

User's Guide.

Prepress Connection Prinect Inspection Control 4.



Languages

This document is available in the following languages:

[Deutsch \(DE\)](#)

[English \(EN\)](#)

[Français \(FR\)](#)

[Español \(ES\)](#)

[Italiano \(IT\)](#)

[Português \(PT\)](#)

[Polski \(PL\)](#)

[日本の \(JA\)](#)

[中国 \(ZH\)](#)

Table of Contents

Before you start ...

About This Documentation	7
What You Should Already Know	7
Further Documentation	7
Typographical Conventions	8
Important Information	8

What's New?

What's new in Prinect Inspection Control 4?	9
Workflow changes	9
Customer Portal (Insights) integration	9
Updated software prerequisites and checklists	9
Automatically created inspection levels	10

Introduction

What's Prinect Inspection Control 4?	11
What is the "PDF Inspection" option?	11
Workflow overview	12
Production Inspection	12
PDF Inspection	13
Prepress Files	13
Inspection Level File	13
Reference Image	17

Software requirements

Software requirements: HEIDELBERG prepress	19
Software requirements: Third-party prepress	22

Table of Contents

Workflow overview

Overview: Prinect Production Workflow and Prinect Pressroom workflow	25
Prinect Production workflow (HEIDELBERG prepress)	26
Prinect Pressroom Workflow (third-party prepress system)	29
Further workflow: Data exchange with the press	31

Settings for HEIDELBERG prepress system

Settings for HEIDELBERG prepress system	33
Settings in Prinect Prepress	34
ImposePDF sequence for creating the inspection level file	34
ImpositionOutput sequence for reference file creation	38
SheetfedPrinting sequence for the reference image and the inspection level file	39

Job example from HEIDELBERG Prepress

Job example in the packaging workflow	41
Prerequisites	41
Manual generation of the inspection areas	44
Prinect Cockpit: Creating and starting a job	45
Interactive Prinect Signa Station: Create Layout	45
Prinect Cockpit: Inspection data, Colors, Job planning, Output	46

Settings for third-party prepress

Overview of settings for third-party prepress	49
Inspection Level File	49
Reference Image	51
File Names and File Repository	52
What do I do if a job has several sheets?	53
File Repository	54
Parameters of the SheetfedPrinting sequence	55

Check lists

Check list - settings for HEIDELBERG prepress system	57
"ImposePDF" sequence: Creation of the PNG inspection level file	57
"ImpositionOutput" sequence: Creation of the PNG reference file and the PNG inspection level file	58
"SheetfedPrinting" sequence: Color space mapping and data storage	59
"Coating Editor": Define inspection levels (optional)	59
Check List - Settings for Third-Party Prepress	60
"SheetfedPrinting" sequence: Color space mapping and data storage	60
Inspection level file	61
Reference Image	61
File names	62
File Repository	63

Error report in the Customer Portal (Insights)

Introduction	65
"Inspection" view in "Insights"	65
"Inspection Report" area	66
"Sheet Status" table	70
Table "Detected deviations"	71

Glossary

About This Documentation

This documentation applies to the inline sheet inspection system "Prinect Inspection Control 4".

In this manual, all the settings required to create the prepress files for production inspection, PDF inspection and sheet inspection are described. All the settings needed for HEIDELBERG prepress and for a third-party prepress are described.



Note: Remember that the Online Help may not always be up-to-date with the current version of the software. Consequently, no claims can be made for changes to the software and documentation.



Note: The names (e.g. job names, customer names, etc.) and quantities or dimensions (e.g. delivery quantities, sheet dimensions, paper dimensions, etc.) given in the following documentation - and in particular in the screenshots shown - as well as other individual designations used are intended as examples to illustrate how the respective settings and processes work and should **under no circumstances** be adopted without checking in your configurations or production processes.

What You Should Already Know

We assume that you are familiar with the basic functions of Prinect Signa Station and Prinect Production. If you are using a different prepress system to Prinect, we assume that you are familiar with this as well.

Further Documentation

You can find more information in the following documentation and videos:

- Video Tutorial: [Prinect Inspection Control 4 - Theory](#)
- Video Tutorial: [Prinect Inspection Control 4 - Practice](#)
- Video Tutorials: [HEIDELBERG Customer Portal - Videos Apps](#)
- Online help (Prinect CR): [Prinect Cockpit](#)
- Online help (Prinect CR): [Prinect Signa Station](#)
- Quick Start Guide (PDF): [Prinect Manager CR 55](#)

Before you start ...

Typographical Conventions

The following typographical conventions are used in this manual:

- References to other chapters and sections are [blue](#) (on the screen) and underlined.

Example: See ["Typographical Conventions", page 8](#).

- Quotes are used to indicate menus, folders, names of functions, hardware conditions, switch settings, system messages, etc.

Example: Set the switch to "off".

- Menus, functions and sub-functions are separated by ">".

Example: Select "File > Open...".

- Keys which you should hold down simultaneously are connected with a plus character.

Example: Press "Alt + A".

Important Information

Important information in the text is marked by symbols in the margin which are used as follows:



Warning: Contains information that must be taken into consideration to protect the user from injury.



Caution: Contains information that must be taken into consideration to prevent damage to hardware or software.



Note: Contains important general or supplementary information about a specific topic.



Prerequisite: Lists requirements which must be met before the subsequent steps can be performed.

What's new in Prinect Inspection Control 4?

The present chapter gives you an overview of all new features in the current version of Prinect Inspection Control 4 compared to the last version of Prinect Inspection Control 2/3.

Workflow changes

The workflow with Prinect Inspection Control 4 has changed significantly compared to the workflow with Inspection Control 2/3 and has been facilitated.

In both the Prinect Production Manager (HEIDELBERG prepress) and the Prinect Pressroom workflow (third-party prepress), important settings in the SheetfedPrinting sequence are made with just a few mouse clicks and the corresponding functions run automatically in the background.

In the Prinect Production workflow, the ImposePDF sequence is used to generate the inspection data and the ImpositionOutput sequence is used to generate the reference data.

Refer also to

["Workflow overview", page 25,](#)

["Settings for HEIDELBERG prepress system", page 33,](#)

["Settings for third-party prepress", page 49](#)

and ["Job example in the packaging workflow", page 41.](#)

Customer Portal (Insights) integration

If deviations occur when comparing the printed sheets with the reference sheets on the press, corresponding reports are sent to the Customer Portal, where they are evaluated and displayed using the "Insights" application.

Refer also to

["Further workflow: Data exchange with the press", page 31](#)

and [chapter "Error report in the Customer Portal \(Insights\)", page 65.](#)

Updated software prerequisites and checklists

Due to new features, the software requirements and checklists have been updated.

See [chapter "Software requirements", page 19](#) and [chapter "Check list - settings for HEIDELBERG prepress system", page 57.](#)

Automatically created inspection levels

In the ImposePDF sequence, you can set whether an inspection level is automatically generated (selection of levels as usual from 1 to 5). An automatically generated inspection area covers the printed area of a surface. If the PDF already contains manually defined inspection levels, these are offset against the automatically generated inspection level. In the case of overlapping areas, the area with the higher gray value "wins" the calculation, i.e. the area with the darker gray tone is taken into account and is visible in the inspection level file.

- Definition of the automatically created inspection level:
see ["ImposePDF sequence for creating the inspection level file", page 34](#)).
- General information on the automatically created inspection level:
see [Automatic generation of inspection level files, page 14](#) and [Combination of automatic and manual inspection level creation, page 16](#).

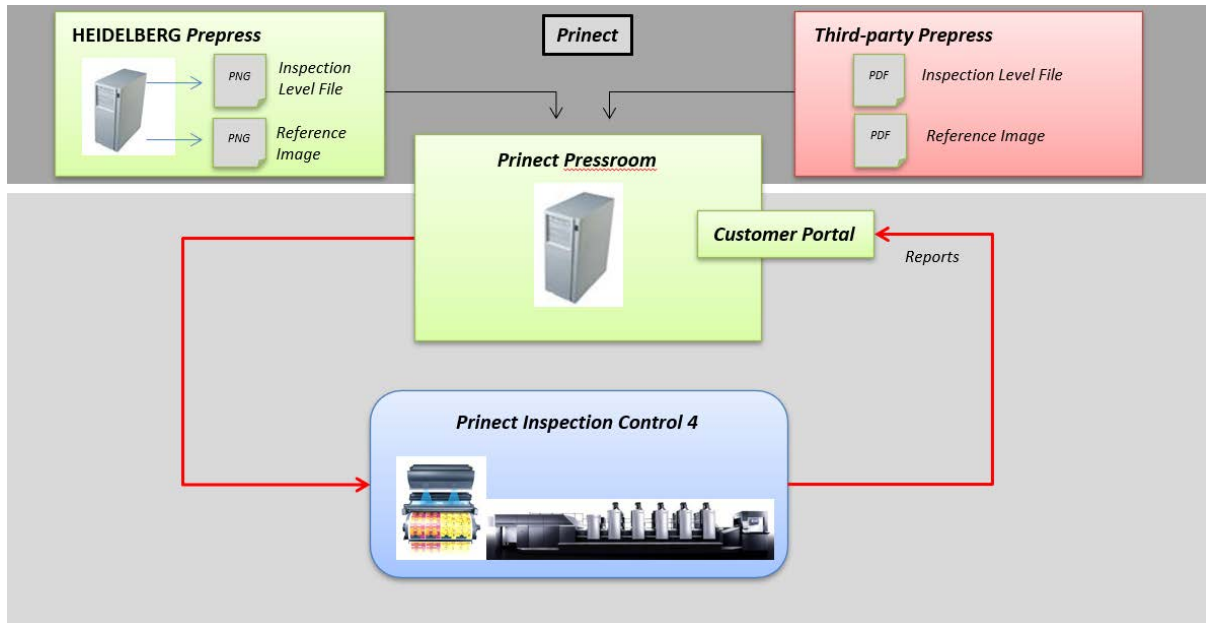
What's Prinect Inspection Control 4?

Prinect Inspection Control 4 is the successor of Prinect Inspection Control 3. Prinect Inspection Control is an inline sheet inspection system for quality control of press sheets in the press. This allows misprints to be detected during production. We will refer to this inspection as "**production inspection**".

What is the "PDF Inspection" option?

The "PDF Inspection" option lets you compare a captured press sheet with the prepress data. This gives you the chance to detect errors before production approval as early as during processing.

Workflow overview



Prinect Inspection Control 4 can cooperate with a HEIDELBERG prepress system and with a third-party prepress system.

1. Prepress creates the data (inspection level file and reference image) for the inspection system.
2. These data are submitted to the inspection system via Prinect Pressroom. Prinect Pressroom is the link between prepress and the inspection system.
3. Depending on the scope of the license, the inspection system carries out a production printing inspection and a PDF inspection (see below).
4. The inspection results (reports) are sent to Customer Portal and are made available in the "Insights" app.

Production Inspection

During production inspection, Prinect Inspection Control 4 performs an ongoing comparison of printed sheets with a "digital reference sheet" created in the machine. The digital reference sheet is a sheet calculated from multiple sheets captured by the camera. The objective of production inspection is to check each sheet in order to prevent misprints during production.

PDF Inspection

PDF inspection compares a digital reference sheet of the inspection system with the imposed prepress reference. PDF inspection makes sure that the content of the print job matches that of the customer job.

Prepress Files

An "inspection level file" containing the inspection areas with respective inspection levels is useful for all of the inspections. (You can also define the inspection areas on the press - we recommend performing an inspection using the inspection level file from prepress). A "reference image" is also needed for PDF inspection. This is an imposed sheet (PNG/PDF) that is compared with the scan of the press sheet.

The imposed sheet reference can be created either with a HEIDELBERG prepress system or with a third-party prepress system.

Inspection Level File

The inspection level file is a PNG/ PDF file where all the areas of a press sheet that will be checked are defined. An inspection area is a grayscale area based on which the inspection system recognizes the level of sensitivity with which it will check an area.

An inspection area can have a gray value of 80%, 40%, 20%, 10% or 5%. 80% stands for the highest sensitivity = level 1. Areas with this level are checked extremely critically. 5% stands for the lowest sensitivity = level 5.

Inspection level	Grayscale value	C	M	Y	K	Mandatory name of the inspection level color
Level 1 (most critical level)	80%	0	0	0	80	InspL_1
Level 2	40%	0	0	0	40	InspL_2
Level 3	20%	0	0	0	20	InspL_3
Level 4	10%	0	0	0	10	InspL_4
Level 5 (least critical level)	5%	0	0	0	5	InspL_5

Inspection level table

Introduction

You can generate the inspection data for creating the inspection level file automatically and/or manually. Automatically generated inspection data is offset against any manually defined inspection data contained in the PDF.

Automatic generation of inspection level files

An automatically generated inspection area covers the printed area of a surface. For the pages in the commercial workflow, the inspection area has the dimensions of the trimmed final format (TrimBox). For the 1ups in the packaging workflow, the area of the inspection area corresponds to the area within the die-cut contour (or the area within the trim path, which must lie on the contour).

An automatically generated inspection level can be defined very easily in the ImposePDF sequence by selecting the levels from 1 to 5 (see [section "ImposePDF sequence for creating the inspection level file", page 34](#)).

The following images show two different inspection level files for the same subject in the packaging workflow, one with inspection level 5 and one with inspection level 1:

Automatically generated inspection level files for a subject in the packaging workflow		
Subject for packaging printing	Inspection level 5 (least critical level with the lightest gray value 5%)	Inspection level 1 (most critical level with the darkest gray value 80%)
		

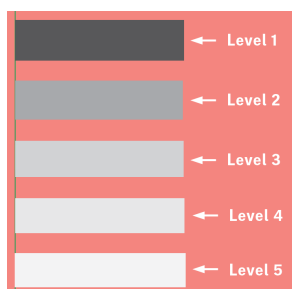
Automatically created inspection levels

Manual creation of up to 5 inspection levels

The manual generation of inspection levels expands your options if checking with an automatically generated inspection level is not sufficient.

You can use a PDF editor (e.g. Coating Editor) to manually define different inspection areas for your PDF with inspection levels 1 to 5 (see [Inspection level table, page 13](#)) accurately according to your requirements. This means that several different areas with up to 5 different levels of accuracy can be inspected on your surface.

The following screenshot illustrates the 5 inspection levels (gray values) that can be created for a surface or a 1up:



Example: In the PDF, you manually define an area above the barcode with inspection level 3 in order to have it checked more closely:

Manually created inspection level file for a subject in the packaging workflow		
1up for packaging printing:	Inspection area with Inspection level 3 above the barcode:	The inspection file for a subject with 9 of these 1ups looks as follows:
		

Barcode check with inspection level 3

See also [Manual creation of inspection data in the PDF, page 25](#).

Introduction

Combination of automatic and manual inspection level creation

If your PDF contains inspection areas with the possible inspection levels 1 to 5 and you have also enabled the automatic generation of inspection data in the ImposePDF sequence, the automatically and manually created inspection levels are offset against each other. The most critical inspection level "wins", i.e. it may overlay any existing, less critical areas so that Inspection Control can check more precisely in case of doubt.

