



CLOVER IMAGING GROUP
Sustainable Innovation —

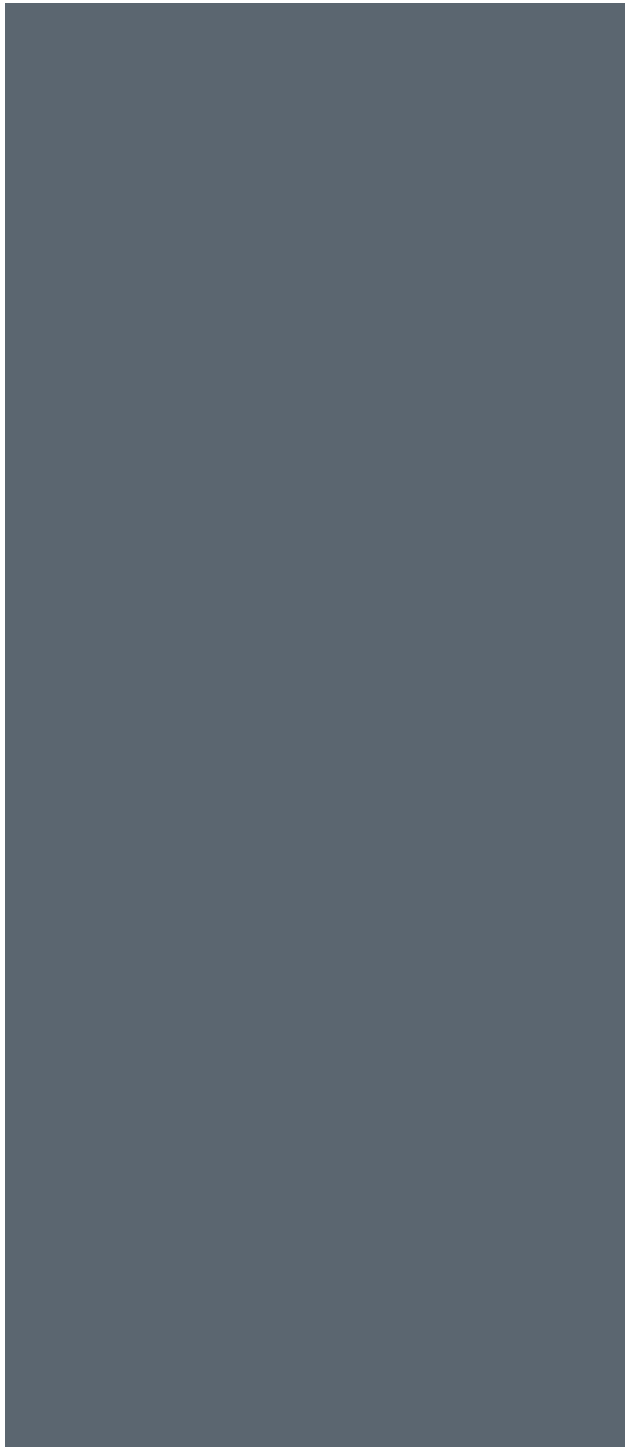
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COMPLIANCES & CERTIFICATIONS HANDBOOK

FULFILLING THE NEEDS AND EXPECTATIONS OF OUR CUSTOMERS EVERY DAY THROUGH
OUR COMMITMENT TO PRODUCT QUALITY AND ENVIRONMENTAL SUSTAINABILITY



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INTRODUCTION

PROUD OF OUR COMMITMENT TO QUALITY

In our modern world everybody is surrounded by products. Products which, in most cases, contribute greatly to facilitate our everyday life, but which potentially could also pose a threat to our health and/or environment. For this reason product certification is essential. Product certification or qualification is the process of certifying that a product has passed performance tests and quality assurance tests, and meets qualification criteria

stipulated in contracts, regulations, or specifications. These product certification marks play a very significant part in the product safety conformity process. Certification marks are often the end result of extensive product testing and evaluation, and they serve to demonstrate to a consumer or user that the product complies, for example, with industry standards, as determined by the owner of the certification mark.



