

ADVANC3D

Materials

ADVANCED RAW MATERIALS

FOR ADDITIVE MANUFACTURING



SELECTIVE LASER SINTERING

August 2016

- **ADVANC3D Materials® is a privately owned and independent company.**
- Material experts and polymer scientists, we develop and produce and develop raw materials for Additive Manufacturing technologies: FDM and SLS
- ADVANC3D Materials® also manufactures and develops customer specific SLS powders

OWN PRODUCTS

ADWIRE® Filaments for FDM Printers



ADSINT® Powders for SLS Printers



TEAM



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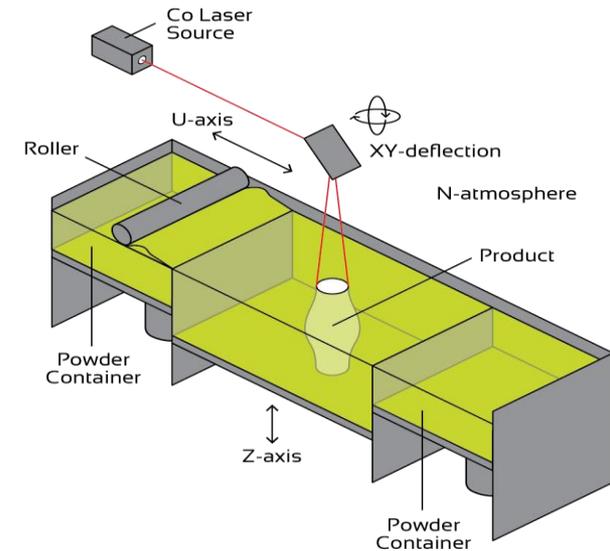
Sales support and administration

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SLS TECHNICAL REQUIREMENTS

Technical requirements for a SLS application:

- Very fine particle size distribution
- X50 = 35-60 microns
- Excellent free-flow characteristics
- High dimensional stability
- Perfectly defined thermal profile



PRODUCTS: ADSINT® PREMIUM

ADSINT®

POWDERS FOR THE SLS PROCESS

AdSint® Premium

Broad product range from stiff materials to soft materials. Technical support to answer all your questions. Machine parameters given as well as one site technical support for implementing the powder.



Our standard Products :

- Adsint® PA11 : natural or black (*with USPVI and food contact approval*)
- Adsint® PA12 : natural, white, black, GB30, LW
- Adsint® PA12L (for easier processing) : natural, white, black, GB30, LW
- Adsint® TPU 90A : NAT, black, white

PA12 powder for SLS Applications, made from **ARKEMA** powder



Benefits

- Incomparable smooth finish (no post-treatment)
- Low refresh rate (<25%)
- Excellent colour stability
- „L“ version for improving processing and particularly „de-dusting“

Applications

- Consumer goods
- Functional prototypes
- Lifestyle products
- Industry
- Production series

Variations

- Natural
- White
- Black
- GB30 (Higher stiffness, lower cost)
- LW : Light Weight and lower cost per part
- HT : High Temperature
- CF: Antistatic, conductive, ESD



PA11 powder for SLS Applications

Benefits

- Higher mechanical properties
- Higher Temperature resistance
- Low refresh rate (<25%)
- Excellent colour stability
- Extra white
- Medical and Food contact approval

Applications

- Medical (*with USPVI Approval*)
- Consumer goods
- Functional prototypes
- Lifestyle products
- Industry
- Production series

Variations

- Natural
- Black (in mass)
- GB30
- LW
- HT



TPU powder for SLS Applications

Benefits

- Flexible with high mechanical properties
- Low refresh rate (<25%)
- Excellent colour stability
- Abrasion resistance
- Lower energy for processing

Applications

- Consumer goods
- Functional prototypes
- Lifestyle products
- Industry
- Production series

Variations

- Natural
- White
- Black



ADSINT® CUSTOM

ADSINT®

POWDERS FOR THE SLS PROCESS

AdSint® Custom

Do you need a tailor-made product? All kinds of materials, special effect, special properties, flame retardant, low density, ... challenge us! Available for orders from 20kg.

We develop a product for you and make it work on your SLS printer!

Coming developments :

PA12EC : Electrically conductive – Q2 2016

PA12 FR for flame retardant applications : Q2 2016

The above products are readily available. Technical data sheets under development

PA12XHT/PA11XHT for extra high T°C resistance : Q3 2016

TPU 90 smooth : perfect surface aspect and easy flow : Q4 2016

PP Flex : Q2 2016 (above 30% elongation at break)



DISTRIBUTION PRODUCTS

SLS POWDERS FROM AXALTA

POWDERS for the SLS process

- Coathylene® Sint PS: PS for SLS applications
- Coathylene® Sint PP: PP for SLS applications



Grade	Polymer	Melt Flow Index (MFI 200/5)	Particle size X50
Sint PS	Polystyrene	15-37 g/10 min	45-60 µm
Sint PP	Polypropylene	/	50-70µm

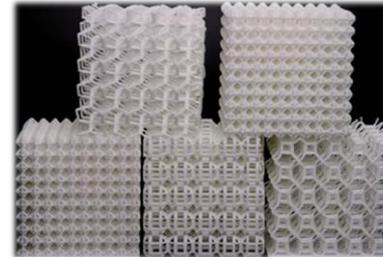
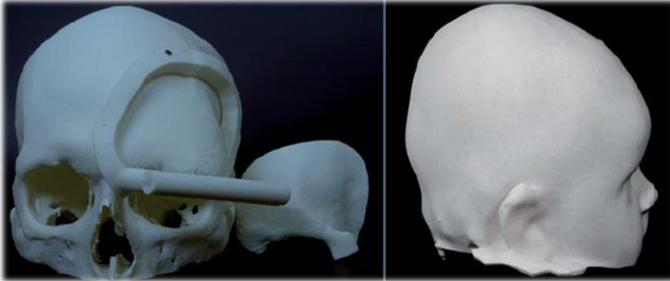
GRADES OVERVIEW

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Product	Impact Strength	Flexural modulus	EI@break (%)	Melting T°C	Heat resistance (HDT@0,45MP a)	Easiness of process	Cost per part	Refresh Rate	Comments
PA11	++++	1400	37%	201°C	150°C	+++	€€€€	25%	Medical and food contact approval
PA11HT*	++	2200	15%	201°C	200°C	+++	€€€	25%	Available for sampling
PA11XHT	++	2200	20%	201°C	>220°C	+++	€€€€	25%	Q4 2016
PA12	+++	1520	22%	182°C	150°C	++	€€€	25%	available for sampling
PA12GB30	++	2300	11%	182°C	180°C	++	€€	35%	Low cost and high stiffness
PA12LW	++	1500	17%	182°C	160°C	++	€€	35%	light weight and ease of sanding
PA12CF*	+++	5000	10%	182°C	180°C	++	€€€	35%	Available for sampling
PA12HT	++	2300	10%	182°C	190°C	++	€€	35%	Aluminium -like
PA12XHT*	++	1520	15%	182°C	>200°C	++	€€€	35%	Q4 2016
TPU 90A	+++		250%	154°C	-	+++	€€	25%	Flexible grade
PP Flex*	++++	1000 - 1500	>35%	130-135°C	70-80°C	+++	€€	25%	release in Q1 2017

SOME EXAMPLES



Complexity Free!



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