

**ADVANC3D**

Materials

**ADVANCED  
RAW MATERIALS**  
FOR ADDITIVE MANUFACTURING



**FUSED DEPOSITION MODELING**

July 2015

# DEFINITION OF FDM

Fused deposition modeling (FDM) is an additive manufacturing technology commonly used for modeling, prototyping, and production applications.

This technology and its capabilities spread fast, reaching different professionals such as doctors and architects, as well as non professional users that are eager to dig in search of personal creativity and home uses.

Prototype



Architecture



Medical



Aeronautic

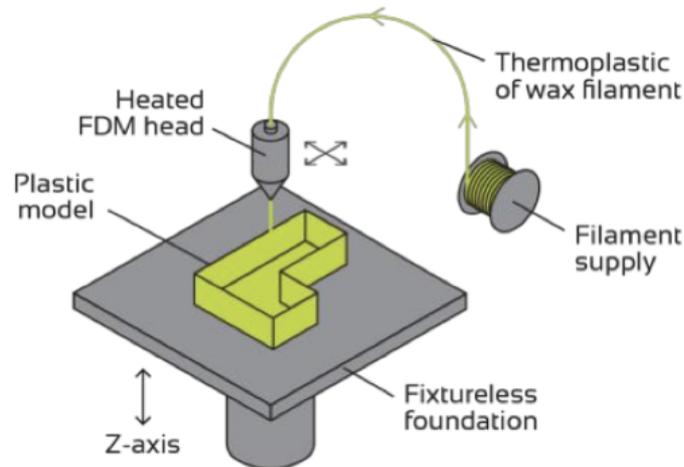


Automotive



# PROCESS OF THE FDM

- **Pre-processing:** Build-preparation software slices and positions a 3D file and calculates a path to extrude thermoplastic and any necessary support material.
- **Production:** The 3D printer heats the thermoplastic to a semi-liquid state and deposits it in ultra-fine beads along the extrusion path. Where support or buffering is needed, the 3D printer deposits a removable material that acts as scaffolding.
- **Post-processing:** The user breaks away support material away or dissolves it in detergent and water, and the part is ready to use.



# KEY PROPERTIES OF FDM FILAMENT

Advanc3D Materials worked on the materials key properties, as much mechanical and thermal as printability and user friendliness, to provided the most adapted products:

Tensile strength Elongation at break Impact resistance Melt viscosity Crystallization speed Filler rate (eg Wood or Bronze) Time of solubility (eg PVA) ...	Surface finish Material stability Feature detail accuracy Needs of support Easy of feed into printer Spool manipulation and design Adhesion issues ...
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We also developed materials focused on recyclable, biobased or local feedstock (in UE)

# OWN PRODUCTS: ADWIRE® BASIC

ADVANC3D

Materials

**ADWIRE®** FILAMENT FOR THE FDM PROCESS

BASIC

Available now!



Basic filament assortment for the best price-performance ratio.  
Technical support to answer all your questions.



Available in PLA (bio material)

**ADWIRE®**

BASIC

Basic wires for FDM printers

1.75 mm / 3 mm diameter

1 kg spools

Black



Blue



Yellow



White



Red



Grey



Translucent



Green



# OWN PRODUCTS: ADWIRE® BASIC

**ADVANC3D**  
Materials

**ADWIRE®** FILAMENT FOR THE FDM PROCESS

BASIC

Available now!

High quality filament for the best printing results.  
Technical support to answer all your questions.



## Wires for FDM printers

ø 1.75 mm / 3 mm . 1 kg spools

Available in **PETG**

**Black**



**Blue**



**Natural**



**White**



**PETG** allows firm and much more resistant prints, with higher mechanical properties. All this using your regular printer!

# OWN PRODUCTS: ADWIRE® BASIC

ADVANC3D  
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**ADWIRE®** FILAMENT FOR THE FDM PROCESS

BASIC

Available now!



Basic filament assortment for the best price-performance ratio.  
Technical support to answer all your questions.

