Standardised Print Production (SPP)
Accredited certification according to ISO 12647-2

Executive Summary

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Digital Dots

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Standardised Print Production: Executive Summary

This Executive Summary is an abstract of the Digital Dots Standardised Print Production series (SPP). SPP is for business owners and managers not directly involved in media production, but who pay for its costs and count its revenues. This includes printers, publishers and other print buyers. This summary presents the structure and content of SPP and explains how and why print production process control helps a business improve its profitability.

Introduction

Over the last few years Digital Dots has worked closely with ISO and various international print federations. The Digital Dots Standardised Print Production (SPP) series explains what printing companies, publishers and print media buyers need to know about using the ISO 12647-2 standard. This standard is for offset lithography process control and the parameters it describes are relevant for digital printers as well.

In addition to this Executive Summary, the complete SPP series includes three standalone documents describing what you need to do in prepress, on press, and for overall production quality control. Each section of each part has a short boxed summary of what the section means for a printer, and for a print buyer. SPP covers everthing needed to understand, implement and exploit ISO 12647-2. SPP is an aid to improving all aspects of production control and colour printing using ISO 12647-2.

Controlling Unknown Costs

It is very difficult to quantify a business's intangible costs. Printers and publishers often face high costs associated with error correction and substandard quality control. It can be more convenient to remake a faulty job instead of dealing with the root cause, such as data format mistakes introduced early in the workflow. The cost of such errors rises as a job gets closer to the press and is rarely quantified until the error is critical. Workflow inefficiencies, file processing glitches and substandard quality control are common sources of unrecovered costs. This impacts business efficiency and profitability, and undermines returns on capital investment.

Workflow efficiency is not merely about the speed with which people process job tickets. Nor is it only about keeping a press running to maximum capacity. It is about minimising errors in production, so that work can be printed correctly and to a high colour standard with no remakes. If your business has to remake print jobs because the work has been printed with the wrong colours or in the wrong format for finishing, you are losing money on the job. If this happens on a regular basis you are losing profits.

SPP Part 1 – Document Preparation and Prepress

Controlling the Data

Print media production starts with creating a document and preparing it for print. SPP explains how to ensure that documents entering a production workflow can be accurately printed.

Colour & Light

Prepress systems correctly set up for compliance with ISO 12647-2 must present colours accurately on screen and on hardcopy proofs. SPP part 1 explains why it is important to view colours under the right light, so that they look as they will appear in print. It explains that substrate is the single most important factor influencing colour appearance and the effect of brightening agents on colour control. These techniques help make sure colours look the same even if they are printed on different substrates and with different printing methods. Common colour appearance can be achieved if the prepress staff know how to set up and maintain their equipment, so that colours are presented accurately. With digital colour management, errors are drastically reduced as is resource waste and the need to remake jobs.

Data Management

Accurate colour depends on data management. SPP part 1 explains how to manage data so that the files customers and service providers work with are correct, containing everything required for successful and colour accurate output on press. This part of SPP explains the role of data formats such as PDF/X in process automation and quality control. It also explains how to implement ICC device profiles correctly so that colour data takes into account how monitors, hard copy output printers, proofing systems and presses behave.

Softproofing & Hard Copy Proofing

Designers, publishers, production staff and customer service people all check print jobs at some stage or another, usually on screen or on a print from a digital printer. SPP part 1 explains how to set up computer monitors and printing devices so that they show colours as close as possible to how they are likely to appear in print.

Imaging Printing Plates Ready for Press

This final stage of prepress requires careful control over how printing plates are imaged. This means calibrating the imagesetter and validating output performance using test files. This is explained in SPP part 1.

SPP Part 2 – Setting Up the Press

Printing Controls

The printing press, be it a digital press or a conventional press, is the most important part of the ISO 12647-2 puzzle. Its behaviour and characteristics must be fully appreciated, if colour printing is to be of the highest standard. Part 2 explains the importance of how the digital data that will end up on press should be specified. It covers how to control the press so that it prints to the same standard through the run, so that colours look the same at the beginning, middle and end of the print run.

Paper & Ink

Achieving such tight control depends on an understanding of how to measure paper whiteness and control ink coverage. Part 2 lays out the details of measurement specifications for the paper types specified in ISO 12647-2 and for ink measurements.

