

Quality control



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This booklet is the quality section of the hl-repro 'Handbook'.

It contains:

APV - Master data environment

Working environment

Introduction

This Quality Handbook describes the basis of the hl-repro quality system.

Quality management means activities that take place throughout the process that starts with an enquiry by the customer to delivery of the finished product. Quality management is also a dynamic process for which this Quality Handbook only sets out an overall framework. Each situation requires initiative and common sense from the person managing the case. That is why continuous improvement and adaptation are required.

Procedure chapter

The starting point for the quality management system is building up a control framework for each task. When an order is received, the order recipient must ensure that the nature and extent of the original material supplied forms an adequate basis for quality control.

During the production process, requirements are made for methodology relating to labelling, filing, corrections, checkpoints etc.

Prepress and printing forms are process- and quality-checked prior to delivery.

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Master data

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Working environment guide:	Prepress and premedia work – Office and Administration

Management Report

The quality management system includes reproduction performed digitally and production of printing forms mainly for the packaging industry.

With the structure of our quality management system, we want to ensure that the company's image, competitiveness and profitability are maintained and consolidated in our production and sale of products that meet the customer's requirements and expectations.

The prerequisites for achieving this goal and living up to the company's concept:

- Responsibility and authority are set for the activities affecting quality and the necessary resources are allocated.
- Planning, management and implementation of the required quality management activities are ensured.
- Corrective action is commenced in order to prevent errors and improve the system on an on-going basis.

Our joint efforts will determine whether hl-repro's aims are achieved. It is the quality of the work each person performs individually and in partnership with others that forms the basis of the company's professional quality.

The management ensures that the quality system is maintained.

Internal audit:

Overall quality

hl-repro defines quality as being the sum of all characteristics of a product or service that affects the customer's trust in hl-repro as a supplier.

A quality product from hl-repro must meet the customer's specifications and requirements. hl-repro wants to ensure that the customer's experience of quality consists of a flawless product and its associated services delivered to the agreed time, in the agreed location and at the agreed price.

Quality objectives

The purpose of these is to monitor and improve activities and conditions that affect the overall quality offered.

Quality objectives are revised if the customer or management team should find this necessary. The management is responsible for maintaining overall quality as well as the job satisfaction and motivation of each employee to ensure that the company's operational quality objectives are met.

Management of the Quality Handbook

The master edition of the Quality Handbook is stored electronically by the Quality Control Department's data unit.

The quality management chapter may be issued to customers, suppliers and other persons who may be interested and require information about the hl-repro quality management system.

The Quality Handbook is kept up to date electronically.

The management is responsible for ensuring that all employees are familiar with those parts of the Quality Handbook that concern them.

A hard copy of the Quality Handbook is kept by:

- Niels B. Hansson
- Lars B. Hansson
- quality/environment manager
- employee representative

Verification equipment

hl-repro has set out the following verification activities in order to meet its quality objectives:

Delivery checks

On purchase of raw materials/materials.

Proces and final checks

Of orders.

Verification equipment

The Quality Manager is responsible for and authorised to identify, purchase and maintain suitable control/measuring equipment for delivery checks, process and final checks.

Quality management policy

Quality management requires:

- A systematically structured quality management system that is clear to all hl-repro employees.
- Errors and problems are prevented from arising.
- On-going correction of potential and existing errors is performed.

The aim of quality management is to achieve the overall quality at the lowest possible cost.

Quality policy for products

A quality product from hl-repro must meet the customer's specifications and requirements and be characterised by precision and good advice.

Quality policy for production

hl-repro ensures uniform quality through a planned and managed production process that is continuously monitored and improved.

Quality policy for filing

Filing takes place electronically.

Management assessment

The management must ensure on-going monitoring of the quality management system.

This monitoring includes the results of audits, significant non-compliances, complaints, dispensations, monitoring of operational quality objectives, corrective action, proposals for quality improvement and enhancement of the quality management system as well as feedback from the customer. The monitoring further includes the evaluation of objectives and policies, including employees' level of familiarity with these and whether they are being complied with. The organisation is reviewed in order to assess its efficiency.

Based on continuous monitoring, the management commences the required corrective action.

