

# Precise PLA

PLA (Polylactic Acid) is a cost-effective option for non-functional prototyping. Markforged Precise PLA is ideal for design iterations, fit checks, concept models, and visual-only parts that are not mechanically demanding.

Note: Continuous Fiber is not compatible with Markforged Precise PLA.

|                                  | Test (ASTM)       | P-PLA |
|----------------------------------|-------------------|-------|
| Tensile Modulus (GPa)            | D638              | 2.3   |
| Tensile Stress at Yield (MPa)    | D638              | 31    |
| Tensile Stress at Break (MPa)    | D638              | 18    |
| Tensile Strain at Break (%)      | D638              | 27    |
| Flexural Strength (MPa)          | D790 <sup>1</sup> | 43    |
| Flexural Modulus (GPa)           | D790 <sup>1</sup> | 2.3   |
| Heat Deflection Temperature (°C) | D648 B            | 52    |
| Izod Impact - notched (J/m)      | D256-10 A         | 62    |
| Density (g/cm <sup>3</sup> )     | —                 | 1.3   |



Precise PLA is available in eight different colors to create color-coded prototypes, tool holders, and keep out zones.

## P-PLA Colors

|                                                                                      |        |
|--------------------------------------------------------------------------------------|--------|
|  | Black  |
|  | Gray   |
|  | Yellow |
|  | Red    |
|  | Blue   |
|  | Orange |
|  | Green  |
|  | White  |

<sup>1</sup>Measured by a method similar to ASTM D790. Parts do not break before end of flexural test.

Dimensions and construction of test specimens:

- Tensile: ASTM D638 type I beams
- Flexural: 3-pt. Bending, 4.5 in (L) x 0.4 in (W) x 0.12 in (H)
- Heat-deflection temperature at 0.45 MPa, 66 psi (ASTM D648-07 Method B)

Test Specimens:

All data were provided by an accredited 3rd party test facility. These represent typical values.

Markforged test plaques are uniquely designed to maximize test performance. Plastic test plaques are printed with full infill. To learn more about specific testing conditions or to request test parts for internal testing, contact a Markforged representative. All customer parts should be tested in accordance to customer's specifications.

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