



Prodways launches the first PA6-12T material for laser sintering 3D printing resulting from its partnership with A. Schulman

Paris, November 2017,

At just a few days from the major 3D printing event, Formnext 2017 which is taking place in Frankfurt, Germany from the 14th to 17th of November, Prodways is announcing the launch of the first PA6-12T plastic material for 3D printing using selective laser sintering. This new glass filled material is a result of its exclusive partnership with A. Schulman.

In November 2016, Prodways announced the signature of an exclusive strategic partnership with A. Schulman, a leading international supplier of high-performance plastic compounds and composite materials used in many industries. Less than 12 months after this announcement, the collaboration between Prodways' and A. Schulman's R&D teams has led to the launch of PA612-GB 3800, the first PA6-12T plastic powder on the 3D printing laser sintering market.

Through this launch, Prodways and A. Schulman open up new possibilities for the 3D printing of high performance plastic parts that are usually made of injected plastic or metal, in particular for the aviation, automotive and rail industries.

PA6-12T is a plastic material that is used with conventional plastic processing techniques to produce parts that require rigidity, impact resistance and a capacity to withstand high temperatures. PA612T is also characterized by its low sensitivity to moisture absorption, allowing it to maintain its mechanical properties in humid conditions. Using the new PA612-GB 3800 powder, it is now possible to 3D printed plastic parts that can deliver high performance mechanical properties, even with complex geometrical structures such as fuel circuits or pump bodies. Such structures are difficult, or impossible to produce with conventional injection techniques.

Thanks to its unique mechanical properties, when used for high performance parts, PA612-GB 3800 can replace machined metal by printing lighter and more effective plastic parts with an optimized design - such as casings, the top parts of motors or ballast systems.



In a laser sintering market which is currently dominated by materials specific to fast prototyping, the new PA612-GB 3800 powder will make it possible to increase the use of 3D printing for the production of small and medium final parts.

This launch is the first major milestone in Prodways' and A. Schulman's partnership for the development of innovative plastic parts which are compatible with all laser sintering systems on the market. It also opens up the path to the development of other new high-performance materials for industrial applications.

● About PA612-GB 3800*



The new Prodways PA612-GB 3800 plastic powder is a ter-polymer with glass bead filler combining the best of PA6 and PA12 mechanical properties for laser sintering 3D printing to produce high performance final parts.

Due to a high tensile and bending performance, PA612-GB 3800 makes it possible to make 3D print parts that are both rigid and shock or vibration resistant. This comes from its excellent isotropy of XY and Z properties, which are superior to the laser sintering powder market standards. Furthermore, it provides high resistance to thermal deformation, which puts it in an ideal position to manufacture plastic parts to replace metal.

Contrary to conventional PA6 materials where the properties deteriorate in moisture, the mechanical properties of the PA612-GB 3800 powder remain more stable over time and resistant to humidity.

Beta testers report that the material is easy to use, even for large, geometrically complex parts, large flat surfaces or clip functions. PA612-GB 3800 also operates at standard laser sintering printer temperatures (< 200°C)

This first PA612T glass-filled material created through the partnership with A. Schulman, is proposed for single use, making it possible to guarantee the same performance for each use in mass production, without any specific pre or post treatment requirement.

PA612-GB 3800* technical specifications:

Color:	black
Average particle size:	63 µm
Bulk density:	0.67g/cm ³
Density of parts:	1.26g/cm ³
Moisture absorption:	<0.7%
Melting point:	<199°C+/-1°C
Heat deflection 1.8 MPa:	>90°C
Tensile strength:	58 MPa +/-5 MPa
Tensile modulus:	3800 MPa +/-200 MPa



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Elongation @ break (XY):	6% +/- 3%
Elongation @ break (Z):	>3%
Flexural strength:	90MPa
Flexural modulus:	3600 MPa +/-150 MPa
Impact strength (unnotched Izod):	25 kJ/m2
Shore test (Shore D):	82 Shore D
Upper facing processed & blasting, Surface Ra:	9
Upper facing after finishing, Surface Ra:	2
Testing standard/certification:	ISO
*Preliminary data, the performance characteristics of this material may change according to product application, operating conditions, material combined or end use	

About A. SCHULMAN, INC



A. Schulman, Inc. is a leading international supplier of high-performance plastic compounds, composites and resins headquartered in Akron, Ohio. Since 1928, the Company has been providing innovative solutions to meet its customers' demanding requirements. The Company's customers span a wide range of markets such as packaging, mobility, building & construction, electronics & electrical, agriculture, personal care & hygiene, sports, leisure & home, custom services and others. The Company employs approximately 4,900 people and has 54 manufacturing facilities globally. A. Schulman reported net sales of approximately \$2.5 billion for the fiscal year ended August 31, 2017.

Additional information about A. Schulman can be found at www.aschulman.com.

About PRODWAYS TECHNOLOGIES

PRODWAYS TECHNOLOGIES is one of Europe's leading manufacturers of industrial 3D printers, offering a broad spectrum of multi-technology 3D printing systems and related premium materials. The company focuses on developing rapid manufacturing applications as well as supporting innovation with an open material strategy. PRODWAYS TECHNOLOGIES caters to a large number of different industries, including health, aerospace, and automotive, providing innovative companies the means to shift to 3D printing-based production.

PRODWAYS TECHNOLOGIES is a subsidiary of PRODWAYS GROUP. In 2016, the group generated revenue of €25.2 million, including 58% outside of France.

For further information: www.prodways.com

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