

# Basic CP

QTS Basic-CP is a liquid UV-curable photosensitive resin, which is suitable for 3D molding equipment with a wavelength of 395~405nm. This material has high resolution and can perfectly present the details, holes, and surface texture of high-density image files. It is especially suitable for various desktop models with new high-intensity 4K LCD and DLP. It has low shrinkage with excellent strength and high accuracy. It prints parts with low viscosity in details and enable easy cleaning. It can be used under fast curing speed along with flexible range of printing parameter to reduce production time. Especially suitable for the development of models for printing high-resolution cartoon characters. It is a super cost-effective 3D resin.

## Application

- > Avocation models
- > High-resolution sculptures
- > Getting started, learn, and use

## Resin Physical Properties:

|           |                          |
|-----------|--------------------------|
| Color     | White, Grey, Black       |
| Density   | 1.12 g / cm <sup>3</sup> |
| Viscosity | 240 ~ 300 cps @ 25 °C    |

## Product Specifications

|                   |        |
|-------------------|--------|
| Package Size      | 1 kg   |
| Country of Origin | Taiwan |

## Characteristics

- > Low viscosity and detailed prints.
- > Fast curing speed, adaptable printing parameters, and efficient printing time.
- > Easy to clean.
- > Holes and surface textures are presented as the design.
- > Applied nano-grade materials to mitigate sedimentation.
- > Great adhesion to the build plate.

## Post-Curing Mechanical Properties

| Description                  | ASTM Method   | Metric    | Imperial       |
|------------------------------|---------------|-----------|----------------|
| Shore Hardness               | D2240         |           | 77D            |
| Tensile Strength             | D638          | 65 MPa    | 9.43 ksi       |
| Young' s Modulus             | D638          | 2.925 GPa | 424 ksi        |
| Elongation                   | D638          |           | 23 %           |
| Notched Impact Strength      | D256          | 25 J/m    | 0.468 ft-lb/in |
| Glass Transition Temperature | DSC           | 60 °C     | 140 °F         |
| Heat Deflection Temperature  | D648 @0.46MPa | 60 °C     | 140 °F         |



## Basic-CP Recommended Parameters(@50µm)

|                 | Anycubic Mono(2K) | Anycubic Mono X(4K) | Phrozen Mighty |
|-----------------|-------------------|---------------------|----------------|
| Bottom Layer    | 3 Layer* 30 S     | 2 Layer* 20 S       | 3 Layer* 30 S  |
| Layers          | 2.0 S             | 1.5 S               | 3.2 S          |
| Light off delay | 3 S               | 3 S                 | 13 S           |
| Light power     | 100%              | 85%                 | 85%            |

\* The post-curing mechanical properties were obtained by testing specimens printed with Phrozen Sonic Mini 4K.

# Basic

QTS Basics resin is compatible with 395 ~ 405 nm resin 3D printers, including DLP, LCD, and SLA models. It has low shrinkage with excellent strength and high accuracy. It prints ABS-like parts with low viscosity in details and enable easy cleaning. It can be used under fast curing speed along with flexible range of printing parameter to reduce production time.

## Application

- > Product development prototyping
- > Entertainment and consumer design
- > Electronic hardware

## Resin Physical Properties:

|           |   |
|-----------|---|
| Color     | White, Matte Black, Grey, Pink, Orange, Yellow, Green, Blue, Purple |
| Density   | 1.12 ~ 1.15 g / cm <sup>3</sup>                                     |
| Viscosity | 70 ~ 100 cps @ 25 °C  |

## Post Processing

This printed part requires post curing to achieve its ideal hardness and toughness.

- > Expose the printed parts in 365 ~ 405 nm UV for 10 minutes to an hour.  
The time varies based on the thickness of the parts.



## Product Specifications

|                   |            |
|-------------------|------------|
| Package Size      | 500g / 1kg |
| Country of Origin | Taiwan     |

## Post Curing Mechanical Properties

| Description                  | ASTM Method   | Metric   | Imperial      |
|------------------------------|---------------|----------|---------------|
| Shore Hardness               | D2240         |          | 80D           |
| Tensile Strength             | D638          | 34.5 MPa | 5.0 ksi       |
| Young's Modulus              | D638          | 2.37 GPa | 343.7 ksi     |
| Elongation                   | D638          |          | 4.5 %         |
| Notched Impact Strength      | D256          | 31.1 J/m | 0.58 ft-lb/in |
| Glass Transition Temperature | DSC           | 60 °C    | 140 °F        |
| Heat Deflection Temperature  | D648 @0.46MPa | 65 °C    | 149 °F        |

| Description  | Phrozen Sonic Mini mono-LCD | Phrozen XL Color-LCD | Miicraft 125 DLP |
|--------------|-----------------------------|----------------------|------------------|
| Bottom Layer | 15~25 sec@50µm              | 30~40 sec@50µm       | 8~10 sec@50µm    |
| Layers       | 3~4.5 sec@50µm              | 8~10 sec@50µm        | 0.9~1.1 sec@50µm |

\* The post-curing mechanical properties were obtained by testing specimens printed with Phrozen Sonic Mini 4K.