Available in **WOOD**

ø 1.75 mm / 3 mm . 0.5 kg spools

Wood



**Wood** is a PLA that imitates wood looking and feeling into a very realistic level. And as simple to print as PLA!

**CLEANING FILAMENT**

ø 1.75 mm / 3 mm 0.1 kg spools

Translucent \*



Tired of complications when changing between filaments? Using our **cleaning** product between different rolls, minimizes clogged nozzles and color variations.

# OWN PRODUCTS: ADWIRE® PREMIUM

ADVANC3D

Materials

**ADWIRE®** FILAMENT FOR THE FDM PROCESS

PREMIUM

Available now!

High quality filament for the best printing results.  
Technical support to answer all your questions.



**ADWIRE®**

PREMIUM

Premium wires for FDM printers  
ø 1.75 mm / 3 mm . 1 kg spools

Available in **PLA** (bio material) and **ABS**

Deep Black



Space Grey



Olive Green



Rich Green



Lime Green



Sky Blue



Burgundy



Bright Red



Rose Pink



Juicy Orange



Smiley Yellow



Creative White



Ice White



Translucent \*



\* Only available in PLA

# OWN PRODUCTS: ADWIRE® PREMIUM Coming before 2016!

**ADVANC3D**  
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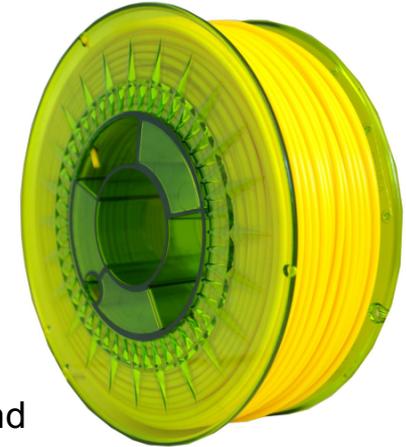
**ADWIRE®** FILAMENT FOR THE FDM PROCESS

PREMIUM

Available before 2016!



High quality filament for the best printing results. Soon available as an imitation of real materials and special characteristics. Technical support to answer all your questions.



Available in **ABS Recycled**

**Black**



Do something good for our planet: use recycled ABS from post consumer waste, and give a second life to old fridges and cars!  
**Our environmentally friendly ABS!**

Available in **Conductive PLA**

**Black**



**Conductive PLA** allows to bring electrical conductivity into a new level. This new filament will allow you to find new and exciting ways to interact with power, from your usual 3D Printer!

Available in **PVA**

**Translucent\***



**PVA** is a perfect filament as support given its solubility in water. This is a great advantage in dual extruders printers!

# OWN PRODUCTS: ADWIRE® CUSTOM

ADVANC3D

Materials

**ADWIRE®** FILAMENT FOR THE FDM PROCESS



On demand custom high quality filament that will meet your highest needs, tell us what you need and we will make it happen!

Technical support to answer all your questions.

Applications:

- Any color
- Any property: different grades of conductivity, solubility, flame retardancy...
- Any texture
- After effects such as shiny filament!
- Any smell



## **The technical parameters for PLA in FDM application :**

- Print temperature: 190°C - 220°C
- Hot bed: 0°C / 60°C-80°C
- Speed: 50 - 100 mm/s
- Travel speed: 100 - 200 mm/s

## **The technical parameters for ABS in FDM application :**

- Print temperature: 220°C - 260°C
- Hot bed: 110°C - 80°C
- Speed: 30 - 100 mm/s
- Travel speed: 90 - 150 mm/s

# OWN PRODUCTS: ADWIRE® CUSTOM

ADVANC3D

Materials

## ADWIRE® FILAMENT FOR THE FDM PROCESS



On demand custom high quality filament that will meet your highest needs, tell us what you need and we will make it happen!

Technical support to answer all your questions.

Applications:

- Any color
- Any property: conductivity, flame retardancy, antistatism,...
- Any texture
- After effects such as shiny filament!
- Any smell

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