In the two examples below, we combine the manually created inspection areas from the screenshot [Barcode check with inspection level 3, page 15](#) with the automatically created inspection levels 5 and 1 from screenshot [Automatically created inspection levels, page 14](#):

Example: Combination of inspection levels 3 and 5

Combination of manually created inspection level 3 and Automatically created inspection level 5		
Inspection level 3 defined manually in the PDF for more precisely checking the barcode.	Automatically generated inspection level 5 defined in the ImposePDF sequence for checking the subject.	Combination of inspection levels 3 and 5: The level 3 areas superimpose the area with level 5.

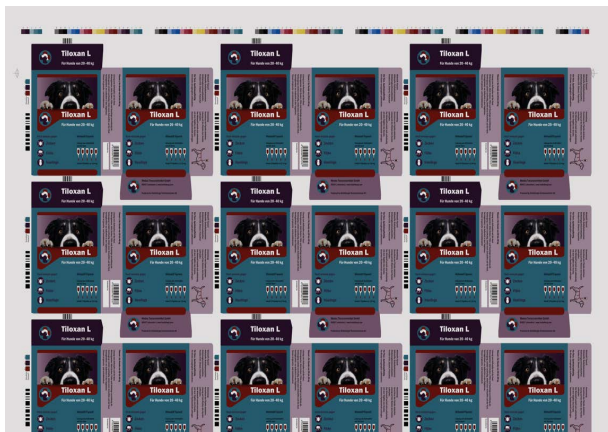
Example: Combination of inspection levels 3 and 1

Combination of manually created inspection level 3 and Automatically created inspection level 1		
Inspection level 3 defined manually in the PDF for more precisely checking the barcode.	Automatically generated inspection level 1 defined in the ImposePDF sequence for checking the subject.	Combination of both inspection levels 3 and 1: The level 1 area superimposes the area with level 3.

Reference Image

The reference image is an imposed layout PNG/PDF that is used to check the contents of the press sheet for PDF inspection. This is the unaltered original data the workflow was started with.

The figure below shows an example of a reference image for packaging printing.



Software requirements: HEIDELBERG prepress



Note: Please make sure to always use the latest Prinect version for all products. ISC4 is available only for the XL106 press.

- License for **Inspection Control 4** (Inspection Support). Reboot after licensing.

License Manager

License Overview | License Assistant | Settings | i | ?

All licenses | Valid licenses | Permanent licenses | Time-limited licenses

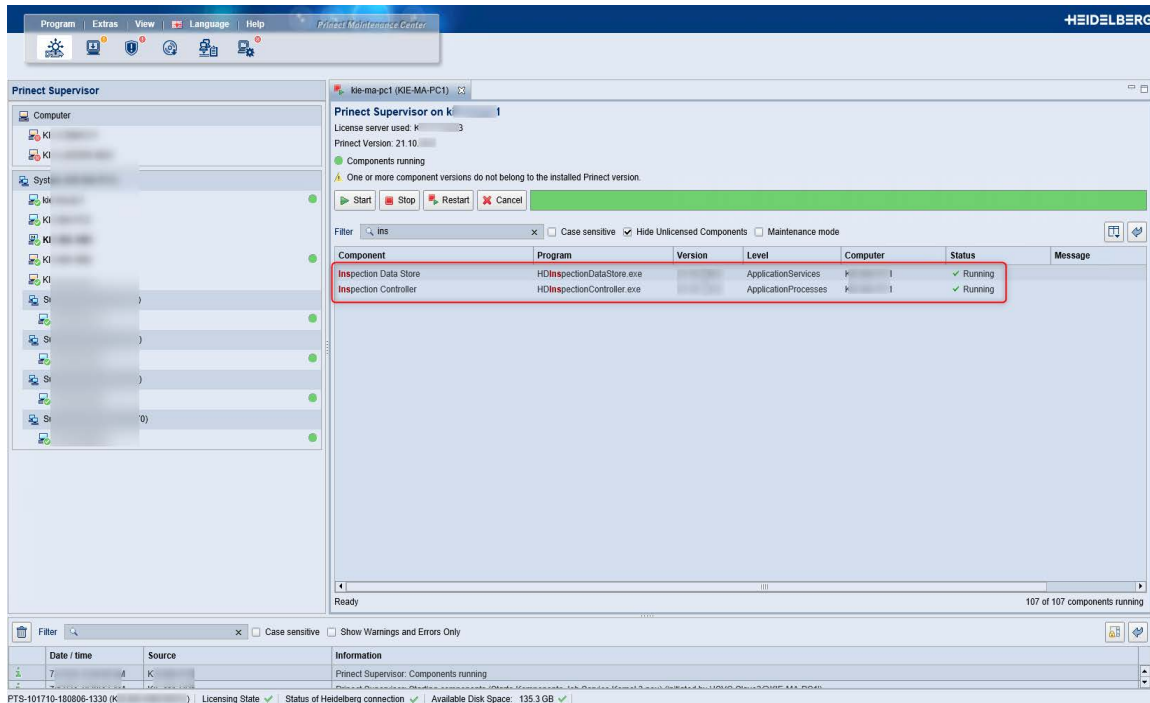
Workstation: [] Product: Prinect Engines, 21.0 LSN: 103436

Workstation	Product / Option	State	Instances
▶	80 Data Terminal Press	permanent	1
▶	81 Data Terminal Postpress	permanent	1
▶	82 Data Terminal Digital Press	permanent	1
▶	83 KBA	permanent	1
▶	84 manroland	permanent	1
▶	85 Komori	permanent	1
▶	86 Ryobi	permanent	1
▶	87 Goss	permanent	1
▶	88 Connectivity - CSV	permanent	1
▶	89 Web2Print Connector	permanent	4 (max 4)
▶	90 Web2Print 3rd party Connector	permanent	1
▶	91 SQL Cores	permanent	16 (max 16)
▶	92 System and Database Access	permanent	1
▶	93 Color Masterdata	permanent	1
▶	94 Job Portal Service	permanent	2 (max 2)
▶	95 Prepress Portal Service	permanent	1
▶	97 Generic Postpress Interface	-	0 (max 15)
▶	100 Paper Stretch Compensation 2 Int	permanent	1
▶	101 Paper Stretch Compensation 2 Int Volume Based	-	0
▶	102 Plate Pilot	permanent	1
▶	103 Smart BI - Business	-	0
▶	104 Smart BI - Production	-	0
▶	107 Inspection Support	permanent	1
▶	108 Connectivity - PPF Tiff Import	permanent	1
▶	109 Press Center Mobile	permanent	1 (max 4)

Software requirements

- **Settings in Prinect Maintenance Center:**

After licensing, make sure that the required components are started in the Supervisor (in Prinect Maintenance Center):



- **Prinect Press Center XL4** (current version):

- License for PDF inspection with Prinect Inspection Control 4 ("PDF Inspection" option).
- Operation: Touchscreen / Wallscreen XL.

- **Prinect Production** (Commercial or Packaging)

or

Prinect Integration (Prinect Prepress incl. PDF Automation Pack & Prinect Pressroom), (current versions).

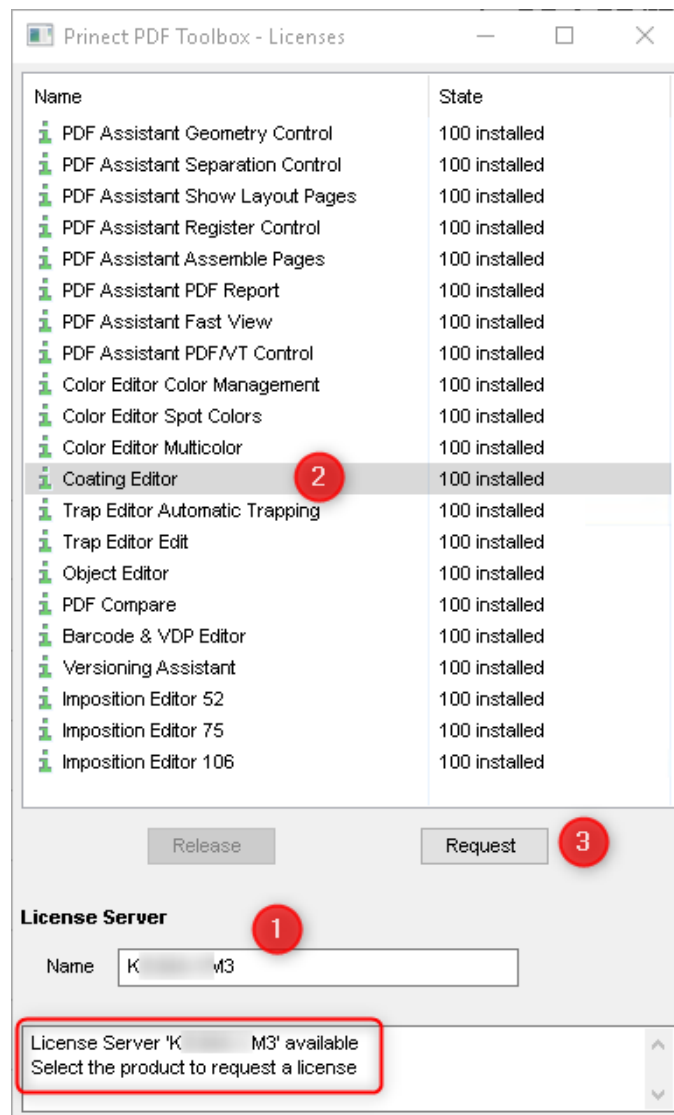
Setting up the parameters of the ImposePDF, ImpositionOutput and SheetfedPrinting sequences, see ["ImposePDF sequence for creating the inspection level file", page 34](#), [ImpositionOutput sequence for reference file creation, page 38](#) and [SheetfedPrinting sequence for the reference image and the inspection level file, page 39](#).

- **Prinect Renderer** with the **"Color Proof Pro" option** (reference image creation).
- **Prinect Signa Station** or **Prinect Signa Station Packaging Pro** (current version).
- License for the **Customer Portal** (Reporting).

- Optional: **Prinect PDF Toolbox** with the **Coating Editor** module and **Object Editor** in Adobe Acrobat DC Professional or later. (You need this product only if you want to set up or edit the inspection levels in the PDF before starting the workflow.)

Licensing Coating Editor: (Proceed analogously for Object Editor)

- Start Adobe Acrobat and choose "Plugins > Prinect > Licenses":



- Enter the name of your license server in the "License Server" box [1].
When the connection is set up, the following message displays: "License Server <computer_name> available".
- Select "Coating Editor" [2] and click "Request" [3].
The requested module has a green checkmark if licensing is successful.

Software requirements: Third-party prepress



Note: Please make sure to always use the latest Prinect version for all products. ISC4 is available only for the XL106 press.

- License for **Inspection Control 4** (Inspection Support). Reboot after licensing.

License Manager

License Overview | License Assistant | Settings | i | ?

License Manager

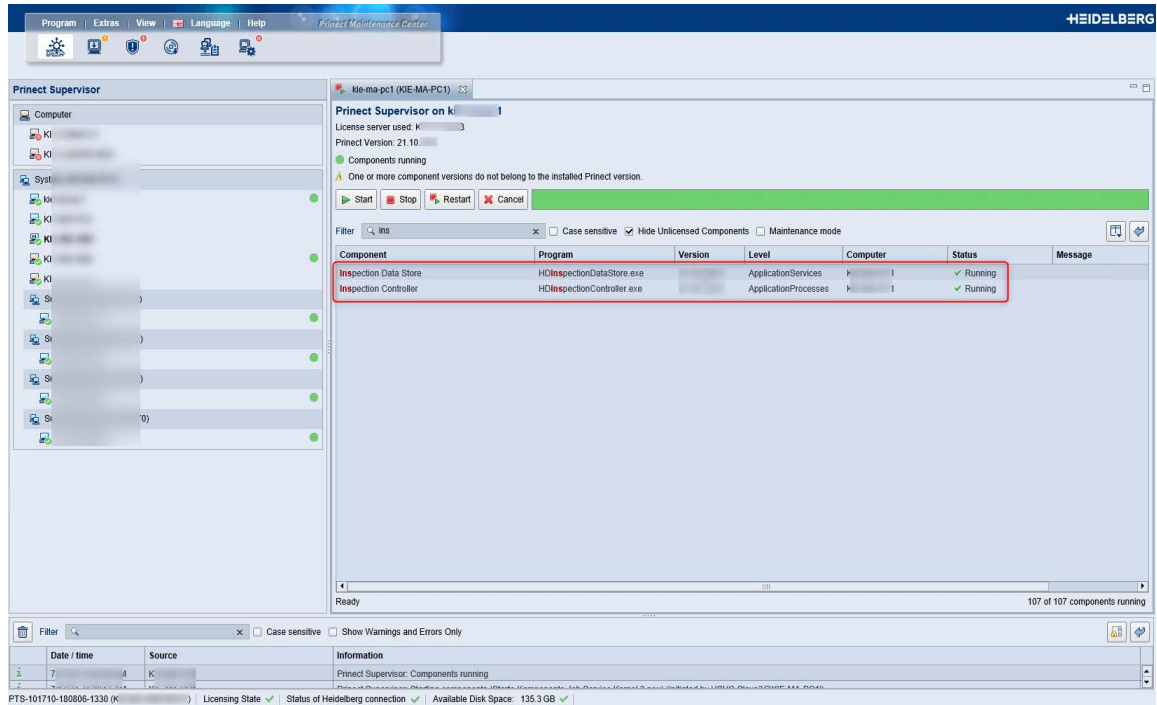
All licenses | Valid licenses | Permanent licenses | Time-limited licenses

Workstation: [] Product: Prinect Engines, 21.0 LSN: 103436

Workstation	Product / Option	State	Instances
80 Data Terminal Press		permanent	1
81 Data Terminal Postpress		permanent	1
82 Data Terminal Digital Press		permanent	1
83 KBA		permanent	1
84 manroland		permanent	1
85 Komori		permanent	1
86 Ryobi		permanent	1
87 Goss		permanent	1
88 Connectivity - CSV		permanent	1
89 Web2Print Connector		permanent	4 (max. 4)
90 Web2Print 3rd party Connector		permanent	1
91 SQL Cores		permanent	16 (max. 16)
92 System and Database Access		permanent	1
93 Color Masterdata		permanent	1
94 Job Portal Service		permanent	2 (max. 2)
95 Prepress Portal Service		permanent	1
97 Generic Postpress Interface		-	0 (max. 15)
100 Paper Stretch Compensation 2 Int		permanent	1
101 Paper Stretch Compensation 2 Int Volume Based		-	0
102 Plate Pilot		permanent	1
103 Smart BI - Business		-	0
104 Smart BI - Production		-	0
107 Inspection Support		permanent	1
108 Connectivity - PPF TIB Import		permanent	1
109 Press Center Mobile		permanent	1 (max. 4)

- **Prinect Maintenance Center:**

Make sure that the required components are started in the Supervisor (in Prinect Maintenance Center):



- **Prinect Production** (Commercial or Packaging)

or

Prinect Integration (Prinect Prepress incl. PDF Automation Pack & Prinect Pressroom), (current versions).

