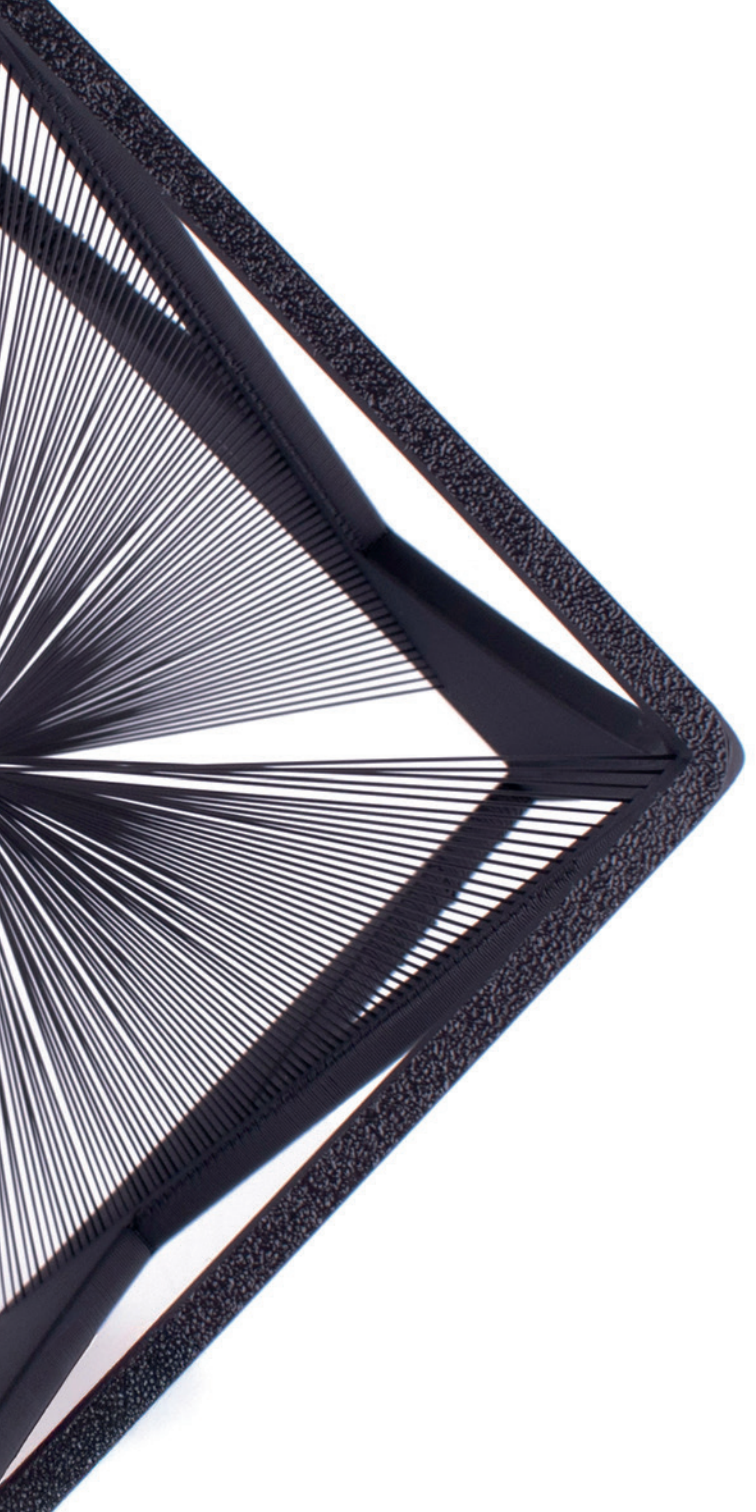


smart materials 3D

smart materials **3D**

(+34) 953 041 993

info@smartmaterials3d.com

www.smartmaterials3d.com

Pol. Ind. El Retamar C/ Tomillo 7 (Buzón 16) 23680 Alcalá la Real (Jaén) SPAIN

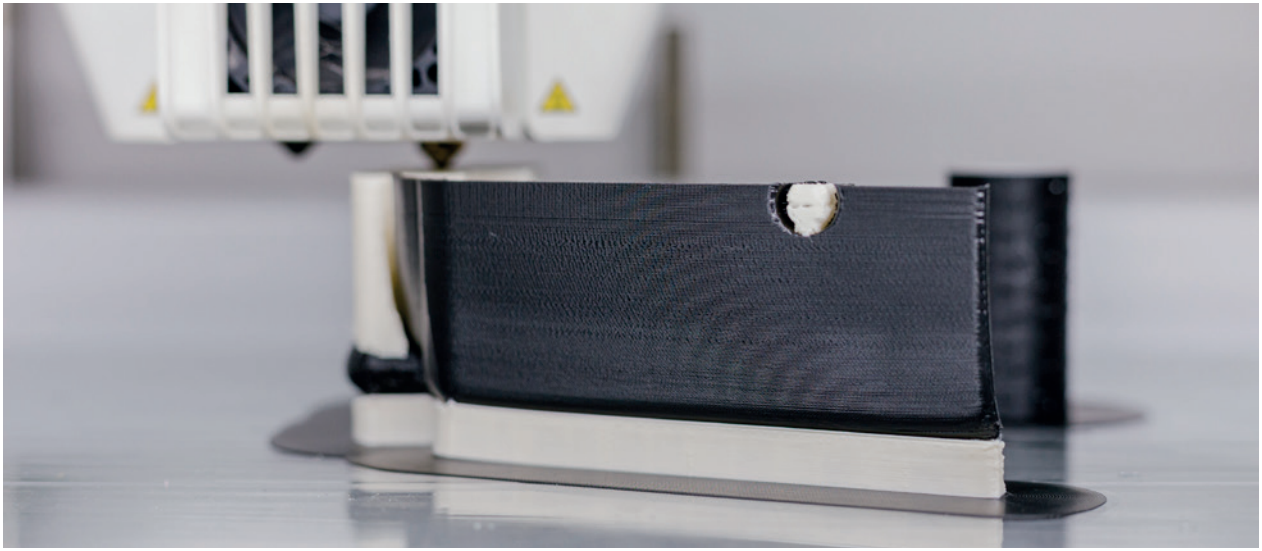

smart materials 3D
ALMACEN

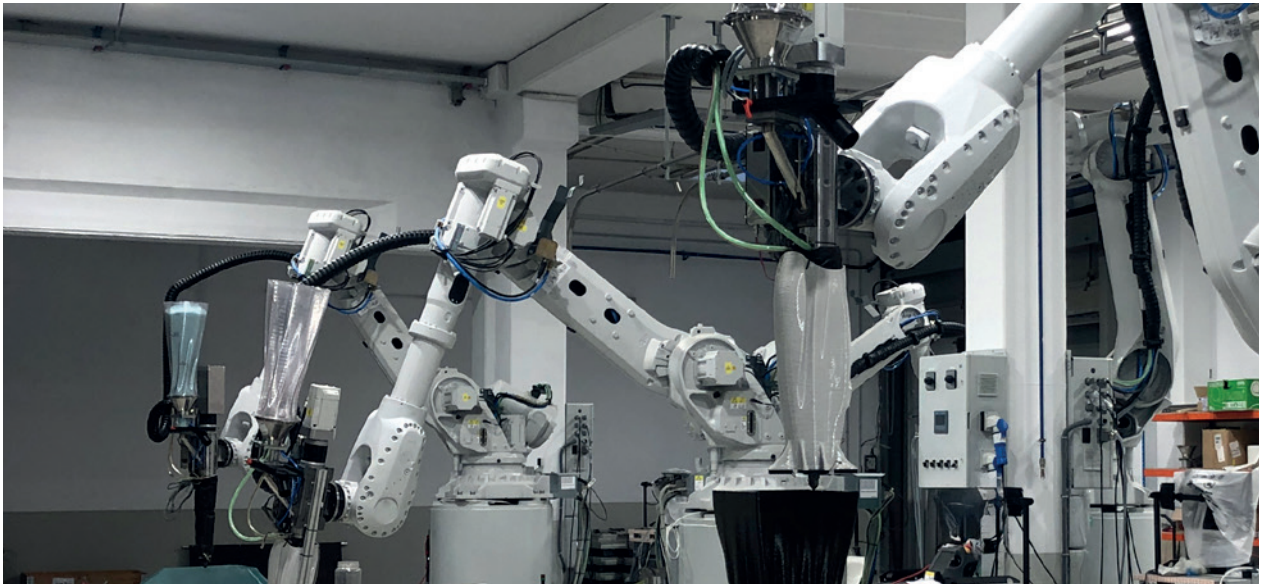
About us?

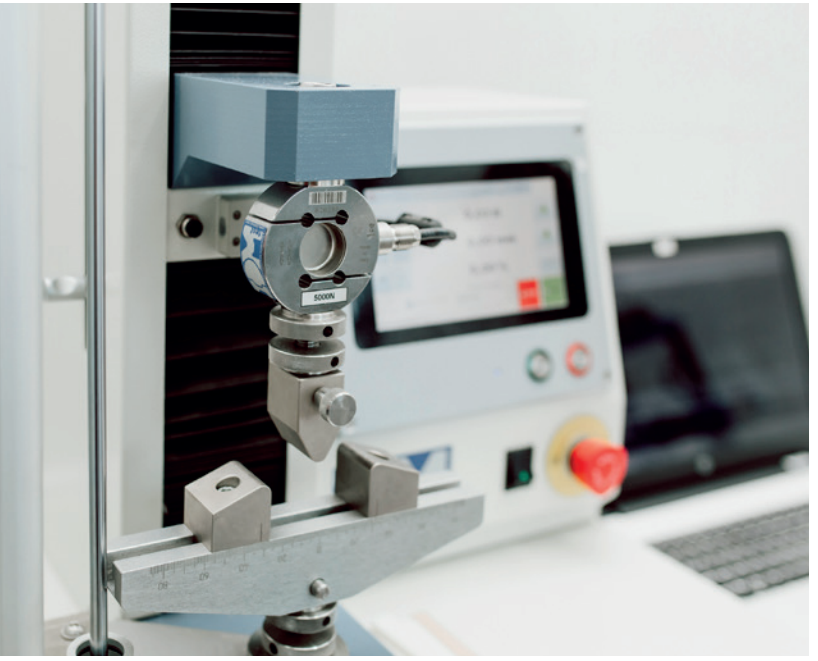
Smart Materials 3D was founded in 2014 from the passion for 3D printing, with the main goal of providing innovative solutions for this market through the creation of high-performance filaments for FDM technology, used by both the professional and industrial sector as well as by the sector. maker.

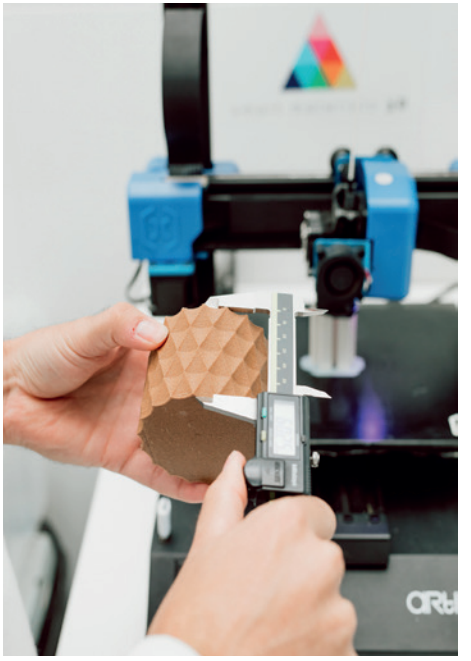
As manufacturers, Smart Materials 3D is the leader in the additive manufacturing sector in Spain and worldwide, with a presence in more than 52 countries.

Technology like art is a soaring exercise of the human imagination









Research and development

The principal base, for the innovation of new materials begins with the formulation in our R+D+i laboratory, where the entire process of creating each product is developed.

The latest technological advances and rigorous quality controls allow us to obtain a wide variety of materials, being at the forefront of quality and design within the 3D printing industry.

We provide solutions to the most particular requirements for those sectors that require high-performance materials.

