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## Iupilon -Basic Properties-

|                                         |                      |                    |           | for Lens of glasses |
|-----------------------------------------|----------------------|--------------------|-----------|---------------------|
| Properties                              | Test Method          | Terms              | Units     | CLS1000             |
|                                         |                      |                    |           | High Viscosity      |
|                                         |                      |                    |           | Light stabilized    |
|                                         |                      |                    |           | -                   |
|                                         |                      |                    |           | -                   |
|                                         |                      |                    |           | -                   |
| Physical properties                     |                      |                    |           |                     |
| Density                                 | ISO 1183             | -                  | g/cm³     | 1.20                |
| Water absorption                        |                      | 23degC, 50%RH      | %         | -                   |
|                                         |                      | 23degC, Underwater |           | 0.24                |
| Rheological properties                  |                      |                    |           |                     |
| Melt Mass-flow Rate                     | ISO 1133             |                    | g/10min   | 5.3                 |
| Melt Volume-flow Rate                   |                      |                    | cm³/10min | 5.0                 |
|                                         |                      | Temperature        | degC      | 300                 |
|                                         |                      | Load               | kgf       | 1.20                |
| Moulding shrinkage (3.2mmt)             | -                    | MD                 | %         | 0.5 - 0.7           |
|                                         |                      | TD                 |           | 0.5 - 0.7           |
| Mechanical properties                   |                      |                    |           |                     |
| Tensile modulus                         | ISO 527-1<br>, 527-2 |                    | MPa       | 2400                |
| Yield stress                            |                      |                    |           | 60                  |
| Yield strain                            |                      |                    | %         | 5.4                 |
| Nominal strain at break                 |                      | -                  |           | 108                 |
| Stress at 50% strain                    |                      |                    | MPa       | -                   |
| Stress at break                         |                      |                    |           | -                   |
| Strain at break                         |                      |                    | %         | -                   |
| Flexural strength                       |                      | ISO 178            | -         | MPa                 |
| Flexural modulus                        |                      |                    |           | 2300                |
| Charpy impact strength                  | ISO 179-1<br>, 179-2 | 23 degC            | kJ/m²     | NB                  |
| Charpy notched impact strength          |                      | 23 degC            | kJ/m²     | 88                  |
| Thermal properties                      |                      |                    |           |                     |
| Temperature of deflection under load    | ISO 75-1<br>, 75-2   | 1.80MPa            | degC      | 131                 |
|                                         |                      | 0.45MPa            |           | 145                 |
| Coefficient of Linear thermal expansion | ISO 11359-2          | MD                 | 1/degC    | 6.5E-05             |
|                                         |                      | TD                 |           | 6.6E-05             |
| Flammability                            | UL94                 | -                  | -         | -                   |
| Electrical properties                   |                      |                    |           |                     |
| Relative permittivity                   | IEC 60250            | 100Hz              | -         | 3.1                 |
|                                         |                      | 1MHz               | -         | 3.1                 |
| Dissipation factor                      | IEC 60250            | 100Hz              | -         | 0.0006              |
|                                         |                      | 1MHz               | -         | 0.0090              |
| Volume resistivity                      | IEC 60093            | -                  | ohm-m     | 3.E+14              |
| Surface resistivity                     | IEC 60093            | -                  | ohm       | 6.E+15              |

|                                                                                  |            |                      |      |                                              |
|----------------------------------------------------------------------------------|------------|----------------------|------|----------------------------------------------|
| Electric strength                                                                | IEC 602431 | 1mmt<br>2mmt<br>3mmt | MV/m | 31<br>-<br>18                                |
| Comparative tracking index (CTI)                                                 | UL746A     | -                    | -    | -                                            |
| Note                                                                             |            |                      |      | Cut UV of<br>under 380nm<br>at 3mmt          |
| Molding conditions -Examples of recommended molding conditions are shown below.- |            |                      |      |                                              |
| Drying of feedstock resin                                                        |            |                      |      | Hot air drying<br>at 120℃ ---about 4-8 hours |
| Cylinder temp (rear)                                                             |            |                      | ℃    | 260-280                                      |
| Cylinder temp (center)                                                           |            |                      | ℃    | 270-290                                      |
| Cylinder temp (front)                                                            |            |                      | ℃    | 270-300                                      |
| Nozzle temp                                                                      |            |                      | ℃    | 270-300                                      |
| Mold temp                                                                        |            |                      | ℃    | 80-120                                       |
| Injection pressure                                                               |            |                      | MPa  | 50-150                                       |
| Screw rotation                                                                   |            |                      | rpm  | 50-100                                       |

