

# DIRECTORY



# ImagingWorld

Most Trusted Name in Print in 5 Languages

## INDUSTRY STANDARDS 2020

Founding Member of Truth Detect Services  
—Coenie Greyling—is an official STMC  
Trainer in Africa



Issue 113 (US\$10.00)  
ISSN 2050 6449



9 772050 644909

Watch inTouch TV News Daily Online



Proudly Supporting  
INTERNATIONAL



Imaging Technology

2020  
RemaxWorld  
Zhuang China  
OCTOBER 15-17

Special thanks to Volker  
Kappius of Delacamp,  
Germany for his assistance in  
assembling this directory

**ASTM D523 Gloss Measurement Standards (See ISO 2813)**

This test method covers the measurement of the specular gloss of nonmetallic specimens for glossmeter geometries of 60, 20, and 85° (1-7).

Website: <https://bit.ly/3gmQOIQ>

**ASTM D880 Standard Test Method for Impact Testing for Shipping Containers and Systems**

The scope of ASTM D880 shipping container testing is to identify the results of impacts on the container. The test standard has two procedures:

- Procedure A tests the ability of the shipping container to withstand impacts.
- Procedure B tests the ability of the shipping container to provide protection to the contents. For Procedure B, the definition of shipping container includes the outer container as well as the interior packing.

Website: <https://bit.ly/3aDHGoL>

**ASTM D999 Standard Test Method for Vibration Testing of Shipping Containers**

The scope of ASTM-D999 package testing covers vibration testing of filled shipping containers. These tests assess the performance of a container. The package testing of this standard considers the interior packing and means of closure. The performance is based on the strength and protection it provides its contents when it is subjected to vibration.

The test specimen consists of the container loaded with interior packaging and the actual contents.

Website: <https://bit.ly/354EOjH>

**ASTM D4003 Standard Test Methods for Programmable Horizontal Impact Test for Shipping Containers and Systems**

The test methods in this procedure are intended to evaluate how shipping containers can withstand horizontal impact forces such as rail switching and lift truck marshalling, among others.

The test methods in this procedure are programmed shock inputs used to simulate horizontal impact forces that occur in the shipping environments.

Method A – Rail Car Switching Impact

Method B – Marshalling Impact of Unit Loads

Website: <https://bit.ly/2SaoQ1Y>

**ASTM D5276 Drop Test of Loaded Containers by Free Fall**

This procedure provides guidance on conducting free-fall drop tests for loaded boxes, cylindrical containers, bags and sacks. It can be used to conduct comparative studies on different packaging designs or can be used to evaluate the progressive failure of a container and its inner contents.

Website: <https://bit.ly/3aBvAfF>





ASTM INTERNATIONAL

### ASTM D5487 Shock by Simulated Drop of Loaded Containers

This procedure defines the method for using a controlled shock input, with the use of a shock machine, to replicate a free-fall shock event. This procedure is used to evaluate the effects of vertical drops on loaded shipping containers, cylindrical containers, bags and sacks.

Website: <https://bit.ly/2Y6CSpp>



ASTM INTERNATIONAL

### ASTM F1856.04e Standard Practice for Determining Toner Usage for Printer Cartridges

It should be noted that this is not a yield standard, but a method of measuring toner deposition rates. There is a method for estimating a yield from this measure, but it does not take into account end of life behaviors or any manufacturing variation.

Website: <https://bit.ly/3glGVEY>



ASTM INTERNATIONAL

### ASTM F 2036: 2005 Standard Test Method for Evaluation of Larger Area Density and Background on Electrophotographic Printers

This test method can be used for the evaluation of the electrophotographic printer output image quality, aesthetic appearance, visual impression of blackness and the ability to distinguish information from the background.

Website: <http://bit.ly/ASTMF2036>



ASTM INTERNATIONAL

### ASTM F2632-07 Standard Practice for Determining the Toner Usage for Color Printer Cartridges

—This practice can be used for the evaluation of new and remanufactured color toner cartridges and their respective components used in an electrophotographic process.

Website: <http://bit.ly/ASTMF2632>



ASTM INTERNATIONAL

### ASTM F2734 Standard Practice for Testing the Shelf Life of Ink Jet Printer Cartridges

This practice can be used to determine the stability and performance of ink jet ink when exposed to elevated temperatures in an ink jet cartridge.