Leaders

Quality

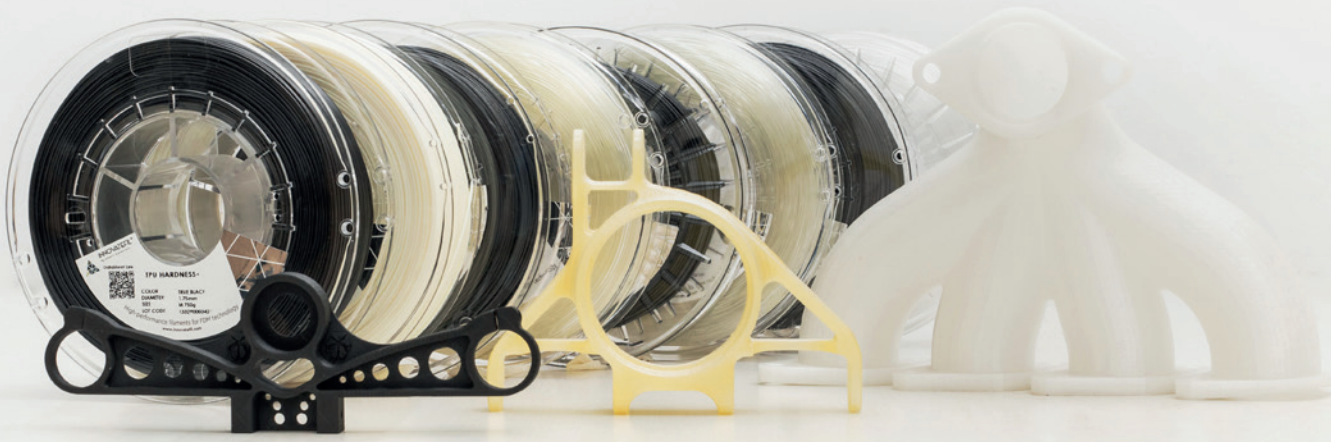
At Smart Materials 3D we work with a wide variety of selected raw materials. We can develop several types of plastic filaments with different characteristics and qualities, for this, we have our own production line with advanced and efficient technology. Finally, all this will be reflected in the end piece created by the 3D printer.

Technical support

We have a competent and knowledgeable technical support organization, with full trust of our customers. An open communication with our stakeholders is essential. Which makes it easier for us to know their specific needs, to be able to provide them with timely and effective solutions and responses.

Filaments and pellets for 3D printing

We have a wide range of materials for the medical sector, architecture, education, food and automotive industry. For us it is of vital importance for the development of new products in these different fields. 3D printing is, without a doubt, one of the great technological revolutions of the recent years, and it is very easy to see that soon, most of the products we will consume, will be the result of this technique.



Our materials

Smart materials 3D works with the best producers of raw materials worldwide, which is a guarantee of the quality of the products used to manufacture our filaments.
All our products are manufactured following a code of good manufacturing practices and guaranteeing the highest quality finish required by our customers. We use of the most advanced equipment and devices, that, allow us to measure and control all the variables of the manufacturing process, obtaining a final product with a diameter and roundness in the minimum tolerances.

In addition, we maintain control and traceability during all processing stages, from the control of the raw material to the manufacturing parameters of the filaments. Assigning all this information to the final product and thus tracing all its steps during manufacturing.
Innovation is in our DNA, which is why we constantly explore different ways of working with suppliers specializing in new materials, in addition to maintaining constant improvement over products already on the market.

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SMARTFIL®
by smart materials 3D

Smartfil contains the line of the most common materials in the sector such as PLA, ABS, PETG or TPU. Every day we are expanding the number of filaments and solutions available for a wide range of needs, without forgetting our quality standards.

INNOVATEFIL®
by smart materials 3D

INNOVATEFIL is our high-tech line of filaments specially designed for the SMEs and large corporations, suitable for the most demanding applications, our R&D department works hard developing research projects to achieve new and unique technical filaments on the market with high performance, offering solutions adapted to the needs of the industrial sector.

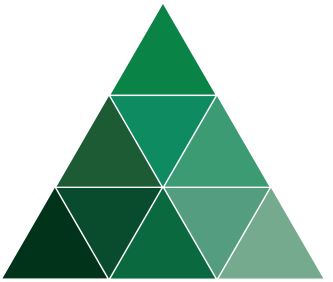
SMARTFIL
eco
by smart materials 3D

We are committed to the environment, that it is why, we have created our most sustainable line, according to our ECO-friendly vision, we have developed sutainable polymers, based on biodegradable materials and waste re-use products, favouring the circular economy, and we can also offer more value to these new materials by adding scents, textures and natural finishings.

PelletSmart

PELLETSMART is our range of customized materials available in pellet. By mixing polymers and additives, it opens up infinite possibilities for large-scale 3D printing, including applications that require precision and robustness. These pellets are specifically designed to meet the technical requirements of the industrial market. They are engineered to withstand the test of time, ensuring durable and reliable prints with exceptional and unique properties.

SMARTFIL® is our high-quality brand with the most demanded products in the 3D printing sector.



SMARTFIL®

by smart materials 3D

PLA

SMARTFIL® PLA is a high quality, biodegradable and compostable material obtained through the starch extracted from corn, beet, or sugar cane. It is the material most used in the 3D printing industry. It was designed to be easy to print and it is suitable for most of the printers in the market. We have a wide range of colours and effects. During use, it does not generate harmful gases, so it is perfect for printing in inner spaces or with poor ventilation.

Printing Settings

Printing temperature	205-220ºC
Printing speed	30-300 mm/s
Bed temperature	40-60ºC
Close chamber	N/A
Fan	100%

Material Properties

Printing difficulty	● ○ ○ ○ ○ ○ ○ ○ ○ ○
Impact resistance	● ● ● ● ○ ○ ○ ○ ○ ○
Thermal resistance	● ● ● ○ ○ ○ ○ ○ ○ ○
Rigidity	● ● ● ● ● ● ● ● ○ ○

Colours available

Ivory white, Natural, Orinoco, Sunset, Coral, Ruby, Mahogany

Chlorophyll, Emerald, Sapphire, Cobalt, Aubergine, Wisteria, Hillier lake

Antracite, True black, Gold, Snow, Jade, Silver, Signal blue

May, Green army, Traffic, Light gray, Grenade, Light blue, Lilac

Biodegradable

Compostable

Allow for all printers

Food Approved

*Excep: Aubergine, snow.

PLA *BASIC*

SMARTFIL® PLA BASIC is our most affordable filament, designed to make 3D printing accessible without sacrificing quality. Compatible with high-speed and plug-and-play printers, it offers an excellent user experience for both beginners and professionals. Stable, easy to print, and available in multiple colors, it is the ideal choice for educational, creative, or personal projects. A reliable and accessible solution backed by the Smart Materials 3D guarantee.

Printing Settings

Printing temperature	**200-220°C**
Printing speed	**30-300mm/s**
Bed temperature	**40-60°C**
Close chamber	**N/A**
Fan	**100%**

Material Properties

Printing difficulty	●○○○○○○○○○
Impact resistance	●●●●○○○○○○
Thermal resistance	●●●○○○○○○○
Rigidity	●●●●●●●●○○

Colours available

True black, Dark grey, white, Yellow, Green, Orange, Red, Blue

Biodegradable

Compostable

Allow for all printers

PLA *PASTEL*

SMARTFIL® PLA PASTEL is a refined version of standard PLA, specially designed for those seeking a soft, elegant, and modern aesthetic in their prints. With a carefully selected range of pastel colors, this material is ideal for decorative projects, artistic figures, event items, toy printing, or pieces that require an attractive and delicate visual finish. It offers excellent print quality, great ease of use, and good bed adhesion, making it a highly versatile option for any type of FDM printer.

Printing Settings

Printing temperature	200-220°C
Printing speed	30-300mm/s
Bed temperature	40-60°C
Close chamber	N/A
Fan	100%

Material Properties

Printing difficulty	● ○ ○ ○ ○ ○ ○ ○ ○ ○
Impact resistance	● ● ● ● ○ ○ ○ ○ ○ ○
Thermal resistance	● ● ● ○ ○ ○ ○ ○ ○ ○
Rigidity	● ● ● ● ● ● ● ● ○ ○

Colours available

Quartz Lavender Vanilla Aqua Mint

Biodegradable Compostable Allow for all printers

PLA *NEON*

SMARTFIL® PLA NEON is a material designed to make your prints stand out thanks to its intense, eye-catching neon colors, ideal for decorative pieces, signage, and high-impact visual prototypes. This biodegradable PLA filament, under an industrial process, offers excellent mechanical properties and high 3D printing quality. It is ideal for beginners due to its great ease of printing. It does not warp, allowing you to obtain stable and precise parts.

Printing Settings

Printing temperature	**200-220°C**
Printing speed	**30-300mm/s**
Bed temperature	**40-60°C**
Close chamber	**N/A**
Fan	**100%**

Material Properties

Printing difficulty	●○○○○○○○○○
Impact resistance	●●●●○○○○○○
Thermal resistance	●●●○○○○○○○
Rigidity	●●●●●●●●○○

Colours available

Neo pink | Neo yellow | Neo green

Biodegradable | Compostable | Allow for all printers

PLA *SKIN*

The SMARTFIL® PLA SKIN range is our series of skin colour tones; we have developed three skin colour shades so that you can choose the one that best suits your project, particularly indicated for applications of anatomical models, medical splints and orthoses in general, as well as 3d modeling and prototyping to achieve the most precise skin tone possible.

Printing Settings

Printing temperature	**205-220°C**
Printing speed	**30-300mm/s**
Bed temperature	**40-60°C**
Close chamber	**N/A**
Fan	**100%**

Material Properties

Printing difficulty	●○○○○○○○○○
Impact resistance	●●●○○○○○○○
Thermal resistance	●●●○○○○○○○
Rigidity	●●●●●●●●○○

Colours available

Pale skin Medium skin Tan skin

Biodegradable Compostable Allow for all printers Food Approved

PLA CRYSTAL

Achieve a translucent finish with our SMARTFIL® PLA CRYSTAL in colours and very easy to print , its preserving the high quality of all our PLAs, it is biodegradable and compostable, suitabl e for all printers in the market, ideal for domestic spaces or poor ventilation as it does not generate noxious gases, is delivered in three different colours yellow, blue and red, with an affordable price, reaches a stable and perfect print, even on objects with complex details.

Printing Settings

Printing temperature	**205-220°C**
Printing speed	**30-300mm/s**
Bed temperature	**40-60°C**
Close chamber	**N/A**
Fan	**100%**

Material Properties

Printing difficulty	●○○○○○○○○○
Impact resistance	●●●●○○○○○○
Thermal resistance	●●●○○○○○○○
Rigidity	●●●●●●●●○○

Colours available

Crystal blue Crystal red Crystal yellow

Biodegradable

Compostable

Allow for all printers

PLA *IRIS*

Always seeking to innovate with the greatest variety of effects possible, we have developed SMARTFIL® PLA IRIS. A filament with an iridescent optical property that changes colour depending on the viewing angle, suitable for designing pieces with innovative and elegant colour tones, and as always, keeping all the benefits of our PLA.

Printing Settings

Printing temperature	**205-220ºC**
Printing speed	**30-300mm/s**
Bed temperature	**40-60ºC**
Close chamber	**N/A**
Fan	**100%**

Material Properties

Printing difficulty	● ○ ○ ○ ○ ○ ○ ○ ○ ○
Impact resistance	● ● ● ● ○ ○ ○ ○ ○ ○
Thermal resistance	● ● ● ○ ○ ○ ○ ○ ○ ○
Rigidity	● ● ● ● ● ● ● ● ○ ○

Colours available

Tanzanite · Pearl · Topaz · Alexandrite · Granate

Biodegradable · Compostable · Allow for all printers

PLA *SILK*

If you are looking for a silky and metallic finish, SMARTFIL® PLA SILK is your product! It is easy to print and suitable for most 3D printers. It is a high-quality filament, like the rest of our regular PLA.

