Novamid® ID1030 CF10 is a new PA6/66 grade of carbon reinforced polyamide that brings properties of 3D printed parts close to what is usually achievable only by injection molding. With a loading of 10% carbon fiber, printed parts are stronger, tougher and stiffer compared with other FFF materials available, while matching the easy and fast printing of unreinforced plastics.

The new carbon fiber filled Novamid® ID1030 CF10 filament 3D prints durable, structural parts with high dimensional stability, warpage free. Despite the low carbon fiber loading of only 10% - much lower than other carbon filled materials - it creates parts that are clearly stronger, stiffer and tougher with higher tensile strength and modulus.

Designed especially for 3D printing, these excellent mechanical properties and smooth appearance make it ideal for demanding and structural applications that require robust performance and/or at elevated temperatures, across a broad range of markets.

The material is designed specifically for 3D printing, and can be printed on standard desktop fused filament fabrication (FFF) machines with a hardened nozzle. Tests have shown that users can run their printers at the same speeds as with unreinforced plastics, while achieving considerably better strength and toughness.

Key Benefits & Properties
- 3D printable at same speed as unreinforced plastics thanks to low carbon loading of 10%
- Enables properties close to what is usually achievable only by injection molding
- Very low warpage compared to unfilled PA
- Durable parts with good mechanical properties due to high inter-layer strength
- Made from DSM Novamid copolyamide PA6/66, which is used in automotive and electronics for many years
- HDT of 184ºC at 1.8MPa
- Characteristic matte black surface-finish with less roughness

Applications
- Automotive under-the-hood applications
- Protective and supporting sports gear
- High performance functional parts
- Manufacturing jigs and fixtures
- Medical braces and prosthetics
- Light weight applications
- Structural applications requiring durable and stiff parts with good mechanical properties
“Can deliver the performance needed for professional use”

Tested the Novamid® ID1030 CF10 on an Ultimaker S5

Tested on open FFF platforms
Novamid® ID1030 CF10 has been tested on several open FFF platforms, including the new Ultimaker and GermanRepRap.

Sales
Novamid® ID1030 CF10 is available in spools of 1.75 and 2.85 mm at DSM AM distributors, including FormFutura (www.formfutura.com), MCPP www.mcpp-3dp.com and Nexeo 3D Solutions (www.nexeo3d.com).

Technical Data (Provisional)

<table>
<thead>
<tr>
<th>Material specific properties (3D printed)</th>
<th>(Provisional)</th>
<th>test method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tensile modulus (3D printed: flat X-X direction)</td>
<td>7625 MPa</td>
<td>ISO 527-1</td>
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<tr>
<td>Stress at yield (3D printed: flat X-X direction)</td>
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<td>Strain at yield (3D printed: flat X-X direction)</td>
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<td>Stress at break (3D printed: flat X-X direction)</td>
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<td>Strain at break (3D printed: flat X-X direction)</td>
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<td>Tensile modulus (3D printed: flat Y-X direction)</td>
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<td>Strain at yield (3D printed: flat Y-X direction)</td>
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</table>

More information can be found on www.dsm.com/additive-manufacturing/

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