Website: <http://bit.ly/ASTMF2734>



ASTM INTERNATIONAL

### ASTM F2555 Standard for Page Yield

This practice can be used to determine the number of pages an ink jet printer cartridge can print until it reaches its end-of-life by continuously printing predetermined page area coverage.

Website: <http://bit.ly/ASTMF2555>







ASTM INTERNATIONAL

**ASTM F2760 Standard for Page Failure Rate for Inkjet Cartridges**

This practice can be used to determine the degree to which an ink jet cartridge fails to print. This may be due to drying of ink jet ink, precipitation of an ink ingredient during periods of inactivity, or improper filling of the ink jet cartridge.

Website: <http://bit.ly/ASTMF2760>



ASTM INTERNATIONAL

**ASTM F335—94a Standard Terminology Relating to Electrostatic Copying**

This set of definitions is intended for use by all parties who use, sell, manufacture, test, or develop electrostatic copy machines so that they will have a common basis for communications.

Website: <https://bit.ly/3aFAx7t>

**CANADA ECOLOGO CCD-035 Office Machines Environmental Certification**

This category includes the following subcategories of office machines: multifunctional device; printer; copier; fax; and mailing machines.

Website: <https://bit.ly/2B1YQjX>

**CANADA ECOLOGO CCD-039 Printer Cartridge Environmental Certification**

An environmental certification includes the following product types: NEW Printing Cartridges - Original, NEW Printing Cartridges - Remanufactured.

Website: <https://bit.ly/2zrHA75>

**CE Health, Safety and Environment Protection Standard**

CE marking is a certification mark that indicates conformity with health, safety, and environmental protection standards for products sold within the European Economic Area. The CE marking is also found on products sold outside the EEA that have been manufactured to EEA standards.

Website: <https://bit.ly/2TAzrUV>

**CIE 15 Colorimetry**

Website: <https://bit.ly/2zv5ZJ1>





### DIN33870-1 Refilled Toner Preparation Part 1

Office machines - Requirements and tests for the preparation of refilled toner modules for electrophotographic printers, copiers and facsimile machines - Part 1: Monochrome with CD-ROM

Website: <https://bit.ly/2yvQxvN>



### DIN 33870-2 Refilled Toner Preparation Part 2

Office machines - Requirements and tests for the preparation of refilled toner modules for electrophotographic printers, copiers and facsimile machines- Part 2: 4-Color-printers; with CD-ROM

Website: <https://bit.ly/2XstgTW>



### DIN 33867 Toner Cartridge Terms and Definitions

Information technology - Office equipment - Terms and definitions for toner cartridges and overview

Website: <https://bit.ly/36sT1rb>



### DIN 33871-1-2 Inkjet Printer Office Machines

Information technology - Office machines, inkjet print heads and inkjet tanks for inkjet printers.

- Part 1: Preparation of refilled inkjet print heads and inkjet tanks for inkjet printers; with CD-ROM

Website: <https://bit.ly/36sRWj4>

- Part 2: Requirements on compatible ink cartridges (4-colour system) and their characteristic features

Website: <https://bit.ly/2LUHxDw>

\*Note: This standard is only published in German language.



### ECMA-328 Determination of Chemical Emission Rates from Electronic Equipment-Part1

This Standard specifies methods to determine chemical emission rates of Analyte from ICT & CE equipment during intended operation in an Emission Test Chamber (ETC). This standard from ECMA is now on 7th revision which replaces references to RAL-UZ122 with RAL-UZ171.

Website: <http://bit.ly/ECMA-328>



### ENERGY STAR Environmental Protection

ENERGY STAR is a U.S. Environmental Protection Agency (EPA) voluntary program that helps businesses and individuals save money and protect our climate through superior energy efficiency.

Website: <http://www.energystar.gov/>





### DIN 33872 Method of Specifying Relative Color Reproduction

Information technology - Office machines - Method of specifying relative color reproduction with YES/NO criteria

The standard series DIN 33872 describes a method for the specification of the relative color reproduction properties of the output according to defined YES/NO criteria. The aim is the visual assessment of the output properties of these color reproduction systems.

