

Public printing recommendation

Coex 3D Prime Banany Yellow PCTG Yellow

MaterialID MAT0267



3DPiceland Labs
Generated with 3DPiceland Engineering Platform v70.0.4
DIRECT-IMPACT-METHODOLOGY - Izod and Charpy
Methodology
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Guidance boundary: values below are shared base-material guidance resolved only through the canonical BaseMaterialId link. They are not manufacturer-, spool- or printer-specific validated settings. Missing fields remain Not recorded.

Overall 35/100	Engineering axes 7/8	Public rank 75 / 80	MSRP USD/kg 0.19
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Engineering profile



Recommended applications

- Repeatable print jobs and production-style batches
- Cosmetic parts, concept models or low-load prototypes
- Avoid high tensile load applications
- Avoid high impact components

Measured strengths

- Consistency: 75/100. Repeatability is one of the stronger signals in this material profile.

Limitations

- Tensile: 27/100. Avoid using this as the primary choice for tensile-loaded parts.
- Izod/Charpy impact family: 2/100. Validate impact or shock-loaded components against their application requirements.
- Layer adhesion: 15/100. Z-axis performance should be treated with caution.

Engineering trade-offs

- Good repeatability does not compensate for low tensile capability in load-bearing designs.
- The report should be read as a suitability warning rather than a general-purpose recommendation.

Base-material printing guidance

Guidance	Minimum	Recommended	Maximum	Unit
Nozzle temperature	250	260	260	°C
Bed temperature	80	80	80	°C
Print speed	55	110	110	mm/s
Cooling	10	40	40	%

Guidance	Value	Unit
Cooling guidance	Low	
Drying temperature	65	°C
Drying time	3	hours
Enclosure	Not required	
Printer / G-code reference	PrusaCoreOneL	
Slicer profile reference	3D Fuel PCTG	

Print workflow checks

- Confirm nozzle temperature, bed temperature, speed, cooling and drying requirements from the manufacturer profile or spool label.
- Print a small validation part before committing to a long, costly or safety-relevant print.
- Orient the part so the governing load does not rely on an unverified or weak engineering axis.
- Engineering/high-temperature family: confirm enclosure, ventilation, warping control and material-specific drying requirements.

- Layer-adhesion evidence is weak; avoid critical Z-axis loading without additional validation.

Decision guidance

- Use this material mainly for low-load, visual or experimental parts.
- Review the listed alternatives if the application needs stronger overall performance.
- Do not choose it as a tensile-strength benchmark material.
- Validate impact-focused or shock-loaded designs against the measured Izod/Charpy results.

Stronger same-family alternatives

MaterialID	Material	Manufacturer	Overall	Tensile	Impact	Izod	Charpy
MAT0039	3D Fuel PCTG PCTG Pro CF Black	3D Fuel	45/100	27/100	—	n/a	n/a
MAT0040	3D Fuel PCTG Toolbox Red PCTG Pro GF Red	3D Fuel	39/100	25/100	—	n/a	n/a

Confirm exact settings against the manufacturer profile, spool label and actual printer/material combination. Results do not replace application-specific validation.

[Testing methodology](#) · [Download PDF](#)

Izod and Charpy Impact Strength

Charpy Impact Strength · 2026-09-28
Instrument readings in kJ/m²
Mean 1.1 kJ/m²; Std. Dev 0.043 kJ/m²; CV 3.916%; Samples 10; Confidence 10
No break 0; invalid 0; excluded 0.
Comparative measurements; standard conformity unverified.

Izod Impact Strength · 2026-09-29
Instrument readings in kJ/m²
Mean 2.826 kJ/m²; Std. Dev 0.773 kJ/m²; CV 27.357%; Samples 9; Confidence 9
No break 0; invalid 0; excluded 0.
Comparative measurements; standard conformity unverified.

reports/printing-recommendations/MAT0267/

Score policy engineering-score-v70-1: Overall requires tensile, stiffness, consistency, layer adhesion and the Izod/Charpy impact family, each with equal weight. Both impact methods and configured versioned references are required. Missing results and unconfigured scores remain n/a. Legacy Impact is historical only; thermal remains separate. Engineering-axis counts describe displayed evidence, not Overall completeness.