# Basic Clear

QTS Basic Clear resin generates highly transparent 3D printed models. You can print optical prototypes without yellowing effect during post-processing. With low shrinkage, the prints maintain high precision and durability.

## Application

- > Optical Components
- > Electronic Hardware
- > Flow Apparatus

## Resin Physical Properties:

|           |                        |
|-----------|------------------------|
| Color     | Clear                  |
| Density   | 1.1g / cm <sup>3</sup> |
| Viscosity | 100 ~ 210 cps @ 25 °C  |

## Product Specifications

|                   |            |
|-------------------|------------|
| Package Size      | 500g / 1kg |
| Country of Origin | Taiwan     |

## Post Processing

This printed part requires post curing to achieve its ideal hardness and toughness.

- > Expose the printed parts in 365 ~ 405 nm UV for 10 minutes to an hour.  
The time varies based on the thickness of the parts.



## Post-Curing Mechanical Properties

| Description                  | ASTM Method   | Metric   | Imperial       |
|------------------------------|---------------|----------|----------------|
| Shore D Hardness             | D2240         |          | 80D            |
| Tensile Strength             | D638          | 12 MPa   | 1.74 ksi       |
| Young's Modulus              | D638          | 610 MPa  | 88.5 ksi       |
| Elongation                   | D638          |          | 18 %           |
| Notched Impact Strength      | D256          | 2.87 J/m | 0.054 ft-lb/in |
| Glass Transition Temperature | DSC           | 60 °C    | 140 °F         |
| Heat Deflection Temperature  | D648 @0.46MPa | 60 °C    | 140 °F         |

| Description  | Phrozen Sonic Mini mono-LCD | Phrozen XL Color-LCD | Miicraft 125 DLP |
|--------------|-----------------------------|----------------------|------------------|
| Bottom Layer | 25 sec@50µm                 | 50 sec@50µm          | 1 sec@50µm       |
| Layers       | 10 sec@50µm                 | 20 sec@50µm          | 2 sec@50µm       |

\* The post-curing mechanical properties were obtained by testing specimens printed with Phrozen Sonic Mini 4K.

# Model

QTS Model Series is compatible with 395 ~ 405 nm resin 3D printers, including DLP, LCD, and SLA models. It can be printed with fast curing speed and has flexible printing parameters to reduce production time. It has low shrinkage with excellent durability and high accuracy. It is suitable for wearables or miniatures with its rubber-like characteristic to reduce deformation upon impact. It can also be colored easily with acrylic paint. The smooth surface finish after post processing is comparable to that of molding.

## Application

- > Product development prototyping
- > Electronics and sports wearables
- > Motion camera protection casing
- > Miniatures creation

## Resin Physical Properties:

|           |   |
|-----------|---|
| Color     | White, Grey, Red, Yellow, Blue, and Black |
| Density   | 1.12 ~ 1.16 g / cm <sup>3</sup>           |
| Viscosity | 300 ~ 330 cps @ 25 °C                     |

## Post Processing

This printed part requires post curing to achieve its ideal hardness and toughness.

- > Expose the printed parts in 365 ~ 405 nm UV for 10 minutes to an hour.  
The time varies based on the thickness of the parts.

## Product Specifications

|                   |            |
|-------------------|------------|
| Package Size      | 500g / 1kg |
| Country of Origin | Taiwan     |



## Post-Curing Mechanical Properties

| Description                  | ASTM Method   | Metric    | Imperial           |
|------------------------------|---------------|-----------|--------------------|
| Shore Hardness               | D2240         |           | 75~77D             |
| Tensile Strength             | D638          | 36 MPa    | 5.2 ksi            |
| Young's Modulus              | D638          | 1.73 GPa  | 250.9 ksi          |
| Elongation                   | D638          |           | 75~80 %            |
| Notched Impact Strength      | D256          | 45~55 J/m | 0.84~1.03 ft-lb/in |
| Glass Transition Temperature | DSC           | 60 °C     | 140 °F             |
| Heat Deflection Temperature  | D648 @0.46MPa | 65 °C     | 149 °F             |

| Description  | Phrozen Make Color-LCD | Phrozen Sonic mini-LCD | Miicraft 125 DLP |
|--------------|------------------------|------------------------|------------------|
| Bottom Layer | 20~25 sec@50µm         | 10~12 sec@50µm         | 8~10 sec@50µm    |
| Layers       | 6~8 sec@50µm           | 3~3.5 sec@50µm         | 0.9~1.1 sec@50µm |

\* The post-curing mechanical properties were obtained by testing specimens printed with Phrozen Sonic Mini 4K.