Order delivery

hl-repro receives purchase orders that, in combination with any original material, precisely define the specifications of the project. The purchase order may be accessed electronically, submitted or completed here. A job bag is produced for each order. The job is recorded in Filemaker (filing system). In addition to all the details, the order recipient must ensure that the order can be processed correctly in terms of checkpoints and error detection. Delivery times and proof types are also agreed. Subsequent changes to the order specification during the production process must be described, recorded in Filemaker and filed so that the project can be correctly performed and checked even in the absence of the order recipient.

Dry offset

Order is received in Hedensted.
Printing machine and design for the order are determined. Technical printing specifications are noted and performed. Undercut and engraving depth are determined.

Sleeves

Two job bags are printed for orders that include sleeves - separate white job bag for the Sleeves Department.

The job bag is delivered to the team leader who completes/checks that applicable information such as air cylinder diameter, circumference, surface material and sleeve length are stated after which the white job bag is printed.

When production has been completed, the two job bags are amalgamated for checks/invoicing.

Proofing

If layout and corrections are performed by hl-repro, the proofing can be checked in Pilot.

Job

The completed projects and all the job elements are checked against the approved proofs.

Form production

No printing forms are produced without a job bag. All printing forms are process approved.

Shipping

Shipping

For all shipping, the delivery note and job bag must be delivered to the Logistics Department. All material to be returned to the customer must always be attached to the job bag. Shipping by minitrans, courier etc. must be booked stating order number. Additional shipments or express shipments as well as postage/package price are always noted on the job bag.

Delivery note is printed for courier shipments.

The purchase order is printed for separate runs with order number and invoicing principle.

Description of procedure

Prepress

Check technical repro and printing questions.

Define order and generate LEN files for checks and production.

Add grids for raster checks.

File the order in Filemaker.

The job bag must contain the customer-approved proof. Colour print of the order must be enclosed. Before the order is sent for form production, it is checked by the Quality Control Department. Quality control of prepress is noted in Filemaker.

Printing form

Check raw material visually, and check new batches against raster grids.

Before form production, check LEN files for data errors and whether the order is facing correctly (non-reversed/reversed) and whether max. size has been complied with.

After production, check printing form visually, and perform tests.

After drying, cut out the clichés digitally on a precision cutting table.

Relief, raster and tolerances are measured by the Quality Control Department. Check that the order is correct/reversed. Check the surface visually.

Complete Filemaker with a signature.

Sleeves

Check raw materials visually. Check engraving focus/depth in any new batch.

Define the order, and generate TIF files for checks and production.

(This is where raster rotation, raster fineness and whether the order is non-reversed/reversed are determined.) Check the order in Dot-Spy/Pilot.

If the order is outstepped, the proof must be with one item. The job bag must also show information about the placement of the order on sleeves and film width of the order.

The order is reviewed by the Quality Control Department for correct execution.

Check sleeves visually after engraving.

File the order files in Filemaker.

Control files

All hi-repro orders must be stored in LEN or TIFF files to allow everything to be checked in Dot-Spy or Pilot.

LEN or TIFF files must ensure that colour separation can be identified and checked unambiguously for accordance with customer draft/print.

LEN or TIFF files are also used to check the order for correct shrinkage, step, quantity per rotation, raster fineness, raster rotation, resolution and raster grid checks.

Process control

Each Production Group is responsible for the production process and safety routines being performed correctly. The order must be filed in Filemaker with all specifications to enable others to be able to access the same job at any time.

The purpose of all prepress is to ensure a control framework and to avoid errors and rework.

Proofing

Colour model must be checked by the Scanner Department before further work is performed.

Files for documentation must be checked in Dot-Spy/Pilot before production of GMG or Approval. Alternatively, digital proof impressions must be produced on the basis of the customer's colour profile. Proofs of an order must always be prepared irrespective of the scope and complexity of the order.

Colour profile

Print a test form. Measure the results and store digitally. The resulting data are used for the preparation of a colour profile which forms the basis of future digital proof impressions so that the standard of comparison of GMG/Approval and print will be the best possible and provide a better basis for the printing company's customer and for the quality of the printing process itself.

Completion

After approval of the proof, no changes may be made to the order under any circumstances.