In today's global market, manufacturers face difficult challenges in interpreting regulations and determining market requirements in order to participate successfully with regard to desired product certification processes. Clover Imaging Group (CIG), as a manufacturer, is acutely aware of our consumer and indeed industry expectations and as a result we work with key certifying bodies and partners that will help us demonstrate our continuous commitment to quality and environmental responsibility. By adhering to these best practices, CIG has become the industry leader in the recovery, remanufacturing and remarketing of technology assets.

Results of the constant evaluation from our certifying partners feeds into our program for continuous improvement to ensure the cartridge that reaches the end user is at its peak in terms of performance and reliability.

The remainder of this handbook explains in detail the concept behind each of CIG's certifications and compliances. For more detail on any of the standards mentioned, please contact marketing@cloverimaging.eu



REACH

REGULATION ON CHEMICALS

REACH is the European Community Regulation on chemicals and their safe use (EC 1907/2007). It deals with the Registration, Evaluation, Authorisation and Restriction of Chemical substances. This law came into force on 1st June 2007, with phased deadlines to 2018.

The purpose of REACH is to improve the protection of human health and the environment through a better identification of the inherent properties of chemical substances at an early stage. REACH is also intended to promote innovation and competitiveness of the EU chemicals industry.

CIG has, since August 2008, pre-registered all substances used in our products as dictated by the Reach directive. In the beginning of 2009 CIG updated all "Safety Data Sheets" according to preregistration requirements. CIG emphasises that there are no SVHC (Substances of very high concern) in our products with regard to the most recently published list (last list from 2015-June-25). CIG will continue to monitor all developments regarding this directive to ensure continued and complete conformity.



EUROPEAN ECOLABEL

ESTABLISHED IN 1992

The European Ecolabel was established in 1992 with the purpose of promoting products and services that are kinder to the environment. Products and services certified with the EU Ecolabel carry the flower logo, allowing easy identification. The EU Ecolabel covers a wide range of products and services such as Cleaning, Clothing, Do-it-yourself, Electronic Equipment, Floor coverings, Household Appliances, Lubricants, Other Household items, Paper and Services.

Ecolabel criteria are based on studies which analyse the impact of the product or service on the environment, starting from raw material extraction in the pre-production stage right through to production, distribution and disposal.

Please note that the European Commission is currently studying the inclusion of Imaging Equipment but the inclusion of toner cartridges is still under consideration.

Please see extract of "2nd AHWG Meeting for the Development of Ecolabel Criteria for Imaging Equipment".

"3.5.2.2 Exemption of inks and toners Inks, toners and cartridges are regarded as typical consumables of imaging equipment. These are separate products. Typically ink and toners cartridges are purchased by the user (with the exception of the first cartridge supplied together with the product when it is sold). Thus, in general, the effectiveness of criteria on consumables is considered limited. Criteria related to the use of substances in these items are proposed separately. For inks and toners Criterion 15. This criterion covers the main environmental aspects related to these consumables. The application of Criterion 7 to ink and toners is considered to be related with a high administrative burden as the number of substances used in these items is considered to be very high and knowledge on them is not available and low effectiveness as these items are sold separately and their purchase is mainly decided by the user. The composition of inks is not always available and rights related to patents could also hamper the substance inventory. However, in the case of developing EU Ecolabel criteria for the product group of inks and toners such a type of criterion could be considered."





CE MARK

EUROPEAN CONFORMITY



CE marking (originally EC mark) is a mandatory conformity mark for products sold within the European Economic Area (EEA). CE marking signifies that the manufacturer has ensured that the product meets all the requirements of the applicable EC Directives. The letters "CE" denotes "Conformité Européenne" ("European Conformity")



CIG confirms that the European Directive 2004/108/EC (CE marking) does not apply to Toner or Inkjet consumables used and discarded independently from the relevant printer as these are not, by themselves, capable of any electromagnetic interference in communications of any kind (Chapter 1, Article 1, Paragraph 3 of the above mentioned legislation). All products sold by CIG therefore conform to the conditions of this directive.



AMES

AMES TEST

The Ames test is a screening test that is used to help identify chemicals that affect the structure of DNA. The test consists of exposing *Salmonella* bacteria to chemicals and looking for changes in the growth of the bacteria. A positive result in an Ames test does not necessarily show by itself that a particular chemical is capable of causing cancer but it does suggest that a chemical can produce mutations and that more extensive testing is needed to determine whether that chemical is likely to produce cancer in humans.