# Dental Model

Dental Model is a UV-Curable resin that is compatible with 395 ~ 405 nm resin 3D printers. DLP, LCD, and SLA desktop models are applicable. It has low shrinkage with excellent strength and high accuracy. It enables accurate mating and it's perfect for dental printed parts.

## Key Features

- > Low viscosity with great fluidity allows printing with high details.
- > Fast curing speed and easy to clean remaining resin on the printed parts.
- > The printed parts will have high accuracy and low shrinkage.
- > Great adhesion to the print bed and easy to remove.
- > The resin has great hardness and toughness to sustain impact.
- > Parts can be easily mated.

## Application

- > Dentures Models
- > Braces
- > Orthodontics research models

## Resin Physical Properties:

|           |                                 |
|-----------|---------------------------------|
| Color     | White                           |
| Density   | 1.12 ~ 1.16 g / cm <sup>3</sup> |
| Viscosity | 150 ~ 250 cps @ 25 °C           |

## Post Processing

This printed part requires post curing to achieve its ideal hardness and toughness.

- > Expose the printed parts in 365 ~ 405 nm UV for 10 minutes to an hour. The time varies based on the thickness of the parts.

## Product Specifications

|                   |            |
|-------------------|------------|
| Package Size      | 500g / 1kg |
| Country of Origin | Taiwan     |



## Post-Curing Mechanical Properties

| Description                  | ASTM Method   | Metric    | Imperial       |
|------------------------------|---------------|-----------|----------------|
| Shore Hardness               | D2240         |           | 84~85          |
| Tensile Strength             | D638          | 29.75 MPa | 4.31 ksi       |
| Young's Modulus              | D638          | 1.48 GPa  | 214.65 ksi     |
| Elongation                   | D638          |           | 41.73 %        |
| Notched Impact Strength      | D256          | 36 J/m    | 0.674 ft-lb/in |
| Glass Transition Temperature | DSC           | 60 °C     | 140 °F         |
| Heat Deflection Temperature  | D648 @0.46MPa | 65 °C     | 149 °F         |

| Description  | Phrozen Make Color-LCD | Phrozen Sonic mini-LCD | Miicraft 125 DLP |
|--------------|------------------------|------------------------|------------------|
| Bottom Layer | 30~40 sec@50µm         | 15~25 sec@50µm         | 8~10 sec@50µm    |
| Layers       | 8~10 sec@50µm          | 3~4.5 sec@50µm         | 0.9~1.1 sec@50µm |

\* The post-curing mechanical properties were obtained by testing specimens printed with Phrozen Sonic Mini 4K.

# ENGR Strong

Engineering Strong creates high precision, tough, and low shrinkage parts to be suitable for various applications. It has low viscosity and could be printed with different combination of parameters to minimize production time. The designed mechanical properties can be achieved after curing process.

## Application

- > Fasteners
- > Hand tools product development
- > Automobile interior parts
- > Cycling accessories
- > Props, miniature, and prototyping

## Resin Physical Properties:

|           |                                 |
|-----------|---------------------------------|
| Color     | White, Grey                     |
| Density   | 1.12 ~ 1.16 g / cm <sup>3</sup> |
| Viscosity | 150 ~ 250 cps @ 25 °C           |

## Post Processing

This printed part requires post curing to achieve its ideal hardness and toughness.

- > Expose the printed parts in 365 ~ 405 nm UV for 10 minutes to an hour.  
The time varies based on the thickness of the parts.
- > After curing, the color of the parts would dim. Leaving the parts in 70 °C oven for another hour to finish the curing.  
The process is completed when the color is restored.

## Product Specifications

|                   |            |
|-------------------|------------|
| Package Size      | 500g / 1kg |
| Country of Origin | Taiwan     |



## Post-Curing Mechanical Properties

| Description                  | ASTM Method   | Metric    | Imperial       |
|------------------------------|---------------|-----------|----------------|
| Shore Hardness               | D2240         |           | 85D            |
| Tensile Strength             | D638          | 57.21 MPa | 8.3 ksi        |
| Young' s Modulus             | D638          | 2.75 GPa  | 398.85 ksi     |
| Elongation                   | D638          |           | 23 %           |
| Notched Impact Strength      | D256          | 36 J/m    | 0.674 ft-lb/in |
| Glass Transition Temperature | DSC           | 60 °C     | 140 °F         |
| Heat Deflection Temperature  | D648 @0.46MPa | 65 °C     | 149 °F         |

| Description  | Phrozen Make Color-LCD | Phrozen Sonic mini Mono-LCD | Miicraft 125 DLP |
|--------------|------------------------|-----------------------------|------------------|
| Bottom Layer | 30~40 sec@50µm         | 15~25 sec@50µm              | 8~10 sec@50µm    |
| Layers       | 8~10 sec@50µm          | 3~4.5 sec@50µm              | 0.9~1.1 sec@50µm |

\* The post-curing mechanical properties were obtained by testing specimens printed with Phrozen Sonic Mini 4K.