Printing Settings

Printing temperature	**205-220°C**
Printing speed	**30-300mm/s**
Bed temperature	**40-60°C**
Close chamber	**N/A**
Fan	**100%**

Material Properties

Printing difficulty	●○○○○○○○○○
Impact resistance	●●●●○○○○○○
Thermal resistance	●●●○○○○○○○
Rigidity	●●●●●●●●○○

Colours available

Copper · Yellow gold · Silk red · Silk blue · Silk silver · Silk burdeos

Biodegradable

Compostable

Allow for all printers

PLA *GLITTER*

SMARTFIL® PLA GLITTER is a filament full of magic, due to its glitter particles. Get a unique and shiny finish in your pieces. This filament minimizes printing layers, achieving a completely homogeneous surface. SMARTFIL® PLA GLITTER offers the same benefits of standard PLA, so high quality is guaranteed.

Printing Settings

Printing temperature	**205-220ºC**
Printing speed	**30-300mm/s**
Bed temperature	**40-60ºC**
Close chamber	**N/A**
Fan	**100%**

Material Properties

Printing difficulty	●○○○○○○○○○
Impact resistance	●●●●○○○○○○
Thermal resistance	●●●○○○○○○○
Rigidity	●●●●●●●●○○

Colours available

Glitter red · Glitter blue · Glitter green · Glitter violet · Glitter silver · Glitter black

Glitter dark green

Biodegradable · Compostable · Allow for all printers

PLA GLOW

Phosphorescence your prints with SMARTFIL® PLA GLOW this filament offers a special feature that it makes it stand out from a standard PLA thanks to its Photoluminescent particles that absorb light which makes it glow in the dark,
We offer two options GREEN GLOW and BLUE GLOW the blue one increases luminosity and glow-time because it has a new improved formula.

Printing Settings

Printing temperature	**205-220°C**
Printing speed	**30-300mm/s**
Bed temperature	**40-60°C**
Close chamber	**N/A**
Fan	**100%**

Material Properties

Printing difficulty	●○○○○○○○○○
Impact resistance	●●●●○○○○○○
Thermal resistance	●●●○○○○○○○
Rigidity	●●●●●●●●○○

Colours available

Green glow Blue glow

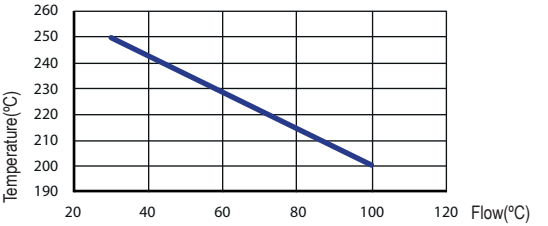
Biodegradable

Compostable

Allow for all printers

PLA *LW*

SMARTFIL® PLA LW, a material designed for those seeking lightness without compromising quality. Its innovative formula allows the weight of printed parts to be reduced by up to 65%, while maintaining excellent mechanical strength and a high level of detail. Ideal for applications where low weight is key, optimizing both performance and material consumption.



The relationship between temperature and flow is essential:

1.Adjust the temperature. Use PLA LW between 220–250 ˚C, where the filament begins to expand.

2.Reduce the flow. As the material volume increases, it is necessary to lower the flow to approximately 40–60% to compensate for the expansion.

3.Maintain dimensional stability. This combination of low flow and high temperature prevents over-extrusion and helps the part retain its dimensions, achieving lighter, more precise, and more uniform results.

You can download the complete printing guide from the SMARTFIL® PLA LW product page at:: www.smartmaterials3d.com

Configuración de impresión

Printing temperature	**180-260ºC**
Printing speed	**40-150mm/s**
Bed temperature	**50-60ºC**
Fan	**100%**
Flow	**30-100%**

Propiedades materiales expandido

Printing difficulty	●●●●●●○○○○
Impact resistance	●●●●●●○○○○
Thermal resistance	●●●○○○○○○○
Rigidity	●●●●○○○○○○

Colores disponibles

Black

Ivory white

Allow for all printers

Low weight

GLACE

SMARTFIL® GLACE is an exceptional filament based on PVB (polyvinyl butyral). You can apply a chemical polish with isopropyl alcohol to obtain transparent pieces in objects with a single layer or smooth the layers in solid objects. This filament has excellent mechanical properties without contractions, so you can print pieces in all sizes and forms.

Printing Settings

Printing temperature	**210-230ºC**
Printing speed	**25-45mm/s**
Bed temperature	**40-60ºC**
Close chamber	**N/A**
Fan	**60-80%**

Material Properties

Printing difficulty	●●●●●○○○○○
Impact resistance	●●●●●●○○○○
Thermal resistance	●●●●●○○○○○
Rigidity	●●●●●●○○○○

Colours available

Natural

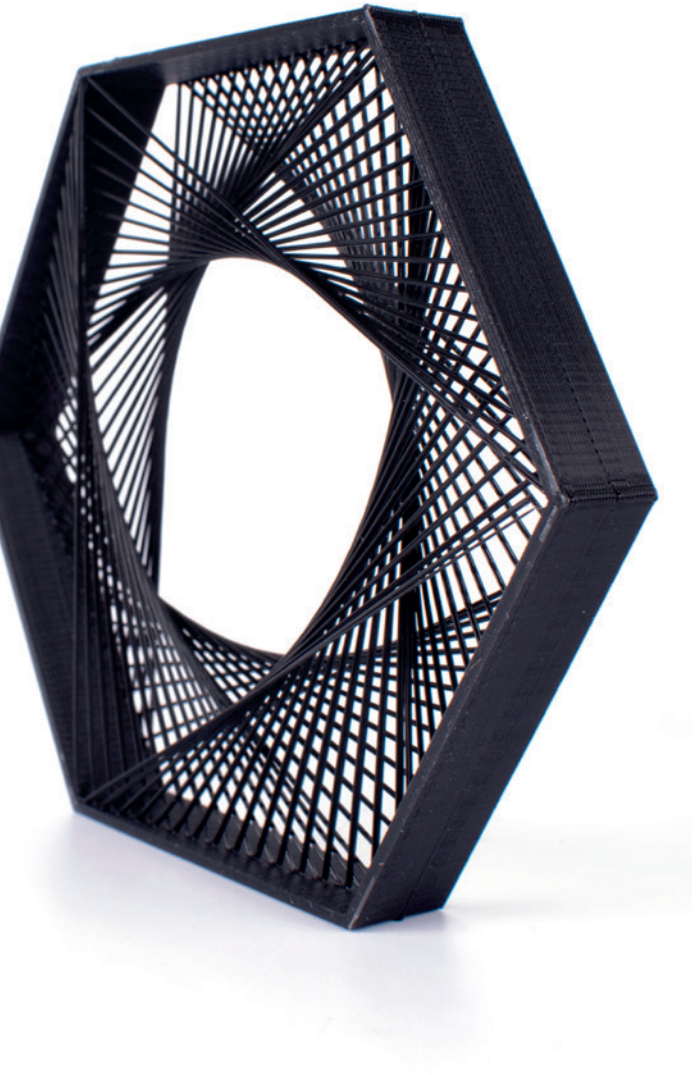
Allow for all printers

Impact resistance

Soluble

PLA *3D850*

SMARTFIL® PLA 3D850 is a filament developed with raw material by Nature Works specifically design for 3D printing. You can make pieces with complex shapes and high resolution thanks to its low thermal contraction and its rapid crystallization. It can be printed at a higher speed compared to a conventional PLA.



Printing Settings

Printing temperature	205-220°C
Printing speed	30-50mm/s
Bed temperature	40-60°C
Close chamber	N/A
Fan	100%

Material Properties

Printing difficulty	●●○○○○○○○○
Impact resistance	●●●●○○○○○○
Thermal resistance	●●●●○○○○○○
Rigidity	●●●●●●●○○○

Colours available

Natural True black Ivory white

Biodegradable Compostable Allow for all printers Food Approved

PLA *3D870*

SMARTFIL® PLA 3D870 is a filament modified to increase its mechanical properties and resistance to temperature through heat treatment. Developed by NatureWorks specifically for the 3D printing, this filament has similar properties to ABS but it keeps the same compatibility and it is easy to print like a PLA.

Printing Settings

Printing temperature	**205-220ºC**
Printing speed	**30-50mm/s**
Bed temperature	**40-60ºC**
Close chamber	**N/A**
Fan	**100%**

Material Properties

Printing difficulty	●●○○○○○○○○
Impact resistance	●●●●●○○○○○
Thermal resistance	●●●●○○○○○○
Rigidity	●●●●●●●○○○

Colours available

Natural True black Ivory white

Biodegradable

Allow for all printers

Impact resistance

ABS

SMARTFIL® ABS is one of our most popular materials, used for general applications of 3D printing. The main feature of this filament is its high resistance to temperature and impacts.
This filament is very easy to print, although it requires a heated bed to prevent warping and contractions.
In return, this material allows a lot of post-processing techniques, like machining process or painting. It even allows acetone steam bath to smooth and shine the surface and increase mechanical properties.

Printing Settings

Printing temperature	**235-255°C**
Printing speed	**30-50mm/s**
Bed temperature	**90-110°C**
Close chamber	**Recommended**
Fan	**0-20%**

Material Properties

Printing difficulty	●●●●●●●●○○
Impact resistance	●●●●●●○○○○
Thermal resistance	●●●●●●●○○○
Rigidity	●●●●●●○○○○

Colours available

Ivory white, Natural, Orinoco, Sunset, Ruby, Chlorophyll

Sapphire, Cobalt, Antracite, True black, Silver

Thermal resistance

Machinable

Food Approved

ASA

SMARTFIL® ASA is an alternative to ABS. It is suitable for outdoor applications as it has excellent weather resistance, also It has good dimensional stability, reducing warping and cracking during the printing process.

One of the qualities of SMARTFIL® ASA is that it keeps its sharp colours and resistance to impact, even after long-term outdoors exposure. It is perfect for applications that require mechanical stress. It is resistant to ultraviolet rays (U.V.). Even keeping it in long contact with water, it will allow machined processing, it can be sanded or smoothed with acetone, which makes it a very versatile filament.

Printing Settings

Printing temperature	**240-260°C**
Printing speed	**30-50mm/s**
Bed temperature	**95-110°C**
Close chamber	**Recommended**
Fan	**0-20%**

Material Properties

Printing difficulty	●●●●●●●●○○
Impact resistance	●●●●●●○○○○
Thermal resistance	●●●●●●●○○○
Rigidity	●●●●●●○○○○

Colours available

Natural · Orinoco · Ruby · Chlorophyll · Black · Cobalt

Thermal resistance · Machinable · UV resistant

FLEX *77A*

SMARTFIL® FLEX 77A (thermoplastic polyurethane) is a flexible and highly durable material, ideal for 3D printing parts that require both durability and elasticity.
With a Shore hardness of 77A, it offers an excellent combination of flexibility and abrasion resistance, making it an ideal choice for applications that need to withstand repeated deformations, such as gaskets, seals, protectors, and flexible functional components. Additionally, TPU 77A is resistant to oils, greases, and certain chemicals, giving it versatility in industrial environments.

Printing Settings

Printing temperature	**220-240°C**
Printing speed	**15-20 mm/s**
Bed temperature	**50°C**
Close chamber	**N/A**
Fan	**70-80%**
Flow	**110-120%**

Material Properties

Printing difficulty	●●●●●●●●○○
Impact resistance	●●●●●●●●●●
Thermal resistance	●●●●●●●●○○
Rigidity	●○○○○○○○○○

Colours available

White

True black

Flexible

Impact resistance

FLEX *85A*

SMARTFIL® FLEX 85A (thermoplastic polyurethane) is a flexible material with a Shore hardness of 85A, ideal for 3D printing parts that require a combination of flexibility and strength. This grade of TPU offers greater rigidity compared to softer options, providing a good balance between elasticity and durability.
Due to its abrasion and wear resistance, it is suitable for creating flexible hinges, cushioning parts, protective housings, and functional components that must maintain their structural integrity under repeated stress.

Printing Settings

Printing temperature	**220-240°C**
Printing speed	**15-20 mm/s**
Bed temperature	**50°C**
Close chamber	**N/A**
Fan	**70-80%**
Flow	**110-120%**

Material Properties

Printing difficulty	●●●●●●●○○○
Impact resistance	●●●●●●●●●●
Thermal resistance	●●●●●●●●○○
Rigidity	●○○○○○○○○○

Colours available

White

True black

Flexible

Impact resistance

FLEX 93A

The main characteristic of our SMARTFIL® FLEX 93A is flexibility, it is an elastomer made from TPU (Thermoplastic Polyurethane), suitable for the manufacture of flexible objects, designed to support twist movements, cushion impacts and vibrations.

