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| <br><b>TECHNICAL DATA SHEET ISO</b> | Number     | SL-TE-WI-061 |
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## Product Name: PETG Carbon Fiber

### Product features

Printed models exhibit a carbon fiber texture with excellent impact resistance.

### Main applications:

Structural parts, decorative items, toys, accessories, and figurines.

### Points for attention:

To achieve better print quality, if the filament has been exposed to air for more than 48 hours after opening the package, it is recommended to perform moisture drying before printing.

Recommended drying conditions: 70 °C for 4–6 hours.

| Properties                                       | Test Method | Test Condition | S.I. Units        | Typical Values        |
|--------------------------------------------------|-------------|----------------|-------------------|-----------------------|
| <b>Mechanical</b>                                |             |                |                   |                       |
| (X-Y) Tensile Strength                           | ISO 527/2   | 50 mm/min      | MPa               | 32±4                  |
| (X-Y) Young's Modulus                            | ISO 527/2   | 1 mm/min       | MPa               | /                     |
| (X-Y) Elongation at break                        | ISO 527/2   | 50 mm/min      | %                 | 14±3                  |
| (X-Y) Flexural Strength                          | ISO 178     | 2 mm/min       | MPa               | 55.5±5                |
| (X-Y) Flexural Modulus                           | ISO 178     | 2 mm/min       | MPa               | 1960±200              |
| (X-Y) Izod Impact Strength of Notched Specimen   | ISO 180     | 23°C           | KJ/m <sup>2</sup> | 7±2                   |
| (Z-X) Izod Impact Strength of Unnotched Specimen | ISO 180     | 23°C           | KJ/m <sup>2</sup> | 5.5±1.5               |
| Shore Hardness                                   | ISO 868     | 23°C           | HA/HD             | 71                    |
| <b>Thermal</b>                                   |             |                |                   |                       |
| (X-Y) Heat Distortion (HDT)                      | ISO 75      | 0.45 MPa       | °C                | 71±3                  |
| Glass Transition (Tg)                            | ISO 11357-2 | 10 °C/min      | °C                | 65                    |
| Melting Temperature                              | ISO 11357-3 | 10 °C/min      | °C                | /                     |
| @5%Decomposition Temp.                           | ISO 11358   | 20 °C/min      | °C                | ≥425                  |
| Vicat Softening Temp.                            | ISO 306     | 5kg, 50°C/h    | °C                | /                     |
| Moulding Shrinkage                               | ISO 294     | 23°C           | %                 | /                     |
| Coefficient of Thermal Exp.                      | ISO 11359-2 |                | µm (m °C)         | /                     |
| <b>Others</b>                                    |             |                |                   |                       |
| Melt Mass-flow Rate                              | ISO 1133    | 210°C/2.16 kg  | g/10 min          | 5.7±1.5               |
| Density                                          | ISO 1183    | 23°C           | g/cm <sup>3</sup> | 1.23                  |
| Volume Resistivity                               | IEC 60093   | -              | ohm-cm            | 1.05×10 <sup>12</sup> |
| Permittivity                                     | IEC 60250   | 1 kHz          |                   | 2.6                   |
| Flammability                                     | UL 94       | 1.5 mm         | Class             | HB                    |

|                                                                                                                      |            |              |
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| Chemical              |       |
|-----------------------|-------|
| Item                  | Class |
| Weak Acid (pH 3-6)    | Good  |
| Strong Acid (pH<3)    | Bad   |
| Weak Bases (pH 8-10)  | Good  |
| Strong Bases (pH >10) | Bad   |
| Deionized Water       | Good  |
| Alcohol               | Good  |
| Ketone                | Bad   |
| Petroleum Fuels       | Good  |
| Ester                 | Good  |

Grade: Excellent、Good、Normal、Bad

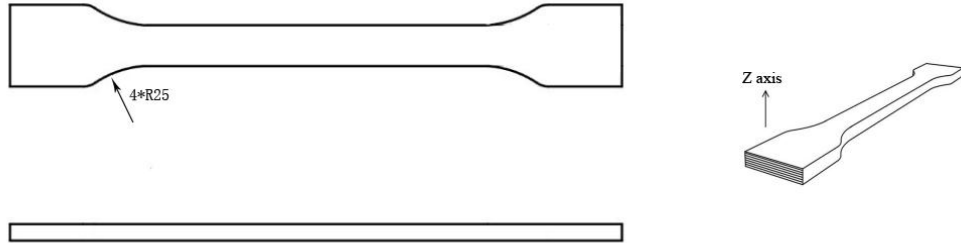
## Recommended Printing Parameters

| Parameters          | Range                                                                    |               |
|---------------------|--------------------------------------------------------------------------|---------------|
| Nozzle Temp.        | Temperature<br>℃                                                         | Speed<br>mm/s |
|                     | 240-250                                                                  | ≤150          |
|                     |                                                                          |               |
| Plate Temp.         | 50-70℃                                                                   |               |
| Plate Material      | Textured PEI Build Plate                                                 |               |
| Plate Treatment     | GULE                                                                     |               |
| Cooling Fan         | Open <input checked="" type="checkbox"/> /Close <input type="checkbox"/> |               |
| Raft Distance       | 0.2-0.4mm                                                                |               |
| Retraction Distance | 0.8-1.2mm                                                                |               |
| Retraction Speed    | 30mm/s                                                                   |               |
| Room Temp.          | Room Temperature                                                         |               |
| Supported Material  | PVA                                                                      |               |
| Drying Temp.        | 70℃                                                                      |               |

