



# Additive Composite

Uppsala, 27<sup>th</sup> January 2020

## Press Release - 3D-printing allows production of environmentally friendly radiation absorbers

A new high-technology polymer composite for radiation shielding applications has been launched by the Uppsala company, Additive Composite Uppsala AB together with the Swedish filament developer Add North 3D AB. The material consisting of boron carbide and nylon, has been developed and produced as filament optimized for 3D-printing. The boron carbide provides effective absorption of neutrons such as those produced at major research facilities, in the nuclear industry or other places that use radiation sources. The ability to make complex shapes easily by means of 3D-printing is important to provide effective shielding of stray radiation and to provide collimated beams.

The product that is launched on the market in January 2020 is based on original research work conducted at Uppsala University. It is a joint development of Additive Composite Uppsala AB and Add North AB. The new product, marketed under the name Addbor N25, provides an effective alternative to the use of other materials such as cadmium metal in many applications. The toxicity of cadmium has led to it being banned for most purposes: availability of the new material that can be readily fabricated to complex shapes should reduce the need for cadmium. Additive Composite has already sold several hundred parts in their boron carbide composites to detector and sample environment groups at the European Spallation Source (ESS) being built in Lund.

Adam Engberg commented that 'Additive manufacturing is changing how many products are being designed and produced. We believe that Addbor N25 contributes to this development and helps both industry and large research facilities to replace toxic materials that could eventually contaminate the environment.' He added 'Our new product is the first in a range of radiation shielding materials that we are currently developing.'

For further information please contact:

Adam Engberg, CEO, Additive Composite Uppsala AB

Telephone: +46 73 579 80 56      E-mail: [Adam@additivecomposite.com](mailto:Adam@additivecomposite.com)

Olle Eriksson, CTO, Additive Composite Uppsala AB

Telephone: +46 70 499 37 85      E-mail: [Olle@additivecomposite.com](mailto:Olle@additivecomposite.com)

Eric Bengtsson, Product Developer, Add North 3D AB

Telephone +46 703 49 11 18      E-mail: [eric@addnorth.com](mailto:eric@addnorth.com)

High resolution copies of pictures can be made available.

### *Background Information*

Additive Composite Uppsala AB was established in 2018 to commercialize developments of new composites and additive manufacturing technology. It has already delivered components to, for example, the European Spallation Source in Lund, Sweden.

[www.additivecomposite.com](http://www.additivecomposite.com)

Add North is a Swedish 3D materials developer specializing in 3D printable materials. From its start in 2016, the focus has been on sustainable plastic solutions as consumables and the development of new materials, with a current focus on technical materials.

[www.addnorth.com](http://www.addnorth.com)

Basic research at Uppsala University in this area has been described in various articles including:

Anders Olsson, Maja S. Hellsing, Adrian R. Rennie 'New possibilities using additive manufacturing with materials that are difficult to process and with complex structures' *Physica Scripta* **92**, (2017), 053002. <http://dx.doi.org/10.1088/1402-4896/aa694e>