# ENGR High Temp

Engineering High Temp creates high precision and rigid parts that can sustain up to 270 °C (518 °F) without deformation under external force. It has low shrinkage and excellent mechanical properties after post processing. It is perfect for various engineering application in high temperature environment.

## Application

- > Reflow oven fixture for parts
- > Hand tools product development
- > High temp flow applications
- > Injection molds

## Resin Physical Properties:

|           |                                  |
|-----------|----------------------------------|
| Color     | Clear (Translucent Light Yellow) |
| Density   | 1.10 ~ 1.15 g / cm <sup>3</sup>  |
| Viscosity | 230 ~ 270 cps @ 25 °C            |

## Post Processing

This model requires post curing to achieve its ideal properties.

- > Expose the printed parts in 365 ~ 405 nm UV at 60 °C (140 °F) for an hour.  
The printed parts would change its color from translucent light yellow to dark green.
- > Then, the parts need to be heat treated at 160 °C (320 °F) for two hours.  
The color would return to translucent light yellow.
- > Once the entire parts return to its original color, the post processing (UV cure and thermal cure) is completed.

\* Each post process duration varies based on the thickness of the object. Please adjust the curing time accordingly!

## Product Specifications

|                   |            |
|-------------------|------------|
| Package Size      | 500g / 1kg |
| Country of Origin | Taiwan     |



## Post-Curing Mechanical Properties

| Description                  | ASTM Method   | UV Cure   |               | UV Cure and Thermal Cure |                |
|------------------------------|---------------|-----------|---------------|--------------------------|----------------|
|                              |               | Metric    | Imperial      | Metric                   | Imperial       |
| Shore Hardness               | D2240         | 82~84D    |               | 89~90D                   |                |
| Tensile Strength             | D638          | 32.2 MPa  | 4.67 ksi      | 70.5 MPa                 | 10.22 ksi      |
| Young's Modulus              | D638          | 1.545 GPa | 224 ksi       | 3.38 GPa                 | 490 ksi        |
| Elongation                   | D638          | 2~3 %     |               | 6 %                      |                |
| Notched Impact Strength      | D256          | 15.5 J/m  | 0.29 ft-lb/in | 23.4 J/m                 | 0.438 ft-lb/in |
| Glass Transition Temperature | DSC           | 75 °C     | 167 °F        | 245 °C                   | 473 °F         |
| Heat Deflection Temperature  | D648 @0.46MPa | 89 °C     | 192 °F        | 270 °C                   | 518 °F         |

| Description  | Phrozen Make Color-LCD | Phrozen Sonic mini Mono-LCD | Miicraft 125 DLP |
|--------------|------------------------|-----------------------------|------------------|
| Bottom Layer | 30~40 sec@50µm         | 15~25 sec@50µm              | 8~10 sec@50µm    |
| Layers       | 8~10 sec@50µm          | 6 sec@50µm                  | 0.9~1.1 sec@50µm |

\* The post-curing mechanical properties were obtained by testing specimens printed with Phrozen Sonic Mini 4K.

# HD 4K

QTS HD 4K resin is a high-resolution UV curable resin for 3D printing. It is recommended to be used with 395 ~ 405 nm wavelength 3D printers. DLP, LCD, SLA printers are compatible. The resin enables high resolution printing. It can present detailed and smooth surface finishes and print small holes or fine surface texture. This resin has minimal shrinkage and can be cleaned easily with Magic Wash or IPA. High resolution miniatures are well suited for HD 4K resin.

## Key Features

- > Low viscosity with detailed print result.
- > Low exposure time and can work with a wide range of printing parameters to save time.
- > Created with nano-disperse technology to reduce particle settlement and color flooding.
- > Great adhesion to the print bed and easy to remove.
- > Create great results with high resolution files. Pictures can be presented exceptionally.

## Application

- > Avocation models
- > Intricate designs

## Resin Physical Properties:

|           |                                |
|-----------|--------------------------------|
| Color     | Red, Grey                      |
| Density   | 1.1 ~ 1.15 g / cm <sup>3</sup> |
| Viscosity | 170 ~ 200 cps @ 25 °C          |

## Product Specifications

|                   |            |
|-------------------|------------|
| Package Size      | 500g / 1kg |
| Country of Origin | Taiwan     |

## Post Processing

This printed part requires post curing to achieve its ideal hardness and toughness.

- > Expose the printed parts in 365 ~ 405 nm UV for 10 minutes to an hour.  
The time varies based on the thickness of the parts.



