

**POLYMERS SUPPORTED
BY
3ntr**

RANGE OF POLYMERS SUPPORTED BY 3ntr

- **SUPER POLYMERS**
 - **ULTEM**
 - **PAEK Family**
- **TECHNO POLYMERS - IGlidur**
- **Carbon Fiber**
- **PCABS (For Crash Tests)**
- **Nylon Fiber**
- **Glass Fiber** - Strong as well as light
- **PETG** - tough, chemical-resistant
- **ABS Family** (**ABS**, **ABS - ESD** non static), **ABS Fast** (Excellent Impact and Chemical resistance & Abrasion resistance)
- **ASA Family** - has high outdoor weatherability, good chemical and heat resistance, high gloss, good antistatic
- **Elastomers - Elasto 95** (High elasticity, good heat resistance)

SUPER POLYMERS - High Performance

ULTEM MATERIAL - Melting point 370+

ULTEM AM9085 FTM
Inherently flame retardant,
High strength-to-weight ratio
High thermal resistance
High Chemical resistance



aerospace and automotive applications - French aircraft design and manufacturing group, Latécoère, uses ULTEM 9085

Printing Your Imagination

SUPER POLYMERS - High Performance

PEEK/PEKK/PEK MATERIAL



High Thermal Resistance + Excellent Strength to Weight Ratio + High Chemical Resistance

Apium PEEK 3D printed parts

Boeing's Starliner Passenger Capsules, designed to transport NASA to and from Space Station. The capsules incorporate more than 500 PEKK parts 3D Printed.

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Delivers high strength, Thermal Resistance 210 degrees celsius, Chemical Resistance to gasoline, sulphuric acid, hydraulic fluid+,

can often replace high-cost polymers, such as PEEK and ULTEM



NPOWER

CARBON+

CARBON FIBERS

- * Extremely strong
- * Light weight
- * High rigidity

Application:

Aerospace,
Superstructures of ships
Railway
Automotive
Civil Engineering,
Sports Equipment



GLASS+

Glass-filled polymer

Design Flexibility,
Chemical resistance
Higher Durability
Shatter resistance
Higher Rigidity
Strength
Surface Hardness



Application:

Aerospace,
Superstructures of ships
Railway
Automotive
Civil Engineering,

NYLON+

Used to replace metal bearings & bushings

Excellent bearing and wear properties

Strong Material

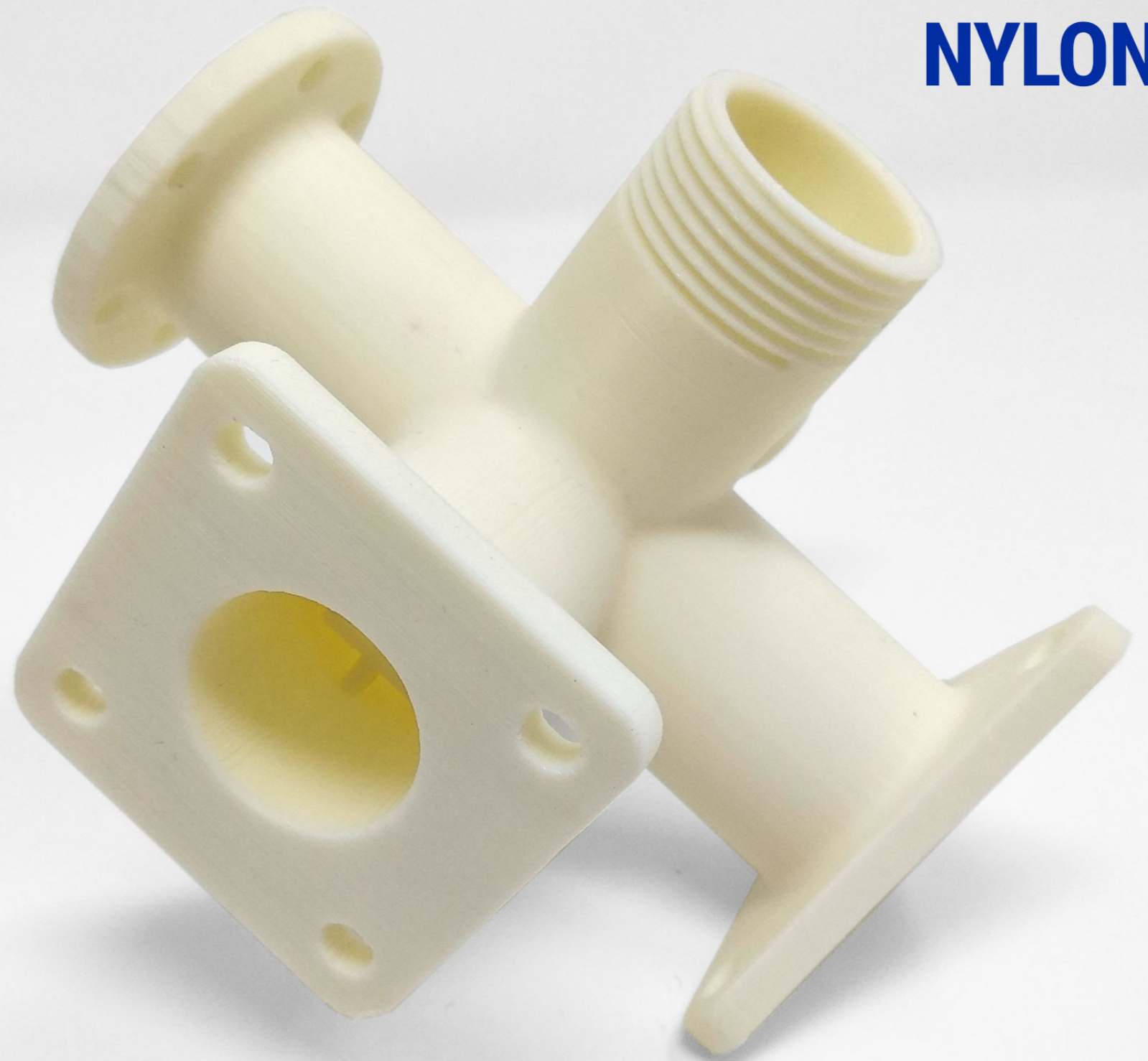
High stiffness

Good chemical resistance

Reduced noise

Less weight

Reduce wear of mating parts



IGLIDUR

high-performance polymers with special properties:

- » Self-Lubricating
- » High Strength
- » Wear-Resistant
- » Robust

USES:

plain bearings,
slewing ring bearings
hydraulic cylinders
wheel suspension
innovative coupling bars
bar stock

APPLICATION:

Under water application
pedal movements for
Agriculture equipments
Construction machinery
Vehicles for link, brake and
shifting system.
cooking appliances
bottling plant
wood working
weaving machine



ASA

Acrylonitrile styrene acrylate (ASA)

