



# Fishy Filaments Technical Data Sheet - (15<sup>th</sup> May 2018)

**Product Name:** Longships  
**Chemical Names:** Polyamide 6, PA6 or Nylon 6

## Description

Longships is a semi-crystalline nylon blend with high tensile strength, good impact resistance and low surface friction.

Nylon is a technical, engineering grade material and is not recommended for novice users.

As with most nylons, Longships is susceptible to absorption of moisture both before and after printing.

Filament should be dried prior to use and kept in a controlled environment between uses. Insufficient drying prior to use will result in warping, poor surface quality and an increased probability of print failure.

For extended print runs a humidity controlled caddy or cabinet is recommended.

Typical drying parameters are ~5 hours at 70-80°C at a controlled humidity of 10% H2O or lower. Effective drying cannot be achieved reliably at temperatures below 70°C. The use of domestic ovens to dry filament is not recommended.

A heated printer bed is highly recommended as is the use of a suitable bed preparation material e.g. 3DLAC.

Please also note before purchase that Longship's print temperature is at the upper end of many desktop printer's off-the-shelf capabilities. Extended operation at the limits of printer specifications is not recommended.

## Typical Printing Parameters

**Bed temperature:** 90-110 °C  
**Printing temperature:** 265-275 °C  
**Printing speed guide:** 40-60 mm/s

Test	Test Standard	SI Unit	Measured Value	Standard Deviation
------	---------------	---------	----------------	--------------------

### Tensile Strength

Tensile Strength @ Break	ISO 527-2	Mpa	52	4
Elongation @ Break	ISO 527-2	%	45	19
Tensile Strength @ Yield	ISO 527-2	Mpa	61.9	2.9
Elongation @ Yield	ISO 527-2	%	7.7	0.1
Tensile Modulus	ISO 527-2	Mpa	2852	114

### Flex (3 Point)

Flexural Stress	ISO 178	Mpa	57	5
Flexural Modulus	ISO 178	Mpa	1760	197
Izod Impact (Notched)	ISO180	kJ/m <sup>2</sup>	7	2
Melt Flow	ISO 1133	g/10min	15	-
VICAT	ISO306/B120	°C	190	1

### DISCLAIMER

Properties reported here are average of a typical batch examined by an independent ISO certified laboratory. Any technical information or assistance provided herein is given and accepted at your own risk, and neither Fishy Filaments nor its affiliates make any warranty relating to it or because of it. Neither Fishy Filaments nor its affiliates shall be responsible for the use of this information, or of any product, method or apparatus mentioned, and you must make your own determination of its suitability and completeness for your own use, for the protection of the environment, and for the health and safety of your employees and purchasers of your products. No warranty is made regarding the merchantability or fitness of any product; and nothing herein waives any of Fishy Filaments's conditions of sale.



# Fishy Filaments Technical Data Sheet - (15<sup>th</sup> May 2018)

**Product Name:** Porthcurno  
**Chemical Names:** Polyamide 6, PA6 or Nylon 6

## Description

Porthcurno is a semi-amorphous nylon blend with high tensile strength, good impact resistance and low surface friction. Its post-print properties after atmospheric curing or overnight soaking in water make an especially interesting material for use in applications where moderate flexibility and high strength are useful e.g. wearables and live hinges.

Nylon is a technical, engineering grade material and is not recommended for novice users.

As with most nylons, Porthcurno is susceptible to absorption of moisture both before and after printing.

Filament should be dried prior to use and kept in a controlled environment between uses. Insufficient drying prior to use will result in warping, poor surface quality and an increased probability of print failure.

Typical drying parameters are ~5 hours at 70-80C at a controlled humidity of 10% H2O or lower. Effective drying cannot be achieved reliably at temperatures below 70C. The use of domestic ovens to dry filament is not recommended.

A heated printer bed is highly recommended as is the use of a suitable bed preparation material e.g. 3DLAC

Test	Test Standard	SI Unit	Measured Value	Standard Deviation
<b>Tensile Strength</b>				
Tensile Strength @ Break	ISO 527-2	Mpa	55	7
Elongation @ Break	ISO 527-2	%	178	79
Tensile Strength @ Yield	ISO 527-2	Mpa	59	2
Elongation @ Yield	ISO 527-2	%	41	18
Tensile Modus	ISO 527-2	Mpa	2745	189
<b>Flex (3 Point)</b>				
Flexural Stress	ISO 178	Mpa	70	2
Flexural Modulus	ISO 178	Mpa	2126	184
Izod Impact (Notched)	ISO180	kJ/m <sup>2</sup>	-	-
Melt Flow	ISO 1133	g/10min	-	-
VICAT	ISO306/B120	°C	-	-

## Typical Printing Parameters

**Bed temperature:** 60-80 °C  
**Printing temperature:** 230-240 °C  
**Printing speed guide:** 40-60 mm/s

### DISCLAIMER

Properties reported here are average of a typical batch examined by an independent ISO certified laboratory. Any technical information or assistance provided herein is given and accepted at your own risk, and neither Fishy Filaments nor its affiliates make any warranty relating to it or because of it. Neither Fishy Filaments nor its affiliates shall be responsible for the use of this information, or of any product, method or apparatus mentioned, and you must make your own determination of its suitability and completeness for your own use, for the protection of the environment, and for the health and safety of your employees and purchasers of your products. No warranty is made regarding the merchantability or fitness of any product; and nothing herein waives any of Fishy Filaments's conditions of sale.