A quality to highlight is the hardness of the filament, which is 93A on the Shore scale, which gives the material the ability to maintain balance with a good flexibility without compromising its ease of printing. One of the upstanding features of this filament is that its flexible properties stay intact even at low temperatures and can be used in cold environments.

Another of its benefits is its resistance to abrasion and tearing, this makes this material very useful for the making of protective elements. It can be submitted to constant friction.

Printing Settings

Printing temperature	**220-230°C**
Printing speed	**20-30mm/s**
Bed temperature	**0-55°C**
Close chamber	**N/A**
Fan	**70-80%**

Material Properties

Printing difficulty	●●●●●○○○○○
Impact resistance	●●●●●●●●●●
Thermal resistance	●●●●●●●●○○
Rigidity	●○○○○○○○○○

Colours available

Ivory white, Orinoco, Caribbean, Black, Ruby, Wisteria

Sapphire, Glow, Blue glitter, Pale skin, Medium skin, Tan skin

Clear

Flexible

Impact resistance

FLEX 98A

With a Shore hardness of 98A, our SMARTFIL® FLEX 98A material has unique qualities like increased hardness, high impact resistance, excellent stiffness to tearing, traction, and wear, high resistance to abrasion, high toughness, chemical resistance, and thermal resistance.

Comparatively to 93A, this material expands the range of printers in which this filament can be used because, due to its greater rigidity, it makes it easier to transmit force from the motor to the extruder, preventing pinching. It is even compatible with some Bowden-type feeding systems. SMARTFIL® FLEX 98A is recommended for applications, among other areas, in anti-vibration dampers and the orthopedics and orthotics industries.

Printing Settings

Printing temperature	**220-240°C**
Printing speed	**20-35mm/s**
Bed temperature	**0-60°C**
Close chamber	**N/A**
Fan	**60-80%**

Material Properties

Printing difficulty	●●●●○○○○○○
Impact resistance	●●●●●●●●●●
Thermal resistance	●●●●●●●●○○
Rigidity	●●○○○○○○○○

Colours available

Ivory white

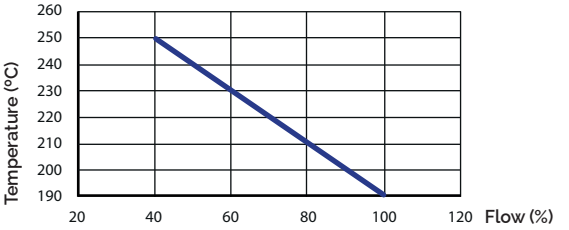
True black

Flexible

Impact resistance

FLEX *FOAM*

SMARTFIL® FLEX FOAM is an elastomer made from TPU (Thermoplastic Polyurethane), a low-density material designed for lightweight parts without sacrificing strength. Thanks to its technology, it reduces part weight while maintaining excellent impact absorption and high elasticity, delivering stable printing and a uniform surface finish.



The relationship between temperature and flow is essential:

1. Adjust the temperature. Use FLEX FOAM between 220–250 °C, where the filament begins to expand.

2. Reduce the flow. As the material volume increases, it's necessary to lower the flow to approx. 40–60% to compensate for the expansion.

3. Maintain dimensional stability. This combination of low flow + high temperature prevents over-extrusion and helps the part preserve its dimensions, resulting in lighter, more precise, and more uniform prints.

You can download the full printing guide from the SMARTFIL® PLA FOAM product page on: www.smartmaterials3d.com

Printing Settings

Printing temperature	**200-250ºC**
Printing speed	**40-30mm/s**
Bed temperature	**0-50ºC**
Close chamber	**60-80%**
Fan	**30-100%**

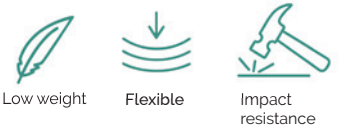
Material Properties

Printing difficulty	●●●●●○○○○○
Impact resistance	●●●●●●●●●●
Thermal resistance	●●●●○○○○○○
Rigidity	●○○○○○○○○○

Colours available

Ivory white

True black



EP

SMARTFIL® EASY PRINT is our easiest to print PLA as it incorporates a mineral filler as reinforcement. You can achieve a matt effect with and amazing smooth surface finish. It has ceramic appearance. It can be machined and absorbs water-based paints, making it ideal for sculptures, models, restorations, etc.

Printing Settings

Printing temperature	190-205ºC
Printing speed	30-50mm/s
Bed temperature	40-60ºC
Close chamber	N/A
Fan	100%

Material Properties

Printing difficulty	●●●●○○○○○○
Impact resistance	●●●○○○○○○○
Thermal resistance	●●○○○○○○○○
Rigidity	●●●●●●●●●○

Colours available

Ivory white

True black

Allow for all printers

Machinable

PETG

SMARTFIL® PETG is a filament with good balance qualities. It surpasses the mechanical and thermal properties of PLA and has less contraction than ABS, so in a single material we can find an improved performance of both filaments, PLA and ABS.
It stands out for its good chemical resistance against mineral acids, bases, or mineral salts, as well as aliphatic hydrocarbons, alcohols, and a wide variety of oils. Thanks to its good resistance against water and UV light, it is highly recommended for making outdoor objects.
Smartfil® PETG is a filament that it is under the norm USP Class VI or ISO 10993-1. This certification makes it biocompatible with the human body, which makes it a suitable material for the medical sector (this certification only applies to its natural colour).

Printing Settings

Printing temperature	**230-245ºC**
Printing speed	**25-50mm/s**
Bed temperature	**70-90ºC**
Close chamber	**N/A**
Fan	**70-90%**

Material Properties

Printing difficulty	●●●●●○○○○○
Impact resistance	●●●●●●○○○○
Thermal resistance	●●●●●●○○○○
Rigidity	●●●●●○○○○○

Colours available

Ivory white · Natural · Orinoco · Chlorophyll · Ruby · Cobalt · True black

Chemical resistance

Biocompatible *solo natural

Food Approved

HIPS

SMARTFIL® HIPS is one of our high impact polystyrenes, this filament has very similar properties to ABS. It stands out for its better impact resistance, its low density and it is an excellent electrical insulator, it also resists oils and fats and can be machined quite easily.
It can be used as a support material, compatible with ABS and easily dissolved in D-Limonene.

Printing Settings

Printing temperature	**230-250°C**
Printing speed	**30-50mm/s**
Bed temperature	**80-110°C**
Close chamber	**Recommended**
Fan	**0-20%**

Material Properties

Printing difficulty	●●●●●●○○○
Impact resistance	●●●●●○○○○
Thermal resistance	●●●●●●○○○
Rigidity	●●●●●○○○○

Colours available

Natural

True black

Thermal resistance

Soluble

Impact resistance

Food Approved

BOUN

SMARTFIL® BOUN is a filament with mechanical properties similar to polypropylene. It is a bit flexible so you can develop semi rigid figures very resistant to impact. You can obtain pieces with an exceptional finish with a nice soft touch that will not resemble of plastic. It has no contractions or wrapping so you can make pieces of any size.

Printing Settings

Printing temperature	200-220ºC
Printing speed	25-30mm/s
Bed temperature	0ºC
Close chamber	N/A
Fan	50-80%

Material Properties

Printing difficulty	●●●○○○○○○○
Impact resistance	●●●●●●●●○○
Thermal resistance	●●●●●○○○○○
Rigidity	●●●●○○○○○○

Colours available

Natural

Biodegradable

Compostable

Allow for all printers

Impact resistance

PVA
SOLUBLE

SMARTFIL® PVA or polyvinyl alcohol is a water-soluble filament used as support material for the construction of complex geometries with multi-extrusion printers. It is 100% biodegradable, and the dissolution residues are non-toxic, allowing them to be safely disposed. It is compatible with PLA. It does not drip during printing, and it dissolves very quickly once it is submerged in water.

Printing Settings

Printing temperature	**190-205°C**
Printing speed	**30-45mm/s**
Bed temperature	**50-70°C**
Close chamber	**N/A**

Colours available

Natural

Allow for all printers

Soluble

SMART STICK

SMART STICK is our multipurpose high-performance fixative, specially formulated to help increase the cohesion of materials, especially PP (Polypropylene) which due to its chemical nature, is a little more complex. SMART STICK serves as an interface between the material and the heated base to get great adhesion. It is also compatible with most of the materials on the market like ABS, HIPS, PLA, PETG, PA, etc.

How to use our Smart Stick?

1- Before printing check that the bed is cold and clean.

2- Drope a large drop of Smart Stick where we will print the piece, (Its recommended to use with a bed of smooth glass).

3- Rub and spread evenly with with the silicone spatula.

4- Then heat the bed to about 70°C and wait 3 to 5 minutes.

5- Put the bed at printing temperature of the material (50°C approx.) and start printing. IMPORTANT to use BRIM.

6- At the end of the printing, first take out the piece and then remove the Smart Stick, just take off by pulling the layer that is formed. If it resist, use water and spatula.

NOTE: A single Smart Stick application is valid for at least 5 different impressions.

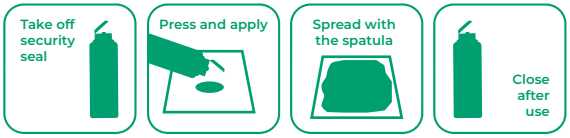
Material Properties

Great adhesion between the printing base and the printed piece

Especially indicated for PP

Suitable for large pieces

Easy application



CLEAN

SMARTFIL® CLEAN is a filament specially designed for cleaning and keep the extruder in good shape, increasing its durability and period of operation. It incorporates a load that quickly drags the particles stuck to the walls of the extruder. We recommend this filament for changing colours and materials, it can also be used if there is a blockage in the nozzle or extruder.

Printing Settings

Printing temperature **190°C - 260°C**

***** Use at 10°C higher than the temperature of the last print

Colours available

Natural

Allow for all printers

WOOD

SMARTFIL® WOOD is a PLA filament that incorporates 20% of wood fibers. Print unique pieces with a surface and appearance of wood, achieving a product with natural finish, it is available in a wide range of colours imitating different types of natural woods.

Material percentage

PLA	80%
WOOD	20%

Printing Settings

Printing temperature	205-220ºC
Printing speed	25-40mm/s
Bed temperature	40-60ºC
Close chamber	N/A
Fan	100%

Material Properties

Printing difficulty	●●●○○○○
Impact resistance	●●●●○○○
Thermal resistance	●●●○○○○
Rigidity	●●●●●●●

Colours available

Acacia, Maple, Sapelly, Willow

Teka, Wenge, ASH

Biodegradable

Compostable

Allow for all printers

WASTE PROCESS

Smart Materials 3D bets on the development of materials from renewable sources; the management, efficient use of natural resources and the reduction of waste generation through prevention, recycling and reuse.

We believe in the use of waste in order to reduce environmental impacts and contribute to sustainable development by obtaining biocompatible, biodegradable and compostable products, respecting the circular economy and closing the production circle.

WASTE

Obtaining the by-products of natural raw materials

CRUSHED

Optimization of the waste by crushing it

MICRONIZED

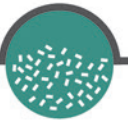
Obtaining the appropriate particle size of the waste by sieving it

DEHUMIDIFIED

Remove the moisture for later mixing with the polymers

COMPOUNDING

Selection and calculation of materials. Polymer + Fillers, reinforcements, or additives.



PELLETS

Manufacturing of the formulated ma terial in Pellets format

Development and manufacturing of biocompostable composites and filaments for 3D printing from waste

SMARTFIL® ECO is our sustainable proposal, products aligned with our commitment to environmental responsibility.

SMARTFIL

by smart materials 3D

PLA *RECYCLED*

SMARTFIL® ECO PLA RECYCLED is an ECO-friendly PLA, 100% recycled and biodegradable, a sustainable proposal beginning in its packaging, box of recycled cardboard and spool made of Recycled polystyrene. We have designed this PLA that guarantees the same qualities of our standard PLA, in a wide variety of colours and with a vision of an environmental responsibility.