Toner cartridges, sold in Europe and/or USA, and which are manufactured in all CIG manufacturing locations globally are filled with approved toners. Under the restrictions imposed by Europe and USA, all commercial toners have to be tested AMES-negative. This information can also be found in our MSDS (Material Safety Datasheets).





ROHS

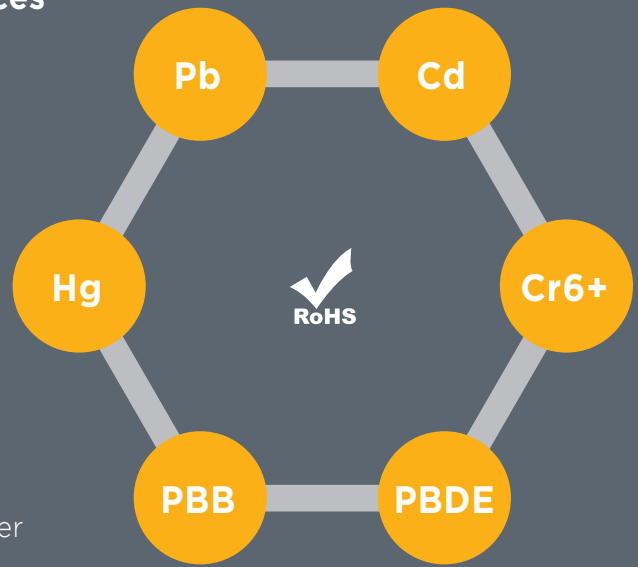
RESTRICTION OF CERTAIN HAZARDOUS SUBSTANCES

The RoHS (Restriction of Certain Hazardous Substances) is a European Directive aiming to restrict and control the use of certain hazardous substances in the production of new electrical and electronic equipment (EEE) such as:

RoHS six restricted substances

- 1 Pb**
Lead
- 2 Cd**
Cadmium
- 3 Hg**
Mercury
- 4 Cr6+**
Hexavalent chromium
- 5 PBB**
Polybrominated biphenyl
- 6 PBDE**
Polybrominated diphenyl ether

(PBB and PBDE are flame retardants used in several plastics)



The RoHS European Directive is a partner directive to the WEEE Directive (Waste in Electrical and Electronic Equipment) that controls the disposal and recycling of EEE.



WEEE Directive 2012/19/EU

WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT DIRECTIVE

Its objective promotes the re-use, recycling and other forms of recovery of waste electrical and electronic equipment (WEEE) in order to reduce the waste quantity disposed of and to improve the environmental performance of the economic operators involved in the treatment of WEEE. This is done by setting collection criteria, treatment and recovery of waste electrical and electronic equipment. The Directive is a recast of Directive 2002/96/EC.

The WEEE Directive has been revised under what is commonly called WEEE2. The implementation of WEEE2 and the timeline for incorporation of toner and inkjet cartridges vary by territory within Europe. Clover Environmental Solutions has taken the necessary steps in both our UK and German based processing and handling facilities to meet the licensing, shipping and reporting requirements necessary to manage used cartridge collection.

ISO/IEC 19752

MONOCHROME LASER

ISO/IEC 19752 is an ISO standard method for the determination of toner cartridge yield for monochrome laser devices.

From the ISO19752 abstract below:

"ISO/IEC 19752:2004 is limited to evaluation of toner cartridge yield for toner containing cartridges (i.e. all-in-one toner cartridges and toner cartridges without a photoconductor) for monochrome electrophotographic printers."