Setting up the parameters of the SheetfedPrinting sequence, see [SheetfedPrinting sequence for the reference image and the inspection level file, page 39](#).

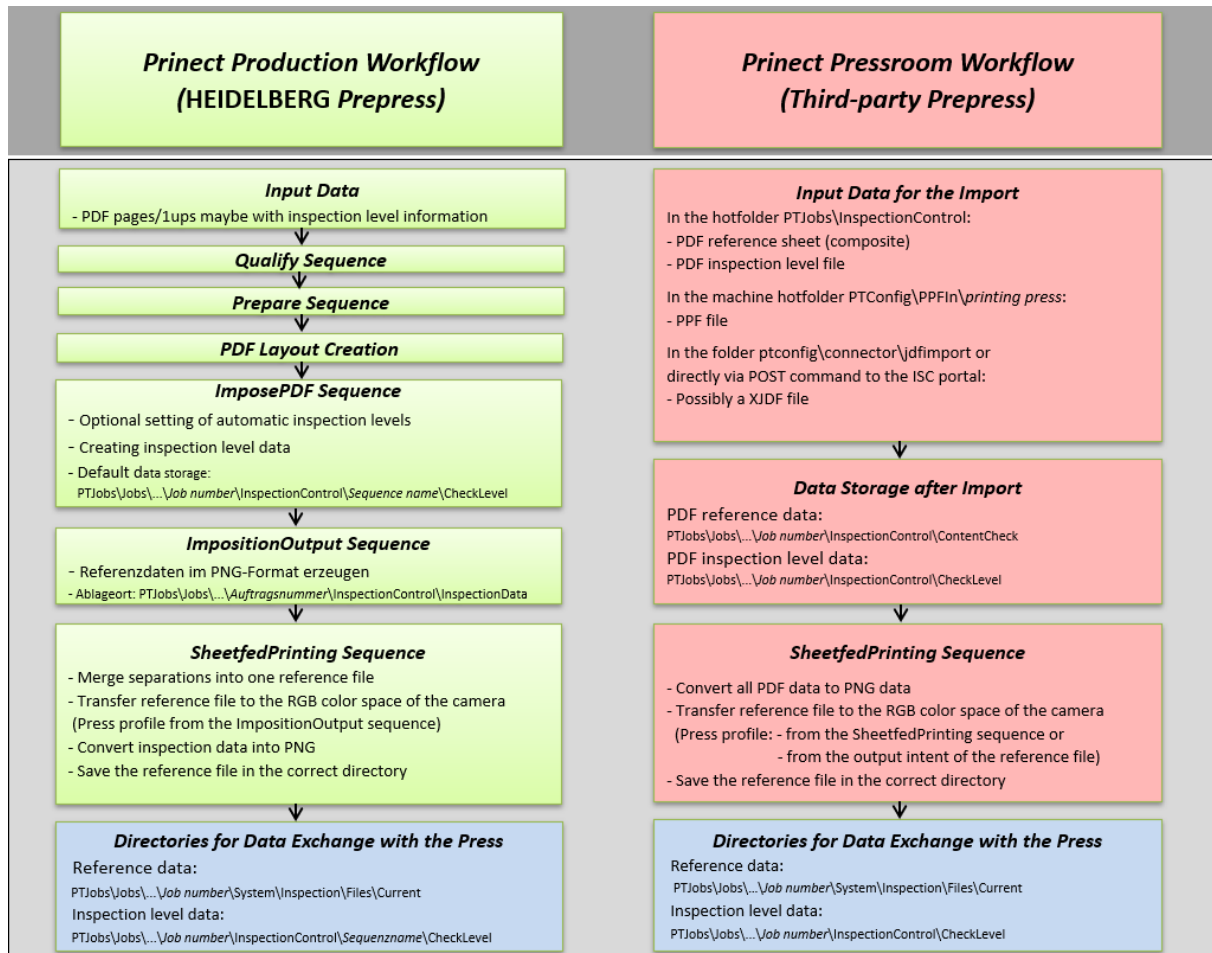
- **Prinect Press Center** (current version):

- License for PDF inspection with Prinect Inspection Control 4 ("PDF Inspection" option).
- License for production inspection with Prinect Inspection Control 4 ("Preset Inspect" option).
- Display: Touchscreen / Wallscreen XL.

- **Prinect Pressroom**

- License for **Inspection Control 4** (Inspection Support).
- License for the **Customer Portal** (Reporting). Inspection reports requires a system memory capacity of 32 GB RAM.

Overview: Prinect Production Workflow and Prinect Pressroom workflow



About the structure of paths

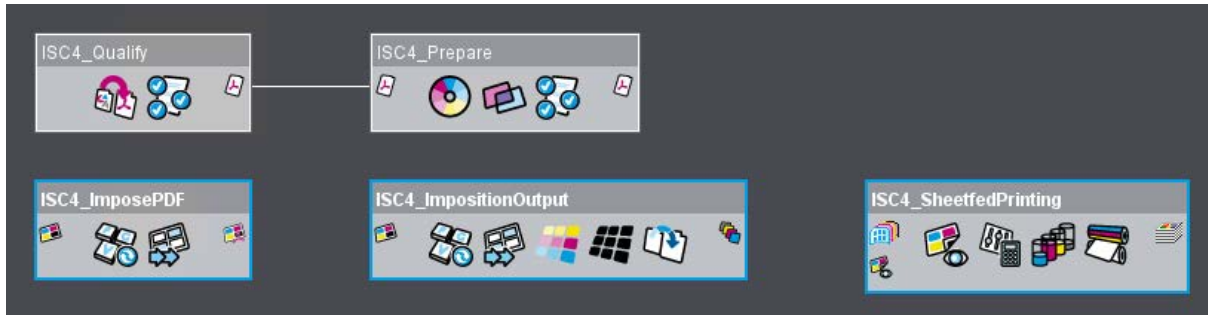
- "PTJobs\Jobs": This is the job home folder marking the beginning of the path.
- "...": The ellipsis indicates that each user can create their own individual folder structure in the middle section of the path.
- Path end, for example "Job number\System\Inspection\Files\Current":
The end of the path is fixed in all cases. There is always a folder name with the job number, followed by the respective specific folders such as
"\System\Inspection\Files\Current".

Example of the complete path name:

"PTJobs\Jobs\MG\ISC\MG-Pack4-ISC4\System\Inspection\Files\Current".

The middle, customized section of the path is "MG\ISC", followed by the folder with job number "MG-Pack4-ISC4".

Prinect Production workflow (HEIDELBERG prepress)



- Usually, the input data is PDF data, either as single pages/1ups or as sheet. The PDF input data may already contain inspection level data.

If required, you can use PDF Toolbox (Coating Editor, Object Editor) to manually define up to 5 inspection levels, see also ["Inspection Level File", page 13](#), ["Manual creation of inspection data in the PDF", page 25](#) and ["Job example from HEIDELBERG Prepress", page 41](#).

- Qualify, Prepare sequence

The "Qualify" and "Prepare" sequences automatically process the PDF input files.

- Accept or create sheet layout

For packaging printing, a cutting die is either created (with Packaging Pro) or loaded during layout creation.

A sheet layout is either adopted or newly created (manually or automatically).

- Manual layout creation: In the "Imposition" step with interactive Signa Station.
- Automated layout creation: Automatically in the background using Smart Automation with the Signa Server.
- Page or 1up assignment in Prinect Cockpit.
The layout with contents is submitted to the ImposePDF sequence.

- ImposePDF sequence

If parameterized accordingly, the ImposePDF sequence generates the inspection data in PDF format and stores the data here:

*"Server_name\PTJobs\Jobs\...\Job_number\Inspection Control\
Sequence_name\CheckLevel".*

A PDF inspection level file is created for each front and back side.

In the ImposePDF sequence, you can specify if an inspection level (selection "None" or "1" to "5") is to be created automatically. If inspection data has already been manually defined in the PDF input data, it is offset against the automatically created inspection level, see ["Automatic generation of inspection level files", page 14](#), ["Combination of automatic and manual inspection level creation", page 16](#), and ["Job example in the packaging workflow", page 41](#).

- ImpositionOutput sequence

For this purpose, the option "Generation of inspection data" must be enabled. This sequence then generates the PNG reference files from the layout. A PNG reference file is created for each separation to be printed.

For a versioned job, a PNG reference file is generated for each versioned separation. However, the PNG inspection level file is ONLY generated for the master version.

The generated PNG files are located here (for the structure of path names, see ["About the structure of paths", page 25](#)):

*PTJobs\Jobs\...\Job_number\InspectionControl\InspectionData
\name of ImpositionOutput sequence*

The separations of the PNG reference files are submitted to the SheetfedPrinting sequence.

- SheetfedPrinting sequence

For this purpose, the option "Generation of inspection data" must be enabled, see ["Sheetfed-Printing sequence for the reference image and the inspection level file", page 39](#).

Reference data:

- The Inspection Controller merges all PNG separations of the reference file into a PNG reference file.
- When merging, the reference data is transferred from the print color space (print profile from the ImpositionOutput sequence) to the RGB color space of the camera (camera profile from the SheetfedPrinting sequence).
- The PNG reference file is stored in the following folder:
PTJobs\Jobs\...\Job_number\System\Inspection\Files\Current

Workflow overview

Inspection data:

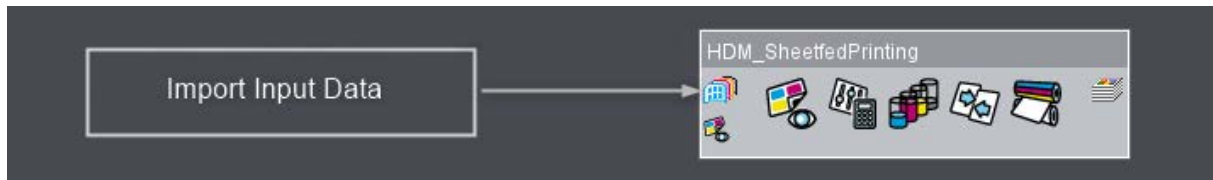
The inspection level files are converted to PNG and, by default, stored here:

"Server_name\PTJobs\Jobs\...\Job_number\Inspection Control\
Sequence_name\CheckLevel".

Data exchange with the press is possible only if the PNG files are stored in these folders, see also ["Further workflow: Data exchange with the press", page 31](#).

From this point onward, the workflow is identical to the Prinect Pressroom workflow. Section ["Further workflow: Data exchange with the press", page 31](#) describes the workflow steps that follow.

Prinect Pressroom Workflow (third-party prepress system)



- The input data are:
 - PDF reference file as composite imposition files, see ["Reference Image", page 51](#).
 - PDF inspection level files with up to 5 inspection levels, see ["Inspection Level File", page 49](#).
 - PPF file with color data and some job data
 - An additional XJDF file if applicable

The input data for import must be located in the following hotfolder:
PTJobs\InspectionControl

The PPF is filed in the press hotfolder:
PTConfig\PPFIn\press

The PDF input data for the Inspection Control System is imported from the "PTJobs\Inspection-Control" hotfolder and stored in the following locations:

- PDF reference file:
PTJobs\Jobs\...\job_number\InspectionControl\ContentCheck
- PDF inspection level file:
PTJobs\Jobs\...\job_number\InspectionControl\CheckLevel

Path name structure, see ["About the structure of paths", page 25](#).

Workflow overview

- The SheetfedPrinting sequence triggers the following actions:
 - The PDF reference file and the PDF inspection level file are converted to PNG files.
 - The reference data is mapped to the press color space and to the RGB color space of the camera.

The press profile can either be read from the output intent of the PDF reference file or the print profile defined in the SheetfedPrinting sequence can be applied (the "Generation of Inspection data" option must be enabled, see ["Parameters of the SheetfedPrinting sequence", page 55](#)).
 - The PNG reference file is copied to the correct folder.
 - The PDF inspection data is converted to PNG data. The PNG inspection data is always filed in the same folder that contains the PDF inspection data.

The PNG files are then available for data exchange with the press in these folders:

PNG reference file:

PTJobs\Jobs\...*job_number*\System\Inspection\Files\Current

PNG inspection level file:

PTJobs\Jobs\...*job_number*\InspectionControl\CheckLevel

From this point onward, the workflow is identical to the Prinect Production workflow.

Section ["Further workflow: Data exchange with the press", page 31](#) describes the workflow steps that follow.

Further workflow: Data exchange with the press

- Starting point: The PNG files from both workflows (Production workflow and Prinect Pressroom workflow) for data exchange with the press are located in the correct folders:
 - Prinect Production workflow:
 - Reference file:
PTJobs\Jobs\...\job_number\System\Inspection\Files\Current
 - Inspection level file:
"Server_name\PTJobs\Jobs\Job number\Inspection Control\Sequence_name\Check-Level".
 - Prinect Pressroom workflow:
 - Reference file:
PTJobs\Jobs\...\job_number\System\Inspection\Files\Current
 - Inspection level file:
PTJobs\Jobs\...\job_number\InspectionControl\CheckLevel
- Path name structure, see ["About the structure of paths", page 25](#).

From this point onward, all steps are identical for both workflows.

- A job is chosen on the press.
- This also triggers the following actions in Prinect Production:
 - For the selected job, a PPF file with the following content is created:
 - **URL for the PNG reference file**
 - **URL for the PNG inspection level file**
 - Both URLs are stored in the IDS (Inspection Data Store).
The database stores only the URLs whereas the job data is stored in the folders mentioned before. This means that the URLs are ineffective if the job is deleted.
- During PDF inspection, Inspection Control 4 determines whether URLs are present. These are then submitted to the press and the PNG reference file and the PNG inspection level file are sent to the press using the URLs.
- Inspection Control 4 with the "PDF Inspection" option uses the PNG files to perform the PDF comparison.
- Differences between the reference image and the camera image in the press are returned to Prinect Production and saved there in the IDS (in parallel to the URLs).
These files are deleted in the IDS after a default period of 120 days.

Settings for HEIDELBERG prepress system



Note: Please note that when using ISC4 you need additional space in your JobHome folder "PTJobs\Jobs".



Note: If you work in mixed operation, not every press in the press pool has ISC4. Rescheduling occurs frequently so that jobs are assigned to other presses. This means that only certain jobs on a certain press receive a PDF reference file.

- Required settings:
The "Impose PDF", "ImpositionOutput" and "SheetfedPrinting" sequences are required to create, process and store the reference image and the inspection level files, see ["Settings in Prinect Prepress", page 34](#).
- Optional Settings:
Manual creation of inspection levels / inspection areas using Coating Editor / Object Editor in Prinect PDF Toolbox, see ["Inspection Level File", page 13](#) and ["Manual creation of inspection data in the PDF", page 25](#).

