

// MATERIAL · BAMBU LAB · FDM

# PLA PURE

A PLA made from five named ingredients, each cleared for food contact and toy safety — for prints that children handle and homes where the printer runs in the living room.

|                              |                                                                                                                      |
|------------------------------|----------------------------------------------------------------------------------------------------------------------|
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# PLA Pure

A PLA made from five named ingredients, each cleared for food contact and toy safety — for prints that children handle and homes where the printer runs in the living room.

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## 5 · Compared with other brands

Most PLA filaments are a recipe the maker keeps to itself: the polymer plus impact modifiers, flow agents, pigments and processing aids that nobody lists. PLA Pure takes the opposite approach. It contains exactly five components — polylactic acid, an acrylic copolymer, colour pigments, a wax-like lubricant (EBS) and talc — and every one of them appears on the European Union's positive list for plastics that touch food, with the talc additionally tested to be asbestos-free. Nothing else went in. That discipline earned it certifications no other PLA in the range holds, and it changed the material: PLA Pure is stronger in a pull than PLA Basic but more brittle, prints more slowly, and comes in only five colours.

### FEELS LIKE

#### Hard, smooth, clean

Indistinguishable from PLA Basic in the hand

### WHAT IS DIFFERENT

#### Five ingredients, all traceable

Every substance carries an EU food-contact registration number

### CERTIFICATIONS

#### EU 10/2011 · EN 71-3 · UL 2904

Food-contact materials, toy safety (element migration), low emissions

### STRENGTH

#### Stronger but more brittle

About 50 % higher pull strength than PLA Basic; half the stretch before breaking

### COLOUR RANGE

#### 5 colours

Pure White, Absolute Black, Apricot, Baby Blue, Milky Pink

### EASE OF PRINTING

#### Easy, a little slower

Max 200 mm/s rather than 300; no glue on the bed

## Where it sits in the range

Each bar shows this material against the strongest value found anywhere in this series of guides, PLA and PETG together (bar full = best in the series). The dark tick marks plain PLA Basic, the material most people know, so you can see at a glance where this one gives up or gains something. Values come from the manufacturer's own datasheets, measured on test bars printed flat (X-Y).

|                    |                        |                        |
|--------------------|------------------------|------------------------|
| Strength (tensile) | <div><div></div></div> | 51.5 MPa               |
| Stiffness          | <div><div></div></div> | 2481 MPa               |
| Toughness (impact) | <div><div></div></div> | 20.6 kJ/m <sup>2</sup> |
| Layer bonding      | <div><div></div></div> | 10 kJ/m <sup>2</sup>   |
| Heat tolerance     | <div><div></div></div> | 56 °C                  |

■ PLA Pure   ■ PLA Basic reference

### Good for

- Children's toys, rattles, teethingers' outer shells, building blocks and puzzle pieces
- Cookie cutters, dry-goods scoops, measuring spoons and other dry-food utensils

### Not the right choice for

- Containers for liquids, sauces or anything wet — the layered surface harbours bacteria
- Anything above 60 °C, hot drinks, or the dishwasher

- Printing in bedrooms, classrooms, offices and small flats where emissions matter
- Anything sold or given away where a certificate can be shown to the recipient
- Everyday household items where you would otherwise choose PLA Basic

- Snap-fits, clips and thin flexing features — this is the most brittle plain PLA in the range
- Parts needing many colours; the palette is deliberately small
- Prints that need glue on the bed for adhesion — the manufacturer advises against it for contact-safe parts

## What the certifications do and do not promise

Three independent certifications sit behind the product. EU Regulation 10/2011 covers plastics intended to contact food: here it applies at ingredient level, with each of the five substances individually listed and its suppliers (TotalEnergies Corbion, Chemours, Dow, BASF) named. EN 71-3 is the European toy standard for migration of heavy metals such as lead, cadmium and chromium from the material. UL 2904 GREENGUARD certifies low particle and VOC emissions from the filament while printing. What none of them can certify is a specific finished print: a 3D-printed object's safety also depends on the cleanliness of the nozzle, whether a previous filament left residue, and the porous layered surface. The manufacturer is explicit that suitability for dry food contact is achievable, that liquids should be avoided, and that 60 °C is the ceiling. The claim that PLA Pure "matches PLA Basic mechanically" should also be read with the datasheet in hand: it is stronger and stiffer in bending but roughly half as ductile.