## Post-Curing Mechanical Properties

| Description                  | ASTM Method   | Metric    | Imperial           |
|------------------------------|---------------|-----------|--------------------|
| Shore Hardness               | D2240         |           | 83D                |
| Tensile Strength             | D638          | 35.1 MPa  | 5.09 ksi           |
| Young's Modulus              | D638          | 1.58 GPa  | 229.16 ksi         |
| Elongation                   | D638          |           | 13.8 %             |
| Notched Impact Strength      | D256          | 21.26 J/m | 0.84~1.03 ft-lb/in |
| Glass Transition Temperature | DSC           | 71 °C     | 159.8 °F           |
| Heat Deflection Temperature  | D648 @0.46MPa | 70 °C     | 158 °F             |

| Description  | Phrozen Make Color-LCD | Phrozen Sonic mini Mono-LCD | Miicraft 125 DLP |
|--------------|------------------------|-----------------------------|------------------|
| Bottom Layer | 30~40 sec@50µm         | 15~25 sec@50µm              | 8~10 sec@50µm    |
| Layers       | 8~10 sec@50µm          | 3~4.5 sec@50µm              | 0.9~1.1 sec@50µm |

\* The post-curing mechanical properties were obtained by testing specimens printed with Phrozen Sonic Mini 4K.



# HD 8K

QTS 8K is a liquid UV-curable photosensitive resin, which is suitable for 3D molding equipment with a wavelength of 395~405nm, including DLP, LCD, and SLA desktop models. This material has ultra-high resolution, low shrinkage, No deformation, no warping and other characteristics, suitable for printing high-definition objects.

## Characteristics

- > Moderate viscosity, good fluidity and ultra-high resolution.
- > Fast curing speed, wide printing parameters, saving printing time.
- > The resin is easy to clean and does not remain on the surface of the object, with clear holes and surface texture.
- > Add nano-meter materials to reduce the problems of sedimentation and floating separation.
- > With ultra-high resolution, it is suitable for printing composite objects with small size variation and extremely low shrinkage.
- > Great adhesion to the build plate.
- > After curing, the finished object can show excellent mechanical properties and the object is not easy to be damaged.
- > The surface of the printed object is in a matte state, and it can show perfect details when taking pictures with a camera.

## Application

- > Ultra-high-resolution facial details
- > Anime character model
- > Product design and development appearance samples
- > Jewelry Seiko Objects

## Post Processing

- > This material must undergo sufficient post-curing treatment after molding to achieve the best mechanical properties and surface dry anproperties.
- > UV post-curing in the 365~405nm light box for 10~60 minutes (depending on the color and thickness of the material, the thicker the thickness, the longer the post-curing time is required). It is not enough to use sunlight as the post-curing.

## Post-Curing Mechanical Properties

| Description                  | ASTM Method   | Metric    | Imperial       |
|------------------------------|---------------|-----------|----------------|
| Shore Hardness               | D2240         |           | 85D            |
| Tensile Strength             | D638          | 56.84 MPa | 8.24 ksi       |
| Young' s Modulus             | D638          | 2.72 GPa  | 395 ksi        |
| Elongation                   | D638          |           | 21.74 %        |
| Notched Impact Strength      | D256          | 14.79 J/m | 0.277 ft-lb/in |
| Glass Transition Temperature | DSC           | 79 °C     | 174 °F         |
| Heat Deflection Temperature  | D648 @0.46MPa | 77 °C     | 171 °F         |

## Resin Physical Properties:

|           |                         |
|-----------|-------------------------|
| Color     | Brown                   |
| Density   | 1.1 g / cm <sup>3</sup> |
| Viscosity | 350 ~ 360 cps @ 25 °C   |

## Product Specifications

|                   |            |
|-------------------|------------|
| Package Size      | 500g / 1kg |
| Country of Origin | Taiwan     |



\* The post-curing mechanical properties were obtained by testing specimens printed with Phrozen Sonic Mini 4K.

# Flex 52D

QTS Flex 52D creates rubber-like parts with high elongation to produce any prototypes that require flexibility. Flex 52D can be used on DLP, LCD, and SLA printers with 395 ~ 405 nm wavelength. It cures with minimal yellowing after post processing to allow effective handling of the parts. It is durable and stretches well to allow its application on repeated motion.

## Key Feature

- > Low viscosity with great fluidity allows printing with high details.
- > Fast curing speed and easy to clean remaining resin on the printed parts.
- > The printed parts will have high accuracy and low shrinkage.
- > Great adhesion to the print bed and easy to remove.
- > The resin has great hardness and toughness to sustain impact.
- > Parts can be easily mated.

## Application

- > Soft and flexible parts
- > Gaskets and seals
- > Wearables electronics
- > Anatomical and medical models
- > Props and prototyping

## Resin Physical Properties:

|           |                                  |
|-----------|----------------------------------|
| Color     | Clear (Translucent Light Yellow) |
| Density   | 1.2 ~ 1.16 g / cm <sup>3</sup>   |
| Viscosity | 140 ~ 180 cps @ 25 °C            |

## Post Processing

This printed part requires post curing to achieve its ideal hardness and toughness.

