This guide covers general printing practice as well as printing specifically for Peopoly printers.

Because Peopoly Nylon-Like Tough resin has a higher viscosity than Deft or Neo resin, it is more challenging to print and best to follow our recommendation.

Temperature:
It is best to get resin temperature over 25C before start printing. This is a good practice for resin printing in general but very important for thicker engineering resin-like Tough Nylon-Like

Support:
For Phenom line printers or any large format printers, it is best to use
Extra Heavy support for large prints. Here is a custom extra heavy support profile we originally made for XXL. It may be helpful for some users.
https://drive.google.com/file/d/1SwWxHCUoKFSyD5auVvyd5ytRSGVQ6O8v/view?usp=sharing

Setting:
It is best to use Chitubox 1.9.0 or new as vital settings, and support boxes are not available in earlier versions. For the Lychee slicer, it is also essential to use our setting and make sure the light-off-delay is at least 3s.

Wall thickness: > 2.8mm

Recommended Exposure:

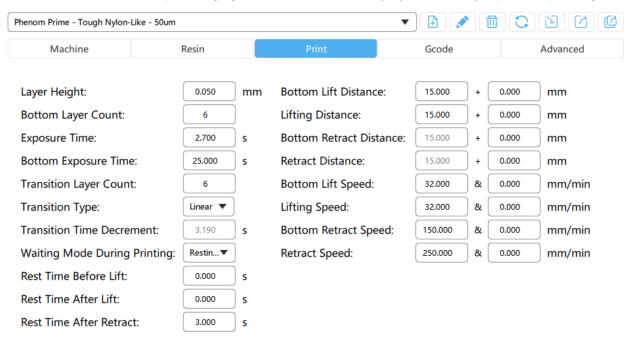Phenom Profiles:https://drive.google.com/drive/folders/17hT-P4QNxuvo0HA_zjnuVkTvjHwyZJJ6?usp=sharing

Phenom - Tough Nylon-Like - 50um	▼	

Machine	Resin	Print	Gcode	Advanced

Layer Height:	0.050	mm	Bottom Lift Distance:	15.000	+	0.000	mm
Bottom Layer Count:	6		Lifting Distance:	12.000	+	0.000	mm
Exposure Time:	14.000	s	Bottom Retract Distance:	15.000	+	0.000	mm
Bottom Exposure Time:	80.000	s	Retract Distance:	12.000	+	0.000	mm
Transition Layer Count:	6		Bottom Lift Speed:	36.000	&	0.000	mm/min
Transition Type:	Linear ▼		Lifting Speed:	36.000	&	0.000	mm/min
Transition Time Decrement:	9.430	s	Bottom Retract Speed:	150.000	&	0.000	mm/min
Waiting Mode During Printing:	Restin... ▼		Retract Speed:	250.000	&	0.000	mm/min
Rest Time Before Lift:	0.000	s				
Rest Time After Lift:	0.000	s				
Rest Time After Retract:	3.000	s				

Phenom L Profiles:

Phenom L - Tough Nylon-Like - 50um

| Machine | Resin | **Print** | Gcode | Advanced |

Field	Value	Unit	Field	Value		Value	Unit
Layer Height:	0.050	mm	Bottom Lift Distance:	15.000	+	0.000	mm
Bottom Layer Count:	6		Lifting Distance:	15.000	+	0.000	mm
Exposure Time:	10.000	s	Bottom Retract Distance:	15.000	+	0.000	mm
Bottom Exposure Time:	70.000	s	Retract Distance:	15.000	+	0.000	mm
Transition Layer Count:	6		Bottom Lift Speed:	32.000	&	0.000	mm/min
Transition Type:	Linear ▼		Lifting Speed:	32.000	&	0.000	mm/min
Transition Time Decrement:	8.570	s	Bottom Retract Speed:	150.000	&	0.000	mm/min
Waiting Mode During Printing:	Restin... ▼		Retract Speed:	250.000	&	0.000	mm/min
Rest Time Before Lift:	0.000	s					
Rest Time After Lift:	0.000	s					
Rest Time After Retract:	3.000	s					

