

Mosaic Nylon

Technical Data Sheet

Compatible with Element, Element HT & Array



Description

Mosaic Nylon is a versatile material that shares similar characteristics with Mosaic Matrix our carbon fiber nylon, such as high strength-to-weight ratio and wear resistance. However, Mosaic Nylon offers added benefits of flexibility and biocompatibility, making it suitable for a wide range of applications.

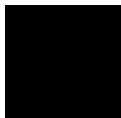
Key Features

- ✓ Wear Resistant
- ✓ Self-lubricating
- ✓ Flexible
- ✓ Durable

Sample Applications

- ✓ Prosthetics
- ✓ Jigs and Fixtures
- ✓ Aerospace Components
- ✓ Sporting Equipment
- ✓ Automotive Parts

Available Colours



Black

Filament Specifications

Diameter	Tolerance
1.75 mm	+/- 0.05 mm

Printing Guidelines

Slicer Profile	Coming soon to canvas3d.io
Nozzle Temperature	275°C
Heated Chamber	Not Required
Build Surface	Element Bed Type 1 with glue stick
Special Considerations	N/A

Storage/Handling Considerations

Hygroscopicity	High
Drying Temperature	100°C
Drying Time	8 hours

Note: When not in use, spool should be stored in a Mosaic Material Pod or inside a vacuum sealed container.

Material Properties

Property	Standard	Typical Value
Density	ISO 1183	1.12 g/cc
Tensile Strength, Break	ISO 527	64.48 MPa
Tensile Modulus	ISO 527	2219 MPa
Elongation at Break	ISO 527	9.81%
Heat Deflection Temp	ISO 75 1.8MPa	69.2°C

Multi-Material Compatibility

Automation

Same-material Automated Changeover	With Material Pod
------------------------------------	-------------------

Supports

Same-material support	Yes
Compatible Soluble Materials	Dissolve LT (Water-soluble)
Compatible Breakaway Materials	HIPS

Note: Using HIPS as a breakaway material for ABS and ASA is recommended, using it as a breakaway material for Nylon and Matrix is experimental and not tested in-depth.



Mosaic Nylon

Safety Data Sheet

Section 1: Identification

Product Identification:

Product Name: Mosaic Nylon
Chemical Name: Copolymer of Polyamide 6 and Polyamide 6,6
Recommended Use: Additive manufacturing

Supplier Information:

Mosaic Manufacturing
403-111 Peter Street, Toronto, Ontario, Canada M5V 2H1
Phone 647-570-0375
Email: info@mosaicmfg.com

Section 2: Hazard(s) Identification

Regulation (EC) NO 1272/2008: Not classified as a dangerous product

Physical Hazards: None

OSHA Regulatory Status: This product is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Section 3: Composition/Information on Ingredients

Components	CAS No.	Concentration Range (%)
Polyamide Resin	25038-54-4	>99
Additives	N/A	<1

Section 4: First-Aid Measures

Eyes: Flush with water. Consult a physician if symptoms persist.

Skin Contact: Wash with soap and water. For thermal burns from molten polymer, immediately flush with cold water. Do not attempt to remove cooled polymer from the skin. Obtain medical attention.

Inhalation: Leave exposed area and seek fresh air. If irritation persists seek medical attention.

Ingestion: Not likely due to the nature of the product. If ingested, drink plenty of water. Do not induce vomiting. Consult a physician if symptoms persist.

Section 5: Fire-Fighting Measures

Extinguishing Media: Water spray, dry powder, and foam. Carbon dioxide (CO₂)

Safety Precautions for Persons exposed to products of combustion should wear NIOSH approved self contained breathing apparatus and full protective equipment.

Section 6: Accidental Release Measures

Spill or release: Clean up by vacuuming or sweeping to prevent falls. If molten, allow material to cool and place into an appropriate container for disposal.

Section 7: Handling and Storage

Precautions to be taken in handling and storage: Store in a dry, sprinkler equipped warehouse. Product as shipped is not a combustible dust. Mechanical handling can cause the formation of dusts. To reduce the risk for dust explosion, avoid dust accumulation.

Waste Disposal: Dispose in accordance with applicable federal, state and local regulations.

Section 8: Exposure Controls/Personal Protection

Exposure Limits: This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Respiratory Protection: A NIOSH approved respirator is recommended for protection against processing polymeric fumes, or from dust generated from grinding, sanding, or sawing operations.

Ventilation: Local exhaust is preferred.

Protection Gloves: Canvas or cotton gloves are recommended.

Eye Protection: Safety glasses with side shields are recommended. Other: No protective equipment is needed under normal use conditions.

Section 9: Physical and Chemical Properties

State:	Solid
Form:	Filament
Color:	Varies
Odor:	None
Freezing Point:	N/A
Solubility in Water:	Insoluble
Specific Gravity:	>1
% Volatile:	N/A
Boiling Range:	N/A
Vapor Pressure (MM HG):	Negligible

Melting Point: 270-300°C.

Note: Those physical data are typical values based on material tested but may vary from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot or as specifications for the product.

Section 10: Stability and Reactivity

Polymerization conditions to avoid: None

Chemical Stability: Stable under normal conditions

Conditions to avoid: Incompatible materials, including strong oxidizing agents

Hazardous decomposition byproducts: Thermal decomposition can yield intense heat, dense smoke, phenols, hydrogen cyanide, carbon dioxide, and carbon monoxide.

Section 11: Toxicological Information

No specific toxicological information is available.

Section 12: Ecological Information

No specific ecological information is available.

Section 13: Disposal Considerations

Waste Disposal: Waste or unused product may be discarded in accordance with state, federal, and local regulations.

Section 14: Transport Information

Land Transport (DOT):	Non-Regulated
Sea Transport (IMDG):	Non-Regulated
Air Transport (ICAO/IATA):	Non-Regulated

Section 15: Regulatory Information

TSCA:	Complies
EINECS/ELINCS:	N/A
DSL/NDSL:	Complies
PICCS:	N/A
ENCS:	Complies
IECSC:	Complies
AICS:	Complies
KECL:	Complies

Section 16: Other Information

Prepared by: Mosaic Manufacturing

Issued: 05/8/2023

Supersedes: N/A

This information set forth herein has been gathered from standard reference materials and/or supplier test data and is, to the best knowledge and belief of Mosaic Manufacturing, accurate and reliable. Such information is offered solely for your consideration, investigation and verification, and it is not suggested or guaranteed that the hazard precautions or procedures mentioned are the only ones which exist. Mosaic Manufacturing makes no warranties, expressed or implied, with respect to the use of such information or the use of the specific material identified herein combination with any other material or process, and assumes no responsibility therefore.