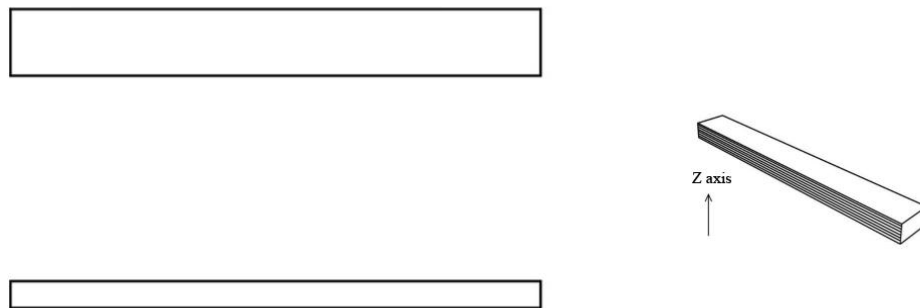
The above values are provided for printer reference only. The parameters may be appropriately adjusted according to different printer models, printed objects, and specific application requirements.

|                                                                                                                      |            |              |
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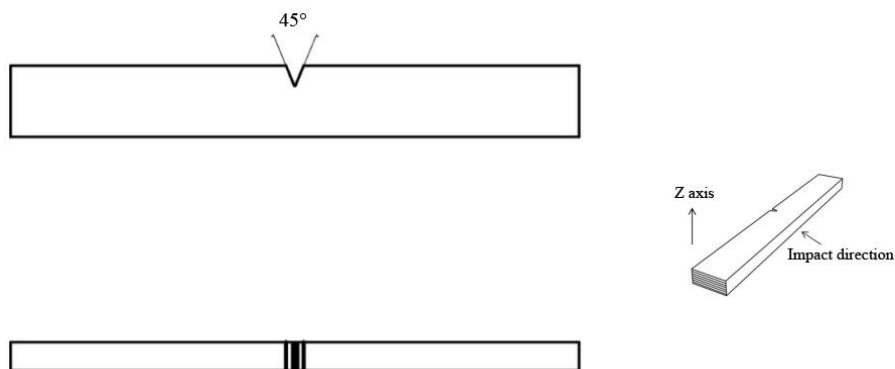
## TENSILE TESTING SPECIMEN



## FLEXURAL TESTING SPECIMEN



## IMPACT TESTING SPECIMEN



Note:

[1] Test specimens were printed at a printing speed of 45 mm/s and a printing temperature of 255 °C. Infill: 100%, with a 90° raster orientation.

[2] The typical values represent average laboratory data and are provided for reference only. They do not constitute product specifications. Results may vary depending on different printers.

## Safety and Handling Precautions

|                                                                                                                      |            |              |
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A Material Safety Data Sheet (SDS) for this product is available from your local Sunlu office.

The SDS provides customers with information on material handling, safety and disposal, as well as the requirements of applicable local health and safety regulations. The following are general precautions and apply only to the resins supplied. The various additives and processing aids used in plastics moulding and other materials used in secondary processes have their own safety requirements and must be understood separately.

This product has extremely low toxicity, and under normal conditions of use, there are no particular issues with inhalation, eye contact, or skin contact. However, care must be taken when handling, storing, using or disposing of these resins. Workplace should be kept clean to avoid dust accumulation. Contact with molten resins during processing operations should be minimized. Plastic resin products generate dust and gases during the manufacturing process. Dust generated during operations such as sawing, filing and sanding of printed parts may irritate the eyes and upper respiratory tract. In dusty manufacturing

environments, it is recommended that operators use respirators or masks approved by the appropriate authorities.

The print processing area should be well ventilated as required by proper operating procedures. When plastics are processed above the melting temperature, fumes containing decomposing substances are released and may be irritating. In most cases, good general ventilation equipment is sufficient. Local extract ventilation should be used when necessary. When there is a risk of eye injury from airborne particles during work, protective goggles should be worn. If necessary, wear insulated gloves for protection when handling the resin.

The product may yellow under the action of ultraviolet light, so it should be stored away from direct sunlight.

Users are advised to investigate the final use of their product beforehand to ensure the correct use of Sunlu products. To prevent misuse or incorrect use of Sunlu products, it is advisable to contact the Sunlu R&D department or the marketing department.

Note: Due to variations in usage conditions and applicable laws by location and time, customers are responsible for determining whether the products and product information in this document are suitable for their use. Customers should ensure that their workspaces and handling methods comply with applicable laws and other government regulations. Sunlu assumes no responsibility or liability for the information in this document and does not provide any warranties. All implied warranties of merchantability or fitness for a particular purpose under this document are hereby expressly excluded.