

# PolyJet



Staub Additive is among the first companies in America to take delivery of the Stratasys Objet500 Connex3. This new machine allows us to combine three base materials to create up to 500 distinct material characteristics. Also, we can print in **full color**, simulate over-molding, and print clear parts\*.

Fine detail is the name of the game with PolyJet technology. Our biggest advantage remains our consultative approach. We'll help you pick the right material for your part's application. Our goal is to make sure that you get the part that you want the first time.

## Digital ABS

Color Options	Heat Deflection	Tensile Strength	Elongation at Break	Flexural Strength	IZOD Impact	Shore Hardness
Ivory Green	136-154° F 58-68° C	8,000 – 8,700 psi	25-40%	8,800 psi	1.220-1.500 ft-lb/in	85-87 (D)

Highlights:

- Simulates standard ABS by combining high-temperature resistance with strength
- PolyJet's highest possible impact resistant and shock absorbent material
- Ideal for functional prototypes, molds, snap-fit parts, electrical parts, casings

## High Temperature Material

Color Options	Heat Deflection	Tensile Strength	Elongation at Break	Flexural Strength	IZOD Impact	Shore Hardness
White	145-153° F 63-67° C	10,000 – 11,500 psi	10-15%	16,000 – 19,000 psi	.0262 - .300 ft-lb/in	87-88 (D)

Highlights:

- Combining High-Temperature material with Rubber-like material produces varying Shore A values
- Ideal for high-definition parts requiring excellent surface quality
- Ideal for form, fit, and thermal functional testing of static parts

## Rigid Material

Color Options	Heat Deflection	Tensile Strength	Elongation at Break	Flexural Strength	IZOD Impact	Shore Hardness
Clear* Any color from Rigid Color Palettes	113-122° F 45-50° C	7,250 – 9,450 psi	10-25%	11,000 – 16,000 psi	.375-.562 ft-lb/in	83-86 (D)

Highlights:

- Vero Clear gives you rigid, **nearly colorless** material\*
  - Visual simulation of transparent thermoplastics
  - Ideal for form and fit testing of clear parts, visualization of liquid flow
- Vero Color gives you rigid material in **hundreds of color combinations**
  - Up to 46 vibrant repeatable colors in one model
  - Ideal for cutaway models to identify components
  - Ideal for simulating final aesthetics of a product

## Polypropylene-like Material

Color Options	Heat Deflection	Tensile Strength	Elongation at Break	Flexural Strength	IZOD Impact	Shore Hardness
White	120-129° F 49-54° C	5,800 – 6,500 psi	20-35%	7,500 – 8,500 psi	.561-.656 ft-lb/in	80-84 (D)

Highlights:

- Simulates appearance and functionality of polypropylene
- Offers durability and a beautiful surface finish
- Great for prototyping snap-fit components, living hinges, and other demanding applications

## Rubber-like Materials

Material	Color Options	Tensile Strength	Elongation at Break	Compress. set	Tensile Tear res.	Shore Hardness
Tango Plus	Black Semi-translucent	115 – 220 psi	170-220%	4-5%	18-22 lb/in	26-28 (A)
Tango Black	Black	115 – 350 psi	45-55%	.5-1.5%	18-24 lb/in	60-62 (A)
Tango Gray	Gray	435 – 725 psi	45-55%	.5-1.5%	50-60 lb/in	73-77 (A)

These base materials can be combined to achieve the following Shore A hardness values:

**Shore 27 Shore 30 Shore 35 Shore 40 Shore 50 Shore 60 Shore 70 Shore 85 Shore 95**

Highlights:

- **We can now print flexible materials in color!**
  - We combine two rigid colors with clear Tango Plus to get new color palettes and shore A values
- Offers a variety of elastomer characteristics
- Ideal for soft-touch coatings, rubber surrounds and over-molding, knobs, grips, handles, gaskets, seals, hoses, footwear
- All rubber-like materials can be combined with rigid materials to create a wide spectrum of shore hardness, tensile strength, tear resistance, and flexibility

The Stratasys Objet500 Connex 3 allows us to combine these base materials to create custom materials on demand. We'll work with you to create the part that will work best for your application.

\*Overall part clarity is determined by many factors, especially internal and external geometry. In general, transparency decreases as complexity increases.