- > Expose the printed parts in 365 ~ 405 nm UV for 10 minutes to an hour.  
The time varies based on the thickness of the parts.

## Product Specifications

|                   |            |
|-------------------|------------|
| Package Size      | 500g / 1kg |
| Country of Origin | Taiwan     |

## Post-Curing Mechanical Properties

| Description                  | ASTM Method   | Metric  | Imperial  |
|------------------------------|---------------|---------|-----------|
| Shore Hardness               | D2240         |         | 52D       |
| Tensile Strength             | D638          | 2.7 MPa | 0.392 ksi |
| Young's Modulus              | D638          | 2.6 MPa | 0.377 ksi |
| Elongation                   | D638          |         | >100 %    |
| Energy Return                | Internal      |         | 40-50 %   |
| Glass Transition Temperature | DSC           | 60 °C   | 140 °F    |
| Heat Deflection Temperature  | D648 @0.46MPa | 60 °C   | 140 °F    |



| Description  | Phrozen Make Color-LCD | Phrozen Sonic mini Mono-LCD | Miicraft 125 DLP |
|--------------|------------------------|-----------------------------|------------------|
| Bottom Layer | 60 sec@50µm            | 25~30 sec@50µm              | 10~12 sec@50µm   |
| Layers       | 16 sec@50µm            | 8~10 sec@50µm               | 1.6~1.7 sec@50µm |

\* The post-curing mechanical properties were obtained by testing specimens printed with Phrozen Sonic Mini 4K.

# Flex 57A

QTS Flex 57A creates rubber and TPU-like parts with high resilience and low odor to meet requirement on excellent elasticity. This resin can be used on DLP, LCD, and SLA printers with 395 ~ 405 nm wavelength. It is suited for applications like shoe sole or elastic parts.

## Application

- > Soft and flexible parts
- > Gaskets and seals
- > Wearables electronics
- > Anatomical and medical models
- > Props and prototyping

## Post Processing

This printed part requires post curing to achieve its ideal hardness and toughness.

- > Expose the printed parts in 365 ~ 405 nm UV for 10 minutes to an hour.  
The time varies based on the thickness of the parts.

## Post-Curing Mechanical Properties

| Description                  | ASTM Method   | Metric  | Imperial  |
|------------------------------|---------------|---------|-----------|
| Shore Hardness               | D2240         |         | 57A       |
| Tensile Strength             | D638          | 2.5 MPa | 0.363 ksi |
| Young' s Modulus             | D638          | 2.6 MPa | 0.377 ksi |
| Elongation                   | D638          |         | >80 %     |
| Energy Return                | Internal      |         | 56 %      |
| Glass Transition Temperature | DSC           | 60 °C   | 140 °F    |
| Heat Deflection Temperature  | D648 @0.46MPa | 60 °C   | 140 °F    |

| Description  | Phrozen Make Color-LCD | Phrozen Sonic mini Mono-LCD | Miicraft 125 DLP |
|--------------|------------------------|-----------------------------|------------------|
| Bottom Layer | 60 sec@50µm            | 25~30 sec@50µm              | 10~12 sec@50µm   |
| Layers       | 16 sec@50µm            | 8~10 sec@50µm               | 1.6~1.7 sec@50µm |

\* The post-curing mechanical properties were obtained by testing specimens printed with Phrozen Sonic Mini 4K.

## Resin Physical Properties:

|           |                                  |
|-----------|----------------------------------|
| Color     | Clear (Translucent Light Yellow) |
| Density   | 1.2 ~ 1.16 g / cm <sup>3</sup>   |
| Viscosity | 500 ~ 750 cps @ 25 °C            |

## Product Specifications

|                   |            |
|-------------------|------------|
| Package Size      | 500g / 1kg |
| Country of Origin | Taiwan     |



# PP Like

QTS PP-Like resin provides high dimensional accuracy and smooth surface finish. The translucent nature of this resin can be polished with sandpaper and applied with a layer of varnish to achieve transparency. PP-Like Resin is ideal for creating prototypes that need both hardness and flexibility.

## Key Features

- > Low viscosity with efficient workflow.
- > High accuracy and smooth surface finish.
- > Low odor before and after printing.
- > Cleans well with Magic Wash Plus or other detergent.

## Post Processing

This printed part requires post curing to achieve its ideal hardness and toughness.

- > Expose the printed parts in 365 ~ 405 nm UV for 10 minutes to an hour.  
The time varies based on the thickness of the parts.