Printing Settings

Printing temperature	**205-220ºC**
Printing speed	**30-50mm/s**
Bed temperature	**40-60ºC**
Close chamber	**N/A**
Fan	**100%**

Material Properties

Printing difficulty	●○○○○○○○○○
Impact resistance	●●●●●○○○○○
Thermal resistance	●●●○○○○○○○
Rigidity	●●●●●●●●○○

Colours available

Red, Blue, Green, Yellow, White, Black, Coral

Gold, Orange, Dark blue, Violet, Dark green, Brown, Silver

Pink, Purple, Dark grey, Light green, Cold white, May, Signal blue

Green army, Traffic, Light gray, Grenade, Light blue, Lilac

Biodegradable

Compostable

Allow for all printers

REFILL

PLA RECYCLED

Refill, an initiative that brings us closer to our goal of becoming increasingly sustainable and environmentally friendly.

Sustainability: By eliminating the need for individual spools for each reel of our PLA RECYCLED, we significantly reduce our environmental impact. We promote the reuse of the SmartMaster Spool, a reusable spool specially designed to fit our filament rolls.

Economy and Efficiency: You can use the SmartMaster Spool as many times as needed, regardless of the filament's material, color, or effect.

Available in all PLA Recycled colors.

OLIVE

SMARTFIL® ECO OLIVE is a sustainable filament designed for 3D printing, biodegradable and compostable, with our exclusive formula obtained from crushed olive stones. The printing pieces will have a unique finish, achieving a rough and textured appearance similar to olive wood.

Material percentage

PLA	80%
Olive stones	20%

Printing Settings

Printing temperature	205-220°C
Printing speed	25-50mm/s
Bed temperature	40-60°C
Close chamber	N/A
Fan	100%

Material Properties

Printing difficulty	●●●○○○○○○○
Impact resistance	●●●●○○○○○○
Thermal resistance	●●●○○○○○○○
Rigidity	●●●●●●●●●○

Colours available

Natural

Biodegradable

Compostable

Allow for all printers

OYSTER

Print pieces with an original texture and finish with our formula of SMARTFIL® ECO OYSTER, a filament made with a base of thermoplastic material and a filler of reuse of crushed oyster shelves, it is a sustainable PLA for 3D printing, biodegradable and compostable.

Material percentage

PLA	85%
Oyster shelves	15%

Printing Settings

Printing temperature	205-220°C
Printing speed	25-45mm/s
Bed temperature	40-60°C
Close chamber	N/A
Fan	100%

Material Properties

Printing difficulty	●●●●○○○○○○
Impact resistance	●●●○○○○○○○
Thermal resistance	●●●○○○○○○○
Rigidity	●●●●●●●●●○

Colours available

Natural

Biodegradable

Compostable

Allow for all printers

PINE

A material with a polymeric matrix coming from the reuse of pine wood, we have achieved a PLA such as SMARTFIL® ECO PINE which is a high-quality, sustainable, biodegradable, and compostable filament. Specially designed to obtain a natural and textured matte finish, very similar to real wood.

Material percentage

PLA	80%
Pine wood	20%

Printing Settings

Printing temperature	205-220°C
Printing speed	25-50mm/s
Bed temperature	40-60°C
Close chamber	N/A
Fan	100%

Material Properties

Printing difficulty	●●●○○○○○○○
Impact resistance	●●●○○○○○○○
Thermal resistance	●●●○○○○○○○
Rigidity	●●●●●●●●●○

Colours available

Natural

Biodegradable

Compostable

Allow for all printers

CORK

Our key product to print objects with a cork-like appearance is SMARTFIL® ECO CORK. PLA compound that incorporates cork filler, and thanks to the organic nature of its materials it is a biodegradable and compostable material.

Material percentage

PLA	82%
Cork	18%

Printing Settings

Printing temperature	205-220°C
Printing speed	25-50mm/s
Bed temperature	40-60°C
Close chamber	N/A
Fan	100%

Material Properties

Printing difficulty	●●●○○○○○○○
Impact resistance	●●●●○○○○○○
Thermal resistance	●●●○○○○○○○
Rigidity	●●●●●●●●●○

Colours available

Natural

Biodegradable

Compostable

Allow for all printers

ALGAE

The SMARTFIL® ECO ALGAE filament is an example of how 3D printing can help with sustainability. It is a unique material that combines the properties of plastic and algae to create a unique and versatile product, formulated with a high load of spirulina, reaching 15% of its weight, giving it an organic look, with a rustic and natural texture, moving away from the typical plastic appearance of PLA, which would be difficult to guess that it contains polymers in its formulation. In addition to achieving an intense green without the use of any pigment, we have an ECO-sustainable filament that does not look like any other on the market.

Material percentage

PLA	85%
Spirulina	15%

Printing Settings

Printing temperature	195-215°C
Printing speed	30-50mm/s
Bed temperature	40-60°C
Close chamber	N/A
Fan	100%

Material Properties

Printing difficulty	●●●●●○○○○○
Impact resistance	●●●○○○○○○○
Thermal resistance	●●●○○○○○○○
Rigidity	●●●●●●●●●○

Colours available

Natural

Biodegradable

Compostable

Allow for all printers

COFFEE

The SMARTFIL® ECO COFFEE filament is an interesting option for coffee and 3D printing lovers, as it offers a unique appearance and smell, as well as contributing to waste reduction and environmental care. It has a speckled finish and a granulated texture due to the coffee particles it contains and gives off a magnificent roasted coffee aroma, especially during the printing process. "It contains 20% of coffee waste that mixed with PLA is a biocomposite and ecological material that takes advantage of the waste from the coffee sector to create an innovative and sustainable product.

Material percentage

PLA	80%
Cork	20%

Printing Settings

Printing temperature	205-220ºC
Printing speed	25-50mm/s
Bed temperature	40-60ºC
Close chamber	N/A
Fan	100%

Material Properties

Printing difficulty	●●●○○○○○○○
Impact resistance	●●●●○○○○○○
Thermal resistance	●●●○○○○○○○
Rigidity	●●●●●●●●●○

Colours available

Natural

Biodegradable

Compostable

Allow for all printers

R-PETG

SMARTFIL® ECO R-PETG is a high-speed 3D filament, with the HIGH-SPEED seal, designed for those seeking fast, precise, and sustainable prints. Made from recycled PETG, it offers high mechanical strength, dimensional stability, and ease of use, making it perfect for both beginners and demanding professionals. It is compatible with high-speed printers and AMS systems, ensuring optimal performance in the most advanced environments. Additionally, it comes on a recycled, reusable polypropylene spool, environmentally friendly and reflecting our commitment to the circular economy.

Printing Settings

Printing temperature	230-250°C
Printing speed	40-300mm/s
Bed temperature	70-80°C
Close chamber	N/A
Fan	60-80%

Material Properties

Printing difficulty	●●●●○○○○○
Impact resistance	●●●●●●●○○
Thermal resistance	●●●●●●○○○
Rigidity	●●●●●●○○○

Colours available

Natural, Pistachio, Black, Violet, State Grey, Carmin Red, Pure Green, Signal Orange

Chemical resistance

Allow for all printers

R-PET

Our SMARTFIL® ECO R-PET is 100% recycled, keeping all the qualities of a PET but created by recovering raw material, we have created a product that supports the circular economy in addition to having excellent protection against UV radiation and humidity. It stands out for its high adhesion between layers and also a high printing definition.

Printing Settings

Printing temperature	260-280ºC
Printing speed	35-40mm/s
Bed temperature	70-90ºC
Close chamber	N/A
Fan	40-60%

Material Properties

Printing difficulty	●●●●●●●●○○
Impact resistance	●●●●●○○○○○
Thermal resistance	●●●●●●○○○○
Rigidity	●●●●●●○○○○

Colours available

Natural

Thermal resistance

Impact resistance

Chemical resistance

INNOVATEFIL® is our strategic line designed for the industrial sector with high performance and premium quality.


INNOVATEFIL®
by smart materials 3D

ABS *GF*

INNOVATEFIL® ABS GF is a high-performance material for FDM that offers increased strength and stiffness, excellent impact resistance, thermal stability, and precision in printed parts. It is ideal for applications that require robust and durable components, such as structural parts and functional prototypes in the automotive, aerospace, and manufacturing industries. This material combines the rigidity and durability of fiberglass with the ease of processing of ABS, delivering high-quality and precise results.

Material percentage

ABS	85%
GF	15%

Printing Settings

Printing temperature	250-270ºC
Printing speed	30-50mm/s
Bed temperature	80-100ºC
Close chamber	N/A
Fan	60-80%

Material Properties

Printing difficulty	●●●●●●●○○○
Impact resistance	●●●●●●●○○○
Thermal resistance	●●●●●●●○○○
Rigidity	●●●●●●●○○○

Colours available

Natural

Thermal resistance

Machinable

High industrial capacity

Impact resistance

ABS *CF*

INNOVATEFIL® ABS CF combines the strength and durability of ABS with the exceptional mechanical properties of carbon fiber. This composite offers notable stiffness, tensile strength, and impact resistance, making it the ideal choice for applications that require lightweight yet strong parts, such as tooling, automotive and aerospace components, or functional prototypes. Its low weight and high dimensional stability enable precise results and superior quality. It is easy to process and provides excellent layer adhesion. A perfect choice for those seeking a balance between lightness and strength.

Material percentage

ABS	85%
CF	15%

Printing Settings

Printing temperature	250-270°C
Printing speed	30-50mm/s
Bed temperature	80-100°C
Close chamber	N/A
Fan	60-80%

Material Properties

Printing difficulty	●●●●●●●○○○
Impact resistance	●●●●●●●○○○
Thermal resistance	●●●●●●●○○○
Rigidity	●●●●●●●○○○

Colours available

Natural

Thermal resistance

Machinable

High industrial capacity

Impact resistance

ASA *GF*

INNOVATEFIL® ASA (Acrylonitrile Styrene Acrylate) reinforced with fiberglass is a material that combines high tensile and impact strength, thanks to the addition of fiberglass, which improves its rigidity and reduces deformation under load. This material exhibits excellent thermal stability, maintaining its integrity at high temperatures, and its low thermal expansion ensures dimensional accuracy in printed parts. It offers weather resistance and UV radiation protection, making it suitable for outdoor applications and functional prototypes. A robust and versatile choice for applications that require strength and stability.

Material percentage

ASA	**85%**
GF	**15%**

Printing Settings

Printing temperature	**250-270ºC**
Printing speed	**30-50mm/s**
Bed temperature	**80-100ºC**
Close chamber	**N/A**
Fan	**60-80%**

Material Properties

Printing difficulty	●●●●●●●○○○
Impact resistance	●●●●●●●○○○
Thermal resistance	●●●●●●●○○○
Rigidity	●●●●●●●○○○

Colours available

Natural

Thermal resistance

Machinable

High industrial capacity

UV resistant

ASA *CF*

INNOVATEFIL® ASA (Acrylonitrile Styrene Acrylate) reinforced with carbon fibre is an advanced material for additive manufacturing that offers superior mechanical and thermal properties. Thanks to the incorporation of carbon fibre, this composite exhibits notable stiffness, tensile strength, and impact resistance. The ASA with carbon fiber also demonstrates excellent thermal stability, maintaining its integrity at high temperatures, and low thermal expansion, ensuring dimensional accuracy in printed parts. Its weather resistance and UV radiation protection make it suitable for outdoor applications.

Material percentage

ASA	85%
CF	15%

Printing Settings

Printing temperature	250-270ºC
Printing speed	30-50mm/s
Bed temperature	80-100ºC
Close chamber	N/A
Fan	60-80%

Material Properties

Printing difficulty	●●●●●●●○○○
Impact resistance	●●●●●●●○○○
Thermal resistance	●●●●●●●○○○
Rigidity	●●●●●●●○○○

Colours available

Natural

Thermal resistance

Machinable

High industrial capacity

UV resistant

TPU *HARDNESS+*

INNOVATEFIL® TPU HARDNESS+ is a high-quality thermoplastic polyurethane designed for the industrial sector, that combines hardness, elasticity and mechanical strength, so it maintains all the advantages of this elastomer, keeping all the properties of the TPU allowing to make completely rigid pieces. It has high resistance to heat, erosion, UV rays, oils, and ozone. The advantage that it does not have contractions is remarkable, which makes it a perfect filament to print parts, any size.

