Elastico Rubber-like Materials

J5 and J3 Series

Overview

Elastico™ printing materials have properties that simulate rubber.

- Elastico™Clear (FLX934)—flexible, translucent material
- Elastico™Black (FLX934)—flexible, black material

The following results were obtained from parts printed on J55™ printers.

	Elastico Materials
Hardness (Shore A)	45–50
Elongation at break (%)	350–400
Tensile strength (MPa)	3–4
Tensile tear resistance (Kg/cm)	5–7

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Best Practice

Figure 1: Superior Elongation with Elastico parts

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Rubber-like digital materials with varying shore values and colors are fabricated by combining Elastico with rigid materials.

For more information, see specification sheets for Elastico on stratasys.com.

Practical applications for Elastico materials include:

- realistic simulation of rubber parts—knobs, grips, seals, gaskets, hoses, footwear, handles, etc.
- soft-touch parts and non-slip surfaces
- rubber-like surrounds and overmolding

The following section describes recommendations and tips for achieving optimum quality and mechanical properties with Elastico materials.

- Removing Support Materials
- Post Processing
- The Effect of Temperature on Elasticity
- The Effect of Humidity on Elasticity
- Painting Parts

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Recommendations and Tips

Printing Models

- Prefer a matte finish. Parts printed with a glossy finish may have a sticky or tacky surface.
- Prefer a minimum thickness of six millimeters to achieve the desired shore A value.

Post Processing

For best results, clean parts printed with Elastico materials and digital materials fabricated with it, as follows:

1. Remove as much Support material as possible by hand, to prevent scratches and the tearing of delicate parts.
2. Use the WaterJet cleaning station to remove the remaining Support material.
3. Adjust the water pressure in the WaterJet to the minimum required.

The Effect of Temperature on Elasticity

At room temperature, parts printed with Elastico have optimum elasticity. At very low temperatures, parts might become stiff and brittle. Therefore, care and adequate precautions should be taken when packaging parts and models for shipping. Parts regain their original elasticity when warmed above 5°C.

The Effect of Humidity on Elasticity

Extreme humidity conditions affect the flexibility of printed part. At low humidity environments, the part will be harder and less flexible. At higher humidity, the printed parts will be softer and more flexible.

Painting Parts

Painting parts enhances their look, feel and functionality. Apply flexible lacquer (acrylic or water-based) to give parts a realistic look, protect them from cracks, and reduce surface stickiness.

To achieve best results with painted parts:

- Print parts with a glossy finish.
- Sand areas that have a matte surface finish.

For detailed painting recommendations, refer to "Guide to Basic Post-Printing Processes for PolyJet 3D Models."

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