ISO 180/1U                           |
| Charpy Impact Unnotched        | 4.70 J/cm <sup>2</sup><br>@Temperature -30.0 °C  | 22.4 ft-lb/in <sup>2</sup><br>@Temperature -22.0 °F | Edgew 80*10*3 sp=62mm; ISO 179/1eU            |
|                                | NB<br>@Temperature 23.0 °C                       | NB<br>@Temperature 73.4 °F                          | Edgew 80*10*3 sp=62mm; ISO 179/1eU            |
| Charpy Impact, Notched         | 0.300 J/cm <sup>2</sup><br>@Temperature 23.0 °C  | 1.43 ft-lb/in <sup>2</sup><br>@Temperature 73.4 °F  | V-notch Edgew 80*10*3 sp=62mm; ISO 179/1eA    |
|                                | 0.300 J/cm <sup>2</sup><br>@Temperature -30.0 °C | 1.43 ft-lb/in <sup>2</sup><br>@Temperature -22.0 °F | V-notch Edgew 80*10*3 sp=62mm; ISO 179/1eA    |
| Impact Test                    | 30.0 J<br>@Temperature 23.0 °C                   | 22.1 ft-lb<br>@Temperature 73.4 °F                  | Instrumented Impact Total Energy; ASTM D 3763 |
| Taber Abrasion, mg/1000 Cycles | 10<br>@Load 1.00 kg                              | 10<br>@Load 2.20 lb                                 | CS-17; ASTM D 1044                            |
|                                | 10<br>@Load 1.00 kg                              | 10<br>@Load 2.20 lb                                 | CS-17; SABIC Method                           |

| Thermal Properties              | Metric                                       | English                                       | Comments    |
|---------------------------------|--|---|-------------|
| CTE, linear, Parallel to Flow   | 70.0 μm/m-°C<br>@Temperature -40.0 - 95.0 °C | 38.9 μin/in-°F<br>@Temperature -40.0 - 203 °F | ASTM E 831  |
|                                 | 70.0 μm/m-°C<br>@Temperature 23.0 - 80.0 °C  | 38.9 μin/in-°F<br>@Temperature 73.4 - 176 °F  | ISO 11359-2 |
| CTE, linear, Transverse to Flow | 70.0 μm/m-°C<br>@Temperature -40.0 - 95.0 °C | 38.9 μin/in-°F<br>@Temperature -40.0 - 203 °F | ASTM E 831  |
|                                 | 70.0 μm/m-°C<br>@Temperature 23.0 - 80.0 °C  | 38.9 μin/in-°F<br>@Temperature 73.4 - 176 °F  | ISO 11359-2 |
| Specific Heat Capacity          | 1.40 J/g-°C                                  | 0.335 BTU/lb-°F                               | ASTM C 351  |
| Thermal Conductivity            | 0.200 W/m-K                                  | 1.39 BTU-in/hr-ft <sup>2</sup> -°F            | ASTM C 177  |
|                                 | 0.200 W/m-K                                  | 1.39 BTU-in/hr-ft <sup>2</sup> -°F            | ISO 8302    |

| Thermal Properties                          | Metric             | English              | Comments                         |
|---|--------------------|----------------------|----------------------------------|
| Deflection Temperature at 0.46 MPa (66 psi) | 131 °C             | 268 °F               | Flatw 80*10*4 sp=64mm; ISO 75/Bf |
|   | 133 °C             | 271 °F               | unannealed; ASTM D 648           |
|   | @Thickness 3.20 mm | @Thickness 0.126 in  |                                  |
| Deflection Temperature at 1.8 MPa (264 psi) | 118 °C             | 244 °F               | Flatw 80*10*4 sp=64mm; ISO 75/Af |
|   | 119 °C             | 246 °F               | unannealed; ASTM D 648           |
|   | @Thickness 3.20 mm | @Thickness 0.126 in  |                                  |
| Vicat Softening Point                       | 138 °C             | 280 °F               | Rate B/50; ISO 306               |
|   | 139 °C             | 282 °F               | Rate B/50; ASTM D 1525           |
|   | 140 °C             | 284 °F               | Rate B/120; ISO 306              |
| Flammability, UL94                          | V-2                | V-2                  | UL 94                            |
|   | @Thickness 1.00 mm | @Thickness 0.0394 in |                                  |
|   | V-0                | V-0                  | UL 94                            |
|   | @Thickness 1.50 mm | @Thickness 0.0591 in |                                  |

| Descriptive Properties                 | Value  | Comments       |
|--|--------|----------------|
| Ball Pressure Test, 125°C +/- 2°C      | Passes | IEC 60695-10-2 |
| Erichson scratch depth, 6N, micrometer | 14     | SABIC Method   |
| Pencil Hardness test, 1kgf             | H      | ASTM D 3363    |

## Contact Songhan Plastic Technology Co.,Ltd.

Website : [www.lookpolymers.com](http://www.lookpolymers.com)

Email : [sales@lookpolymers.com](mailto:sales@lookpolymers.com)

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

Address : United North Road 215,Fengxian District, Shanghai City,China