ISO/IEC 19798

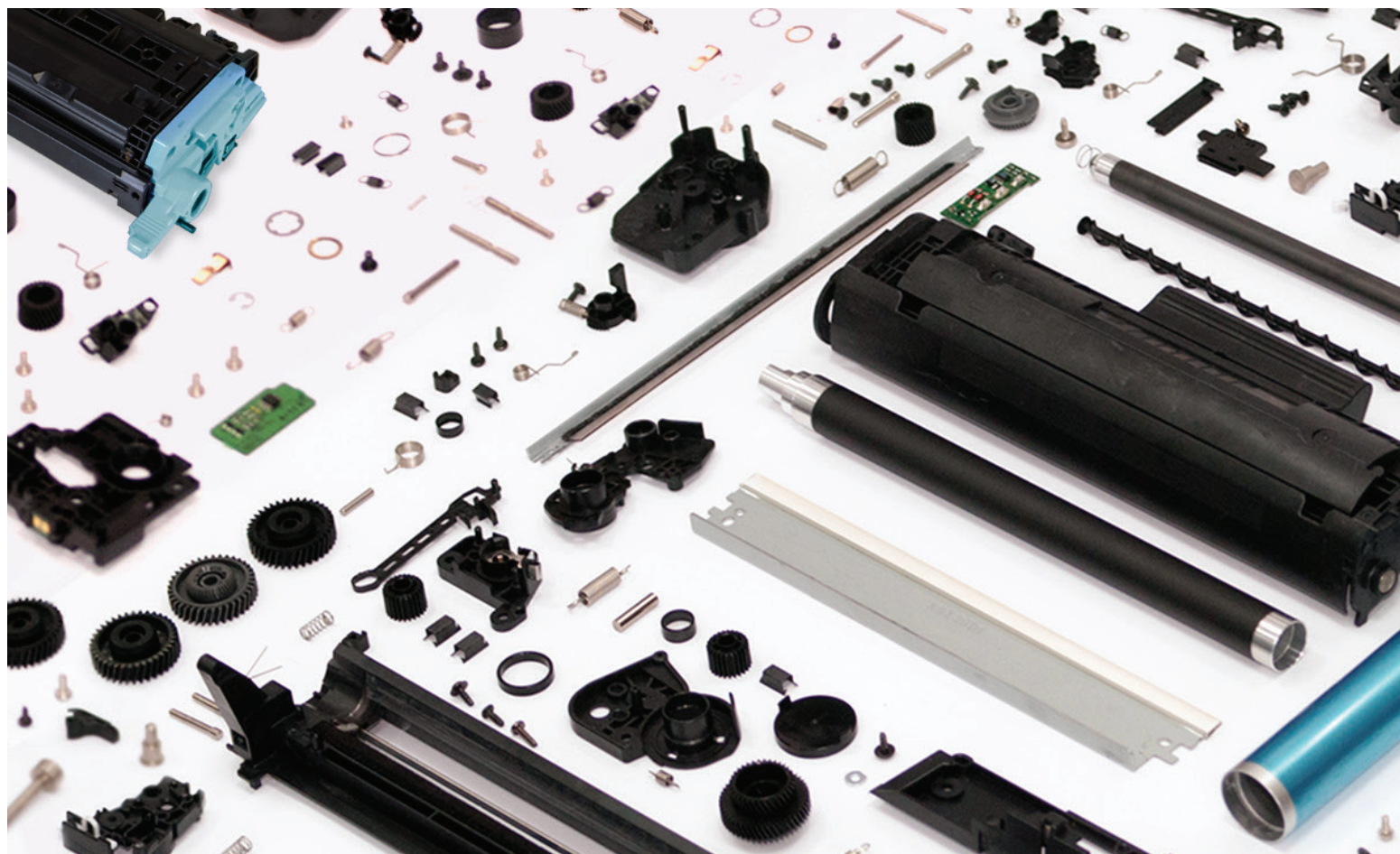
COLOUR LASER

ISO/IEC 19798 is an ISO standard method for the determination of toner cartridge yield for colour laser devices.

From the ISO19798 abstract below:

"ISO/IEC 19798:2007 is limited to evaluation of toner cartridge page yield for toner containing cartridges (i.e. all-in one toner cartridges and toner cartridges without a photoconductor) for colour electrophotographic printers. It can also be applied to the printer component of any multifunctional device that has a digital input printing path, including multi-function devices that contain electro-photographic printer components."