Printing Settings

Printing temperature	**220-235ºC**
Printing speed	**40-60mm/s**
Bed temperature	**70-100ºC**
Close chamber	**N/A**
Fan	**60-80%**

Material Properties

Printing difficulty	●●●●●●○○○○
Impact resistance	●●●●●●●○○○
Thermal resistance	●●●●●●●●○○
Rigidity	●●●●●●○○○○

Colours available

Natural

True black

Thermal resistance

Machinable

Impact resistance

Chemical resistance

TPU *CF*

INNOVATEFIL® TPU CF is a TPU reinforced with carbon fiber. With this filament you can print flexible objects with outstanding resolution. The incorporation of carbon fibers optimizes its properties by increasing high tensile strength, high heat tolerance and higher chemical resistance.
Thanks to the carbon fiber, it is a filament with electrical conductivity, so it can be used for applications that require protection against electrostatic discharge (ESD).

Material percentage

TPU	85%
CF	15%

Printing Settings

Printing temperature	215-245ºC
Printing speed	20-35mm/s
Bed temperature	45-70ºC
Close chamber	N/A
Fan	80-100%

Material Properties

Printing difficulty	●●●●●●○○○○
Impact resistance	●●●●●●●●●●
Thermal resistance	●●●●●●●●○○
Rigidity	●●○○○○○○○○

Colours available

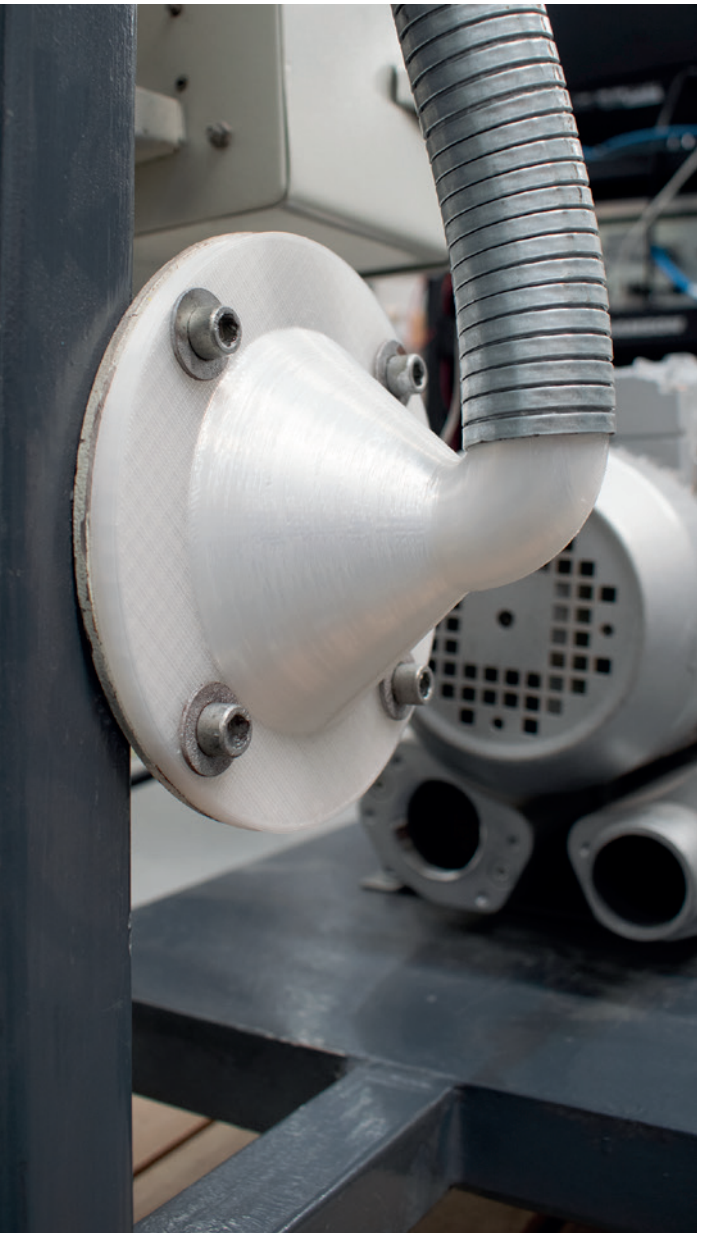
Natural

Thermal resistance

Impact resistance

Flexible

PVDF



INNOVATEFIL® PVDF (Polyvinylidene Fluoride) is an opaque semi-crystalline thermoplastic fluoropolymer with advanced properties that is suitable for technical, engineering, or research applications in the industrial market.

Its main advantage is thermal resistance to most chemical compounds (except caustic solutions and ketones), making it a valuable material in the chemical industry. It is notable for its excellent mechanical properties, high resistance to abrasion and impact, and it is an excellent choice for long exposures in the outdoor environment without losing properties, long-lasting hydrolytic stability, and even high radiation resistance.

INNOVATEFIL® PVDF is a material designed for demanding applications and harsh environments..

Printing Settings

Printing temperature	**220-260 °C**
Printing speed	**20-30mm/s**
Bed temperature	**70-90°C**
Close chamber	**N/A**
Fan	**80-100%**

Material Properties

Printing difficulty	●●●●●○○○○○
Impact resistance	●●●●●●●●●○
Thermal resistance	●●●●●●●●●○
Rigidity	●●●○○○○○○○

Colours available

Natural

Thermal resistance · High industrial capacity · Impact resistance · Chemical resistance · Flexible · Flame retardant

TPU *FR*

INNOVATEFIL® TPU FP flame-retardant is a flexible and durable material used in 3D printing, capable of withstanding impacts and wear.
Its main feature is that it is flame-retardant, meaning it resists fire or delays its spread, making it suitable for applications where fire safety is required.

Printing Settings	**Standar**
Printing temperature	**220-250ºC**
Printing speed	**20-30mm/s**
Bed temperature	**50-60ºC**
Close chamber	**N/A**
Fan	**60-80%**

Material Properties

Printing difficulty	●●●●●●●○○○
Impact resistance	●●●●●●●●●●
Thermal resistance	●●●●●●●●○○
Rigidity	●○○○○○○○○○

Colours available

Natural

Thermal resistance

Impact resistance

Flexible

Flame retardant

PA *CF*

Thanks to the composite of polyamides and carbon fiber we have designed this filament for professionals who require a plus of quality in their prints. Its main quality is the possibility of printing large objects, without deformations and extremely strong. INNOVATEFIL® PA CF is a material with optimized strength and rigidness. It has great mechanical resistance and excellent performance at high temperatures.

Material percentage

PA	85%
CF	15%

Printing Settings

Printing temperature	250-270ºC
Printing speed	30-50mm/s
Bed temperature	60-90ºC
Close chamber	N/A
Fan	40-60%

Material Properties

Printing difficulty	●●●●●●○○○○
Impact resistance	●●●●●●●●○○
Thermal resistance	●●●●●●●●○○
Rigidity	●●●●●●●●●○

Colours available

Natural

Thermal resistance

High industrial capacity

Impact resistance

PA *HT*

Compared to other polyamides in the market, INNOVATEFIL® PA HT does not have contractions and it offers great adhesion in between layers, so its mechanical properties are almost isotropic.
It is a polyamide-based filament, with high mechanical strength, toughness, and excellent performance at high temperatures. It is especially suitable for industrial applications and end-use parts, such as bearings or gears.

Printing Settings

Printing temperature	**260-280ºC**
Printing speed	**30-50mm/s**
Bed temperature	**60-90ºC**
Close chamber	**N/A**
Fan	**40-60%**

Material Properties

Printing difficulty	●●●●●○○○○○
Impact resistance	●●●●●●●○○○
Thermal resistance	●●●●●●●●○○
Rigidity	●●●●●●●●●○

Colours available

Natural True black

Thermal resistance

High industrial capacity

Impact resistance

Chemical resistance

PP *SUPPORT*

INNOVATEFIL® PP SUPPORT is a material that was highly requested for all PP users, this filament will facilitate the production of complex parts, especially in the industrial sector, always hungry for innovative products that need a contribution of effectiveness in its production lines, it work with the BREAKAWAY system, which is very easy to detach, since it is not necessary to dilute it, which represents a substantial saving in effort in the post-processing phase and much less time, achieving an efficiency that no other material in the sector has achieved before.

Printing Settings

Printing temperature	**205-220ºC**
Printing speed	**15-25mm/s**
Bed temperature	**50-60ºC**
Close chamber	**Recommended**
Fan	**40-60%**

Colours available

Natural

Breakaway

Allow for all printers

PP

INNOVATEFIL® PP is a very light polypropylene filament with a certain flexibility. It can float since its density is lower than water. It stands out for being one of the materials with the highest impact resistance and its especially suitable for applications where weight is a determining factor, or as an additional protection for knockings or sudden movements are required, and thanks to its properties its use is suitable for humid environments or extreme weather conditions.

Printing Settings

Printing temperature	**205-220ºC**
Printing speed	**20-30mm/s**
Bed temperature	**50-60ºC**
Close chamber	**Recommended**
Fan	**40-60%**

Material Properties

Printing difficulty	●●●●●●●●●○
Impact resistance	●●●●●●●●●●
Thermal resistance	●●●●●●●●○○
Rigidity	●●●○○○○○○○

Colours available

Natural Ivory white True black

Food Approved Flexible Impact resistance Chemical resistance

PP *GF*

INNOVATEFIL® PP GF was created through an optimized manufacturing process, resulting in a material with high cohesion between the fiberglass reinforcement and the polypropylene. It is a high-strength filament that makes pieces to support higher loads while remaining ductile. INNOVATEFIL® PP GF has 38% higher tensile strength than PP and greater dimensional stability, It does not have the polypropylene problems like warping and cracking.

Material percentage

PP	80%
GF	20%

Printing Settings

Printing temperature	205-220ºC
Printing speed	20-30mm/s
Bed temperature	50-60ºC
Close chamber	N/A
Fan	40-60%

Material Properties

Printing difficulty	●●●●●●●○○○
Impact resistance	●●●●●●●●●○
Thermal resistance	●●●●●●●●○○
Rigidity	●●●●●○○○○○

Colours available

Natural

Allow for all printers

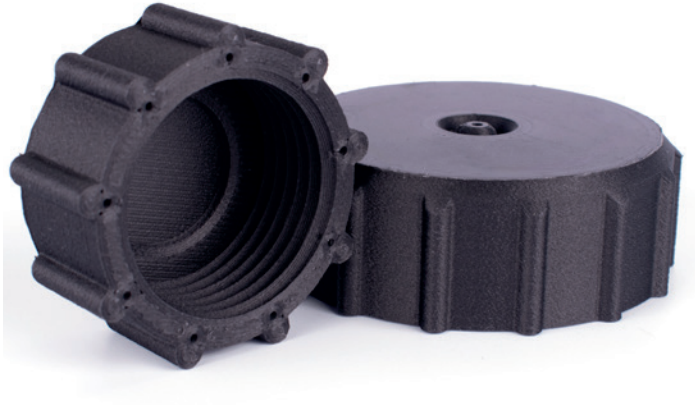
High industrial capacity

Impact resistance

Chemical resistance

PP *CF*

IINNOVATEFIL® PP CF is a filament loaded with 20% of carbon fibre,enhancing its rigidity and impact resistance. It is ideal for parts where weight is a critical factor. This filament has applications in many industrial and technological sectors, including aerospace, automotive, sports, and the production of structural components and high-performance parts.



Material percentage

PP	80%
CF	20%

Printing Settings

Printing temperature	215-235ºC
Printing speed	20-30mm/s
Bed temperature	50-60ºC
Close chamber	Recomendable
Fan	40-60%
Flow	110-130%

Material Properties

Printing difficulty	●●●●●●●●○○
Impact resistance	●●●●●●●●●○
Thermal resistance	●●●●●●●●○○
Rigidity	●●●●●○○○○○

Colours available

Natural

Allow for all printers

High industrial capacity

Impact resistance

Chemical resistance

PETG *MDT*

INNOVATEFIL® PETG MDT is a PETG filament designed to be located by any type of magnetic detector, which is why it is suitable for the food industry, where the absence of contaminants of any origin is essential.