## 2 · Living with a PLA Pure print

A PLA Pure print is cared for like any PLA print, with a small set of additional rules that follow from why you bought it: keep the surface clean, keep it dry, and keep it cool.

|                   |                                                                                                                                                                                           |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Heat              | Glass transition 55 °C — the lowest in the plain-PLA group. Nothing hotter than warm tap water. The food-contact guidance stops at 60 °C.                                                 |
| Food              | Suitable for dry foods and short contact (cutters, scoops, utensil handles). Not for liquids, fatty or acidic foods left in contact, or hot food. Hand-wash in warm water; no dishwasher. |
| Hygiene           | Layer grooves trap residue. Print food-contact items with thicker layers and smooth surfaces, wash before first use, and replace when scratched or stained.                               |
| Sunlight          | As PLA: fine indoors, embrittles under years of direct UV.                                                                                                                                |
| Water and damp    | Insoluble. Moisture uptake 0.45 %; the manufacturer recommends re-drying an opened spool within 18 days.                                                                                  |
| Chemicals         | As PLA: resists oils; attacked by acids, alkalis and some solvents.                                                                                                                       |
| Children and pets | This is the grade designed for it — with the usual reservation that small parts are a choking hazard regardless of material.                                                              |
| End of life       | General waste or 3D-print recycling. Industrially compostable in principle; the talc is inert.                                                                                            |

### Looks and feel

Smooth and semi-gloss like PLA Basic, with slightly cleaner surfaces and less nozzle build-up because there

### Care

- Hand-wash in warm soapy water and dry; never the dishwasher

are fewer additives to bake onto the tip. Colours are gentle and opaque; the white is a clean neutral white.

- Do not use glue stick or liquid glue on the bed when printing contact-safe items — adhesive residue defeats the purpose
- Sand only with wet paper and rinse thoroughly afterwards if the item will touch food
- Store spare filament sealed with desiccant; re-dry after about 18 days open
- Replace food-contact items once they are scratched, crazed or discoloured

#### **Brittleness is the trade-off**

Elongation at break is 5.6 % flat and 2.8 % across layers — less than half of PLA Basic. Thin walls and small clips crack rather than bend. Use thicker walls, more perimeters and rounded corners.

## **What PLA actually is**

PLA stands for polylactic acid. It is a polyester made by fermenting plant sugars — usually corn starch or sugarcane — into lactic acid and then linking those molecules into long chains. That plant origin is why PLA is often described as a bioplastic: the carbon in it was recently in a field, not in an oil well. It is the most widely used material in desktop 3D printing for a practical reason: it melts at a low temperature, barely shrinks as it cools, and therefore prints reliably on almost any machine without an enclosure.

Its two well-known limits follow from the same chemistry. PLA is a semi-crystalline polymer with a glass transition around 55–60 °C, so it starts to soften at temperatures a car dashboard or a sunny windowsill can reach. And although it is compostable in principle, that only happens in an industrial composting plant at around 60 °C with the right microbes; in a garden heap, in soil or in the sea it behaves like any other plastic for many years. Printed PLA should go into general waste or a dedicated 3D-print recycling stream, not the organic bin. Every variant in this series is a PLA base with something changed — a filler, a pigment system, an additive package or a foaming agent — and each guide explains what that change does to the material's behaviour.

## **3 · How it is printed**

PLA Pure's melt is much thicker than PLA Basic's (melt flow index 11.8 against 42), so the manufacturer caps speed at 200 mm/s and specifies a shorter retraction. The other notable difference is the bed: adhesive is discouraged for contact-safe parts, so adhesion comes from plate choice and a higher bed temperature instead.