Replaces ABS - with improved weather resistance,

UV resistance

Good mechanical properties

Higher long-term heat resistance

Better chemical resistance

More resistant to stress cracking

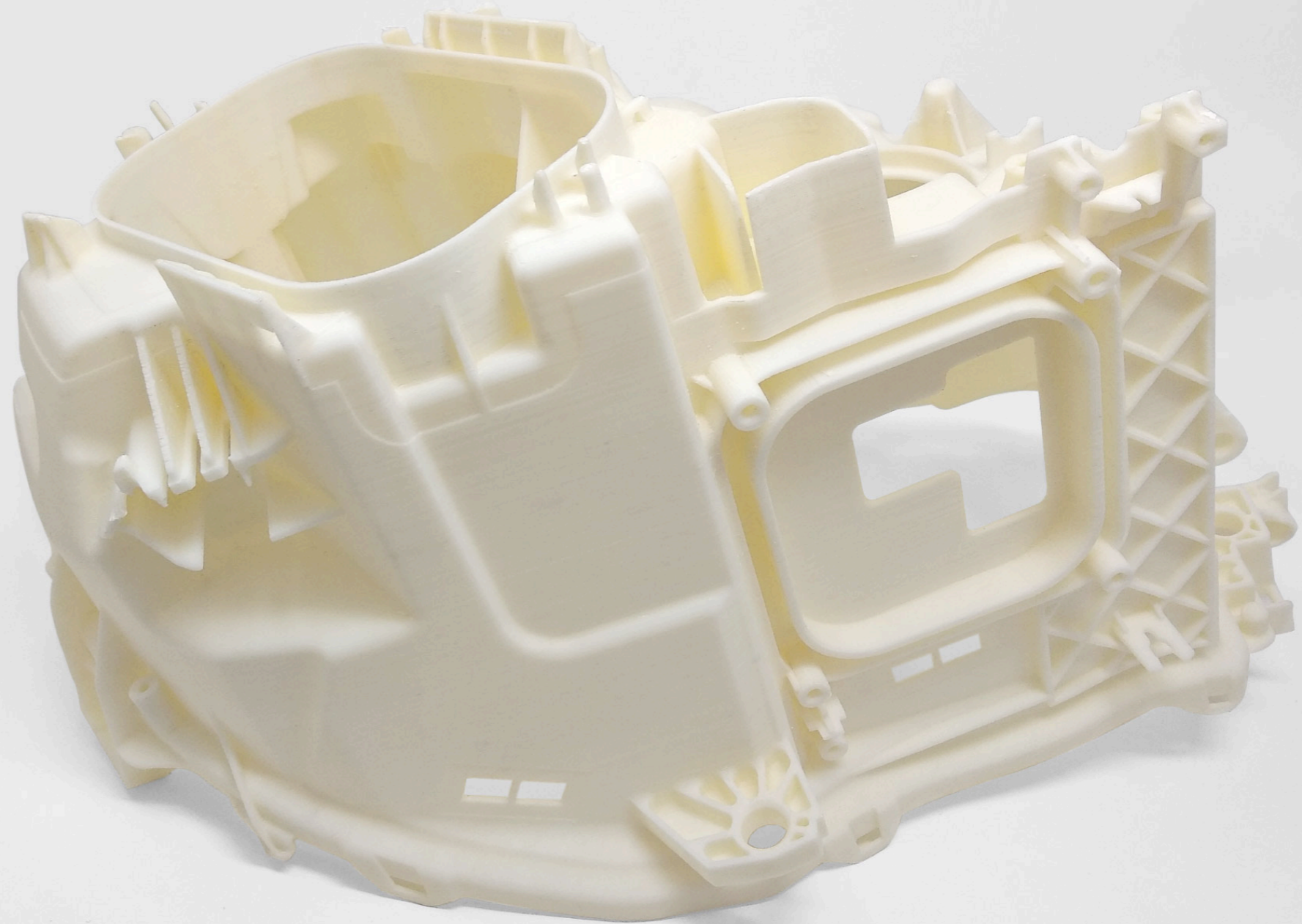
Widely used in the automotive industry



ABS

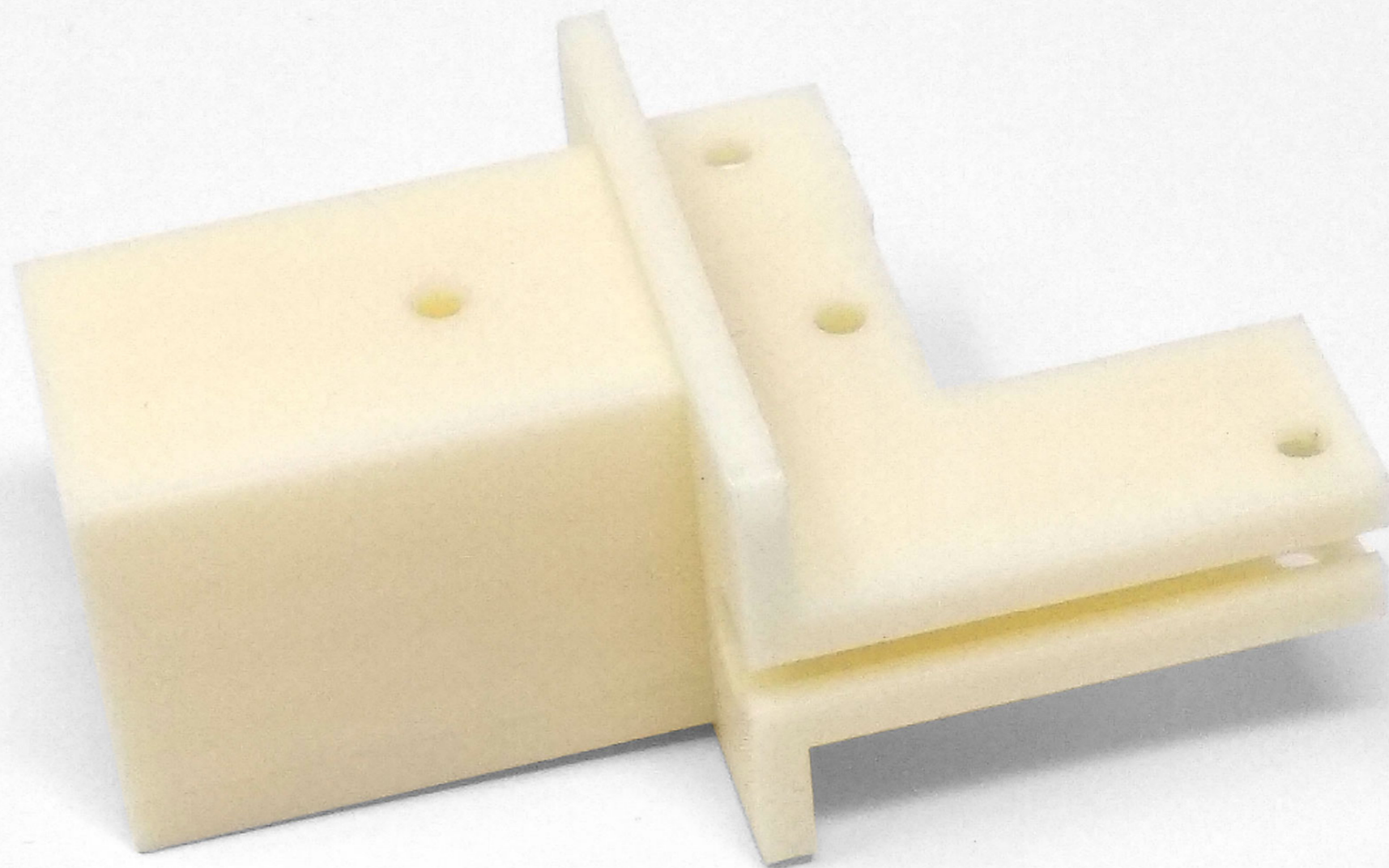
ABS (Acrylonitrile butadiene styrene)

- Impact Resistance
- Structural Strength and Stiffness
- Chemical Resistance
- Excellent High and Low Temperature Performance
- Great Electrical Insulation Properties
- Easy to Paint and Glue



ABS-HD

- Impact Resistance
- Structural Strength and Stiffness
- Chemical Resistance
- Excellent High and Low Temperature Performance
- Great Electrical Insulation Properties
- Easy to Paint and Glue



PCABS

desirable properties of
both **materials**

superior strength and
heat -resistance of **PC**
flexibility of **ABS**

used in:

Automotive

Electronics

Telecommunications



PETG

**Polyethylene
terephthalate glycol
(PETG)**

very high surface gloss

good transparency

extremely impact
resistant

resistant to chemicals

good

thermoforming
properties

Mechanical properties

Optical material properties



ELASTO 85/95 (TPU)

Elastomers - Elasto 95

High elasticity,
good heat resistance

USES:

Shaft Coupling
cushions - Outer ring
cushions - Inner ring
Seals
molded flexible parts
vehicle manufacturing
Gaskets, Seals
Scientific applications
Belts
Hoses



ZWAX

WAX CASTING PROCESS

High Quality Print

It burns clean

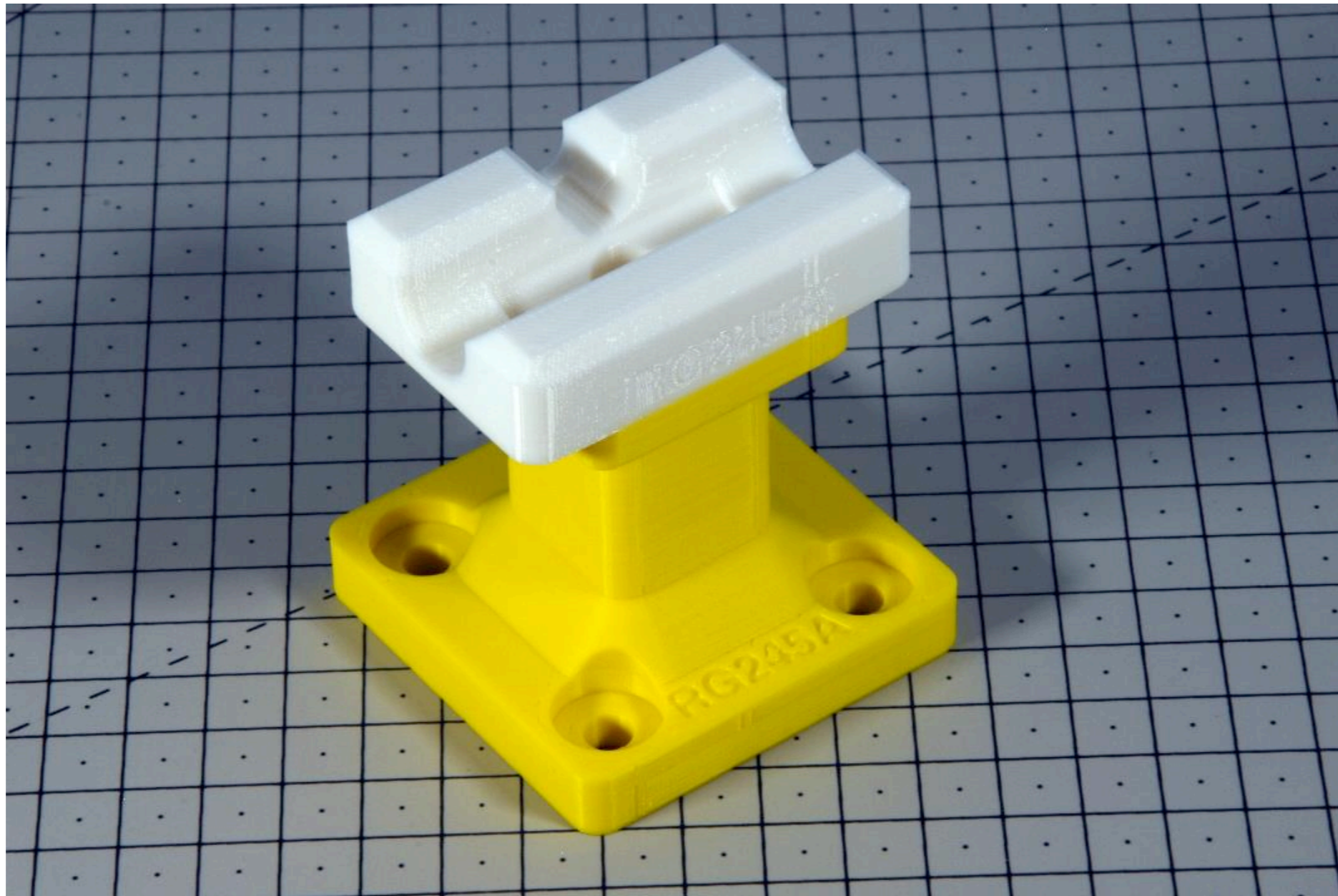
leaves no residue

Wax for the
Manufacturing
Marine
Medical
Industries
Tool-making,
Art & Sculpture



 **3ntr**
ADDITIVE MANUFACTURING SYSTEMS

MUTI MATERIAL PRINTING



Printing Your Imagination

We print your imagination

MUTI MATERIAL PRINTING



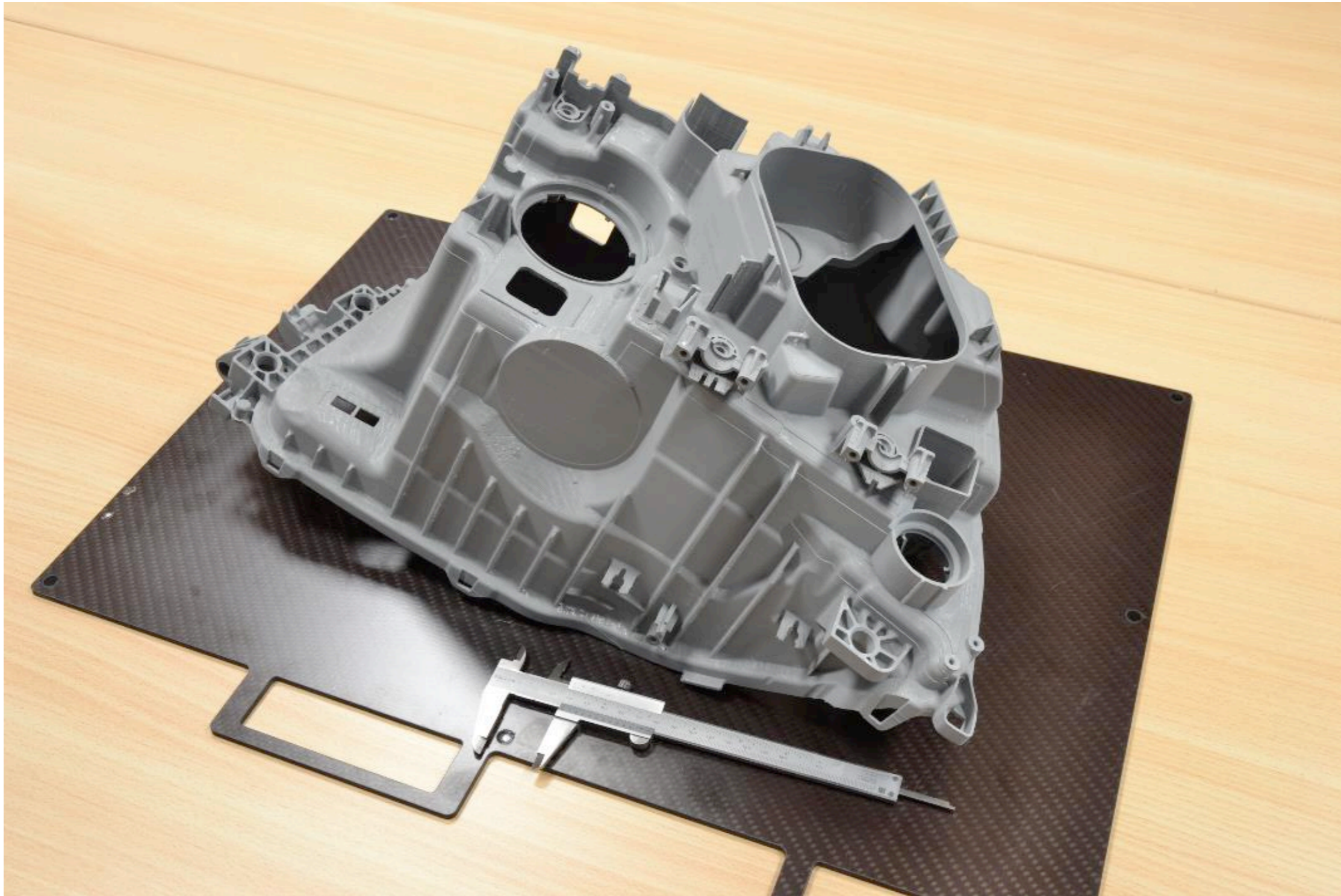