It consists of six parts:

- Part 1: Classification, terms and principles
- Part 2: Test charts for output properties - Testing of discriminability of 5 and 16 step color series
- Part 3: Test charts for output properties - Testing of equality for four equivalent grey definitions and discriminability of the 16 grey steps
- Part 4: Test charts for output properties - Testing of equality for two equivalent color definitions with 5 and 16 step color series
- Part 5: Test charts for output properties - Testing of elementary hue agreement and hue discriminability
- Part 6: Test charts for output properties - Testing of the equivalent spacing and of the regular chromatic spacing

Website: <https://bit.ly/2SoBhrp>



### EPEAT Registry for Environmentally Preferable Products

EPEAT® is the definitive global registry for greener electronics. It's an easy-to-use resource for purchasers, manufacturers, resellers and others wanting to find and promote environmentally preferable products.

Website: <http://www.epeat.net/>



### IEEE 1680.2 EPEAT Standard for Environmental Assessment of Imaging Equipment

This standard is also intended to provide a tool for government, institutional, corporate, and consumer purchasers to identify products that demonstrate environmental leadership.

Website: <http://bit.ly/IEEE16802>



### ISO/IEC 5.4 (2009) Density

Geometric conditions for reflection density – defines the geometry of a densitometer. ISO 5-4:2009 specifies the geometric conditions for the definition of ISO 5 standard reflection density.

Website: <http://bit.ly/ISOIEC54>





### ISO 2813/ASTM D523

Many industries have adopted the 20/60/85 geometries as specified in ISO2813/ASTM D523, however consult the table below for more information on specific industries and their industrial standards. The standard gloss unit (GU) is used; this is traceable to standards held at BAM (Germany), NRC (Canada) or NPL (UK).

Website: <http://bit.ly/ISO2813>



### ISO/IEC 19799: 2007 Method of measuring gloss uniformity on printed pages

ISO/IEC 19799:2007 defines methods and processes for measuring objective print quality attributes for the assessment of gloss non-uniformity on printed pages in reflection mode, and provides transforms, when applicable, that relate the objective results to subjective responses if appropriate. The gloss uniformity attributes included in ISO/IEC 19799:2007 are differential gloss, gloss uniformity within a page, and gloss consistency within a run.

Website: <http://bit.ly/ISO19799>



### ISO 9001: 2008 - Quality Management systems—Requirements

ISO 9001:2008 sets out the criteria for a quality management system and is the only standard in the family that can be certified to (although this is not a requirement). It can be used by any organization, large or small, regardless of its field of activity.

Website: <http://bit.ly/9001quality>



### ISO/IEC 10561: 1999 Method for measuring throughput-Class1 and Class2 printers

This standard is NOT suitable for evaluation of page printers (i.e. laser printers) as is clearly stated in the summary on the ISO 10561 website. Rather, it is relevant to class 1 and class 2 printer types (e.g., dot matrix, daisy wheel, ink jet, thermal transfer printers) and to all configurations (e.g. tractor feed, cut sheet feed, 80-column and over 132-column print width, etc.). It is not the most suitable for comparing performance of other classes of printing devices, such as high-speed page-oriented printers or color printers.

Website: <http://bit.ly/ISO10561>



### ISO 14000 – Family Environmental Management

The ISO 14000 family addresses various aspects of environmental management. It provides practical tools for companies and organizations looking to identify and control their environmental impact and constantly improve their environmental performance

Website: <http://bit.ly/14001en>



### ISO/IEC 15775: 1999

Information technology — Office machines — Method of specifying image reproduction of color copying machines by analog test charts — Realization and application.

Website: <https://bit.ly/2Y80GsS>



**ISO/IEC 17629 Method for Measuring First Print Out Time**

Information technology — Office equipment — Method for measuring first print out time for digital printing devices

This International Standard specifies a method for measuring first print out time of digital printing devices. The International Standard is applicable to digital printing devices and multifunctional devices. The International Standard is intended to be used for black and white (B&W) as well as color digital printing devices and multifunctional devices of any underlying marking technology. The International Standard includes instructions for test charts, test setup procedure, test procedure, and the reporting requirements for the digital printing measurements.