### **Manufacturer print window**

|                    |                                                                                             |
|--------------------|---------------------------------------------------------------------------------------------|
| Nozzle temperature | 190–230 °C                                                                                  |
| Bed temperature    | 35–65 °C — the widest window in the PLA range; go higher for adhesion instead of using glue |
| Build plates       | Textured PEI, Smooth PEI, Cool Plate SuperTack                                              |
| Bed adhesive       | Not recommended — adhesive residue may compromise contact safety                            |
| Chamber            | 25–40 °C, no enclosure                                                                      |
| Print speed        | Up to 200 mm/s                                                                              |

|                              |                          |
|------------------------------|--------------------------|
| Part cooling fan             | On                       |
| Retraction                   | 0.4–0.8 mm at 20–40 mm/s |
| Max overhang without support | About 55°                |
| Max unsupported bridge       | About 30 mm              |

## Hardware and compatibility

|                            |                                                                                                           |
|----------------------------|-----------------------------------------------------------------------------------------------------------|
| Nozzle sizes               | 0.2, 0.4, 0.6 and 0.8 mm                                                                                  |
| Nozzle material            | Any; hardened steel not required                                                                          |
| Abrasive                   | No                                                                                                        |
| Automatic material systems | Compatible with AMS, AMS lite, AMS 2 Pro and AMS HT                                                       |
| Spool identification       | RFID tag                                                                                                  |
| Format                     | Spool, and spool-free refill for the reusable spool                                                       |
| Nozzle hygiene             | For food-contact prints, use a nozzle that has not run pigmented or filled filaments, or purge thoroughly |

## Moisture, drying and storage

PLA Pure is the only plain PLA in the range for which the manufacturer publishes full drying figures including the in-AMS dryers, and the only one with a stated re-dry interval.

|                                      |                                                       |
|--------------------------------------|-------------------------------------------------------|
| Forced-air oven or filament dryer    | 50 °C for 8 hours                                     |
| Heated print bed method              | 60–70 °C for 12 hours, covered                        |
| AMS 2 Pro / AMS HT, filament loaded  | 45 °C for 12 hours                                    |
| AMS 2 Pro / AMS HT, spool not loaded | 55 °C for 8 hours                                     |
| Re-dry interval                      | At most 18 days after opening before quality degrades |
| Storage                              | Sealed with desiccant, below 20 % relative humidity   |

## Tips that make a visible difference

- Run a fresh or well-purged nozzle for food-contact items; a few grams of PLA Pure purged first clears most residue
- Use the Cool Plate SuperTack or textured PEI at 55–65 °C rather than reaching for glue
- For utensils, print at 0.24–0.28 mm layers with a 0.6 mm nozzle: fewer, wider grooves are easier to clean
- Do not push speed profiles written for PLA Basic; above 200 mm/s it under-extrudes

## Known problems and their fixes

### First layer will not stick without glue

Raise the bed toward 65 °C, use the SuperTack or textured PEI plate, wash the plate. Glue is a last resort and only for non-contact parts.

### Thin features crack during support removal or use

Low elongation. Thicken to at least 1.2 mm, add perimeters, round corners; remove supports with the part warm from the bed.

### Under-extrusion or gaps at high speed

Thick melt. Keep below 200 mm/s and check the profile is the PLA Pure one, not PLA Basic.

### Rough surface or popping a few weeks after opening

Moisture — the 18-day re-dry interval has passed. Dry at 50 °C for 8 hours.

## 4 · The numbers — technical datasheet

Figures are from the PLA Pure Technical Data Sheet V1.0. Two rows on that sheet appear to contain transcription errors (see data notes) and are reproduced as published with a flag.

### Physical and thermal properties

| Property                              | Test method    | Value                  |
|---------------------------------------|----------------|------------------------|
| Density                               | ISO 1183       | 1.24 g/cm <sup>3</sup> |
| Melt flow index (210 °C, 2.16 kg)     | ISO 1133       | 11.76 ± 1.6 g/10 min   |
| Melting temperature                   | DSC, 10 °C/min | 160 °C                 |
| Glass transition temperature          | DSC, 10 °C/min | 55 °C                  |
| Vicat softening temperature           | ISO 306        | 63 °C                  |
| Heat deflection temperature, 0.45 MPa | ISO 75         | 56 °C <sup>1</sup>     |
| Heat deflection temperature, 1.8 MPa  | ISO 75         | 60 °C <sup>1</sup>     |
| Moisture absorption (55 % RH)         | as published   | 0.45 % <sup>2</sup>    |
| Saturated water absorption            | as published   | 0.28 % <sup>2</sup>    |