Unlike the existing filaments on the market that are only reinforced with ferromagnetic powders, our PETG MDT is detectable by magnetic sensors. Its composition does not require the use of steel fibers or metal powders and it does not contain carbon fibers, graphite or carbon black.

Printing Settings

Printing temperature	230-260 ºC
Printing speed	35-50mm/s
Bed temperature	40-80ºC
Close chamber	N/A
Fan	70-90%

Material Properties

Printing difficulty	●●●●●●○○○○
Impact resistance	●●●●○○○○○○
Thermal resistance	●●●●●○○○○○
Rigidity	●●●●●○○○○○

Colours available

Natural

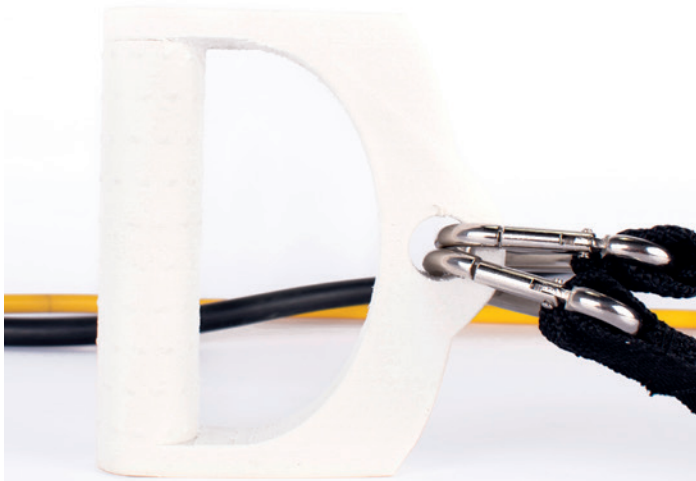
Allow for all printers

Food Approved

Magnetic detectable

NYLSTRONG

INNOVATEFIL® NYLSTRONG is a PA6 with a load of fiberglass, which enhances its mechanical, thermal and abrasion resistance. The fiberglass also provides high rigidity and hardness of the material which makes this filament suitable for a wide variety of industrial applications.



Material percentage

PA	75%
GF	25%

Printing Settings

Printing temperature	245-265ºC
Printing speed	25-45mm/s
Bed temperature	100-110ºC
Close chamber	Recommended
Fan	0-20%

Material Properties

Printing difficulty	●●●●●●●●○○
Impact resistance	●●●●●●●●○○
Thermal resistance	●●●●●●●●○○
Rigidity	●●●●●●●●○○

Colours available

Natural

Thermal resistance

Impact resistance

MEDICAL

INNOVATEFIL® ABS MEDICAL is a high-capacity, high-quality filament used for medical applications. It has the certification Class USP VI or ISO 10993-1, which makes it a biocompatible filament with the human body for 30 days.
It is a filament specially created to provide great solutions in the medical services. INNOVATEFIL®ABS MEDICAL is completely sterilizable by gamma rays, ethylene oxide or plasma gas.
It is also food approval certificated, maintaining its excellent mechanical and thermal properties.

Printing Settings

Printing temperature	**235-255°C**
Printing speed	**30-50mm/s**
Bed temperature	**90-110°C**
Close chamber	**Recommended**
Fan	**0-20%**

Material Properties

Printing difficulty	●●●●●●●●○○
Impact resistance	●●●●●●○○○○
Thermal resistance	●●●●●●●○○○
Rigidity	●●●●●●○○○○

Colours available

Natural

Food Approved

Thermal resistance

Biocompatible

ANTIBACTERIAL

INNOVATEFIL® PLA ANTIBACTERIAL is a filament composed of PLA and silver nanoparticles that provide antibacterial properties to the material, preventing the growth of mildew, fungi and bacteria that cause bad odours, discolouration, stains, deterioration, and corrosion with an antibacterial effectivity of 99.99% after 24 hours of printing.

Printing Settings

Printing temperature	**205-220ºC**
Printing speed	**30-50mm/s**
Bed temperature	**40-60ºC**
Close chamber	**N/A**
Fan	**100%**

Material Properties

Printing difficulty	●○○○○○○○○○
Impact resistance	●●●●○○○○○○
Thermal resistance	●●●○○○○○○○
Rigidity	●●●●●●●●○○

Colours available

Natural

Allow for all printers

Antibacterial

PETG *FR*

Filaments with flame retardant properties are increasingly in demand on the market, which require that the spread of fire be prevented, and which is also frequently required by regulatory institutions.

Smart Materials 3D has created INNOVATEFIL® PETG FR a new material from our INNOVATEFIL® PETG one of our most popular and widely used filaments that has been modified with flame retardant additives, additionally, the UL 94 standard, which is likely the most popular flame-retardant norm, is present in INNOVATEFIL® PETG FR.

Printing Settings

Printing temperature	235-260 ºC
Printing speed	35-50mm/s
Bed temperature	40-80ºC
Close chamber	N/A
Fan	70-90%

Material Properties

Printing difficulty	●●●●○○○○○○
Impact resistance	●●●●●●●○○○
Thermal resistance	●●●●●●●○○○
Rigidity	●●●●●○○○○○

Colours available

Natural

Chemical resistance

Flame retardant

PETG *CF*

INNOVATEFIL® PETG CF is a filament made from a PETG matrix reinforced with 15% carbon fiber, providing the durability of PETG along with the mechanical and thermal enhancements of carbon fiber. This material retains the advantages of PETG, such as stability and ease of printing, while offering greater strength and thermal performance.
The result is parts with an excellent finish and improved properties.

Printing Settings

PETG	85%
CF	15%

Material Properties

Printing temperature	235-255ºC
Printing speed	30-50mm/s
Bed temperature	60-90ºC
Close chamber	N/A
Fan	60-90%

Propiedades materiales

Printing difficulty	●●●●●○○○○○
Impact resistance	●●●●●●●●○○
Thermal resistance	●●●●●●○○○○
Rigidity	●●●●●●●○○○

Colours available

Natural

Allow for all printers

High industrial capacity

Impact resistance

PEEK

INNOVATEFIL® PEEK is one of our thermoplastic filaments that offers a unique combination of high mechanical properties, temperature resistance, excellent chemical resistance. We highly recommend this filament to make pieces that require durability.

Due to its components, it is chemically resistant to aggressive environments and suitable for sterilization and contact with food. As if that were not enough, it also has very good resistance to UV rays and external conditions, so it is recommended for use outdoors.

Printing Settings

Printing temperature	**360-400ºC**
Bed temperature	**>120ºC**
Close chamber	**Required (>120ºC)**
Fan	**0-20%**

Material Properties

Printing difficulty	●●●●●●●●●●
Impact resistance	●●●●●●●●●●
Thermal resistance	●●●●●●●●●●
Rigidity	●●●●●●●●●●

Colours available

Natural

Thermal resistance

High industrial capacity

Impact resistance

Chemical resistance

Biocompatible

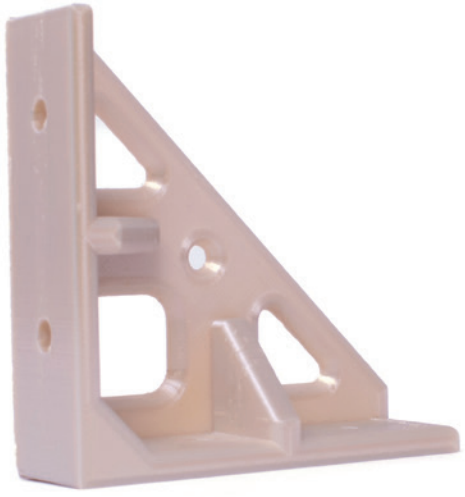
PEI *ULTEM 9085*

INNOVATEFIL® PEI is a high-performance polymer manufactured with ULTEM™ 9085 resin. Due to its high glass transition temperature, it offers excellent properties at high temperatures.

INNOVATEFIL® PEI ULTEM™ 9085 has been rigorously designed for aerospace, military, and automotive sectors, because of its exclusive high-performance qualities. One of its best properties, it is its strength/weight ratio. It also has excellent thermal and chemical resistance, making it especially suitable for working pieces with strict requirements.

Printing Settings

Printing temperature	**350-380ºC**
Bed temperature	**140-160ºC**
Close chamber	**Required (>120ºC)**
Fan	**0-20%**



Material Properties

Printing difficulty	●●●●●●●●●●
Impact resistance	●●●●●●●●●●
Thermal resistance	●●●●●●●●●●
Rigidity	●●●●●●●●●●

Colours available

Natural

Thermal resistance

High industrial capacity

Impact resistance

Chemical resistance

Biocompatible

POLYCARBONATE

INNOVATEFIL® PC is a polycarbonate filament specifically designed for 3D printing, featuring very low shrinkage, very high impact resistance, and excellent rigidity.
It is a strategic material with high resistance to thermal deformation and very good dimensional stability.

Printing Settings

Printing temperature	**270-290°C**
Printing speed	**30-50mm/s**
Bed temperature	**110°C**
Close chamber	**Recommended**
Fan	**40-60%**

Material Properties

Printing difficulty	●●●●●●●●○
Impact resistance	●●●●●●●●○
Thermal resistance	●●●●●●●●○
Rigidity	●●●●●●●●●

Colours available

Natural

Thermal resistance

High industrial capacity

Impact resistance

PVA *ULTRA*

INNOVATEFIL® PVA ULTRA is our premium water-soluble formula of PVA, adding additives to improve the formulation, we have succeeded in increasing printing quality to another level to print objects without defects, stabilising the material and enhancing its behaviour against thermal degradation, this filament as support widens the range of material compatibility, it can be used with PLA, ABS, PETG, CPE, amongst others.
Our INNOVATEFIL® PVA ULTRA is suitable for all printers, because it works with a bigger temperature range, beginning from 200°C. This filament can be removed quicker with warm or cold water, leaves no trace on the finished part and is less polluting.

Printing Settings

Printing temperature	**200-240°C**
Printing speed	**10-60mm/s**
Bed temperature	**60-90°C**
Close chamber	**N/A**
Fan	**0-100%**

Colours available

Natural

Soluble

ABS *FR*

INNOVATEFIL® ABS FR is a fireproof ABS, tested under the norm UL94 and IEC 60695-11-10. It is better used for making working parts to cover elements that might have an ignition source.

This material incorporates halogen-free retardant additives and provides a self-extinguishing capacity of the flame without causing any dripping. This filament has the certification of the category V-0 according to UL94 standard.

Printing Settings

Printing temperature	**215-235°C**
Printing speed	**30-50mm/s**
Bed temperature	**80-100°C**
Close chamber	**Recommended**
Fan	**0-20%**

Material Properties

Printing difficulty	●●●●●○○○○○
Impact resistance	●●●●●●○○○○
Thermal resistance	●●●●●●●●○○
Rigidity	●●●●●●○○○○

Colours available

Natural

Flame retardant

Machinable

COMPOUNDING SERVICE

Turning waste into new materials or enhancing the properties of a technical material will boost 3D printing performance.

COMPOUND DEVELOPMENT SERVICE → **Research, formulation, and development** of materials for 3D printing

PELLET MANUFACTURING SERVICE. FGF. → Manufacturing of **pellets** for large-format 3D printing or as a base material for filament production for 3D printers.

FILAMENT MANUFACTURING SERVICE. FDM. → **Filament** manufacturing from an existing compound.

Our COMPOUNDING service

At Smart Materials 3D we are committed to make a wide range of new products, to offer new innovative services, with the aim that our clients achieve the best results in their projects. To do this, we have incorporated a new one.

From now on, we can manufacture and formulate custom made materials, thanks to our new compounding production line and the latest technological equipment, we can improve the various physical or technical properties of a product, maintaining our quality standards, by modifying polymeric materials.

