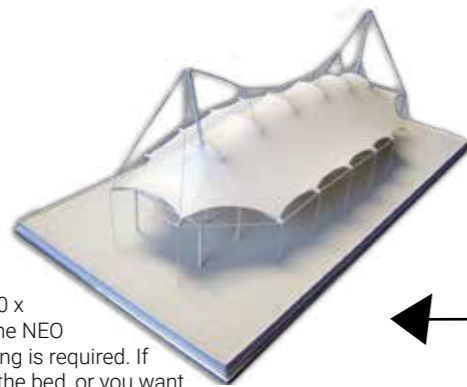




# 3D printing architectural models: large-bed SLA Printing

## ASSEMBLY STRATEGY



For large city scapes, the 800 x 800 x 600mm print bed on the NEO 800 means minimal sectioning is required. If your diorama is bigger than the bed, or you want to demonstrate the properties of certain buildings or components within that diorama, such as interior detailing, you may want to think about your assembly strategy.

- You have two options when it comes to splitting your models in the CAD. Either split by seam; or split by component. When considering your splits, an important point to remember is orientation on the print bed.
- If you are building a large diorama that goes beyond the length of the print bed, aligners are an easy connection solution. Splitting the CAD in areas of least complexity is a must; and simple joinery methods such as bump and groove, lips, recessed areas for glue and pins are all feasible with SLA printing. Remember, wall thickness will define your assembly connection strategy.

## WALL THICKNESS

- Supported walls: For the NEO800, it's feasible to design these with a minimum thickness of 0.2mm. However, for optimum results, 0.4mm is the advised minimum
- Unsupported walls: it's feasible to design these with a minimum thickness of 0.4mm. However, for optimum results, 0.6mm is the advised minimum

## EVOLVE 128

The shiny white EvoLve 128 is a durable, slightly flexible resin ideal for fine detailing. EvoLve 128 can be sprayed with colour and bonded to other materials with ease. The finish is exceptional.

## THE WOW FACTOR

Like any thermoplastic, painting your model directly requires a certain amount of preparation. We recommend a good matte grey primer to help your paints to adhere to the ultra-smooth plastic surface finish.

While they are gaining in popularity, a digital model will never really replace a 3D model when it comes to testing spatial qualities. It's easier to explain an idea with something tangible than trying to get your client to visualise the design through drawings. A physical model of a complicated design really does have more impact. The SLA's quick turnaround time means less spend for you and your client.

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STEP

DEVELOPING CAD

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PRINT FACTORS

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MATERIALS SELECTION

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FINISHING OPTIONS

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BRINGING IT TO LIFE

## INTERNAL DETAILING

The exceptionally smooth finish delivered by the NEO 800 and the materials available makes it exceptionally good for creating models with interior details. These can be standalone models or be integral to your diorama.

- For internal detailing, split the model at the seam
- It may be easier to break down individual buildings within your diorama as a kit of parts, using any of the above describe mating processes; or separate out building components and display as stand-alones.
  - Alternatively, building an external 'shell' with a second model depicting internal detailing nesting within it will enable a 'floorplan' model to be printed with ease and efficiency.
- The key to exemplary internal detailing is to remember that SLA does require the inclusion of support structures. The more delicate the area, the greater the number of support structures required.



## FINE DETAILING

With a laser positioning of 1 micron (0.001mm), the NEO 800 produces exceptionally fine, smooth prints - you can really "go to town" on the details.

We recommend you don't go less than 0.05mm - 0.1mm for embossed detailing - after all, you would still like it to be visible to the naked eye.

For engraved detailing, we recommend you consider width and depth (from the model surface) of no less than 0.3 mm.

## WATERSHED XC 11122

This tough, durable resin produces optically clear parts with a brilliantly smooth finish. Because the resin has been designed for ease of use, and because our NEO 800 has one of the best scanning resolutions of any industrial printer, prints are produced quickly.

WaterShed takes colour well. It can be sprayed or lacquered to retain a level of transparency. With a heat deflection temperature of 50°C, it is suitable for models requiring LED underlights.

## RANGE OF SURFACE FINISHES

- **Basic and blast:** removal of all build support evidence and an even bead blasted finish
- **Basic and lacquer:** removal of all build support evidence and a coat of clear lacquer
- **De-layer and blast:** Removal of all build support and layering evidence and an even bead blasted finish
- **De-layer, lacquer and polish:** removal of all build support and layering evidence and a coat of clear lacquer and polish
- Model assembly, painting and polishing



The SLA/3D Printing advantage:

- Super smooth, highly detailed, large models
- Large print beds means minimal splitting/section assembly
- Can include all the street furniture, people and flora in the CAD, reducing assembly and additional modelling time
- Highly cost-efficient - massive price savings
- Quick turnaround - often printing in less than 12 hours, most finishing in less than a day, with next day delivery available
- It's possible to print all architectural ideas!



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Rapid Technologies

www.paragon-rt.com | 01325 333 141 | info@paragon-rt.com