CIG confirms that our products are tested for page yield. Our procedure for the measurement of page yield is essentially similar to those used in ISO19752 and ISO19798, giving comparable results. The tests are performed on both CIG and OEM products in order to compare results. The most distinctive difference between our procedure and the two aforementioned ISO standards is that our tests are designed to evaluate print quality throughout the life of the cartridges as well as page yield while the ISO standards scope is only page yield determination.



ISO/IEC 19752 & ISO/IEC 19798 objective is to provide a comprehensive and rigorous definition of the measurement process with the purpose of creating clear and objective criteria for comparison of cartridge yields. In particular, the standard provides a detailed definition and description of:

- Test preparations and environmental conditions
- Sample size (at least 3 printers with 3 cartridges each)
- Type of paper
- Printer settings
- Print test page (PDF format)
- Cartridge and printer source
- Error and process handling
- End-of-life criteria (for example, after 100% printed pages of the test, when the press starts to fade away it is allowed to shake the cartridge twice)

CIG issued an ISO 19752 & 19798 Standards Declaration letter for this purpose that can be seen in www.cloverimaging.eu/certifications.





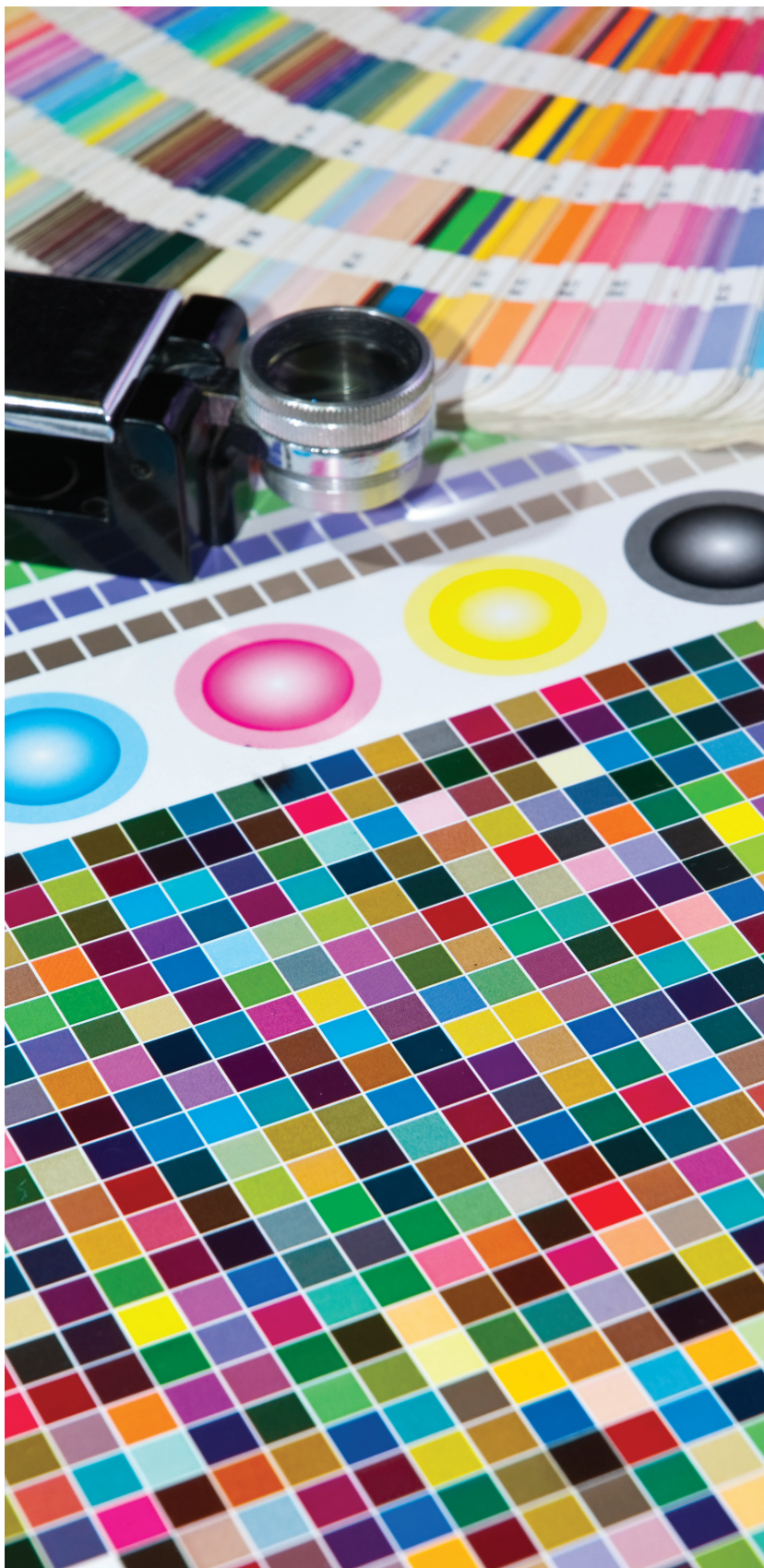
DIN 33870-1/2

QUALITY REQUIREMENTS FOR THE REMANUFACTURING PROCESS

The two standards DIN 33870-1 (Monochrome printing devices) and DIN 33870-2 (4-color printing devices) define the quality requirements for the remanufacturing process of toner modules and appropriate test methods. An important part - and basic criteria for the Blue Angel environmental label - are the requirements to consider the health related properties of the toner according to the legal provisions to prevent any health hazards. Defined specifications for the labelling on the toner cartridge, on the packaging and on the internet ensure a greater transparency.

In December 2014, as part of a factory inspection, our production facility in Serbia has been successfully audited by TÜV Rheinland in accordance with DIN 33870. The manufacturing site report can be viewed and downloaded at www.cloverimaging.eu/certifications.

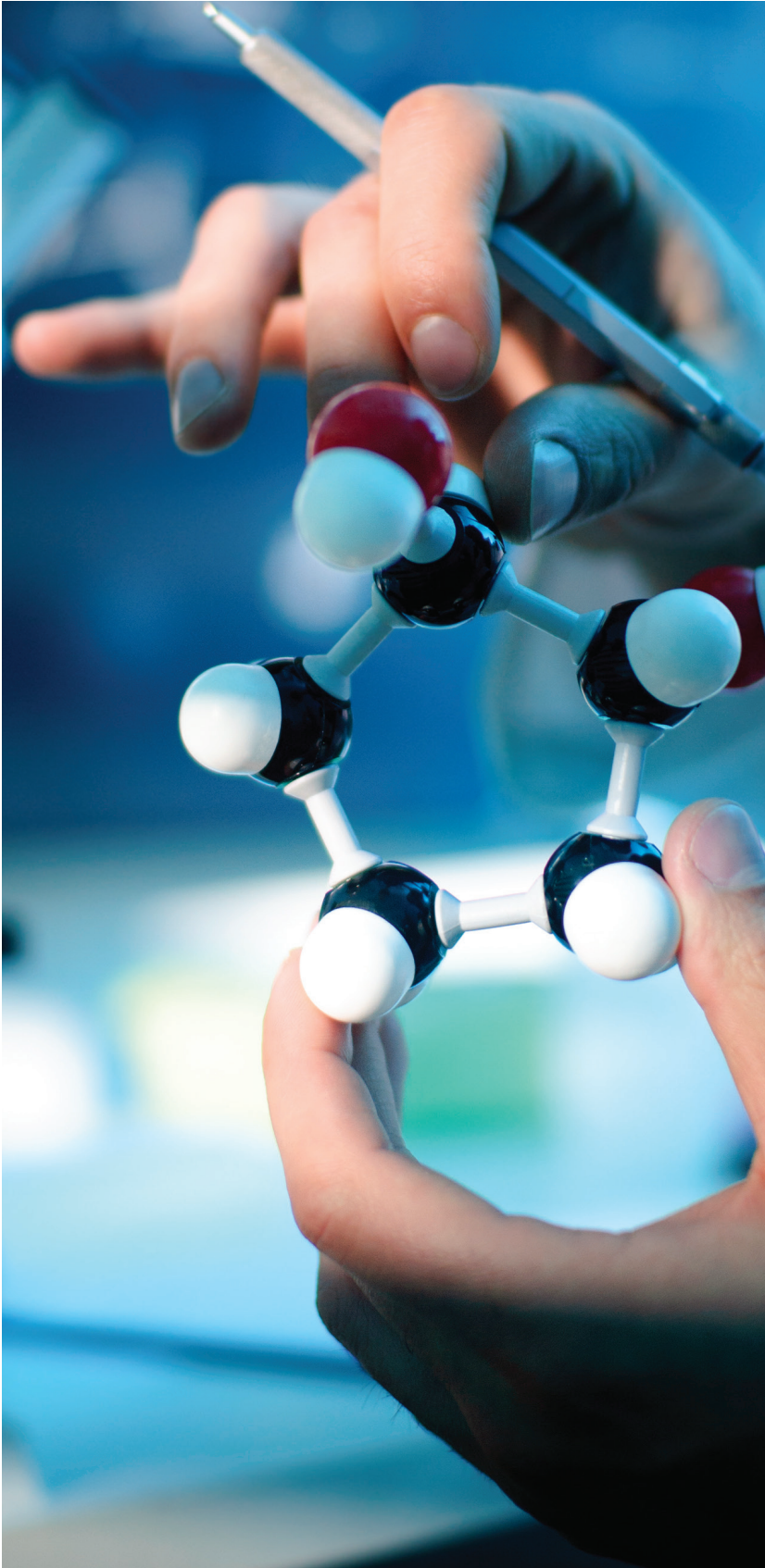
Our products are manufactured in accordance with these standards. The respective test reports in accordance with DIN 33870-1 and DIN 33870-2 are added to our website. Additional reports are continuously prepared and added by our qualified R&D-Team.