Transformation and creation of new materials

By selecting, formulating, and mixing components we achieve a personalized final product. This versatility allows us to give polymers a new mechanical, thermal, electrical, processability and durability properties. For example, by incorporating fillers, reinforcements, or additives. We use additives such as pigments, plasticizers, lubricants, biocides, thermal stabilizers, antioxidants, combustion retardants, UV light stabilizers, among others. As reinforcements we can work with carbon fiber, graphite, ceramic fibers, glass reinforcement, metallic fillers, polymeric fibers and much more. For fillers we can add talc, calcium carbonate, silica, organic fillers, solid microspheres, hollow microspheres, kaolin, etc... We are open to all the possibilities for creating a great and wide variety of materials.

Final product

With the new compounding manufacturing production line, we will be able to cover the need to obtain customized materials to be used in different industries like, filaments for 3D Printing and raw materials in the form of pellets for extrusion and injection industries.

REQUIREMENT FOR A NEW PRODUCT

Research and development of a ustomized material to meet the customer needs.

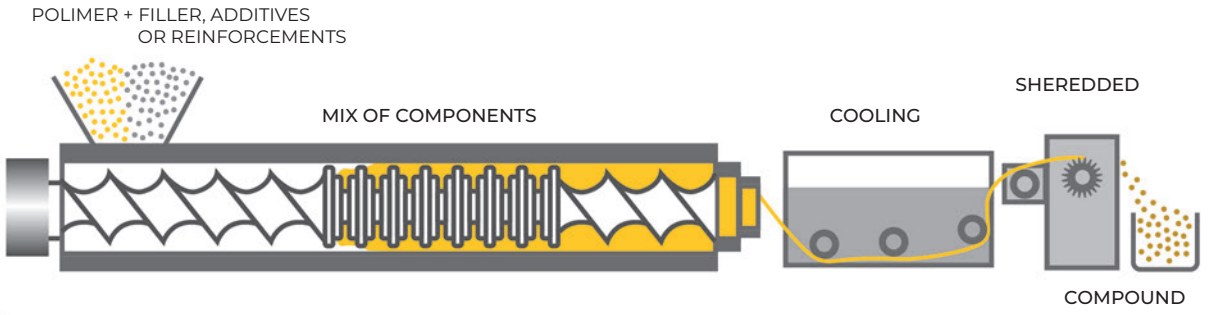
FORMULATION

Selection and calculation of materials. Polymer + Fillers, reinforcements, or additives.

COMPOUNDING

Manufacture of formulated material, in various formats. Pellets and filament.

PRODUCTION PROCESS



CUSTOM MATERIALS

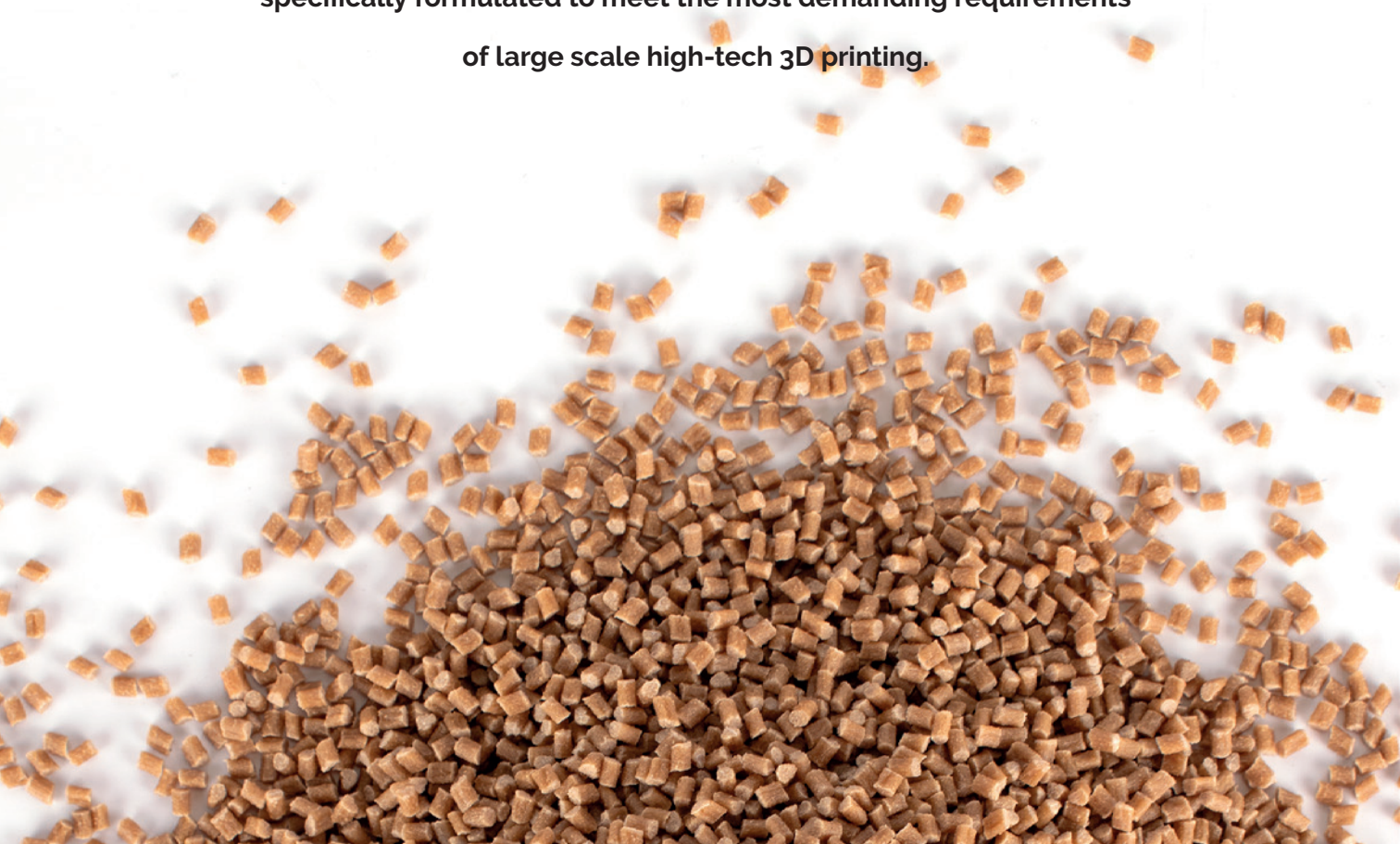
Compound with high quality and special properties with the possibility to be used in different processes.

COMPOUND FORMATS

USE PROCESSES

PelletSmart

PELLETSMART is our line of advanced materials in pellet format, specifically formulated to meet the most demanding requirements of large scale high-tech 3D printing.



CHOOSE FROM ANY OF THE AVAILABLE MATERIALS OR CREATE YOUR OWN

BASIC PELLETS

Unparalleled performance

We have a wide variety of pellets that can be combined with pigment and multiple applications; just let your imagination run wild.

- ABS
- ASA
- CLEAN
- EP
- FLEX 77A
- FLEX 85A
- FLEX 93A
- FLEX 98
- FLEX FOAM
- GLACE
- HIPS
- PETG
- PLA
- PLA LW
- PLA 3D850
- PLA 3D870
- BOUN
- WOOD

HIGH-TECH PELLETS

Industrial scale compatibilily

Experience outstanding print quality and raliability with PELLET**SMART®**, the leading choice for high-tech 3D printing.

- ANTIBACTERIAL
- ABS FLAME RETARDAN
- ABS MEDICAL
- ABS GLASS FIBRE
- ABS CARBON FIBRE
- ASA GLASS FIBRE
- ASA CARBON FIBRE
- NYLSTRONG
- POLYPROPYLENE
- POLYPROPYLENE GLASS FIBRE
- POLYPROPYLENE CARBON FIBRE
- POLYAMIDE CARBON FIBRE
- POLYAMIDE HIGH-TEMPERATURE
- PEEK
- PEI ULTEM™ 9085
- PETG MDT
- PETG CARBON FIBRE
- PETG FLAME RETARDAN
- POLICARBONATO
- PVDF
- TPU HARDNESS+
- TPU CARBON FIBRE
- TPU FLAME RETARDAN

ECO PELLETS

Natural & organic textures

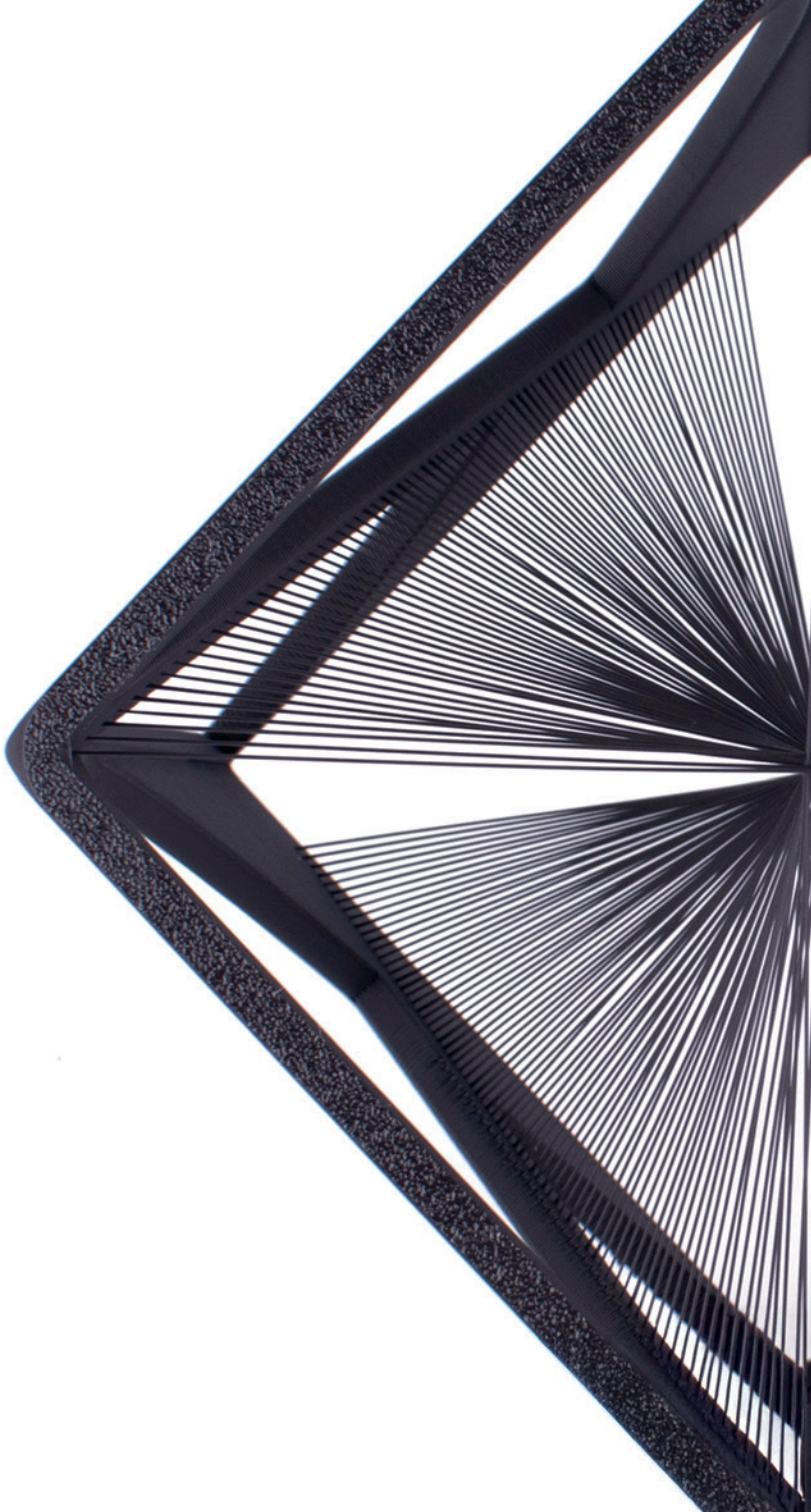
We are committed to sustainability, developing biodegradable and envionmentally friendly materials.

- ALGAE
- CORK
- COFFEE
- OLIVE
- OYSTER
- PINE
- PLA RECYCLED
- R-PET
- R-PETG

Enhance the capabilities of your technical material
Customize and reuse waste
Create your own colour
Decide the size of your pellets

PelletSmart

Download our PelletSmart catalog on our website:
www.smartmaterials3d.com



JANUARY 2026
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