



Technical Data Sheet

EVOLV3D™ Olefin Block Copolymer (OBC)

Introduction

EVOLV3D™ OBC, a polyethylene-based 3D-printable filament, brings polyolefin properties to 3D-printed parts. This material demonstrates significantly improved warpage and printability for a polyolefin, enabling lightweight, durable parts with excellent chemical resistance.

Application

- Polyolefin build material for 3D-printing

Features

- Low warpage – faster startup and less fine tuning
- Chemical resistant – Resistant to common solvents enabling new applications
- Low Density – enabling light weight, durable parts
- Recyclable

Recommended Print Conditions*

Nozzle Temperature	180 ± 20 °C
Bed Temperature	60 - 100 °C
Bed Modification	Polypropylene tape
Print Speed	10 - 40 mm/sec

*Settings are based on a 0.4 mm nozzle,
Recommended to be printed in ventilated area

Material Properties*

Density	0.905 g/cc	ASTM D792
Melt Flow Rate (2.16 kg @ 230 C)	9.5 g/10 min	ASTM D1238
Melting Temperature	130 °C	DSC
Tensile Strength (Yield)	14 MPa	ASTM D1708
Elongation (Yield)	10 %	ASTM D1708
Tensile Strength (Break)	14 MPa	ASTM D1708
Elongation (Break)	>700 %	ASTM D1708

*Typical values, not to be construed as specifications. Users should confirm results by their own tests.

EVOLV3D™ OBC shows excellent chemical resistance compared to common filaments

Chemical Resistance*

Acetone	++	Petroleum	+
Ethanol	++	Propylene Glycol	++
Ethanol (60 °C)	++	Acetic Acid (80%)	++
Isopropanol	++	Nitric Acid (10%)	++
Limonene	+	Phosphoric Acid (40%)	++
Methanol	++	Sulfuric Acid (70%)	++
Methyl Ethyl Ketone	+		

Samples were tested by immersion in solvent for 24 hours

++ : no change in appearance, retention of mechanical properties

+ : little/no change in appearance, slight drop in mechanical properties

*Typical values, not to be construed as specifications.

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