

# CYCOLACT™ RESIN FXS610SK

REGION AMERICAS

## DESCRIPTION

CYCOLAC FXS610SK is a multi purpose ABS injection moulding grade, providing a favourable balance of engineering properties. CYCOLAC FXS610SK is suitable for those applications that require sparkle colour effects.

## TYPICAL PROPERTY VALUES

| PROPERTIES                                  | TYPICAL VALUES | UNITS     | TEST METHODS   |
|---------------------------------------------|----------------|-----------|----------------|
| <b>MECHANICAL</b>                           |                |           |                |
| Taber Abrasion, CS-17, 1 kg                 | 89             | mg/1000cy | SABIC method   |
| Tensile Stress, yield, 5 mm/min             | 45             | MPa       | ISO 527        |
| Tensile Stress, break, 5 mm/min             | 35             | MPa       | ISO 527        |
| Tensile Stress, yield, 50 mm/min            | 50             | MPa       | ISO 527        |
| Tensile Stress, break, 50 mm/min            | 40             | MPa       | ISO 527        |
| Tensile Strain, yield, 5 mm/min             | 2              | %         | ISO 527        |
| Tensile Strain, break, 5 mm/min             | 9              | %         | ISO 527        |
| Tensile Strain, yield, 50 mm/min            | 3              | %         | ISO 527        |
| Tensile Strain, break, 50 mm/min            | 8              | %         | ISO 527        |
| Tensile Modulus, 1 mm/min                   | 2500           | MPa       | ISO 527        |
| Flexural Stress, yield, 2 mm/min            | 74             | MPa       | ISO 178        |
| Flexural Modulus, 2 mm/min                  | 2500           | MPa       | ISO 178        |
| Ball Indentation Hardness, H358/30          | 98             | MPa       | ISO 2039-1     |
| Hardness, Rockwell R                        | 114            | -         | ISO 2039-2     |
| <b>IMPACT</b>                               |                |           |                |
| Izod Impact, notched 80*10*4 +23°C          | 10             | kJ/m²     | ISO 180/1A     |
| Izod Impact, notched 80*10*4 -30°C          | 7              | kJ/m²     | ISO 180/1A     |
| Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm  | 10             | kJ/m²     | ISO 179/1eA    |
| Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm | 6              | kJ/m²     | ISO 179/1eA    |
| <b>THERMAL</b>                              |                |           |                |
| Thermal Conductivity                        | 0.2            | W/m-°C    | ISO 8302       |
| CTE, 23°C to 60°C, flow                     | 8.E-05         | 1/°C      | ISO 11359-2    |
| CTE, 23°C to 60°C, xflow                    | 8.E-05         | 1/°C      | ISO 11359-2    |
| Ball Pressure Test, 75°C +/- 2°C            | PASSES         | -         | IEC 60695-10-2 |
| Vicat Softening Temp, Rate B/50             | 100            | °C        | ISO 306        |
| Vicat Softening Temp, Rate B/120            | 102            | °C        | ISO 306        |
| HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm     | 92             | °C        | ISO 75/Be      |
| HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm     | 80             | °C        | ISO 75/Ae      |
| <b>PHYSICAL</b>                             |                |           |                |
| Mold Shrinkage on Tensile Bar, flow         | 0.5 – 0.7      | %         | SABIC method   |
| Density                                     | 1.06           | g/cm³     | ISO 1183       |
| Water Absorption, (23°C/saturated)          | 1              | %         | ISO 62-1       |
| Moisture Absorption (23°C / 50% RH)         | 0.2            | %         | ISO 62         |
| Melt Flow Rate, 220°C/ 10.0 kg              | 25             | g/10 min  | ISO 1133       |

| PROPERTIES                                    | TYPICAL VALUES                 | UNITS                    | TEST METHODS      |
|-----------------------------------------------|--------------------------------|--------------------------|-------------------|
| Melt Volume Rate, MVR at 220°C/ 10.0 kg       | 24                             | cm <sup>3</sup> / 10 min | ISO 1133          |
| ELECTRICAL                                    |                                |                          |                   |
| Volume Resistivity                            | >1.E+15                        | Ω.cm                     | IEC 60093         |
| Surface Resistivity, ROA                      | >1.E+15                        | Ω                        | IEC 60093         |
| Dielectric Strength, in oil, 0.8 mm           | 35                             | kV/mm                    | IEC 60243-1       |
| Dielectric Strength, in oil, 1.6 mm           | 26                             | kV/mm                    | IEC 60243-1       |
| Dielectric Strength, in oil, 3.2 mm           | 18                             | kV/mm                    | IEC 60243-1       |
| Relative Permittivity, 1 MHz                  | 2.6                            | -                        | IEC 60250         |
| Dissipation Factor, 50/60 Hz                  | 0.004                          | -                        | IEC 60250         |
| Dissipation Factor, 1 MHz                     | 0.009                          | -                        | IEC 60250         |
| Comparative Tracking Index                    | 600                            | V                        | IEC 60112         |
| Relative Permittivity, 50/60 Hz               | 2.7                            | -                        | IEC 60250         |
| FLAME CHARACTERISTICS                         |                                |                          |                   |
| UL Yellow Card Link                           | <a href="#">E121562-220729</a> | -                        | -                 |
| UL Compliant, 94HB Flame Class Rating         | 1.5                            | mm                       | UL 94 by SABIC-IP |
| Glow Wire Flammability Index 650°C, passes at | 1                              | mm                       | IEC 60695-2-12    |
| INJECTION MOLDING                             |                                |                          |                   |
| Drying Temperature                            | 85 – 95                        | °C                       |                   |
| Drying Time                                   | 2 – 4                          | Hrs                      |                   |
| Maximum Moisture Content                      | 0.1                            | %                        |                   |
| Melt Temperature                              | 220 – 260                      | °C                       |                   |
| Nozzle Temperature                            | 210 – 250                      | °C                       |                   |
| Front - Zone 3 Temperature                    | 220 – 260                      | °C                       |                   |
| Middle - Zone 2 Temperature                   | 220 – 260                      | °C                       |                   |
| Rear - Zone 1 Temperature                     | 200 – 240                      | °C                       |                   |
| Hopper Temperature                            | 60 – 80                        | °C                       |                   |
| Mold Temperature                              | 40 – 80                        | °C                       |                   |