



Raise3D compliance

with EU Standards and Regulations

RAISE3D

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Introduction

At Raise3D we are dedicated to making sure our printers are state of the art machines that can help innovators change the manufacturing and prototyping landscape. As a means to this end, it is our pleasure to ensure that every printer and filament that leaves our warehouses are in full compliance with all relevant international and EU standards. In this document we have included information pertaining to each certification that we have received verifying the authenticity and safety of our printers, along with a description of these certifications. If you have any questions, please feel free to contact us at inquiry@raise3d.com should you need further information.



Printers - IECEE/IEC - CB

“Operated by the IEC System of Conformity Assessment Schemes for Electrotechnical Equipment and Components (IECEE), the IECEE CB Scheme is an international system for mutual acceptance of test reports and certificates dealing with the safety of electrical and electronic components, equipment and products. It is a multilateral agreement among participating countries and certification organizations, which aims to facilitate trade by promoting harmonization of national standards with International Standards and cooperation among accepted National Certification Bodies (NCBs) worldwide. By achieving this, it brings product manufacturers a step closer to the ideal concept of ‘one product, one test, one mark, where applicable’.”¹

Why is it important?

Safety: manufacturers/suppliers must ensure that their products comply with relevant safety standards, while government regulations are generally intended to protect populations from potential risks associated with products.

Quality: buyers/wholesalers want to ensure the quality of products purchased and unhindered market access.

Interoperability: product manufacturers and end users want to be sure their products work and can interact with other products, services and installations.

Consistency: manufacturers/suppliers want to be sure their marketed products comply with the sample assessed.

Pro2 Series printers have been tested against this standard and have received certifications showing they conform to:

IEC 60950-1:2005

IEC 60950-1:2005/AMD1:2009

IEC 60950-1:2005/AMD2:2013

¹ <https://www.iecee.org/about/cb-scheme/>



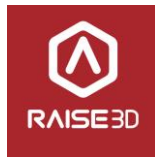
These certification are “*applicable to mains-powered or battery-powered information technology equipment, including electrical business equipment and associated equipment, with a RATED VOLTAGE not exceeding 600 V. Also applicable are components and sub-assemblies intended for incorporation in information technology equipment.*”²

This certification can be seen in Appendix 1.

For tests results see Appendix 2.

For more information please contact your vendor or contact us at inquiry@raise3d.com.

² <https://webstore.iec.ch/publication/4024>



Printers - EU Directives

Low Voltage (LVD) Directive 2014/35/EU:

This regulation is designed to ensure correct operating procedures for electrical components within EU member states, and came into effect in April, 2016.

The European Commission stated that *“The purpose of this Directive is to ensure that electrical equipment on the market fulfills the requirements providing for a high level of protection of health and safety of persons, and of domestic animals and property, while guaranteeing the functioning of the internal market. This Directive shall apply to electrical equipment designed for use with a voltage rating of between 50 and 1000 V for alternating current and between 75 and 1500 V for direct current, other than the equipment and phenomena...”*³

Pro2 Series printers have been tested against this standard and have received certifications showing they conform to

EN 60950-1: 2006 + A11: 2009 + A1: 2010 + A12:2011 + A2: 2013

This certification can be seen in Appendix 1.

³ <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32014L0035>



Electromagnetic Compatibility (EMC) 2014/30/EU:

“All electric devices or installations influence each other when interconnected or close to each other, e.g. interference between TV sets, GSM handsets, radios and nearby washing machine or electrical power lines. The purpose of electromagnetic compatibility (EMC) is to keep all those side effects under reasonable control. EMC designates all the existing and future techniques and technologies for reducing disturbance and enhancing immunity. The electromagnetic compatibility (EMC) Directive 2014/30/EU ensures that electrical and electronic equipment does not generate, or is not affected by, electromagnetic disturbance”⁴

The purpose of this directive is to minimize the disturbances that often occur between two electronic devices. Pro2 Series printers have been tested against this standard and have received certifications showing they conform to:

EN 55032: 2012/AC:2013

AS/NZS CISPR 32: 2015

EN 61000-3-2:2014

EN 61000-3-3:2013

EN 55024:2010

IEC 61000-4-2:2008

IEC 61000-4-3:2006+A1:2007+A2:2010

IEC 61000-4-4:2012

IEC 61000-4-5:2005

IEC 61000-4-6:2008

IEC 61000-4-8:2009

IEC 61000-4-11:2004

These certifications can be seen in Appendix 1.