Settings in Prinect Prepress

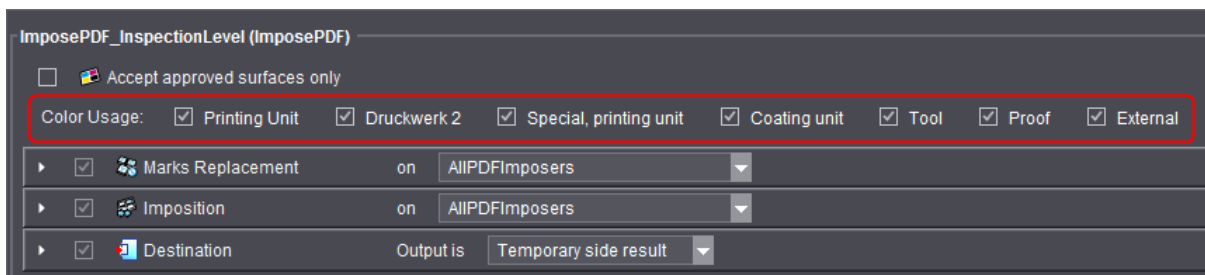
The "ImposePDF", "ImpositionOutput" and "SheetfedPrinting" sequences are required to create and process the reference image and the inspection level file.

ImposePDF sequence for creating the inspection level file

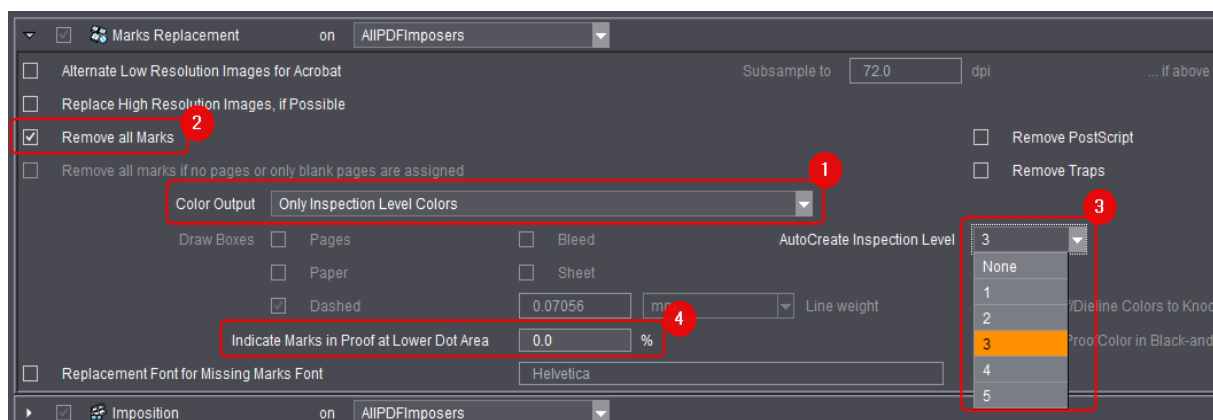
Proceed as follows to create the ImposePDF sequence:

1. Start Prinect Cockpit.
2. Go to "Administration > Templates > Sequence Templates".
3. Click "ImposePDF".
4. Click "New" to create a new ImposePDF sequence. (As an alternative, click an existing ImposePDF sequence and then choose "Open".)

The settings for the ImpositionOutput sequence open:



5. Enable all the options in "Color Usage".
6. Open the "Marks Replacement" section with details.

"Marks Replacement" section

7. Select "Only Inspection Level Colors" next to "Color Output" [1].
This outputs only colors named InspL_1, InspL_2, etc.
8. Enable the "Remove all Marks" option [2].
This suppresses marks layers when inspection areas are output.
9. If you want to create inspection level data automatically in your workflow, make the appropriate selection in the "AutoCreate Inspection Level" [3] listbox:

"None":

An inspection level is not created automatically. If inspection level data was defined in the PDF, an inspection level file is generated with the inspection data contained in the PDF.

Digits "1" to "5":

Inspection data is automatically generated when one of the digits "1" to "5" is selected. Digits 1 to 5 represent inspection levels 1 to 5 to which a specific gray value is assigned. Selecting the digit means that the inspection level is automatically generated with the assigned gray value. If inspection level data has been defined in the PDF, this is offset against the selected inspection level to be generated automatically, so that the result in the inspection level file includes all the inspection data defined in total.

See also ["Inspection Level File", page 13](#).

Settings for HEIDELBERG prepress system

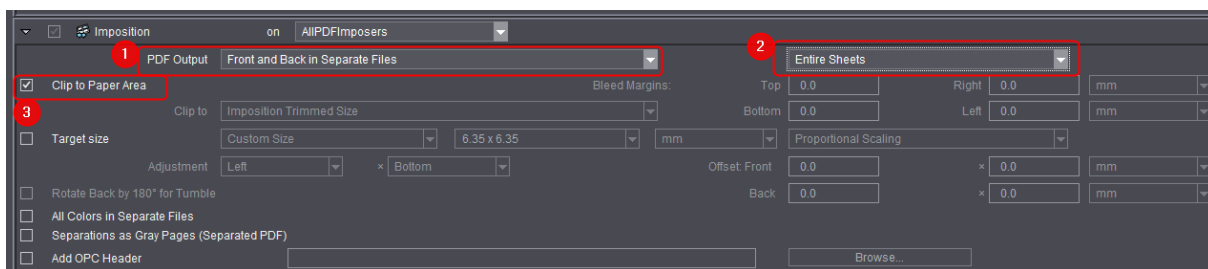


Note: Please note that for versioned jobs, the inspection level data (in which area checks take place and with what accuracy) is **ONLY** generated for the master version. This means that the inspection level data for the master version is then applied to all versions. You may need to bear this in mind when defining the inspection areas.

Example: The versions differ in terms of language, among other things, and you would like to check a text string in more detail: Then you should define the inspection area for the text string in the master version so large that any longer text string in a different language (version) also fits into the inspection area.

10. In "Indicate Marks in Proof at Lower Area Coverage" enter the value "0%" (4).
11. Open the "Imposition" section with details.

"Imposition" section



12. Select the "Front and Back in Separate Files" option [1].
13. Select the "Entire Sheets" option [2].
14. Enable the "Clip to Paper Area" option [3].
This is necessary because an image of the sheet will be captured by the camera.
15. Open the "Destination" section with details.

"Target" section

16. Select "Temporary side result" [1] as output.

17. Select "Job internal" [2] as the file location for "Inspection Control".
The folder is created automatically [3].



Warning: We strongly recommend NOT to change the default setting of the output folder.

18. Click "Save as..." and give your sequence a unique name.

You have now created the ImposePDF sequence. Whenever a press sheet runs through the sequence, the inspection level file is saved to the following folder by default:

"Server_name\PTJobs\Jobs\Job number\Inspection Control\Sequence_name\CheckLevel".

This link is known as ContentLevelURL.

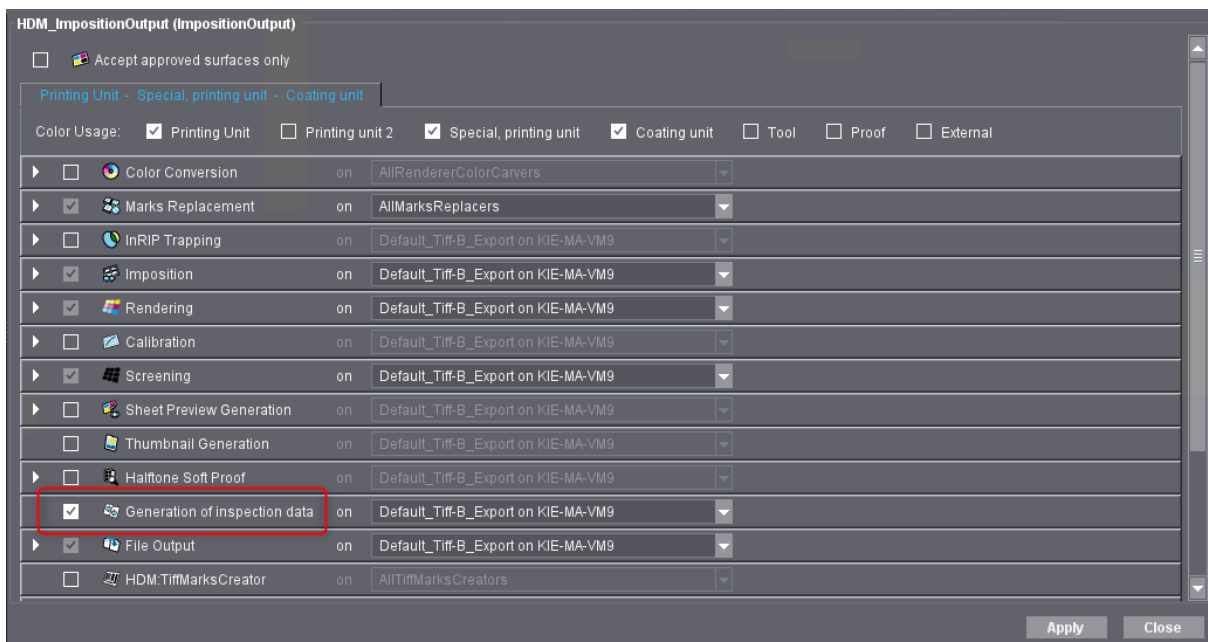
ImpositionOutput sequence for reference file creation

See [ImpositionOutput sequence, page 27](#).

Proceed as follows to set up the ImpositionOutput sequence:

1. Start Prinect Cockpit.
2. Go to "Administration > Templates > Sequence Templates".
3. Click "ImpositionOutput".
4. Click "New" to create a new ImpositionOutput sequence. (As an alternative, click an existing ImpositionOutput sequence and then choose "Open".)

The settings for the ImpositionOutput sequence open:



5. Enable the "Generation of inspection data" option [1]. This will create the reference files.

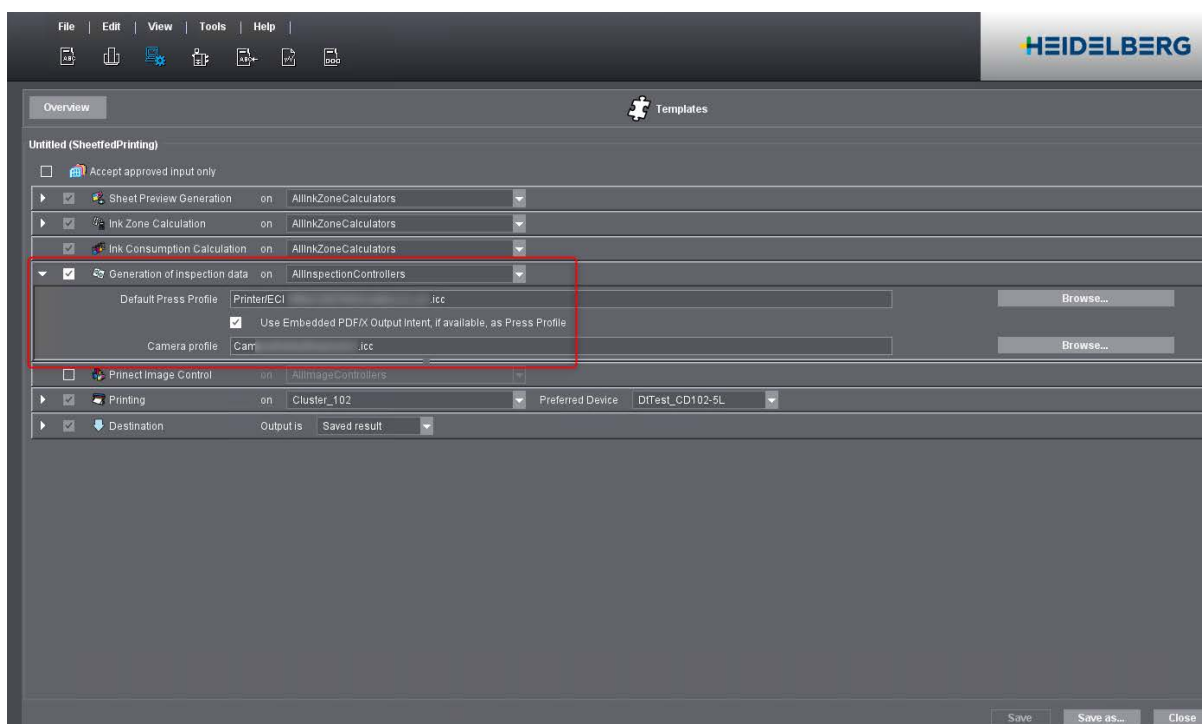
SheetfedPrinting sequence for the reference image and the inspection level file

See [SheetfedPrinting sequence, page 27](#).

Proceed as follows to create a SheetfedPrinting sequence:

1. Start Prinect Cockpit.
2. Go to "Administration > Templates > Sequence Templates".
3. Click "SheetfedPrinting".
4. Click "New" to create a new SheetfedPrinting sequence. (As an alternative, click an existing SheetfedPrinting sequence and then choose "Open".)

The settings for the SheetfedPrinting sequence open:



5. Enable the "Generation of inspection data" option.

- "Default Press Profile":

If you are working in the Prinect Production Workflow, i.e. with a HEIDELBERG prepress system, please ignore the option next to "Default Press Profile". In this case, the selection has no effect, as the print profile set in the ImpositionOutput sequence is always used automatically.

(However, if you are working in the Prinect Pressroom workflow, i.e. with a third-party prepress system, it is essential that you select the appropriate print profile here, see [section "Parameters of the SheetfedPrinting sequence", page 55](#)).

Settings for HEIDELBERG prepress system

- "Camera profile": As the camera profile, you must select an RGB profile matching the camera.

Use the following camera color profile for presses with ISC4 camera system(s): "Camera_ISC4_V1.icc".

Use the following camera color profile for presses with ISC2 or ISC3 camera system(s): "DefaultInspektion.icc".

Job example in the packaging workflow

In the section below, we will describe the procedure of creating the reference files and pertaining inspection files in the packaging workflow with a HEIDELBERG prepress system (Prinect Production Workflow).

Prerequisites

Software components required

Please meet the requirements as described in "[Software requirements: HEIDELBERG prepress](#)", [page 19](#) except for the parameterization of the sequences, which are described here.

1up PDF

You need a 1up PDF, unless there is an imposed PDF sheet as input data.