Printing Your Imagination

A2 testimonial



- Momo Design used A2 to make new AERO helmet.
- Printing Strong plastic and Elastomer (i.e. visor gasketing) Momo Design has cut down to 40% the time to market.
- Machine precision (layers from 0.1 to 0.6mm).

Printed on the 3ntr



Printing Your Imagination

We print your imagination

Printed on 3ntr



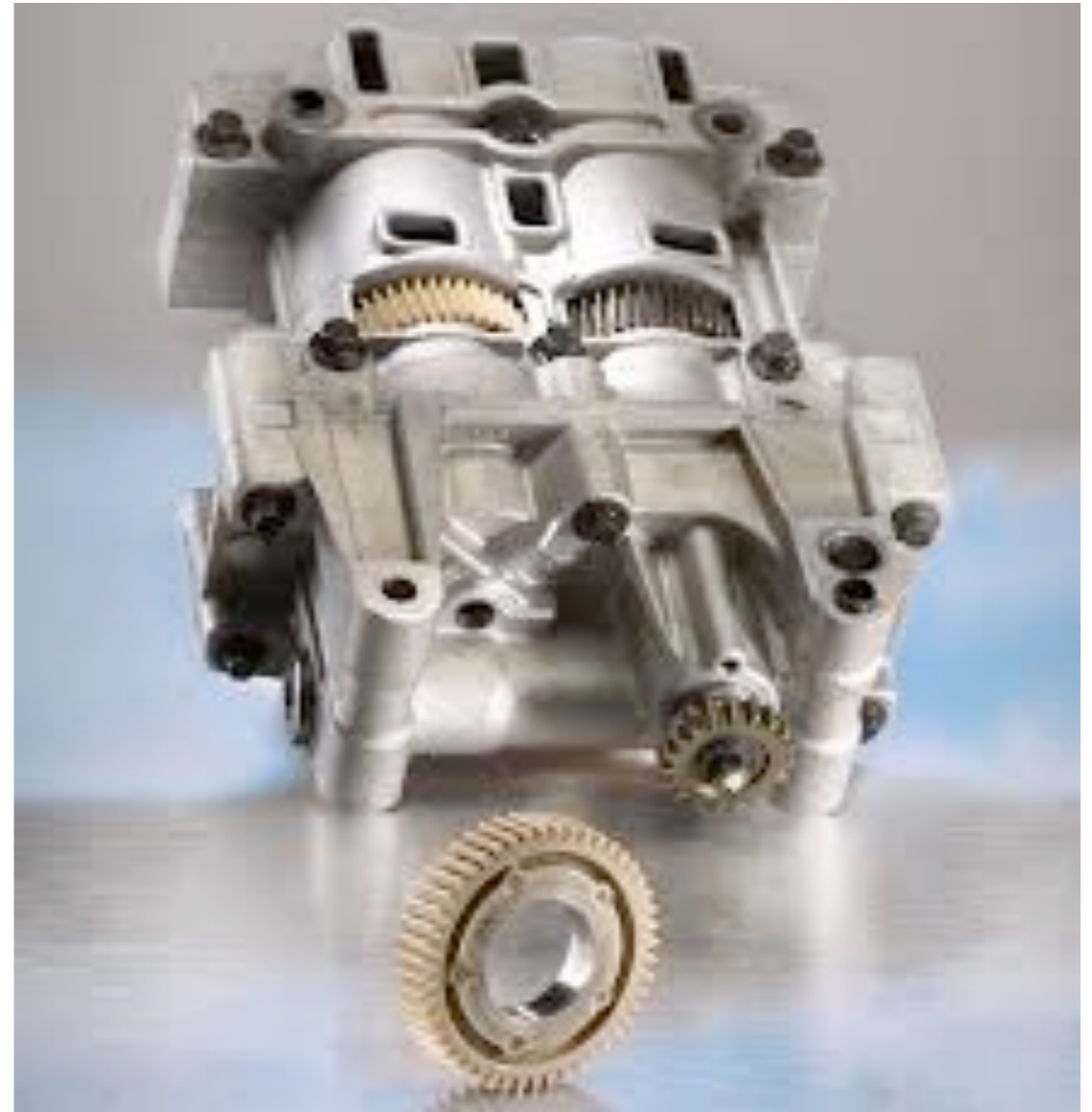
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We print your imagination

