



ADDITIVE MANUFACTURING  
SEMINAR QUESTIONS

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# LEGISLATION

LEGISLATION	ANSWER
Where can I look up my country's legislation?	The governing body in your country in charge of occupational health should be able to provide guidance on this. Visit <a href="https://bofainternational.com/en/do-you-need-extraction/legislation">bofainternational.com/en/do-you-need-extraction/legislation</a> to see some guidance on this, but please bear in mind this is not provided in local language and the legislation may have been updated since this content was written.

# FILTERS

FILTERS	ANSWER
How long does a filter last?	Filter life depends on the material used for printing. For example, in extrusion processes, a PLA filament will cause your filter to last somewhere between six to 12 months, while a copper or fibre filled filament will fill the HEPA filter quicker and give you a filter life of three to six months. In general, we recommend that filters be exchanged at least once per year due to the shelf life of the activated carbon, which is also 12 months.
How should used filters be disposed of?	<p>The relevant European directive is 91/689/EC Hazardous Waste. This directive encompasses the European Waste Catalogue under which new clean filters would be classified under item 15 02 03 "<i>absorbents, filter materials, wiping clothes and protective clothing other than those mentioned in 15 02 02</i>". This is a non-hazardous category. However depending on the materials being lasered the fume which is collected in the filters may be considered dangerous, in which case the classification changes to 15 02 02 M. This is potentially a hazardous category depending on the amount of hazardous material in the filter and the risk it poses.</p> <p>For the pre-filter, the risk involved would normally be R37 "<i>Irritant to respiratory system</i>" caused by the very fine particulate trapped in the filter. However, this only becomes hazardous if more than 20% of the waste (filter + particulate) is made up of the hazardous material, which is unlikely. PVC applications have an added dimension in that HCl is generated and in some circumstances this could potentially form an acid inside the filter which would be difficult to quantify, so we recommend that the filter is treated as a hazardous waste with a potential R34 corrosive risk.</p> <p>The combined filter needs to be considered in the same way with the risks being different for different materials. Most applications will be non-hazardous because the percentage of any hazardous material is likely to be below the threshold level. Again, for PVC and other polymers which generate highly toxic gasses, it is safest to treat the filters as hazardous waste with a toxic risk.</p>
Can filters be re-used?	<p>No, this is expressly not recommended. Our filters are designed to perform at an optimum level and, once full, will not be efficient. They cannot be cleaned or reused because the regeneration process will reduce the effectiveness and damage the filters. It would also be necessary to dismantle the filters to access the filter media.</p> <p>Please ensure used filters are disposed of accordingly.</p>

# EXTRACTION SYSTEM PERFORMANCE

EXTRACTION SYSTEM PERFORMANCE	ANSWER
<b>How do I connect extraction to a 3D printer if it doesn't have a port?</b>	There are a number of different options users can go for. Some create an opening in their extractor enclosure. Others create enclosures to go around their printer and connect extraction to that. BOFA even has a printable plenum that can be used to create a push / pull capture system to capture fume escaping from the 3D printer.
<b>What is the range of airflows these systems can handle?</b>	We offer a range of products that cater for a range of airflows. Currently, the 3D PrintPRO range is from around 30m <sup>3</sup> /hr up to 350m <sup>3</sup> /hr. The AM range is 150-400m <sup>3</sup> /hr with plans to expand higher. We are always looking for further opportunities and have the technology in our portfolio, in other areas to reach as low as 5m <sup>3</sup> /hr and as high as 4000m <sup>3</sup> /hr - please contact us to discuss further.
<b>How many printers can you connect to an extractor?</b>	With the range discussed in the seminar, we recommend one to two printers per extractor. There are situations, such as a print farm, which could take advantage of a designed solution. In this case, please contact us and we will help you pick the right equipment.
<b>Are there special precautions to avoid deflagration with reactive metal powders such as titanium?</b>	There are many safety precautions required whilst using reactive metal powders. When the extractor is in use, this is predominantly covered by any inert gas system the host printer offers, eliminating risk of any thermal event. During service, BOFA provide a safe and easy filter change system to protect the user, which is transportable, holds an inert atmosphere within and incorporates ports for passivation media to be added.

# PRODUCTS

PRODUCTS	ANSWER
<b>Is there a hand held device that can detect if a lab or room is safe? Or a sort of smoke or CO<sub>2</sub> detector?</b>	We use a Tiger VOC meter for gas measurements - other devices are available. In terms of particulate sensors, there are lots on the market and it really depends on what you are trying to do as you can spend anywhere from £10 to £10,000! Please contact us and we can try and help you further if needed.
<b>What certifications do your products have?</b>	All of our products pass our own internal ' <a href="#">SureCHECK</a> ' programme, which ensures the highest quality manufacturing. We also make sure all of our equipment complies with international regulations. We certify our products with EMC, CE, and UL. Please check each product datasheet for a list of certifications.
<b>Where are BOFA products manufactured?</b>	Our products are manufactured in our factory in Poole, England
<b>What is the warranty?</b>	We offer a 12 month warranty on all products.

# SALES

SALES	ANSWER
Is there a minimum order quantity?	This depends on product, industry and region. Please get in touch with us for details.
Which countries do you sell into?	We sell globally and have offices in over 40 countries.
Do you provide any marketing support for distributors?	Yes, we have a full marketing team. We can provide a full range of collateral to help market the product in your region. In the first instance, please discuss your requirements with your BOFA sales representative.

# USEFUL LINKS

Watch the seminar in full:



[youtube.com/watch?v=iY3eRMlehWU](https://youtube.com/watch?v=iY3eRMlehWU)

3D PrintPRO range:



[bofainternational.com/3d](https://bofainternational.com/3d)