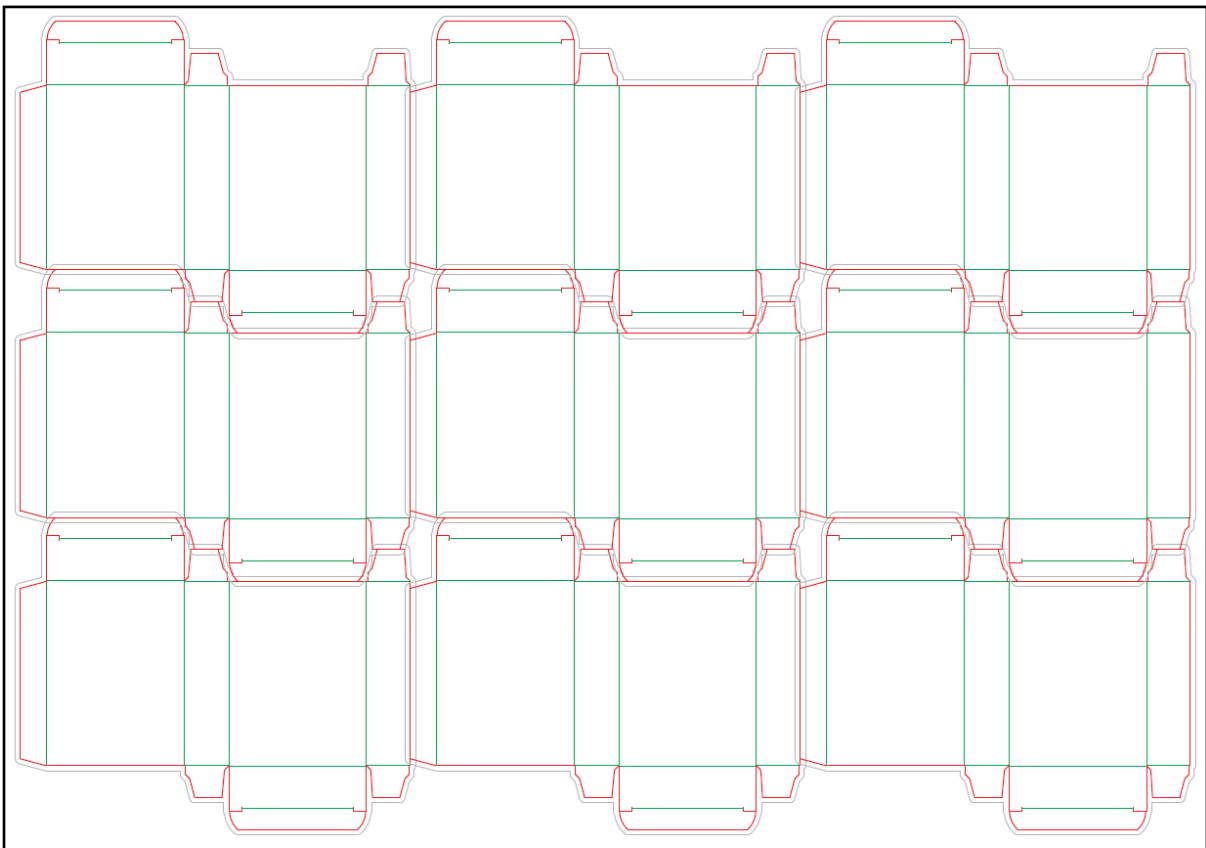
Job example from HEIDELBERG Prepress

Cutting Die

You need a layout with cutting die. (You need a cutting die only in a packaging workflow. You do not need a cutting die but only the layout if you are working in a jobbing workflow.)

In this example, the cutting die is created in the "Imposition" step using the interactive Signa Station and then the lups are assigned in Prinect Cockpit.

Alternatively, you can also import a CF2 sheet file as input data. Another option is to create the layout in the automatic workflow (Smart Automation) using the Signa Server if the parameters are set accordingly.



ImposePDF sequence

Set parameters for the ImposePDF sequence as described in ["ImposePDF sequence for creating the inspection level file", page 34](#). We do not change the default output folder.

We want to automatically create the inspection level 5 in this example. Therefore, select the entry with the number "5" in the "AutoCreate Inspection Level" [2] listbox in the "Marks replacement" section. This will later display the subject in the inspection level file with a gray value of 5%.

ImpositionOutput sequence

Set parameters for the ImpositionOutput sequence as described in ["ImpositionOutput sequence for reference file creation", page 38](#).

Please also note that the print profile set in the ImpositionOutput sequence is used for rendering in the Prinect Production Workflow (setting in "Rendering").

SheetfedPrinting sequence

Set parameters for the SheetfedPrinting sequence as described in ["SheetfedPrinting sequence for the reference image and the inspection level file", page 39](#).

Please note that the print profile set here and the PDF output intent have no effect in the Prinect Production Workflow.

Manual generation of the inspection areas

In this example, we have already defined an automatic inspection level 5 in the ImposePDF sequence, see ["ImposePDF sequence", page 42](#).

In addition, we would now like to have a few more areas checked in more detail and therefore edit the 1up PDF file in Coating Editor of Prinect PDF Toolbox.

- Barcode [1]: This is the area we want to subject to closest scrutiny. The inspection area should be rubberbanded over the barcode and assigned inspection level 3 (gray value 20%). To do this, carry out the steps described in ["Coating Editor: Rubberband", page 31](#).
- Individual objects [2]: We also want to check the 6 individual objects [2] with inspection level 4. To do this, carry out the steps described in ["Coating Editor: Select individual object with a mouse click", page 32](#).



After the ImposePDF sequence has run, the inspection stage file will look like the one in [section "Prinect Cockpit: Inspection data, Colors, Job planning, Output", page 46](#).

Prinect Cockpit: Creating and starting a job

1. Open Prinect Cockpit.
2. Create a new job.
3. Assign the job a suitable Qualify and Prepare sequence.
4. Load single 1up PDF:
In the open job, go to the "Documents" step and click the "Add Files" button here.
Select the single 1up PDF and click "OK".
The PDF automatically runs through the "Qualify" and "Prepare" sequences.
5. Go to the "Imposition" step to create the layout with cutting die. To do this, click "Create".
Prinect Signa Station opens interactively.

Interactive Prinect Signa Station: Create Layout

1. "Product Part" step: Select the "Packaging" work mode.
2. "Plates" Step: Select a suitable plate template and a suitable paper.
3. "Packaging" step: Load an appropriate cutting die.

(If you do not have a cutting die, start Prinect Packaging Pro in Prinect Signa Station (see Prinect Packaging Pro Online Help) and use it to create your cutting die.

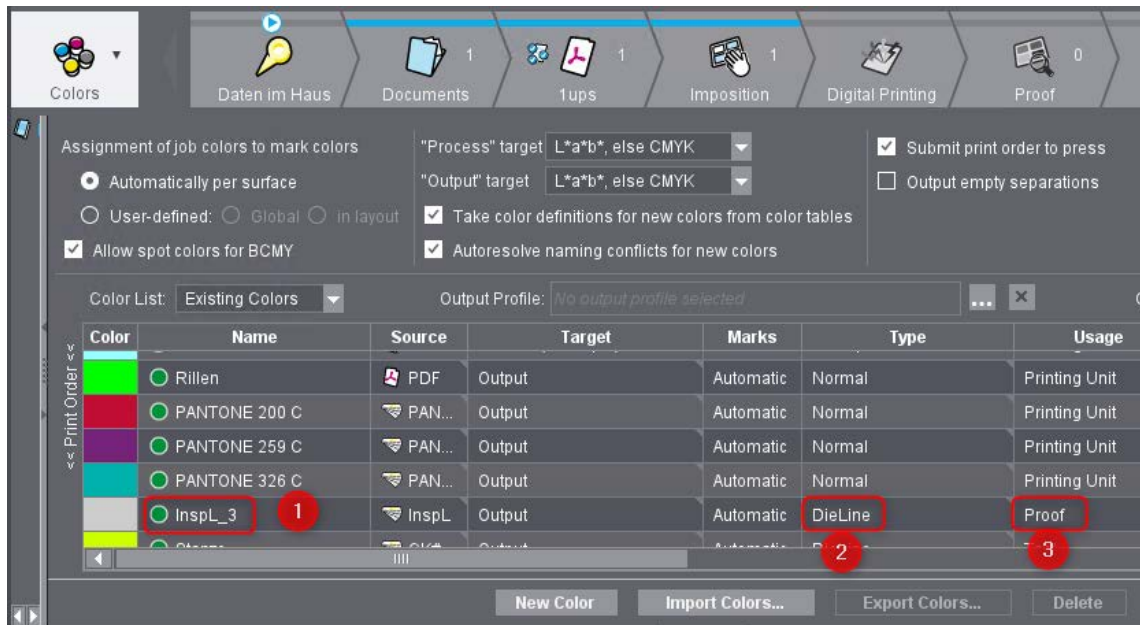


Note: You must define the clip path on the margin of the cutting die in order for the inspection area to be defined correctly later. You can edit the clip path In Prinect Packaging Pro.)

4. Step "Output": Output the layout to Prinect Cockpit with "Output to Prinect Cockpit".

Prinect Cockpit: Inspection data, Colors, Job planning, Output

1. "Imposition" Step: Assign the 1up to the layout.
- (2). "Colors" view: The inspection level color [1] must be of the "DieLine" type [2], the usage must be "Proof" [3] and it must overprint.



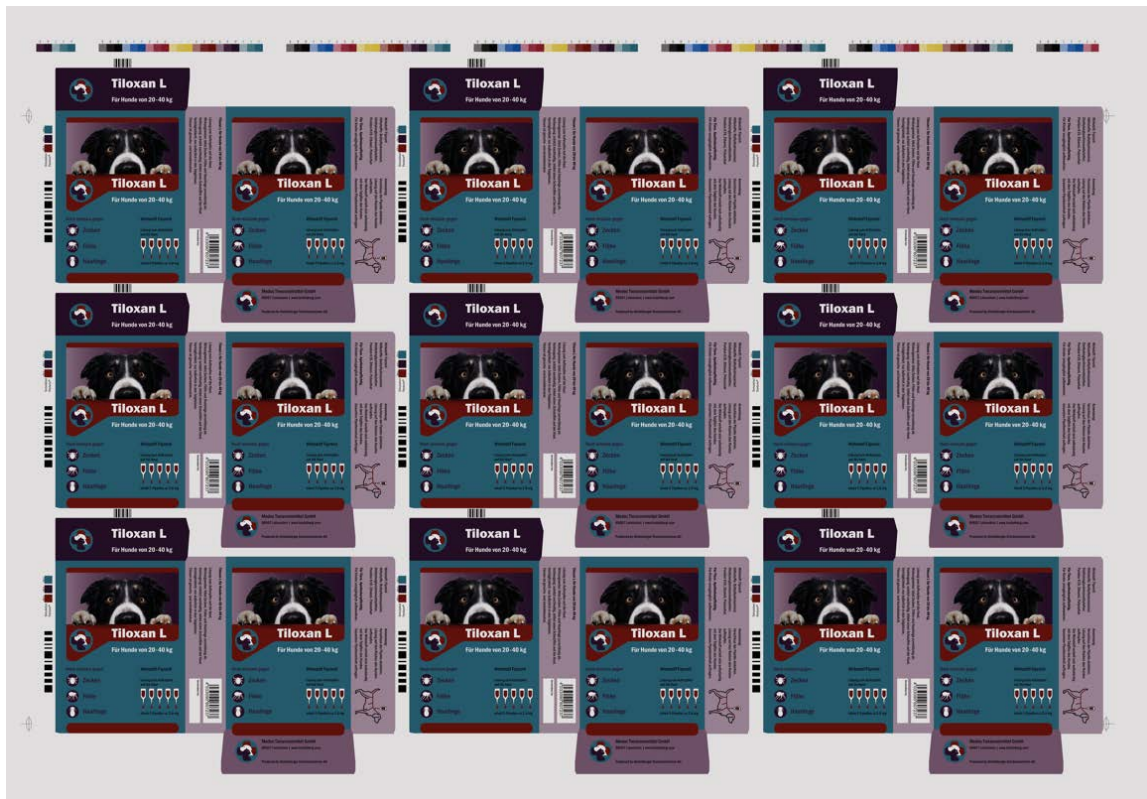
If you have defined a color table for inspection level colors in the global color table, you can load the colors defined there into your job in this view, see [Global inspection level color table, page 35](#).



Note: Please note that changes made here to color properties such as "Type" or "Usage" only take effect if the Prepare sequence is run again after the change.

3. "Proof" Step: Submit the layout to the ImposePDF sequence (drag&drop the layout on the sequence).
You can then view and check the generated PDF inspection data in this folder (the default setting for the folder was left as it was when the ImposePDF sequence was parameterized):
"Server_name\PTJobs\Jobs\...\Job_number\Inspection Control\
Sequence_name\CheckLevel".
4. "Imposition" Step: Start the Scheduling Assistant (button "Scheduling"). In "Printing" select the [SheetfedPrinting sequence](#) defined before and in "Platemaking" the [ImpositionOutput sequence](#) defined before. Set the other parameters according to your requirements.
5. "Plates" Step: Submit the layout to the ImpositionOutput sequence (drag&drop the layout on the sequence).
The PNG reference data and the PNG inspection level data are created in the ImpositionOutput sequence.

PNG reference sheet file for this example:



Job example from HEIDELBERG Prepress

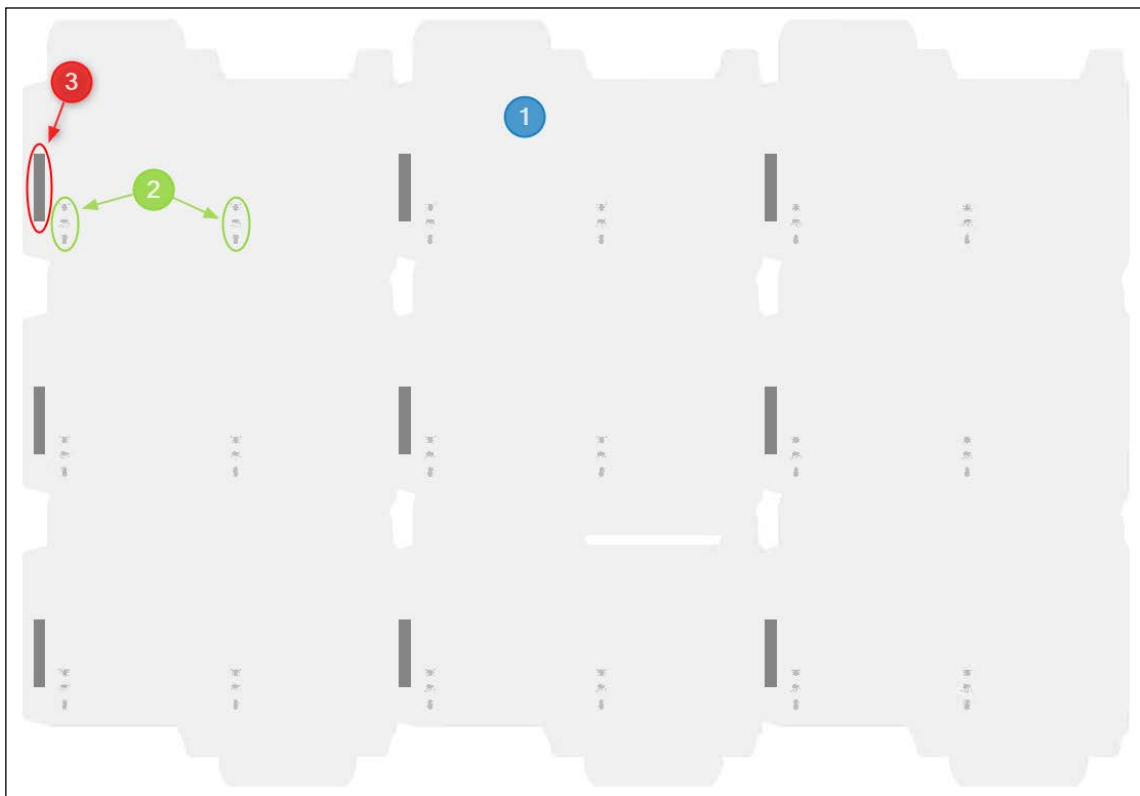
PNG inspection level file for this example:

[1]: Inspection level 5 (gray value 5%)

[2]: Inspection level 4 (gray value 10%)

[3]: Inspection level 3 (gray value 20%)

All the 3 inspection levels were offset against each other in such a way that the more critical areas always superimpose the other areas. This means that the areas with inspection levels 3 and 4 can be seen here superimposed on the area with the (automatically generated) inspection level 5.