### Mechanical properties

| Property                 | Test method | X-Y (flat)                   | Z (across layers)            |
|--------------------------|-------------|------------------------------|------------------------------|
| Young's modulus          | ISO 527     | 2481 ± 20 MPa                | 2196 ± 25 MPa                |
| Tensile strength         | ISO 527     | 51.5 ± 2 MPa                 | 30.0 ± 3 MPa                 |
| Elongation at break      | ISO 527     | 5.6 ± 1.0 %                  | 2.8 ± 0.5 %                  |
| Bending modulus          | ISO 178     | 2880 ± 100 MPa               | 2599 ± 71 MPa                |
| Bending strength         | ISO 178     | 75 ± 2 MPa                   | 55 ± 5 MPa                   |
| Charpy impact, unnotched | ISO 179     | 20.6 ± 0.7 kJ/m <sup>2</sup> | 10.0 ± 0.7 kJ/m <sup>2</sup> |
| Charpy impact, notched   | ISO 179     | not published                | not published                |

<sup>1</sup> The two HDT values are almost certainly transposed on the source sheet: the light-load figure is always the higher one.

<sup>2</sup> The two moisture rows on the source sheet carry inconsistent method labels and an implausible ordering (a saturated value below the 55 % RH value); read them as "about 0.3–0.45 %".

### What the mechanical numbers mean in practice

PLA Pure is the strongest plain PLA in the range in a slow pull — 51.5 MPa flat against 35 for PLA Basic — and among the stiffest in bending. But the toughness columns tell the other half of the story: elongation is less than half of PLA Basic's in both directions, unnotched impact is lower (20.6 against 26.6 kJ/m<sup>2</sup>), and the Z-direction pull strength is only 58 % of X-Y, meaning the layers do not fuse as well as PLA Basic's 89 %. Without the impact modifiers that ordinary PLA carries, the polymer behaves closer

to its natural, glassy self. In practice: excellent for rigid objects, cutters and blocks; poor for anything that must flex, snap together or survive being trodden on.

**Product format**

|                   |                                                                                                                       |
|-------------------|-----------------------------------------------------------------------------------------------------------------------|
| Diameter          | 1.75 mm ± 0.03 mm                                                                                                     |
| Net weight        | 1 kg                                                                                                                  |
| Spool             | Reusable spool; refill format also offered                                                                            |
| Colours           | 5 at retail: Pure White, Absolute Black, Apricot, Baby Blue, Milky Pink (the V1.0 datasheet lists only red and white) |
| Identification    | RFID tag                                                                                                              |
| Datasheet version | V1.0; launched June 2026                                                                                              |

**Safety, certifications and chemical resistance**

- Composition fully declared: polylactic acid, acrylic copolymer, pigments, ethylene bis-stearamide, talc (verified asbestos-free)
- EU 10/2011: each ingredient individually listed for food-contact plastics, with FCM substance numbers
- EN 71-3: toy safety, migration of certain elements; certificate available from the manufacturer
- UL 2904 GREENGUARD: low particulate and VOC emissions during printing; four-hour prints measured below typical indoor background — no absolute figures published
- Not claimed: EN 71-9, ASTM F963, FDA, GB 4806, UKCA
- Food contact is ingredient-level; finished-part suitability depends on print hygiene. Dry foods only, not above 60 °C, not dishwasher-safe
- Flammable; combustion products water and carbon oxides. Resistant to oils; not to acids, alkalis or some solvents

**5 · Compared with Polymaker and SUNLU**

PLA Pure has no direct equivalent. Neither Polymaker nor SUNLU sells a PLA positioned on ingredient traceability or toy-safety certification, and both take a public position against material-level food-contact claims for 3D printing — Polymaker explicitly, SUNLU implicitly by declining food-contact use for its own PLA.

## Polymaker

No equivalent · nearest by description: PolyLite PLA (natural)

Polymaker's plain PLA offers a comparable tensile strength (52 MPa) with similar brittleness (6 % elongation, 3.3 kJ/m<sup>2</sup> notched Charpy), so mechanically it is a close cousin. It carries REACH and RoHS statements but no food-contact or toy certification, and Polymaker's own documentation states that no FDA certification exists for its materials and that certification cannot be transferred to a printed object.

|                          |                       |
|--------------------------|-----------------------|
| Tensile X-Y / Z          | 52.3 / 40.5 MPa       |
| Elongation X-Y           | 6.3 %                 |
| Charpy notched X-Y       | 3.3 kJ/m <sup>2</sup> |
| HDT 0.45 MPa             | 60 °C                 |
| Food / toy certification | none claimed          |
| Spool                    | cardboard             |