Check files for:

- Accordance with approved proofs.
- Raster fineness, raster values and raster rotation according to applicable agreed values.
- Check that the control grid, customer's master print grids and order information are included.

Files that have been used as a control framework and have been approved are sent for form production.

Checks

Check CDI/Laser projects in Dot-Spy/Pilot before production of printing form.

File checking is the most important control routine in prepress. Check the following:

- Correct resolution.
- Correct non-reversed/reversed print.
- Correct control grid.
- Correct raster fineness.
- Correct shrinkage percentage and direction, step and quantity per rotation.
- Correct text/EAN/logo – including location and number of elements.
- Correct colour separation.
- Correct tolerances.

The complete prepress has now been approved.

Other

If the customer requires hi-repro to produce printing forms of material produced elsewhere, the customer must provide a control framework. If not, the production will be at the customer's own risk.

Process control

Process control – polymer

- Check the plate visually after washing
- Check the relief of the plate
- Check for profile sharpness, kinks on reverse and surface holes
- Check control grid (1%, 5% etc.)
- Check plate height
- Check cut-out
- Check type, thickness and quantity
- Check raw material and finished plate for non-compliance weekly on our measuring equipment
- Measuring equipment is calibrated twice annually

Process kontrol - sleeves

- Check sleeves visually for holes and surface damage
- Check sleeve length
- Check and adjust concentricity in laser +/- 1/100
- Check for engraving quality after engraving
- Check relief
- Raw materials and finished sleeves are likewise checked for non-compliance weekly on our measuring equipment
- Measuring equipment is calibrated twice annually

Process control/Production of print form

Post Print (corrugated cardboard print)

- Check height of relief
- Attach backing to film
- Check grid
- Place clichés according to markings on the film, and then check
- Fit plastic rail on front edge, and check
- Check print and completed assembly against each other
- Final visual check of the entire assembly

Dry offset

Process control – laser engraving.

- Check Toppower
- Check grid
- Check focus of single dots
- Depth (below minimum to be discarded)
- Raster 50% ALWAYS round dots
- Measure a depth of 1% dots (undercut)
- Sharpness of negative slashes – 99% visible
- Engraved areas must feel sharp to the touch
- Markings must not be removed (they resemble errors), check location against print
- Deliver the order for shipping with foam film between each cliché and hard masonite on two outer sides
- If the Lock field on the job bag has been completed, the clichés must be locked
- Send grids to Søborg (1-2 times a week)
- Verification signature on project description and in Filemaker.

hl-repro has engraved a master plate in degrees of fineness from 34# to 42#

and a master plate with Toppower in steps of 1% – from 1% to 20%.

A copy of each master must be kept in Hedensted.

These are our references in the event of laser changes and any complaints.

Quality Control Department

Responsibilities

The main responsibility of the Quality Manager is to ensure that end products supplied by HI-repro are double-checked for errors as well as by random sampling to ensure that compliance with the quality management system is ensured in each department in order to minimise the cost of errors/rework.

The quality manager is also responsible for providing the required tools/input for further development of the quality management system in the shape of internal error reports containing causal explanations.

Skills

The quality manager reports directly to management and has the authority to approve or discard end products based solely on quality criteria.

Material received

Completed prepress, master, original material, including customer purchase order and job bag containing order form and written supplementary agreements, are received from prepress. LEN/TIFF files are received for digital projects for verification in Dot Spy.

Quality control

If the order is covered by the Quality Management System, it must be checked in accordance with the specified procedure and the job bag.

Corrective action

Discarded products are returned to the production manager with all accompanying material, and an error report is prepared. The manager performs corrective action. The product is returned to the Quality Control Department where checks are repeated according to a set procedure. If the product is approved, the case is regarded as closed. Errors and their causes are continuously reviewed in consultation with applicable team leaders.

Document management

This description of procedure with accompanying documentation is managed electronically. All changes must be approved by management.

Employees must have access to the Quality Handbook from the Order Office. Copies can be obtained for external use.

The Order Office maintains the Quality Handbook as instructed by the quality manager.

Audit

The Quality Manager performs an assessment of compliance with the quality management system at regular intervals/as required. Audits are performed on a continuous basis.