6. The PNG files are then submitted to the SheetfedPrinting sequence, where the reference data is mapped to the RGB color space of the camera.
All PNG data is then copied to the corresponding folders for data exchange with the printing press, see also [chapter "Workflow overview"](#).

Overview of settings for third-party prepress



Note: Please note that when using ISC4 you need additional space in your JobHome folder "PTJobs\Jobs". Depending on your input data, the requirement per job can be a three-digit MB figure.

If you also use Plate to Unit with TiffBImport, please allow for approx. 1 GB of storage space.

It is possible to create prepress files using a third-party prepress system.

In the sections below, we will describe all the requirements for both files:

- **Inspection Level File**

The inspection areas are defined in the inspection level file.

See ["Inspection Level File", page 49](#).

When working with an external prepress system, there must be one inspection level file for each inspection level, i.e. several inspection levels per inspection level file are not possible. The name of the inspection level file identifies the inspection level, see [page 52](#). The name of the color separation in the inspection level file must match the file name, i.e. it must identify the same inspection level, see ["Name of the color separation", page 50](#).

- **Reference Image**

The reference image is an imposed layout PNG that is compared with the scan of the press sheet.

See: ["Reference Image", page 51](#)



Warning: Remember that we can only give you a rough description of the workflow here. The exact steps depend on the prepress system you use. If you have any queries, contact your prepress provider.

Inspection Level File

The inspection level file must have the following structure in order for it to be processed correctly:

File format

- **PDF as a composite file:**
The inspection level file must be output as a composite file and not as a pre-separated file.
- **Compatible with PDF/X-1a:**
For compatibility verification, make sure that the media box and the trim box are identical. You can ignore error messages about formal inputs.

Color space

- CMYK + spot colors

Settings for third-party prepress

Marks

- All marks in the PDF must be removed.

Structure

- Pixel PDF or vector PDF

Resolution

- 400 dpi (for bitmap PDF only)

Anti-aliasing

- Anti-aliasing must be disabled (for bitmap PDF only)

Inspection area colors

- To be detected, the inspection areas must be created in a solid tint with 100% area coverage.
- A PDF may contain solely areas with just this one color separation.

Name of the color separation

- To identify the inspection levels, the color separation must be tagged "InspL_" plus the digit referring to the inspection level, for example "InspL_1" to "InspL_5". The table below shows the names of the color separations and the assigned inspection level.

Inspection level	Grayscale value	C	M	Y	K	Mandatory name of the inspection level color
Level 1 (most critical level)	80%	0	0	0	80	InspL_1
Level 2	40%	0	0	0	40	InspL_2
Level 3	20%	0	0	0	20	InspL_3
Level 4	10%	0	0	0	10	InspL_4
Level 5 (least critical level)	5%	0	0	0	5	InspL_5

The name of the color separation and the name of the inspection level file must identify the same inspection level, see also ["Rules for file names:", page 53](#).

Other elements in the PDF

- Apart from the inspection areas, no other elements (e.g. images or texts) may be in the PDF. Otherwise, it will be impossible to load the PDF on the inspection system.

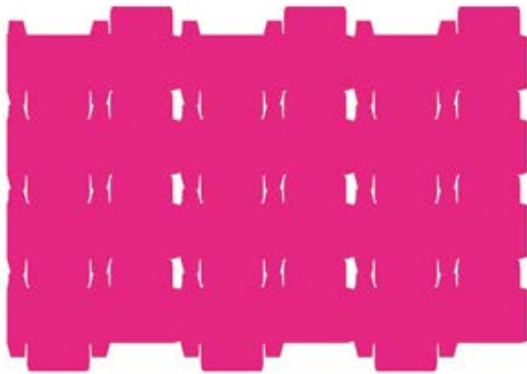
Size

The following applies to the reference file and the inspection level file:

- The trimbox size must be the same as the media box size.
- The media box size must be that of the press sheet.

Example

The following screenshot shows an example of an inspection level file. In this case, the whole cutting die is to be inspected:



Reference Image

To be processed correctly, the file must have the following structure:

File format

- PDF as a composite file:
The inspection level file must be output as a composite file and not as a pre-separated file.

Structure

- Pixel PDF

Color space

- CMYK

Resolution

- 400 dpi

Marks

- All marks must be retained

Settings for third-party prepress

Size

- The file must match the size of the printed image. The reference image and the inspection level file must have the same size.

Color profiles

- The file should include the press profiles as PDF/X output intent (e.g. PSOcoated_v3 or PSOuncoated_v3_FOGRA52). If it is not possible to store the color profiles, the appropriate print condition must be set manually in the SheetfedPrinting sequence, see also [section "Parameters of the SheetfedPrinting sequence", page 55](#).

Anti-aliasing

- Anti-aliasing must be enabled.

File Names and File Repository

Prinect Inspection Control 4 can automatically assign job and prepress files to one another. For this to work, the files must be named following a set naming scheme and placed in a predefined folder.

Example of a data record:

- PPF file:
160511_FB001.ppf
- Inspection level file:
160511_FB001_pruef_3.pdf
- Reference image:
160511_FB001_ref.pdf

Rules for file names:

- The start of the file must be made up of an identical string in all three files (PPF, inspection level file and reference image). In principle, the string is freely selectable. We recommend using at least job number and sheet name. For example, "160511_FB001".

- **Inspection level file:**

The inspection level file must end with the surface, the string "pruef" and the digit for the level of sensitivity (1 thru 5). All the components must be separated from each other by an underscore ("_").

Example: "..._pruef_3"

The name of the color separation and the name of the inspection level file must identify the same inspection level, see also ["Name of the color separation", page 50](#).

- **Reference image:**

The reference image must end with the surface and the string "ref" that are separated from each other by an underscore ("_").

Example: "..._ref"

What do I do if a job has several sheets?

A PPF may have a maximum of one sheet. If a job contains several sheets, then prepress must send several PPFs. If there are several sheets, the same job number must be found in all the related PPFs.

For the inspection systems, this means that the three files (PPF, reference image and inspection level file) always correspond to exactly one sheet. A second data record for a second sheet can have a completely different file name. It is important that the same job number is found in the PPFs. To have a clear overview of your work, we recommend naming the files so that you can recognize which job they are part of.

Example

Sheet 1

- PPF file:
160511_FB001_F.ppf
- Inspection level file:
160511_FB001_F_pruef_3.pdf
- Reference image:
160511_FB001_F_ref.pdf

Settings for third-party prepress

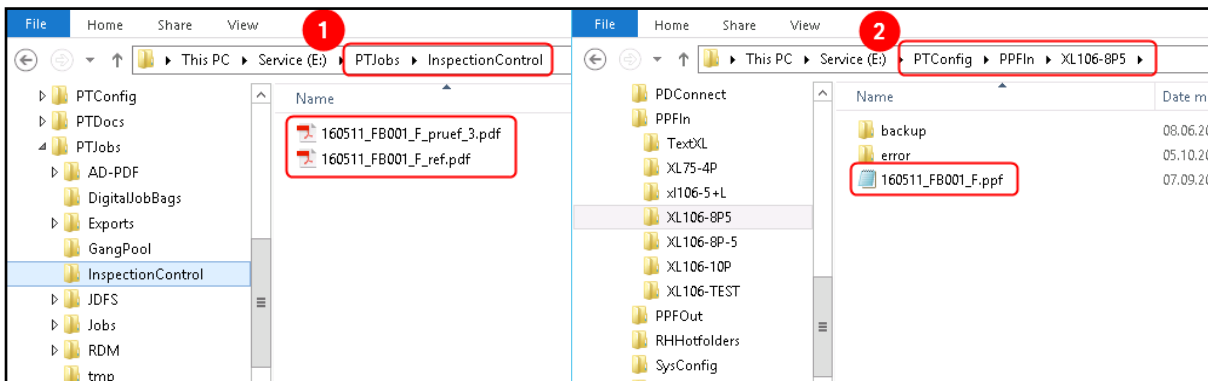
Sheet 2

- PPF file:
160511_FB002_F.ppf
- Inspection level file:
160511_FB002_F_pruef_3.pdf
- Reference image:
160511_FB002_F_ref.pdf

File Repository

In order for the inspection files to be assigned to a PPF, the files must be filed in a set order in a specific folder:

- Inspection level file and reference image must be filed before the PPF arrives.
- Inspection level file and reference image must be filed in the "...PTJobs\InspectionControl" hotfolder (1).
- The PPF file must be filed as usual in the machine-specific "...PTConfig\PPFIn" hotfolder (2).



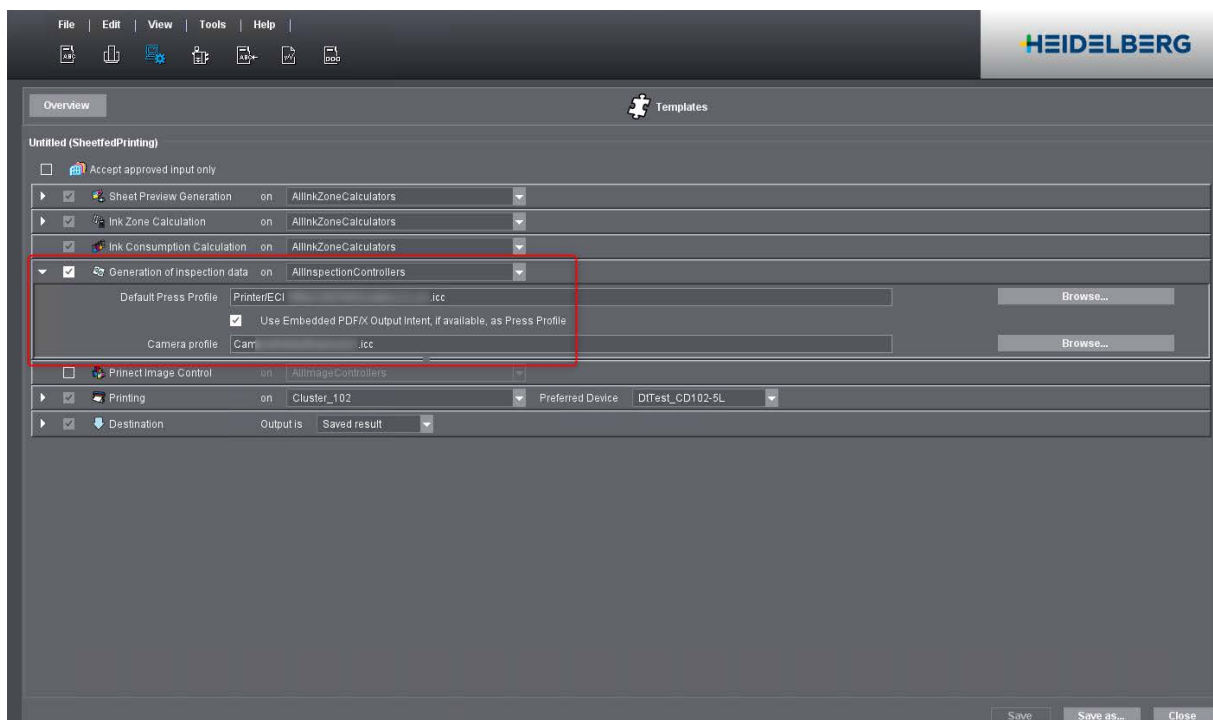
Parameters of the SheetfedPrinting sequence

See [SheetfedPrinting sequence, page 27](#).

Proceed as follows to create a SheetfedPrinting sequence:

1. Start Prinect Cockpit.
2. Go to "Administration > Templates > Sequence Templates".
3. Click "SheetfedPrinting".
4. Click "New".

The settings for a new SheetfedPrinting sequence open:



5. Enable the "Generation of inspection data" option.

- "Default Press Profile":

If you are working in the Prinect Pressroom workflow, i.e. with a third-party prepress system, it is imperative to ensure that the appropriate print profile is used at this point.

The primary recommendation is to embed a PDF/X output intent in your reference PDF. You can then enable the option "Use Embedded PDF/X Output Intent, if available, as Press Profile". Then you no longer need to make a selection in addition to "Default Press Profile".

Settings for third-party prepress

If it is not possible to embed a PDF/X output intent, you must select a suitable print profile in addition to "Default Press Profile". A press profile should represent the color space in which the PDF reference files generated by the third-party prepress system are available.

- "Camera profile": As the camera profile, you must select an RGB profile matching the camera.

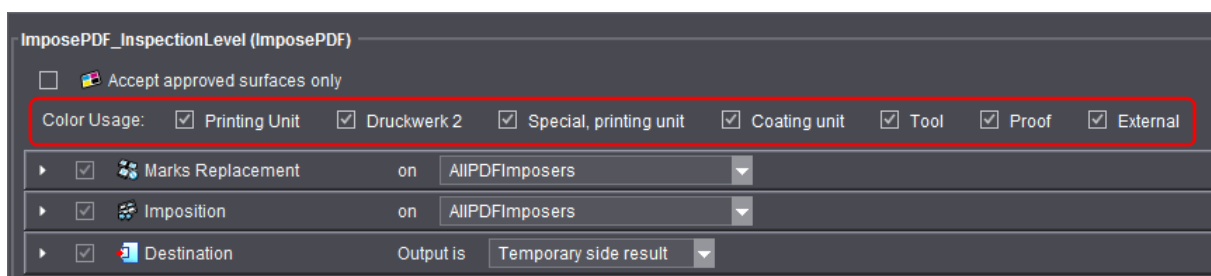
Use the following camera color profile for presses with ISC4 camera system(s): "Camera_ISC4_V1.icc".

Use the following camera color profile for presses with ISC2 or ISC3 camera system(s): "DefaultInspektion.icc".