Website: <https://bit.ly/3eR6LQn>

**ISO/IEC 17823: 2015 Color terminology for office color equipment**

Information technology — Office equipment — Color terminology for office color equipment

- ISO/IEC 17823:2015 provides definitions for color terms used with office equipment, in particular for use with color scanning and printing devices that have digital imaging capabilities, including multi-function devices.
- ISO/IEC 17823:2015 is not intended to replace terms and definitions published in documents or user interfaces issued or created by manufacturers.

Website: <https://bit.ly/3bzH3hf>

**ISO/IEC 19752: 2004 Monochrome Toner Cartridge Yield**

Method for the determination of toner cartridge yield for monochromatic electrophotographic printers and multi-function devices that contain printer components

Website: <http://bit.ly/ISO19752>

**ISO/IEC 19798: 2007 Color Toner Cartridge Yield**

ISO/IEC 19798:2007 defines a method for testing and calculation of average yield measured in the number of standard pages for a colour toner cartridge and specific printer printing in a semi-continuous mode under a defined set of conditions.

Website: <http://bit.ly/ISO19798>

**ISO/IEC 19799: 2007 Method of Measuring Gloss Uniformity on Printed Pages**

The scope of this international standard is to define methods and processes of measuring objective print quality attributes for the assessment of gloss non-uniformity on printed pages in reflection mode, and to provide transforms, when applicable, that relate the objective results to subjective responses, if appropriate. There are many existing standards (see Normative references and Bibliography for details) typically used for gloss measurement. Our intent is to leverage the existing standards and adapt those for use on gloss uniformity measurements where appropriate. This International Standard is composed of a standardized test methodology, which is based on established gloss measurement methodologies as noted in Clause 2 and in the Bibliography.

Website: <https://bit.ly/2VEz1hw>







### **ISO/IEC 22505: 2019 Black Inkjet Cartridge Page Yield**

integrated ink cartridges and ink cartridges without integrated printheads) for monochrome inkjet print systems. This document 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 inkjet printer components. Both liquid and solid ink products can be tested using this document.

Website: <https://bit.ly/2W2QkrL>



### **ISO/IEC 24711: 2007 Color Inkjet Cartridge Page Yield**

ISO/IEC 24711:2007 defines a method for testing and calculation of average yield measured in the number of standard pages for a colour inkjet cartridge and a specific printer printing in a semi-continuous mode under a defined set of conditions.

Website: <http://bit.ly/ISO24711>



### **ISO/IEC 24712: 2007 Test Pages for Consumable Yield**

ISO/IEC 24712:2007 provides a set of test pages in a common file format that would be used in the testing of consumable yield. The procedure for using these pages is detailed in ISO/IEC 19798 and ISO/IEC 24711.

Website: <http://bit.ly/ISOIEC24712>



### **ISO/IEC 24734: 2009 Method for Measuring Digital Printing Productivity**

ISO/IEC 24734:2009 provides a method for measuring the productivity of digital printing devices with various office applications and print job characteristics.

Website: <http://bit.ly/ISO24734>



### **ISO/IEC 24735: 2012 Method for Measuring Productivity of Digital Copying Devices**

ISO/IEC 24735:2012 specifies a method for measuring the "productivity" of digital copying devices and multifunctional devices with various copying modes. It is applicable to digital copying devices and multifunctional devices equipped with automatic document feeder and collating function.

Website: <http://bit.ly/ISO24735>



### **ISO/IEC 28360: 2012 Determination of Chemical Emission Rates from Electronics Equipment**

ISO/IEC 28360:2012 specifies methods to determine chemical emission rates of analyte from information and communication technology (ICT) and consumer electronics (CE) equipment during intended operation in an Emission Test Chamber (ETC). Determination of Chemical Emission Rates from Electronic Equipment – Version 2 (2011) is currently being revised in alignment with ECMA-328 6th Edition.

Website: <http://bit.ly/ISO28360>





### ISO/IEC 29102: 2011 Method to Determine Ink Cartridge Photo Yield

ISO/IEC 29102:2011 provides a method to determine the ink cartridge photo yield of ink-containing cartridges (i.e. integrated ink cartridges and ink cartridges without integrated print heads) for colour photo printing with colour inkjet printers and multi-function devices that contain inkjet printer components.