Phenom Noir Profiles:

Phenom Noir - Tough Nylon-Like - 50um

| Machine | Resin | **Print** | Gcode | Advanced |

Field	Value	Unit	Field	Value		Value	Unit
Layer Height:	0.050	mm	Bottom Lift Distance:	15.000	+	0.000	mm
Bottom Layer Count:	6		Lifting Distance:	15.000	+	0.000	mm
Exposure Time:	2.700	s	Bottom Retract Distance:	15.000	+	0.000	mm
Bottom Exposure Time:	30.000	s	Retract Distance:	15.000	+	0.000	mm
Transition Layer Count:	6		Bottom Lift Speed:	32.000	&	0.000	mm/min
Transition Type:	Linear ▼		Lifting Speed:	32.000	&	0.000	mm/min
Transition Time Decrement:	3.900	s	Bottom Retract Speed:	150.000	&	0.000	mm/min
Waiting Mode During Printing:	Restin... ▼		Retract Speed:	250.000	&	0.000	mm/min
Rest Time Before Lift:	0.000	s					
Rest Time After Lift:	0.000	s					
Rest Time After Retract:	3.000	s					

Phenom Prime Profiles:

| Phenom Prime - Tough Nylon-Like - 50um | ▼ | | | | | | |

| Machine | Resin | Print | Gcode | Advanced |

Layer Height:	0.050	mm	Bottom Lift Distance:	15.000	+	0.000	mm
Bottom Layer Count:	6		Lifting Distance:	15.000	+	0.000	mm
Exposure Time:	2.700	s	Bottom Retract Distance:	15.000	+	0.000	mm
Bottom Exposure Time:	25.000	s	Retract Distance:	15.000	+	0.000	mm
Transition Layer Count:	6		Bottom Lift Speed:	32.000	&	0.000	mm/min
Transition Type:	Linear ▼		Lifting Speed:	32.000	&	0.000	mm/min
Transition Time Decrement:	3.190	s	Bottom Retract Speed:	150.000	&	0.000	mm/min
Waiting Mode During Printing:	Restin... ▼		Retract Speed:	250.000	&	0.000	mm/min
Rest Time Before Lift:	0.000	s					
Rest Time After Lift:	0.000	s					
Rest Time After Retract:	3.000	s					

Phenom Forge
The slicing software of the Phenom Forge equipment has built-in Tough Nylon-Like Resin printing parameters. You can download profiles here:

Cleaning:
Use a painter brush (or any brush made with hair) to remove excess resins on the printed part
Use 95% concentrated Ethanol (preferred) or IPA to clean. Some form of methanol should work but make sure it does not contain acetone.

Do not submerge the parts in alcohol for more than 5 minutes. After cleaning, remove alcohol as soon as possible with a hairdryer or air blower. It may be an excellent approach to wash/dry multiple times for the complex part with lots of cavities.

Users can check by touching the dried surface of the part to see if it is still sticky.
If the dried surface is still sticky, wash some more and dry again.

Post Curing:
Make sure resin is thoroughly cleaned off, and there is no alcohol or water left (it needs to be dry) on the print before curing. This is very critical for the long-term use of print. When in doubt, use a hairdryer.

Use 395-405nm UV light and cure for about 15 minutes. Do not use 365nm light as it will cause quick yellowing. There are many counterfeit UV LEDs that claim to be 405nm but are 385 or 365nm. Best to acquire UV LED fixtures from a trusted source.

Mechanical Properties

Shore D 82
Tensile Strength 62Mpa
Young's Modulus 2050Mpa
Elongation At Break: 44%
Heat Deflection Temperature: 70C
Shrinkage 1%
Viscosity 780 CPS

[MSDS for Tough Nylon](#)