A perfect fit for Manufacturing

Power engines

- High performances
- High Temperature Resistance
- Chemicals Resistance
- Vibrations Resistance



A perfect fit for Electronics & Electrical



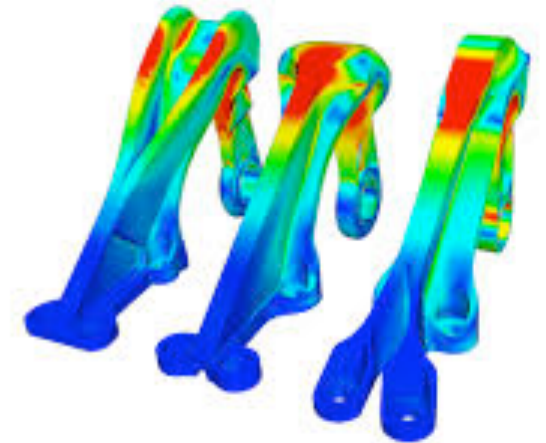
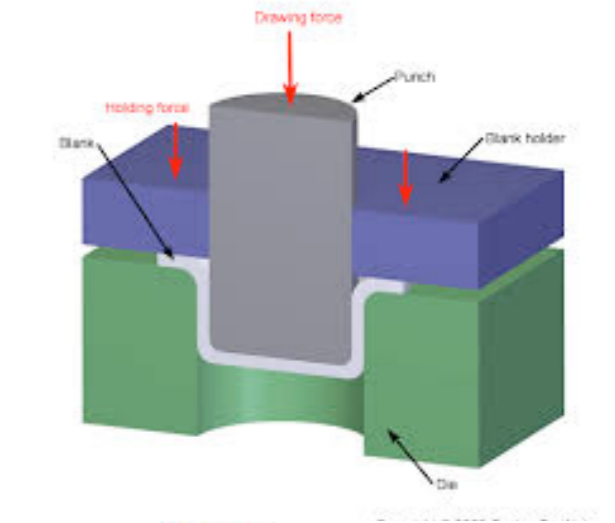
Electronics and Oil&Gas

- Special connectors
- complex geometries and small batches
- just in time production
- material properties and certifications (Peek, Peak Ultem-ESD-PPS)
- precision (0.1mm to 0.6mm)



Tested applications

- Metal Sheet Forming
- Medical Environment
- Aggressive Chemical Environments
- Functional Structural Parts
- Fem Analysis
- Aerospace production parts
- High Temp Environments



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