NANOMATERIALS

IMPROVING THE QUALITY OF LIFE



Quote from European Commission

"Nanomaterials are chemical substances or materials that are manufactured and used at a very small scale (down to 10,000 times smaller than the diameter of a human hair). Nanomaterials are developed to exhibit novel characteristics (such as increased strength, chemical reactivity or conductivity) compared to the same material without nanoscale features".

"Hundreds of products containing nanomaterials are already in use. Examples are batteries, coatings, anti-bacterial clothing etc. Analysts expect markets to grow to hundreds of billions of Euros by 2015. Nano innovation will be seen in many sectors including public health, employment and occupational safety and health, information society, industry, innovation, environment, energy, transport, security and space.

Nanomaterials have the potential to improve the quality of life and to contribute to industrial competitiveness in Europe. However, the new materials may also pose risks to the environment and raise health and safety concerns. These risks, and to what extent they can be tackled by the existing risk assessment measures in the EU, have been the subject of several opinions of the Scientific Committee on Emerging and Newly Identified Health Risks (SCENIHR). The overall conclusion so far is that, even though nanomaterials are not per se dangerous, there still is scientific uncertainty about the safety of nanomaterials in many aspects and therefore the safety assessment of the substances must be done on a case-by-case basis."

Information on nanotechnologies in general can be found on the Europa website on nanotechnologies www.ec.europa.eu/nanotechnology.

CIG's nanomaterial's declaration is available at www.cloverimaging.eu/certifications.

CIG has key certifications and partnerships that demonstrate our ongoing commitment to quality and environmental responsibility. We work with these organisations on an ongoing basis to continually improve and evaluate our environmental and quality objectives.



ISO 9001:2008

QUALITY IN THE MANUFACTURING AND SERVICE INDUSTRIES

ISO 9000:2000 is a family of standards and guidelines for quality in the manufacturing and service industries from the International Organization for Standardization (ISO).

ISO 9001:2008 is the most comprehensive level of the ISO 9000:2000 series and it covers everything from design and development through production and distribution of products and services. The overall objective is to establish a system to improve product quality and reliability.

Clover facilities certified with ISO 9001:2008 are Mexicali, Oglesby, Ottawa, Porto, Vietnam and Serbia.

Clover Germany is already certified with ISO 9001:2015.

To see the certificates please access www.cloverimaging.eu/certifications.

ISO 14001:2004

INTERNATIONAL SPECIFICATION FOR ENVIRONMENTAL MANAGEMENT

ISO 14001:2004 is the international specification for an environmental management system (EMS). It specifies requirements for establishing an environmental policy, determining environmental aspects and impacts of products/activities/services, planning environmental objectives and measurable targets, implementation and operation of programs to meet objectives and targets, checking and corrective action and management review.