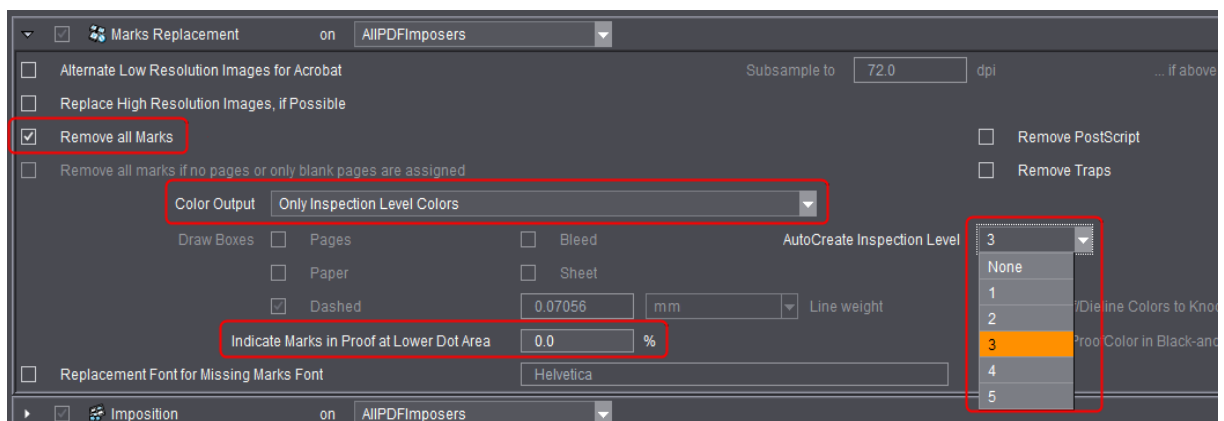
Check list - settings for HEIDELBERG prepress system

"ImposePDF" sequence: Creation of the PNG inspection level file

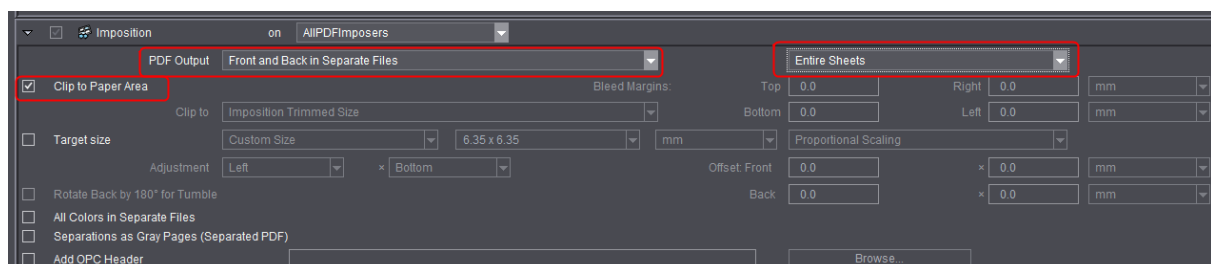
Make the settings according to your requirements as shown in the red-bordered areas of the images:



"Marks Replacement" section



"Imposition" section



Check lists

"Target" section

Destination ☒ Output is Temporary side result

Surfaces

Store Job internal in Folder Sheets/\$Template

Inspection Control

Store Job internal in Folder InspectionControl/\$Template/CheckLevel

"ImpositionOutput sequence: Creation of the PNG reference file and the PNG inspection level file

Enable "Generation of inspection data".

HDM_ImpositionOutput (ImpositionOutput)

☐ Accept approved surfaces only

Printing Unit - Special, printing unit - Coating unit

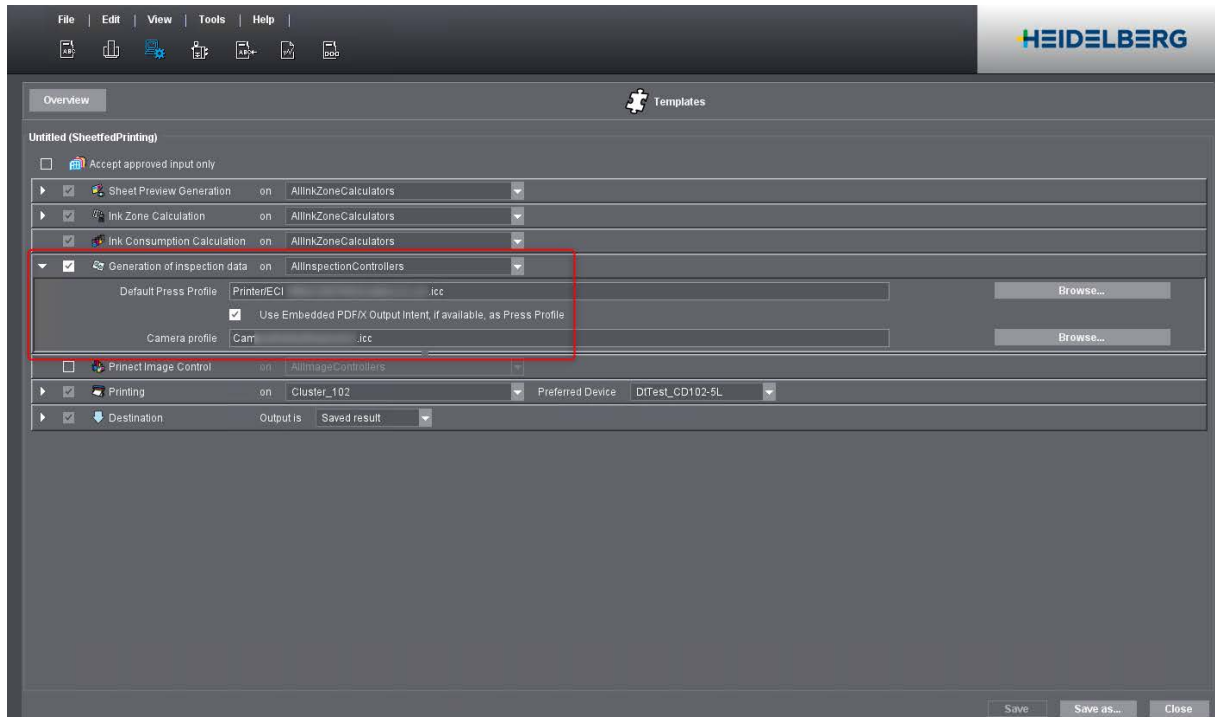
Color Usage: ☒ Printing Unit ☐ Printing unit 2 ☒ Special, printing unit ☒ Coating unit ☐ Tool ☐ Proof ☐ External

☐	Color Conversion	on	AllRendererColorCarvers
☒	Marks Replacement	on	AllMarksReplacers
☐	InRIP Trapping	on	Default_Tiff-B_Export on KIE-MA-VM9
☒	Imposition	on	Default_Tiff-B_Export on KIE-MA-VM9
☒	Rendering	on	Default_Tiff-B_Export on KIE-MA-VM9
☐	Calibration	on	Default_Tiff-B_Export on KIE-MA-VM9
☒	Screening	on	Default_Tiff-B_Export on KIE-MA-VM9
☐	Sheet Preview Generation	on	Default_Tiff-B_Export on KIE-MA-VM9
☐	Thumbnail Generation	on	Default_Tiff-B_Export on KIE-MA-VM9
☐	Halftone Soft Proof	on	Default_Tiff-B_Export on KIE-MA-VM9
☒	Generation of inspection data	on	Default_Tiff-B_Export on KIE-MA-VM9
☒	File Output	on	Default_Tiff-B_Export on KIE-MA-VM9
☐	HDM:TiffMarksCreator	on	AllTiffMarksCreators

Apply Close

"SheetfedPrinting" sequence: Color space mapping and data storage

Enable "Generation of inspection data" and select the default and camera profiles:



"Coating Editor": Define inspection levels (optional)

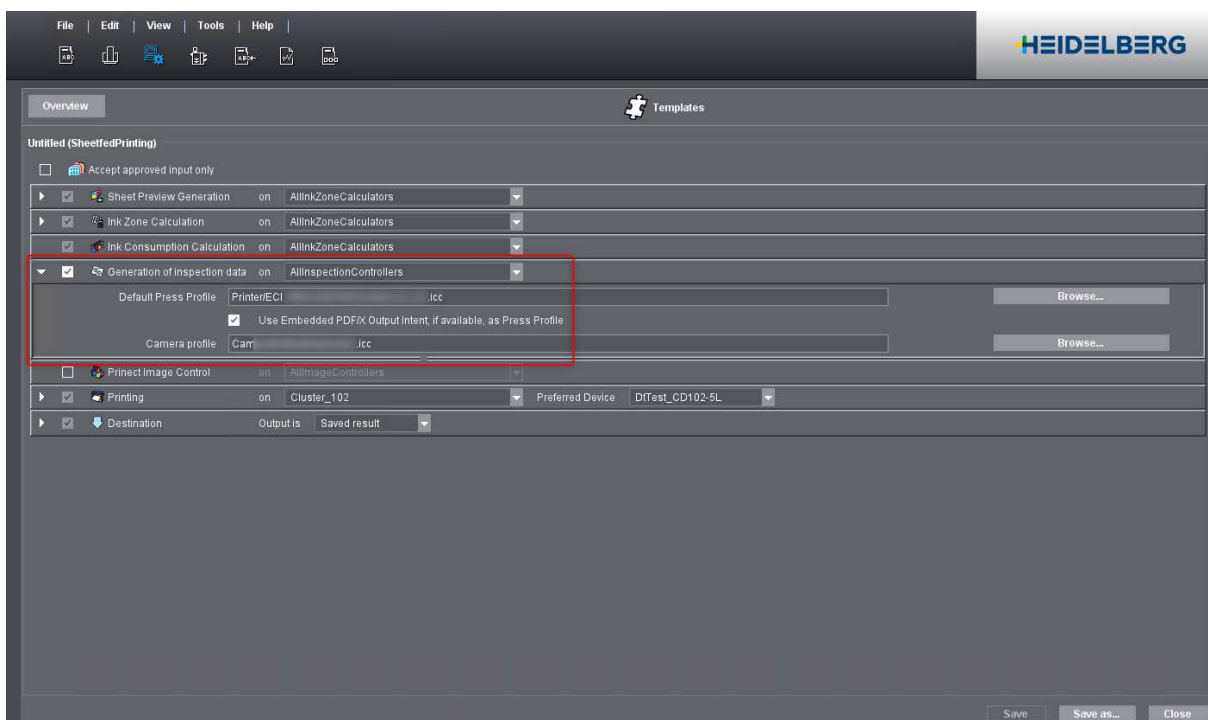
- Alternate color "CMYK"
- The color separations must meet the following conventions:

Inspection level	Name of the color separation	Grayscale
Level 1 (most critical level)	InspL_1	80°
Level 2	InspL_2	40%
Level 3	InspL_3	20°
Level 4	InspL_4	10°
Level 5 (least critical level)	InspL_5	5%

Check List - Settings for Third-Party Prepress

"SheetfedPrinting" sequence: Color space mapping and data storage

Enable "Generation of inspection data" and select the default and camera profiles (the primary recommendation is to embed a PDF/X output intent in your reference PDF):



Inspection level file

File format

- PDF as a composite file

Color space

- CMYK + spot colors

Marks

- **All marks** must be **removed**

Structure

- Pixel PDF or vector PDF

Resolution

- 400 dpi (for bitmap PDF only)

Anti-aliasing

- Anti-aliasing must be **disabled**.

Inspection area colors

- **100% area coverage** of the **inspection areas**

Size

- The file must match the **size** of the **printed image**.

Color separation

- The PDF may have only **one** of the color separations.

Reference Image

File format

- PDF as a composite file

Structure

- Pixel PDF

Color space

- CMYK

Resolution

- 400 dpi

Check lists

Anti-aliasing

- Anti-aliasing must be **enabled**.

Size

- The file must match the **size** of the **printed image**.

Marks

- All **marks** to be printed must be **present**

Press Profile

- Recommendation: A PDF/X output intent should be embedded in the reference file and in this case the corresponding option should be enabled in the SheetfedPrinting sequence.
- If it is not possible to embed a PDF/X output intent in the reference file, the appropriate print profile must be set in the SheetfedPrinting sequence.

See [section "Parameters of the SheetfedPrinting sequence", page 55](#).

File names

- PPF, inspection level file and reference image must be named in the same way (only the file extension is different)
- File extension for inspection level file: "<surface>_pruef_<level of sensitivity>.pdf"
- File extension for the reference image: "<surface>_ref.pdf"
- Start of file: Any; recommended: at the minimum job number

Example:

PPF file:
160511_FB001_F.ppf

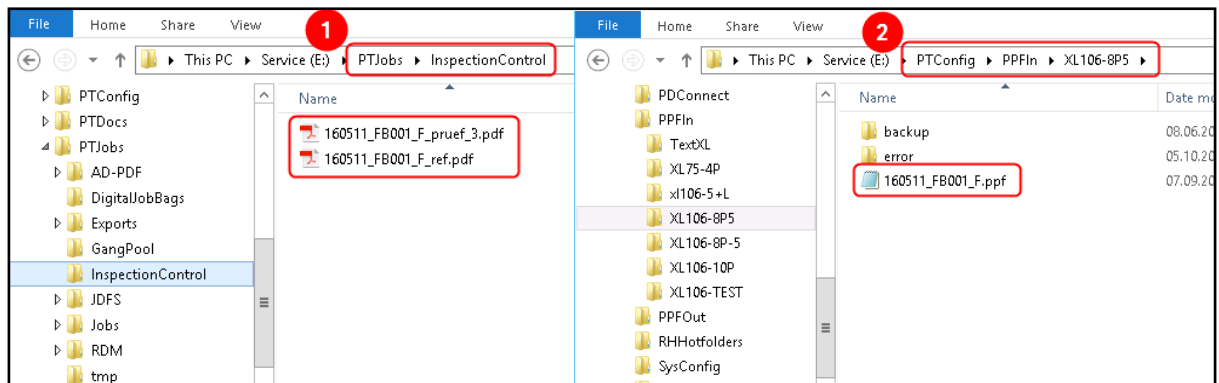
Inspection level file:
160511_FB001_F_pruef_3.pdf

Reference image:
160511_FB001_F_ref.pdf

File Repository

In order for the inspection files to be assigned to a PPF, the files must be filed in a set order in a specific folder:

- Inspection level file and reference image must be filed before the PPF arrives.
- Inspection level file and reference image must be filed in the "...PTJobs\InspectionControl" hotfolder (1).
- The PPF file must be filed as usual in the machine-specific "...PTConfig\PPFIn" hotfolder (2).



Introduction

Both the Prinect Production workflow (with HEIDELBERG prepress) and the Prinect Pressroom workflow (third-party prepress) generate PNG reference sheets and PNG inspection level data for press-based comparison. The printed sheet is compared with the reference sheet (target) based on the inspection accuracy specified by the inspection level data. The corresponding report is sent to the customer portal and the evaluation is displayed using the "Insights" application if there are deviations. See also ["Workflow overview", page 12](#) and ["Further workflow: Data exchange with the press", page 31](#).



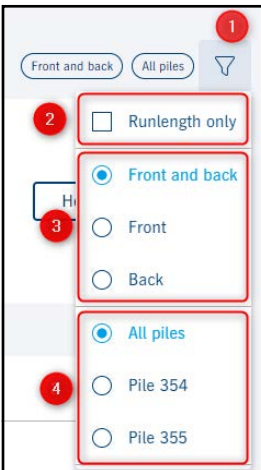
Note: HEIDELBERG requires the customer's explicit permission to upload the printed sheet with the associated reference press sheets. Please contact a HEIDELBERG Service employee to have sheet uploading enabled. Data can be displayed in the "Insights" app only after the service employee has successfully enabled uploading.

"Inspection" view in "Insights"

1. Log in to HEIDELBERG Customer Portal.
2. Go to the "All Apps" view and click the "Insights" app.
3. Go to the "Operations" view and click the desired operation.
4. Go to the "Inspection" view.
This tab is visible only if there are inspection data for a job.

"Inspection Report" area

Filters



[1] Click the Filter icon.

[2] "Runlength only": Enabling this option restricts the following calculations only to the production run but not to the waste.

[3]: You can specify if the entire report is to include calculations for "Front and back", only for the "Front" or only for the "Back".