## Product Specifications

|                   |            |
|-------------------|------------|
| Package Size      | 500g / 1kg |
| Country of Origin | Taiwan     |

## Post-Curing Mechanical Properties

| Description                  | ASTM Method   | Metric      | Imperial     |
|------------------------------|---------------|-------------|--------------|
| Shore Hardness               | D2240         |             | 66~70D       |
| Tensile Strength             | D638          | 20~25 MPa   | 2.9~3.63 ksi |
| Flexural Modulus             | D2240         | 900~950 MPa | 131~138 ksi  |
| Elongation                   | D638          |             | 40%          |
| Glass Transition Temperature | DSC           | 60 °C       | 140 °F       |
| Heat Deflection Temperature  | D648 @0.46MPa | 60 °C       | 140 °F       |

| Description  | Phrozen Make Color-LCD | Phrozen Sonic mini Mono-LCD | Miicraft 125 DLP |
|--------------|------------------------|-----------------------------|------------------|
| Bottom Layer | 40~50 sec@50µm         | 25~30 sec@50µm              | 10~12 sec@50µm   |
| Layers       | 10~12 sec@50µm         | 6 sec@50µm                  | 1.1~1.3 sec@50µm |

\* The post-curing mechanical properties were obtained by testing specimens printed with Phrozen Sonic Mini 4K.

## Application

- > Lighting prototypes
- > Product development
- > Ornaments

## Resin Physical Properties:

|           |                                |
|-----------|--------------------------------|
| Color     | Clear                          |
| Density   | 1.2 ~ 1.16 g / cm <sup>3</sup> |
| Viscosity | 200 ~ 300 cps @ 25 °C          |



Clear

# Casting Pro

The QTS Casting Pro resins prints in high accuracy to present the intricate details on jewelry designs. With the wax-like characteristics, Casting Pro can achieve extremely low ash residue and low shrinkage. Along with the short curing time on LCD or DLP printers, Casting Pro is one of the most suitable solutions for casting professionals.

## Application

- > Jewelry production
- > Dental applications
- > Precision metal casting

## Product Specifications

|                   |            |
|-------------------|------------|
| Package Size      | 500g / 1kg |
| Country of Origin | Taiwan     |

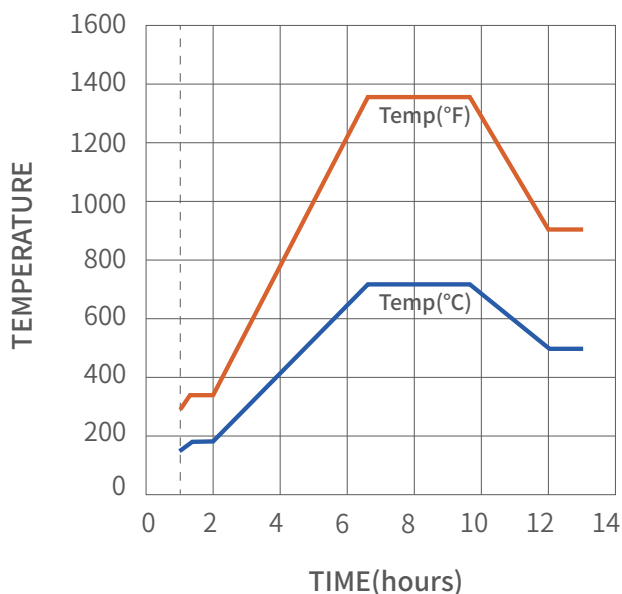
## Resin Physical Properties:

|           |                                |
|-----------|--------------------------------|
| Color     | Black                          |
| Density   | 1.2 ~ 1.16 g / cm <sup>3</sup> |
| Viscosity | 400~500 cps @ 25 °C            |



## Post-Curing Mechanical Properties

| Description                | Test Method | Metric  | Imperial |
|----------------------------|-------------|---------|----------|
| Ash Rate                   | ASTM E 1131 |         | 0~0.01%  |
| Temperature @ 5% Mass Loss | ASTM E 1131 | 252 °C  | 486 °F   |
| Shore Hardness             | ASTM D2240  |         | 75D      |
| Tensile strength           | ASTM D638   | 20 Mpa  | 2.9 ksi  |
| Youngs modulus             | ASTM D638   | 0.4 GPa | 58 ksi   |
| Elongation                 | ASTM D638   |         | 10~15%   |
| Linear shrinkage           | ASTM C356   |         | 0.1%     |



## Recommended Burnout Cycles

|              |              |              |
|--------------|--------------|--------------|
| Preheat      | 300°F/hr     | 167°C        |
| Insert Flask | 300°F        | 167°C        |
| Ramp         | 100°F/hr     | 56°C/hr      |
| Hold         | 350°F /30min | 177°C /30min |
| Ramp         | 210°F/hr     | 117°C/hr     |
| Hold         | 1350°F /3hr  | 732°C /3hr   |
| Ramp         | -200°F/hr    | -111°C/hr    |
| Hold         | 900°F /1hr   | 482°C /1hr   |

Recommended Investment:  
R&R Plasticast with BANDUST

# AS Beige

Anti-Scratch series is a photosensitive resin designed specifically for contact-driven models. Joints, fasteners, or gearsets are among the popular usage for this material. The surface quality results in a smooth texture that can avoid extensive marks. The resin is compatible with printers using LCD, DLP, or SLA technology with the wavelength between 395 to 405 nm.

