DATA ANALYSIS

Aggregated stress data across all samples are given with average & standard deviation. Stress-strain curves are given for each sample to show fracture characteristics.

EXPERIMENTATION

Changes in slicing parameters or utilization of post-processing techniques (annealing, smoothing, sterilization) can be compared. Null hypothesis one-tailed tests are used to determine statistical significance of claims.

FAILURE ANALYSIS

Test specimens can be 3D scanned at 0.025mm resolution to show deformation after testing. Fractures can be imaged with 60x magnification microscopy.

PELLETS | FLAKE TESTING AND VALIDATION

1. Granulation $250

Granulate 5kg plastic waste into 4mm particles with our SHINI Low Speed Granulator.

2. Extrusion $1,000

Conduct particle size analysis, dry the material, & load it into Gigabot X to quantify the max extrusion rate. Establishes the initial print temperatures and identifies any extrusion issues.

3. Print Optimization $2,250

Print multiple tests articles of increasing complexity to optimize print settings. A Simplify3D profile with optimized settings will be provided.

4. Material Properties $1,250

Use ASTM standards to conduct tensile, 3-point bending, or compression testing to establish material properties for industrial applications.

MECHANICAL PROPERTIES

Our Admet 50kN Universal Testing System is capable of finding the mechanical properties of 3D-printed materials using standardized test procedures:

- Tensile (ASTM D638)
- Flexural (ASTM D790)
- Flexural Fatigue (ASTM D7774) & more upon consultation
**FILAMENT TESTING AND VALIDATION**

- **Print Optimization** $500
  - Print multiple test prints of increasing complexity to optimize print settings. A Simplify3D profile with optimized settings will be provided.

- **Material Properties** $1,250
  - Use ASTM standards to conduct tensile, 3-point bending, or compression testing to establish material properties for industrial applications.

- **Custom Analysis** Quote
  - Custom tests can include multi material testing, various bed adhesives, heat treatment, or other technical tests.

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