PolyJet (PJ)

PolyJet 3D printing is a photopolymer printing process offering a large material portfolio. Unique characteristics of PolyJet 3D printing are the nearly unlimited possibilities to combine different materials and colors in one printing process. By mixing up to 6 different materials, different material properties as well as up to 360.000 colors can be realized. Main applications for PolyJet models therefore are design, presentation and trade show models.

Advantages and Options

- Installation space up to 500 x 400 x 200 mm in one piece
- Layer thickness up to 16 µm
- Good resolution and surface quality
- Broad range and graded material mix of
  - ⇨ flexible up to solid materials
  - ⇨ material mix within one part, ex. hard-soft components
  - ⇨ movable assemblies
- High quality color models
- Delivery period starting at 1 - 2 work days

Anatomy model made of Vero clear and different colored areas

Application example presentation models

By combining different materials amazing presentation models can be printed. Among other, for example haptic properties like a soft-touch effect can be realized by mixing different materials.
With the PolyJet technique freely combined materials allow a wide range of material properties in one printing process and due to the color options a model becomes a brilliant presentation or training model.

Packaging samples in different color and pattern varieties

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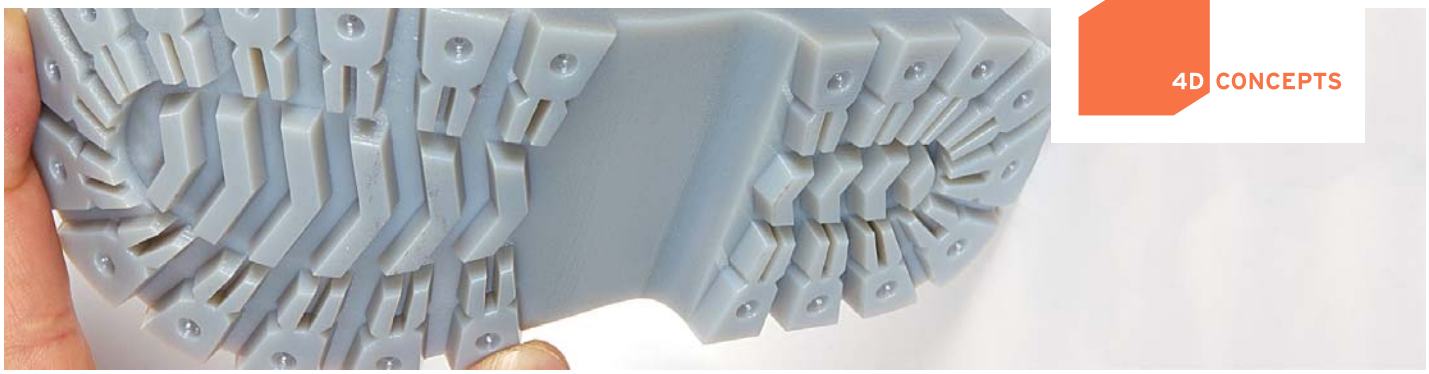

Application example flexible components

Flexibly curing photopolymers are available for the PolyJet process. Mixing flexible and solid materials allow various degrees of elasticity. Using this, design samples can approximate the haptics of future series without being able to reproduce the functional characteristics of a technical component made of e.g. TPE, TPU or a vulcanised rubber (stretch, tear strength, relaxation behaviour, etc.)

Shoe model made hard-soft material combination

Application example parts fitting and assembly examination

Vacuum cleaner assembly

Component characteristics, accuracy and tolerances of models made with the PolyJet procedure are sufficient for parts fitting and assembly examinations in most component geometries. As with all photopolymer techniques, PolyJet components can be post-processed and can thus be given the perfect surface finish for design models without great effort. If a good appearance is required along with function or series-like component characteristics, there is no way around vacuum casting; PolyJet models can be used as master models here.

Application example movable assemblies

The accuracy and surface quality of the PolyJet process also enables the direct production of movable assemblies in one printing process. The sacrificial support material holds movable elements of an assembly separate; and after the sacrificial support geometry is removed, complex assemblies with e.g. tooth systems or chain elements can also be produced in one operational step.

Movable bicycle chain made of Tango blue

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