Clover facilities certified with ISO 14001:2004 are Mexicali, Porto, Vietnam and Serbia.

Clover Germany is already certified with ISO 14001:2015.

All the certificates are in www.cloverimaging.eu/certifications.



SWAN ECO LABEL

GOOD ENVIRONMENTAL CHOICE

The Swan eco label is an Eco labelling standard common to the entire Nordic region set up by the Nordic council of ministers in 1989. It is a non-profit making organisation. The purpose of the Swan standard is to reduce waste and assure quality. The simple message associated with having the Swan logo is that the product in question is a good environmental choice.

Swan labelled cartridges are remanufactured, refilled cartridges, drum units or powder containers. They are used for black & white and colour printing in printers and copying machines.

A comprehensive range of products from CIG are certified under the Swan Eco label.

Certifications and list of certified products are available in www.cloverimaging.eu/certifications.

Swan labelled cartridges signify:

- Less waste and a lower consumption of energy and raw materials. By remanufacturing toner cartridges the overall consumption is reduced thereby automatically reducing the impact of the product throughout its life cycle.
- The criteria aim to reduce waste but also places requirements on:
 - Product quality
 - Quality Assurance of the recycling process
 - Content of environmental hazardous and harmful substances





STMC

STANDARDISED TEST METHODS

STMC (Standardized Test Methods Committee) is a global committee formed to find and promote standardised test methods for the printer cartridge industry. The test methods are used to evaluate the performance of a toner printer cartridge. When using standardised test methods, it is possible to evaluate a cartridge anywhere and obtain the same test results independently of who tests it.

STMC uses certain ASTM (American Society for Testing and Materials) test methods such as ASTM F 1856 for yield and ASTM F 2036 for image density and background. The test methods are used only to evaluate a finished cartridge in comparison to another cartridge, typically an OEM cartridge. It does not measure components.

The International Imaging Technology Council has granted CIG STMC certifications which can be found at www.cloverimaging.eu/certifications.





OHSAS

HEALTH & SAFETY

OHSAS 18001:2007 is an occupational health and safety (OH&S) standard.

A company can improve its health & safety status by implementing the OHSAS 18001 along with best practices and in conjunction with its own country specific health & safety legislation.

Clover Vietnam facility is certified under OHSAS 18001:2007. This and all the other certifications can be found at www.cloverimaging.eu/certifications.

The implementation of OHSAS 18001 policies help in:

- minimising health and safety risks
- providing a framework for an organisation to manage its legal compliance
- improving occupational health and safety performance
- risk identification
- analysis, target settings & measurement





LGA

TESTED FOR CONTAMINANTS

The LGA (Landesgewerbeanstalt Bayern) and its brand name stands for a group of companies providing services mainly involving testing and examination, consultancy, certification and training.

A number of CIG toner cartridges have been tested for measurement of emission and of harmful substances in accordance with the certification criteria of LGA and can demonstrate that its products meet the minimum legislative requirements (e.g., hazardous materials regulations and chemical prohibition regulation).

Essential certification criteria:

- VOC
- Heavy metals
- Tin-organic compounds



THE BLUE ANGEL

ENVIRONMENTALLY FRIENDLY

The Blue Angel (Der Blaue Engel) is a German certification for products and services that adhere to stringent requirements on environmental, health and usage aspects.

It has been awarded since 1978. The RAL institute reviews the criteria continuously to reflect technological developments. Companies awarded with the Blue Angel show their commitment to environmental protection and health and safety.

The RAL-UZ 177 is a standard for Recycled Printing Modules. It is not only the toner emissions that concern the public discourse, but also the emissions of ultrafine particles from the printer itself during printing and the potential health risks that need to be controlled. The RAL-UZ 177 deals with those recycled printing modules that are used in printers that have the Blue Angel label issued. In other words, that those printers meet the stringent requirements for the release of fine and ultrafine particles during printing. The overall aim is to offer Blue Angel eco-labelled recycled toner modules in combination with low-emission office printers.

The range of products from CIG that are certified under The Blue Angel label is available at www.cloverimaging.eu/certifications.





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