Test results can be seen in Appendix 2.

⁴https://ec.europa.eu/growth/sectors/electrical-engineering/emc-directive_en



The purpose of this directive is to minimize the disturbances that often occur between two electronic devices. Pro2 Series printers have been tested against this standard and have received certifications showing they conform to:

EN 55032: 2012/AC:2013

AS/NZS CISPR 32: 2015

EN 61000-3-2:2014

EN 61000-3-3:2013

EN 55024:2010

IEC 61000-4-2:2008

IEC 61000-4-3:2006+A1:2007+A2:2010

IEC 61000-4-4:2012

IEC 61000-4-5:2005

IEC 61000-4-6:2008

IEC 61000-4-8:2009

IEC 61000-4-11:2004

These certifications can be seen in Appendix 1.

Test results can be seen in Appendix 2.



Radio Equipment Directive (RED) - 2014/53/EU:

“The radio equipment directive 2014/53/EU (RED) establishes a regulatory framework for placing radio equipment on the market. It ensures a single market for radio equipment by setting essential requirements for safety and health, electromagnetic compatibility, and the efficient use of the radio spectrum. It also provides the basis for further regulation governing some additional aspects. These include technical features for the protection of privacy, personal data and against fraud. Furthermore, additional aspects cover interoperability, access to emergency services, and compliance regarding the combination of radio equipment and software.”⁵

This Directive is used to ensure safety and continuity of use of radio equipment throughout the EU. Pro2 Series printers have been tested against this regulation and have received certifications showing they conform to:

ETSI EN 301 893 V2.1.1 - 2017, tested June 22nd, 2018

ETSI EN 300 440 V2.1.1 - 2017, tested June, 22nd, 2018

ETSI EN 300 328 V2.1.1 - 2016, tested June 22nd, 2018

This certification can be seen in Appendix 1.

⁵ https://ec.europa.eu/growth/sectors/electrical-engineering/red-directive_en



Filaments - RoHS -Directive 2011/65/EU:

“The purpose of this Directive is to approximate the laws of the Member States on the restrictions of the use of hazardous substances in electrical and electronic equipment and to contribute to the protection of human health and the environmentally sound recovery and disposal of waste electrical and electronic equipment.”⁶

Each filament in Raise3D's portfolio has been tested to ensure that they are in accordance with the RoHS Directive.

Please see Appendix 2 for more information about each filament.

⁶ <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:02002L0095-20110910>

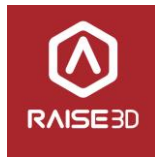


Filaments - PAHs:

Polycyclic aromatic hydrocarbons (PAHs) are organic chemical compounds with two or more fused aromatic rings. Most PAHs in the environment are from incomplete burning of carbon-containing materials like oil or wood. In processed products, PAHs may exist in creosote, medicines, dyes, plastics, rubbers, etc.

Current research has shown that many PAHs are carcinogenic and cause reproduction toxicity for humans who have experienced exposure to skin or the respiratory system.

The European Commission has published a regulation banning the use of these substances as stipulated in the Annex of the REACH legislation, which came into effect in 2015. Raise3D is concerned with the viability and longevity of our products. As such, Raise3D's printers and filaments don't use PAHs.

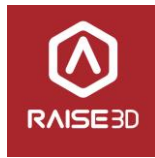


Non-applicable Compliance Standards for Raise3D Products

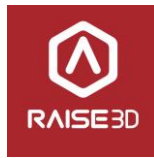
Machinery (MD) 2006/42/EC:

Due to the nature of 3D printing being a new technology, coverage under this Directive is sparse. The MD Directive exempts six categories of electrical machinery from its scope, under which 3D desktop printers fall, and redirects these machines to the 2014/35/EU Low Voltage Directive.

Raise3D manufactures FFF (Fused Filament Fabrication) 3D printing machines. FFF printers are generally considered desktop printers. Therefore, specific types of equipment that fit the definition of machinery but are also within the scope of the LVD are exempted from the 2006/42/EC Directive, because the risks present with these types of machines are mainly electrical by nature. Raise3D has complied with the relevant Directive (2014/35/EU (Low Voltage Directive – LVD) as stated above.



Appendix 1: Documentation of Full Compliance With Regulations



Appendix 2: Test Reports