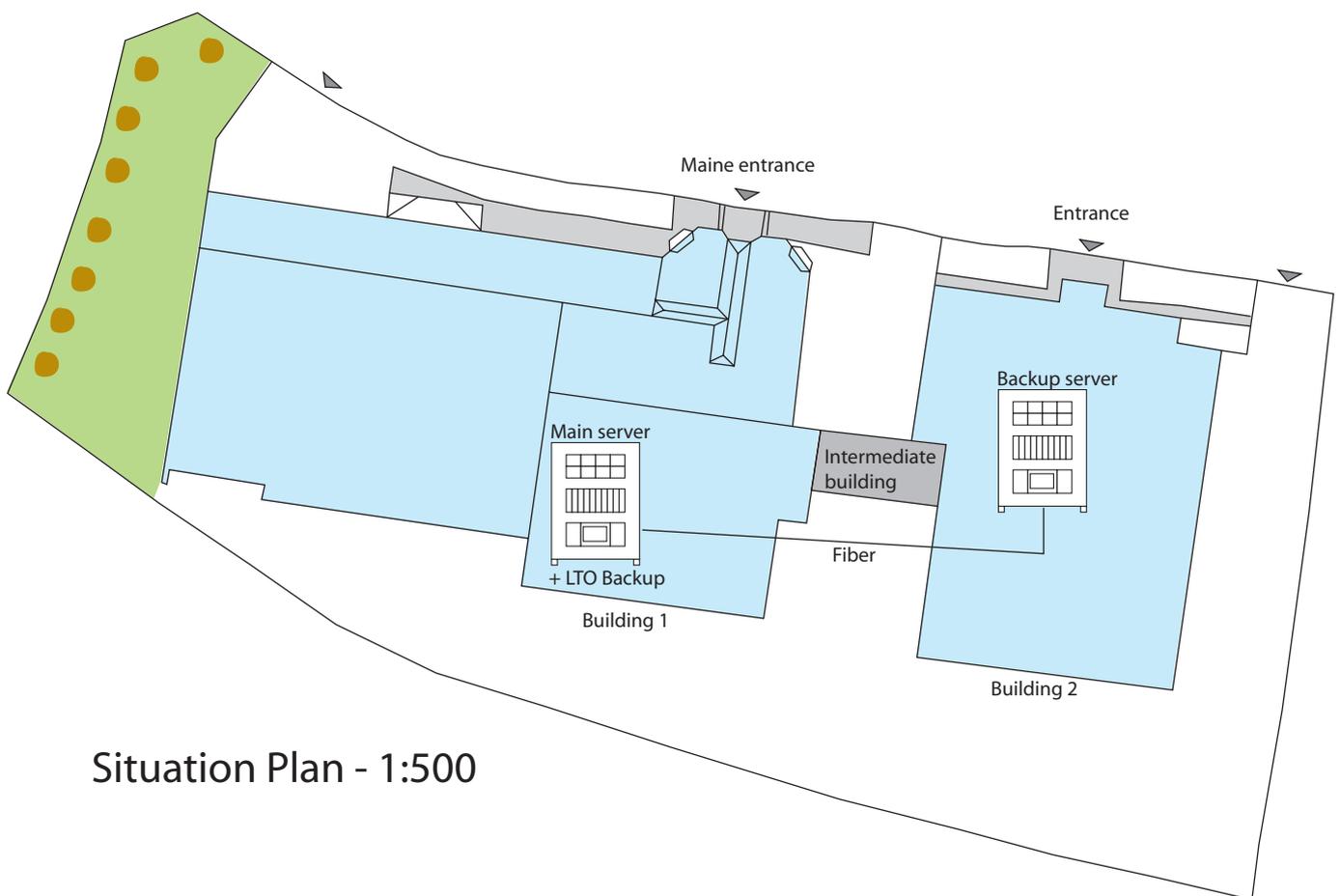
Description of backup

LTO Backup

- Full backup every weekend
- Incremental backup daily (backup of anything new on the day)
- Weekly copy is stored externally (off-site)

Backup server (in different building)

- Identical installation and data content as main server. This can be connected as a new main server and is capable of running full production



Situation Plan - 1:500