## Application

- > Anime character model
- > Character head sculpture
- > Female body skin appears

## Resin Physical Properties:

|           |                                 |
|-----------|---------------------------------|
| Color     | Complexion liquid               |
| Density   | 1.10 ~ 1.15 g / cm <sup>3</sup> |
| Viscosity | 300 ~ 350 cps @ 25 °C           |

## Product Specifications

|                   |        |
|-------------------|--------|
| Package Size      | 500g   |
| Country of Origin | Taiwan |

## Characteristics

- > Moderate viscosity, good fluidity, and clear printing details.
- > Fast curing speed, wide printing parameters, saving printing time.
- > Easy to clean, cave and surface texture are perfectly presented.
- > Add nano-meter materials to reduce the problems of sedimentation and floating separation.
- > Great adhesion to the build plate.

## Post-Curing Mechanical Properties

| Description                  | ASTM Method   | Metric   | Imperial      |
|------------------------------|---------------|----------|---------------|
| Shore Hardness               | D2240         |          | 81D           |
| Tensile Strength             | D638          | 31.1 MPa | 4.51 ksi      |
| Young's Modulus              | D638          | 1.49 GPa | 216 ksi       |
| Elongation                   | D638          |          | 30.38 %       |
| Notched Impact Strength      | D256          | 30.4 J/m | 0.57 ft-lb/in |
| Glass Transition Temperature | DSC           | 71 °C    | 160 °F        |
| Heat Deflection Temperature  | D648 @0.46MPa | 70 °C    | 158 °F        |

## Print parameters range (@Mighty 4K 9.3")

|                             |                    |
|-----------------------------|--------------------|
| Bottom Layer (4~6 of layer) | 20 ~ 30 S          |
| Normal Layer (0.05mm)       | 3.0 ~ 3.5 S        |
| Lift and return speed       | 60/60/150 (mm/min) |
| Lift height                 | 6 ~ 7 mm           |
| Turn off the light delay    | 12 ~ 14 S          |
| UV Light power              | 80 ~ 100%          |
| Transition Layer            | 6                  |

\* The post-curing mechanical properties were obtained by testing specimens printed with Phrozen Sonic Mini 4K.



# Stone

QTS STONE is a Stone-like liquid UV-curable photosensitive resin, which is suitable for 3D molding equipment with a wavelength of 395~405nm, including DLP, LCD, and SLA desktop models. As long as normal printing is required, this material can present the texture of natural stone, which is suitable for printing stone carvings or handicrafts requiring stone texture.

## Characteristics

- > Moderate viscosity, good fluidity, easy to print.
- > Fast curing speed and wide printing parameters.
- > It is easy to clean, the resin does not remain on the surface of the object, and the natural luster of the stone is presented.
- > Great adhesion to the build plate.
- > After the finished product is cured, it has excellent mechanical properties and is not easy to break.
- > After the object is formed, the texture and luster are directional, comparable to natural stone carvings.

## Application

- > Arts and crafts creation
- > Architectural models

## Resin Physical Properties:

|           |                               |
|-----------|-------------------------------|
| Color     | Grey, Dark Grey               |
| Density   | 1.13 ~ 1.2g / cm <sup>3</sup> |
| Viscosity | 300 ~ 350 cps @ 25 °C         |

## Product Specifications

|                   |            |
|-------------------|------------|
| Package Size      | 500g / 1kg |
| Country of Origin | Taiwan     |

## Post-Curing Mechanical Properties

| Description                  | ASTM Method   | Metric   | Imperial      |
|------------------------------|---------------|----------|---------------|
| Shore Hardness               | D2240         |          | 77            |
| Tensile Strength             | D638          | 50 MPa   | 7.25 ksi      |
| Young's Modulus              | D638          | 2.48 GPa | 360 ksi       |
| Elongation                   | D638          |          | 20 %          |
| Notched Impact Strength      | D256          | 25 J/m   | 0.47 ft-lb/in |
| Glass Transition Temperature | DSC           | 62 °C    | 144 °F        |
| Heat Deflection Temperature  | D648 @0.46MPa | 62 °C    | 144 °F        |



## Stone Recommended Parameters(@50µm)

|                 | Anycubic Mono (2K) | Anycubic Mono X(4K) | Phrozen Mighty  |
|-----------------|--------------------|---------------------|-----------------|
| Bottom Layer    | 3 Layer* 30 S      | 3 Layer* 30 S       | 3 Layer* 35~40S |
| Layers          | 1.8~2.0 S          | 1.2~1.5 S           | 3.2~3.5 S       |
| Light off delay | 5~6 S              | 5~6 S               | 16 S            |
| Light power     | 100%               | 100%                | 100%            |

\* The post-curing mechanical properties were obtained by testing specimens printed with Phrozen Sonic Mini 4K.