## SUNLU

No equivalent · nearest by description: SUNLU PLA (natural) · PLA Meta

SUNLU's store page for PLA+ 2.0 states that the filament is not recommended for food contact, even though PLA as a polymer is food-safe. A SUNLU blog post describes PLA Meta as FDA and CE certified, BPA-free and VOC-free, but no certificate is linked and no ingredient list is published, so the claim cannot be checked against anything comparable to EU 10/2011 or EN 71-3.

|                          |                             |
|--------------------------|-----------------------------|
| Tensile (PLA Meta)       | 50 ± 5 MPa                  |
| Izod notched (PLA Meta)  | 6.5 ± 2.5 kJ/m <sup>2</sup> |
| HDT (PLA Meta)           | 57 ± 3 °C                   |
| Food / toy certification | blog claim, no certificate  |
| Diameter                 | 1.75 ± 0.02 mm              |
| Spool                    | cardboard, refill available |

### Reading cross-brand numbers fairly

Manufacturer datasheets are produced by different labs on different printers, and two numbers are comparable only when the test standard, specimen orientation and impact method match. Charpy and Izod impact results are not interchangeable; notched and unnotched results differ by a factor of three or more; and Polymaker publishes Z-direction data where SUNLU publishes none. Treat cross-brand figures as an indication of class, not a ranking. Where a brand's marketing claim is not backed by its own datasheet, this guide says so.

**Bottom line.** If the reason for the purchase is a certificate you can hand to a parent, a teacher or a customer, PLA Pure is currently the only product among the three brands that provides one. If the reason is merely a clean natural-coloured PLA, any of the three will do and the others are cheaper.

## How to read the datasheet

### X-Y vs Z

A 3D print is a stack of layers. X-Y describes a test bar printed lying flat, where the load runs along the extruded lines. Z describes a bar printed standing up, where the load tries to pull the layers apart. Z values are always lower, and the ratio between them tells you how well the layers have fused. Real parts fail along layer lines far more often than through them.

### Tensile strength (MPa)

The stress at which a bar pulled from both ends breaks. Megapascals are newtons per square millimetre: a 10 mm × 10 mm cross-section of a 35 MPa material holds roughly 3.5 kN, about 350 kg, before it snaps in a slow pull.

### Young's modulus (MPa)

Stiffness — how much force it takes to stretch the material by a given amount. Higher means more rigid. It says nothing about strength: a stiff material can still be brittle.

### Elongation at break (%)

How far the bar stretched before it broke, as a percentage of its original length. Low values (under 5 %) mean the material snaps with little warning; higher values mean it yields and bends first.

|                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Bending (flexural) strength and modulus</b> | The same two ideas measured by pressing down on the middle of a bar supported at both ends — closer to how brackets, clips and shelves are actually loaded.                                                                                                                                                                                                                                                                                     |
| <b>Charpy impact (kJ/m<sup>2</sup>)</b>        | A pendulum hammer strikes the bar; the energy it absorbs before breaking is divided by the fracture area. This is the best single indicator of toughness — resistance to drops and knocks. Unnotched bars measure the bulk material; notched bars have a small cut that concentrates stress and give much lower numbers. Never compare a notched figure with an unnotched one, or a Charpy figure with an Izod one (a different test geometry). |
| <b>Glass transition, T<sub>g</sub> (°C)</b>    | The temperature at which the polymer's chains gain enough mobility for it to change from glassy and rigid to leathery and soft. Above T <sub>g</sub> a loaded part will slowly creep and deform. For PLA and PETG this is the single most important thermal number.                                                                                                                                                                             |
| <b>Heat deflection temperature, HDT (°C)</b>   | The temperature at which a bar under a fixed bending load sags by a set amount. Quoted at 0.45 MPa (light load) and 1.8 MPa (heavy load); the light-load figure is always the higher of the two. Practical rule: keep loaded parts well below the 0.45 MPa figure.                                                                                                                                                                              |
| <b>Vicat softening point (°C)</b>              | The temperature at which a needle under load penetrates 1 mm into the material. Another measure of when the surface stops being hard.                                                                                                                                                                                                                                                                                                           |
| <b>Melting temperature, T<sub>m</sub> (°C)</b> | Where the crystalline regions melt, measured by DSC (a calorimeter). Printing happens well above T <sub>m</sub> so the polymer flows freely.                                                                                                                                                                                                                                                                                                    |
| <b>Melt flow index, MFI (g/10 min)</b>         | How much molten material flows through a standard die in ten minutes under a fixed weight (210 °C for PLA; PETG sheets use 210–250 °C, so compare only at equal temperature). Higher means runnier and easier to push at speed; lower means more viscous, which is why some variants have lower speed limits.                                                                                                                                   |
| <b>Water absorption (%)</b>                    | How much moisture the filament takes up from air at 55 % relative humidity. Absorbed water boils in the nozzle, causing pops, bubbles, stringing and rough surfaces — hence the drying recommendations.                                                                                                                                                                                                                                         |
| <b>Density (g/cm<sup>3</sup>)</b>              | Mass per volume. A 1 kg spool of a 1.31 g/cm <sup>3</sup> material contains about 5 % less printable length than a 1 kg spool at 1.24 g/cm <sup>3</sup> — heavier fillers cost you metres.                                                                                                                                                                                                                                                      |
| <b>Annealing</b>                               | Baking a finished print at a temperature just above T <sub>g</sub> to let it crystallise further. It can raise heat resistance and stiffness but usually shrinks and sometimes warps the part.                                                                                                                                                                                                                                                  |