Website: <http://bit.ly/ISO29102>



### ISO/IEC 29103: 2011 Test Pages to Measure Color Photo Yield

ISO/IEC 29103:2011 defines a set of test images in a common file format, JPEG, that are used in the testing of cartridge yield for printing of photographs.

Website: <http://bit.ly/ISO29103>



### ISO/IEC 29142-3: 2013 Printer Cartridge Characterization

- Part 1: General: terms, symbols, notations and cartridge characterization framework

Website: <http://bit.ly/ISO2914201>

- Part 2: Cartridge characterization data reporting

Website: <http://bit.ly/ISO2914202>

- Part 3 – Environment

Website: <http://bit.ly/ISO2914203>



### ISO/IEC TR 29186: 2012 Test Method of Color Gamut Mapping Algorithm for Office Color Softcopy and Hardcopy

This is a supplement to CIE 156:2004, applicable for use in evaluating the color gamut mapping algorithms of office color softcopy and hardcopy equipment. It defines test charts, test chart image processing workflow, media, viewing conditions, measurements, color spaces and experimental methods, suitable for use with office equipment, which either do not exist in CIE 156:2004 or are different from CIE 156:2004.

Website: <https://bit.ly/2VXgRGF>



### Nordic Ecolabelling

Commonly known as Nordic Swan, the Nordic Ecolabel is established and internationally well-known. A recent Nordic market survey showed that in the Nordic countries 94 percent recognized this trademark as an Ecolabel. It is a Nordic Ecolabel similar to Blue Angel and with wide recognition in Europe.

Website: <http://bit.ly/nordiceco>





### Nordic Ecolabelling for Remanufactured Cartridges

This standard is only for remanufactured cartridges. They mean less waste and a lower consumption of energy and raw materials. Using toner cartridges several times reduces the total consumption of toner cartridges and accordingly the environmental impact of the product throughout its service life. The criteria aim to reduce waste and the product is also required to meet high standards of quality and capacity. There are also requirements on quality assurance of the recycling process, content of environmentally hazardous and harmful substances, and on labelling and information to the end-customer.

Website: <http://www.nordic-ecolabel.org/criteria/product-groups/?p=2>



### RAL UZ-55 Blue Angel for Cartridges

Blue Angel for cartridges which carry RAL-UZ122 certificate

Website: <http://bit.ly/blueangel2014>



### RAL UZ-171 Blue Angel for Office Equipment with Printing Function

German eco-label with world-wide recognition, replaced uz-122 earlier this year.

Website: <http://bit.ly/blueangel2014>



### RAL UZ-177 Blue Angel for Cartridges Used in Electronic Devices

Blue Angel for cartridges used in electronic devices which carry RAL-UZ171 certificate.

Website: <http://bit.ly/blueangel2014>



### STMC Standardized Test Methods Committee

This global committee formed to find and promote standardized test methods for the printer cartridge industry. The test methods are used to evaluate toner printer cartridge performance. Standardized test methods make it possible to evaluate a cartridge anywhere and come up with the same test results no matter who tests it. Standardized tests do not specify how a cartridge must perform; they only measure it.

Website: <http://bit.ly/itcstmc>



### UL 2785 Standard for Sustainability for Printing Cartridges

—An environmental certification similar to CD-39

This Standard covers all monochrome and colour toner cartridges.

Website: <http://bit.ly/ul2785>



# Certified Quality



## Benefits of Certification

### Seal of Approval for Cartridges

STMC certification proves that the company certified uses the highest industry-approved standards in manufacturing its cartridges. The STMC logo means that the cartridge in the box has been remanufactured by a company that cares about quality.

STMC stands for the Standardized Test Methods Committee. This global committee formed to find and promote standardized test methods for the printer cartridge industry.

For twenty years, the International Imaging Technology Council has evaluated and monitored the STMC program, fighting for those who use it proudly and against those who misuse it.

Customers demand STMC. Join the hundreds of STMC-certified companies that these customers want to buy from. Get certified today. Contact [katie@i-itc.org](mailto:katie@i-itc.org) for more information.