Press Performance

Much of what is required for compliance to ISO 12647-2 depends on how the press is controlled. When imaged dots on a printing plate and on press are not controlled they can "grow" which creates distortions in how colours appear in print. SPP part 2 explains how to control dot gain.

Grey balance

In order to achieve balanced colours printers must be able to produce neutral greys without the page looking pink-ish, blu-ish, yellow-ish or dull. Printers do this by finding the right balance of CMY inks for the substrate. SPP part 2 recommends a substrate correction method for greater grey balance control.

Registration and the Smallest Dot

Perfect colour accuracy requires image positioning or registration of the CMYK separations on press. The minimum requirements for registration accuracy are explained in SPP part 2.

SPP Part 3 - Quality Assuramce

About Control

Quality management is a core competence for successful business: without it the business is in danger of collapse. SPP part 3 covers basic quality control procedures for ISO 12647-2 compliance.

Quality Management in General

SPP focuses on helping printing companies to meet customer quality expectations and print buyers to get the quality they want. SPP part 3 covers the basics of achieving satisfaction through planning, measuring, analysing and controlling processes and outcomes.

ISO 9001

SPP does not require printers to comply with ISO 9001. We explain the principles of ISO 9001 and how they help a companies reduce errors, improve processes and enhance quality.

Audits

Understanding what is going on in any complex process depends on understanding what happens at each stage. Process audits conducted at the departmental level help managers stay close to how a business functions, without micromanaging every process. Internal and external audits keep a company operating efficiently. How this benefits a printer is explained in SPP part 3.

Worldwide Print Certifications

Process auditing is a management tool that provides the basis for continuous business improvement and growth. However external audits are equally valuable: they provide an independent and objective view of business performance. They support financial reporting and can be a conduit for new ideas for the business. Many organisations have set up schemes as the basis for auditing printers for ISO 12647-2 compliance. SPP is compatible with all of them. Part 3 explains the processes and considerations for certification.

SPP is a tool for practical implementation of the basic quality controls and press management improvements enshrined in ISO 12647-2. Achieving compliance to this standard can provide a printing company with a valuable means of attracting and retaining customers.

ISO 12647-2 is the distillation of best practise based on input from a global cohort of printing and print buying interests. It is your Fast Track to a more competitive and successful business. SPP shows you how you can use ISO 12647-2 to change your company for the better.

About the authors

Laurel Brunner

Laurel started her career in 1978 as an accountant for a printing company. Since then she has worked exclusively in the prepress and publishing industries, with a particular specialisation in digital prepress, digital production and digital printing. She is managing director of Digital Dots, an international consulting group, and publisher of Spindrift. This is the industry's only independent, subscriber supported newsletter for the graphic arts, printing and publishing industries.

Laurel is active in standards development through her work with several ISO committees and is the convenor of ISO's Working Group 11 which is developing standards related to the environmental impact of print.

Paul Lindström

Paul Lindström entered the graphic arts industry in 1980 as a typographer and graphic designer. He has worked in computer assisted graphic design and print production ever since. Paul was the production manager and owner of a commercial printer where he became involved with digital printing, before moving to Elanders' Electronic Printing division. During his three years with Elanders Paul played a key role in developing the company's variable data management and print on demand strengths.

Between 1993 and 2003 Paul worked as technical editor for AGI, Scandinavia's leading graphics arts trade magazine. In addition he lectured part time for the Graphic Arts Department at Malmoe University, running degree courses on digital imaging, colour and quality management, the optimisation of workflow systems and production processes. Since 1998 Paul has been an UKAS accredited auditor for ISO 9001 and ISO 12647 certification, and is the co-editor of the certifications schemes in both Sweden and the UK. He is an appointed expert to ISO TC130, the technical committee responsible for authoring ISO standards for graphic arts and print media production.

Digital Dots is an independent graphic arts research group established in 1999. The company specialises in technology evaluations for digital prepress, printing and publishing applications and has conducted technology tests since its inception. Digital Dots also provides exclusive market research, testing and evaluation services for developers and buyers and is the publisher of Spindrift, a subscriber supported journal for the graphic arts.

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