



Polypropylene (PP)

First Polypropylene material available in
compact SLS Solutions



1st Polypropylene dedicated for compact SLS



Materials overview

Standard Prototyping



PA12 Smooth

Performance



PA11 Onyx

Special Applications



PA11 ESD



PP Polypropylene



3rd Party Materials



FLEXA Grey



FLEXA Bright



FLEXA Soft



TPE

Flexible



I Polypropylene (PP): functions

First material that enables usage of Polypropylene in Compact SLS solution.

Functions:

- Chemical resistance
- Low density enabling buoyancy
- No water absorption by polymer
- Recyclability
- Suitable for pneumatics
- Weldability with other PP parts





I Polypropylene (PP): applications

Enable new applications with polymer that was not accessible with Compact SLS solution until now.

Possible applications:

- Automotive industry (Reservoirs, piping, housings)
- Plastic parts producers (Integrate with injection molded PP)
- Laboratories (Custom chemical tools, i.e. holders or vessels)
- General prototyping of PP parts





Potential customers:

There are many more potential applications, as PP is commonly used plastic in the industry.
SLS printed parts have their limitations (especially in elongation and surface finish)
but we are working to improve on that in the future developments.

Automotive industry

PP is common in different car parts, it will be great for some functional prototypes.

Plastic parts producers (prototyping of final part)

Many commodity parts producers uses PP in their processes. This will enable them for faster prototyping and short series production of new / beta products

Universities / Labs / R&D

Enables faster production of custom holders and reaction vessels that needs PP chemical resistance.



I Automotive industry example: **Air Filter Housing**



The air filter housings in many if not all modern cars are made from PP. Along with the ducting in the Air intake, fan shrouds, and electronics housings, all parts are normally made using PP.

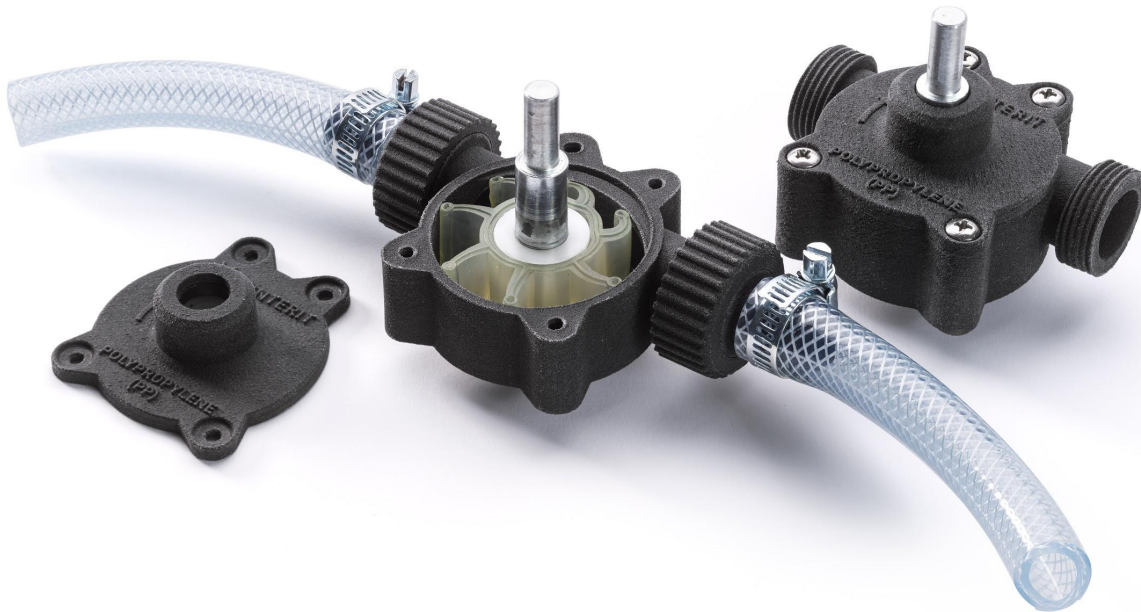
Our PP is suitable **for functional prototyping** for all of these applications because of its **chemical stability and mechanical properties**.



| Plastic parts producers example: **Pump**

Our PP material is suitable for working environments including water and other fluid pumps.

It can withstand the **increased pressure** and **doesn't uptake moisture**.





I Universities / Labs / R&D example: **Venturi Valve**



Unlike many other SLS polymers, PP **can withstand pressurization** of normal pneumatic systems.

It can be used for **custom adapters, junctions, and sensor housings**.



I Polypropylene (PP) - General information

General PROPERTIES		
Dedicated for	Lisa (2) & Lisa PRO (2)	
Nitrogen needed	No	
Printout density	>0.85g/cm3	internal
Colour	black	internal
Refresh ratio (1)	50%	internal
KEY PROPERTIES		
Ultimate Tensile Strength (UTS)	19,3 MPa	PN-EN ISO 527-1:2012
Elongation at Break	44%	PN-EN ISO 527-1:2012
Softening point (Vicat method type A50, 10N)	119 °C	PN-EN ISO 306:2014-02
Price and packaging		
Packaging	6kg	Metal bucket
Pricing	150 €/kg	900 €/container

(1) Refresh ratio is the amount of refreshing powder that is required to be mixed after the printing with unsintered material.

(2) Can be used only with Sinterit Studio Profiles or Advanced.

Information provided within this document are average values for reference and comparison only. Parameters presented in this specification are subject to change. Final part properties may vary based on printed part design and print orientation.



I Polypropylene (PP) - Properties

MECHANICAL PROPERTIES

Tensile Strength	19,3 MPa	PN-EN ISO 527-1:2012
Tensile modulus (Young)	820 MPa	PN-EN ISO 527-1:2012
Flexural Strength	25.6 MPa	PN-EN ISO 178:2011
Flexural Modulus	670 MPa	PN-EN ISO 178:2011
Elongation at Break	44%	PN-EN ISO 527-1:2012
Impact strength (Charpy - unnotched)	30C kJ/m ²	PN-EN ISO 179-1:2010

THERMAL PROPERTIES

Softening point (Vicat method type A50, 10N)	119 °C	PN-EN ISO 306:2014-02
Heat deflection temperature at 1.8 MPa / 0.45 MPa	50 / 85 °C	PN-EN ISO 75-2:2013-06 / PN-EN ISO 75-2:1998

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Thank You

Do you have any questions?

sales@sinterit.com

or your dedicated KAM

+48 570 967 854

www.sinterit.com