## Data notes and sources

### Where sources disagree

- HDT: the datasheet prints 56 °C at 0.45 MPa and 60 °C at 1.8 MPa. Every other sheet in the range, and physics, puts the light-load value higher. Read as 60 °C light load / 56 °C heavy load pending a corrected sheet.
- Moisture: the datasheet labels 0.45 % as "moisture absorption, ISO 1183" (a density standard) and 0.28 % as "saturated" — the labels appear swapped.
- Mechanical claim: marketing describes PLA Pure as matching PLA Basic; the datasheets show higher strength and stiffness but markedly lower elongation and impact.
- Colours: the datasheet lists red and white; five colours are sold. The sheet predates the retail launch.
- Glue: the general filament table recommends glue for all PLA; the PLA Pure documents override that for this product.

## Sources

- Bambu Lab, PLA Pure Technical Data Sheet V1.0 — [https://store.bblcdn.eu/s8/default/9f1d4ba39c8b4ba59915c5c9ccabfb56/pla\\_pure.pdf](https://store.bblcdn.eu/s8/default/9f1d4ba39c8b4ba59915c5c9ccabfb56/pla_pure.pdf)
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- Tom's Hardware, Bambu Lab launches PLA Pure — <https://www.tomshardware.com/3d-printing/bambu-lab-launches-pla-pure-filament-new-material-boasts-kid-safe-toy-certifications-and-asbestos-free-talc>
- 3D Universe, PLA Pure refill listing (retail colours) — <https://shop3duniverse.com/products/bambu-lab-pla-pure-refill-1-75mm-1kg>
- Polymaker Wiki, PolyLite PLA TDS — <https://wiki.polymaker.com/polymaker-products/more-about-our-products/documents/technical-data-sheets/pla/polylite-tm-pla>
- Polymaker Wiki, Panchroma Translucent PLA (certification statement) — <https://wiki.polymaker.com/polymaker-products/polymaker-filaments/panchroma-tm/panchroma-tm-translucent-pla>
- SUNLU, filament parameter table — <https://www.sunlu.com/wiki/43>
- SUNLU blog, What is PLA Meta — <https://store.sunlu.com/blogs/products-knowledge/what-is-sunlu-pla-meta-and-how-to-print-with-it>
- SUNLU store, PLA+ 2.0 listing (food-contact statement) — <https://store.sunlu.com/products/moq-6kg-pla-2-0-upgraded-pla-pla-plus-3d-printer-filament-1kg>

Independent guide compiled from published Bambu Lab, Polymaker and SUNLU technical data sheets, product pages, wiki articles and the cited third-party tests; all wording is original. Not affiliated with, sponsored by or endorsed by any of these manufacturers. Product names are trademarks of their respective owners. Figures are the manufacturers' own laboratory values for standardised test specimens and are intended for comparison, not as guaranteed properties of any particular printed part. Verify critical applications by testing the actual part. Compiled 20 September 2026.