[4] : If the printed sheets were stacked on multiple piles, you can apply a filter here.

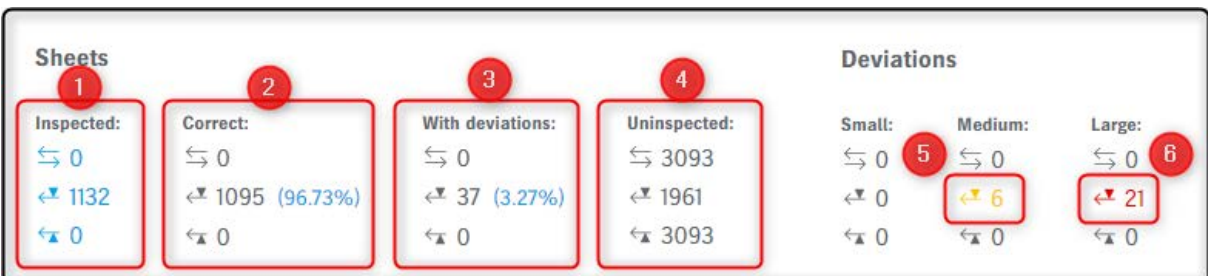
"Sheets" and "Deviations" area

1. Row: Inspection for front and back

2. Row: Inspection only for the front

3. Row: Inspection only for the back

Use the filter to control the rows to be displayed, see ["Filters", page 66](#).



Our example provides the following data:

Single-sided

Quantity: 3000 sheets

Waste sheets: 93 sheets

Columns:

- [1]: "Inspected": Number of inspected sheets. 1132 front sheets of a total of 3093 sheets were inspected.
- [2]: "Correct": Of the inspected sheets, this is the number of correct sheets. 1095 sheets of a total of 1132 inspected front sheets matched the reference sheet.
- [3]: "With deviations": Of the inspected sheets, this is the number of deviating sheets. 37 sheets of a total of 1132 inspected front sheets deviated from the reference sheet.
- [4]: "Uninspected": Number of sheets that were not inspected. 1961 sheets of 3093 front sheets were not inspected.

Deviations

There are "Small", "Medium" and "Large" defect classes. The displayed number refers to the number of different errors of the respective defect class. See also [""Error class" column", page 71](#).

In this example, there were 6 different errors of the medium deviation category [5] and 21 errors of the large deviation category [6].

This information does not specify the number of sheets on which the errors are located.

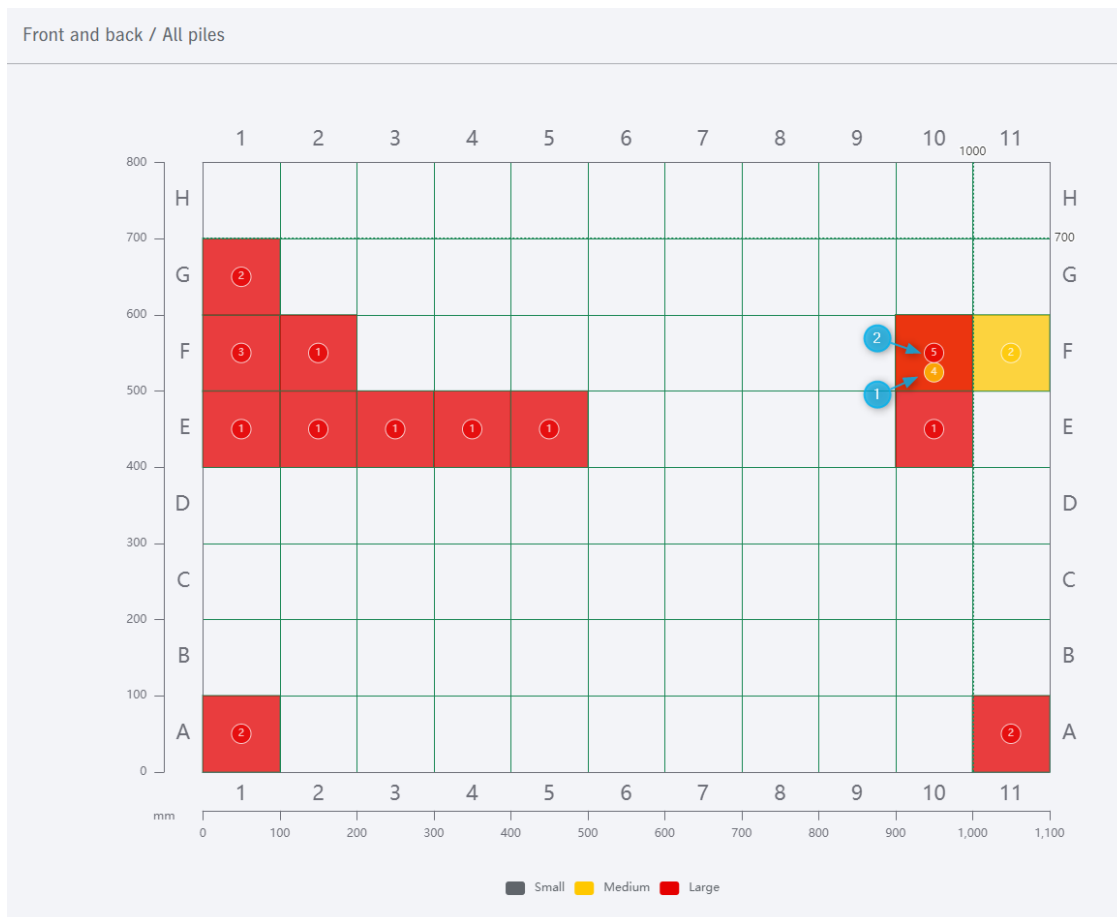
Error report in the Customer Portal (Insights)

Heatmap

Click "Heatmap" to open the heatmap:

Heatmap

Heatmap of our example:



The heatmap gives an overview of the sheet areas in which different errors are located and to which defect class they belong.

You will see an sheet view that has been divided into small areas with a number-letter code.

If you set the filter (see ["Filters", page 66](#)) to either "Front" or "Back", the respective thumbnail of the surface is displayed with the heatmap areas.

In this example (above image), the filter has been set to "Front and Back". In this case, a mono-chrome background displays instead of the thumbnail,

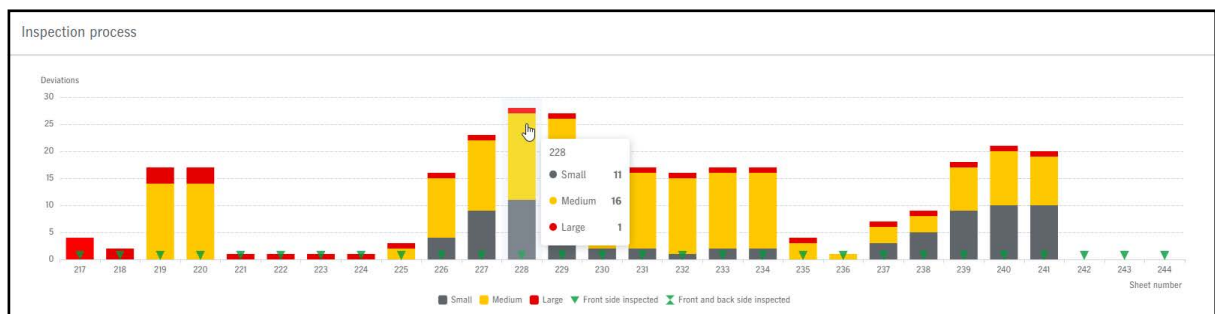
If a deviation was detected in an area, this area is highlighted with the color of the most serious error that occurred. The numbers in the red-colored area indicate how many different errors were detected in total for all inspected sheets in the area. The color of the number indicates the defect class "Small" (black), "Medium" (orange) and "Large" (red).

Error report in the Customer Portal (Insights)

In this example, area "10-F" contains 4 different errors of defect class "Medium" (number 4 in orange) [1] and 5 different errors of defect class "Large" (number 5 in red) [2].

The header "Heatmap..." changes according to the filter you selected in "Heatmap front and back", "Heatmap front" or "Heatmap back".

"Inspection process" area



You can scale up and scale down the view with the mouse wheel.

In the diagram, the bar height reflects the number of deviations for each individual sheet. Depending on the defect class, the bars have different colors: small deviations are dark gray, medium deviations are yellow, large deviations are red. This illustration shows the evaluation for front sheets (green triangle, tip facing down).

If you move the mouse over a bar, the sheet number is displayed and below it the exact numbers of deviations, in this example sheet 228 with 11 small and 16 medium deviations as well as one large deviation.

"Sheet Status" table

Columns requiring explanation:

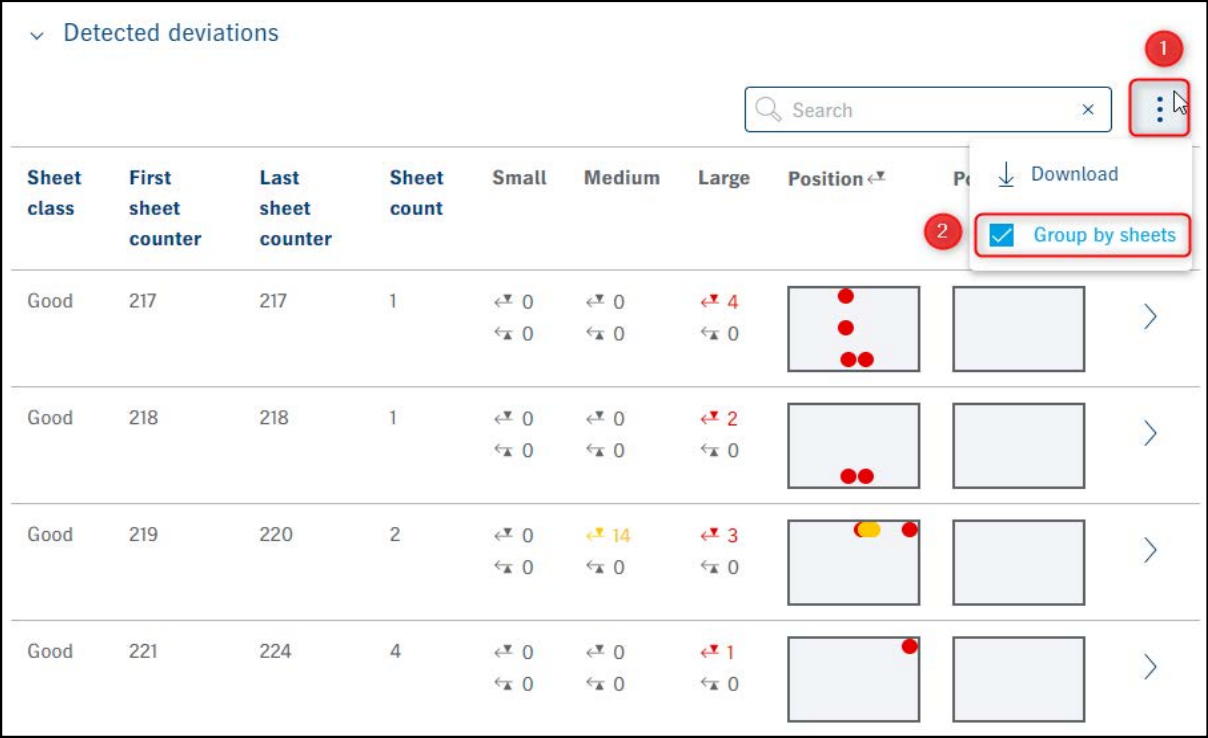
"Inspection state front" and "Inspection state back" columns

These two columns separately display the error states of Inspection Control for front and back. There are the error states:

- "-": Unknown state.
- "N/a": Inspection Control state not available. This means that either there is no Inspection Control or it is not licensed or not switched on.
- "Active": Inspection Control was active, and the surface was inspected.
- "Inactive": Inspection Control was inactive, and the surface was not inspected.
- "Error": Inspection Control was active. Inspection was impossible due to an unknown error.
- "Learning (PDF)": This sheet side is intended for learning the printed reference image for inspecting all subsequent surfaces. In this case, the default reference image (the PDF target image, for example) is not used.
- "Learning": This surface is intended for learning the printed reference image for inspecting all subsequent sheets. In this case, the default reference image (the PDF target image, for example) is not used.

Table "Detected deviations"

To change the display in this table, click [1] and enable or disable the "Group by sheets" [2] option. The effect is described in the "Number of sheets" and "Details" columns.



Sheet class	First sheet counter	Last sheet counter	Sheet count	Small	Medium	Large	Position	Details
Good	217	217	1	0	0	4		
Good	218	218	1	0	0	2		
Good	219	220	2	0	14	3		
Good	221	224	4	0	0	1		

Columns requiring explanation:

"Error class" column

The "Error class" column is visible if you disable the "Group by sheets" [2] option (see before).

You define defect classes with the inspection system of the printing press. The criterion for a defect class is the size of the area of a defect on the press sheet. There are the defect classes "Small", "Medium" and "Large" for small, medium or large deviations in mm². The device assistant of the press defines for each error class which action the press is to perform in the event of an error in the respective category.

The number of items per defect class is identical to the information in ["Deviations", page 67](#).

"Number of sheets" column

- "Group by sheets" option [2] disabled:
"Number of sheets" indicates the number of sheets on which the error was found.
- "Group by sheets" option [2] enabled: "Number of sheets" indicates the number of sheets on which the same combination of errors was found.

Error report in the Customer Portal (Insights)

Columns "First sheet" / "Last sheet"

"First sheet" indicates the ID of the first sheet on which the error occurred.

"Last sheet" indicates the ID of the last sheet on which the error occurred.

"Details" column

- "Group by sheets" option [2] disabled:
If you click the arrow below "Details", the section of the printed sheet surface with the error is displayed as well as the corresponding section on the reference press sheet surface.
- "Group by sheets" option [2] enabled:
If you click the arrow below "Details", a list of all front and back surfaces in this group is displayed.
If you click the arrow below "Details" in this table, the section of the printed sheet surface with the error is displayed as well as the corresponding section on the reference press sheet surface.

F

Production Inspection

During production inspection, Prinect Inspection Control 4 performs an ongoing comparison of printed sheets with a "digital reference sheet" created in the press. The digital reference sheet is a sheet calculated from multiple sheets captured by the camera. The objective of production inspection is to check each sheet in order to prevent misprints during production.

I

ImpositionOutput sequence

The ImpositionOutput sequence is used to create the PNG reference file and the inspection level file in Prinect Prepress.

Inspection Level File

The inspection level file defines all areas on a print sheet that are to be checked by the inspection system. The areas can be given different levels of sensitivity. The levels of sensitivity define how critically an area will be inspected.

P

PDF Inspection

PDF inspection compares an inspection system scan with the imposed reference sheet from prepress. PDF inspection makes sure that the content of the print job matches that of the customer job.

R

Reference Image

The reference image is an imposed layout PNG/PDF that is used to check the contents of the press sheet for PDF inspection.

S

SheetfedPrinting sequence

In the SheetfedPrinting sequence, the PNG reference file is mapped to the RGB color space of the camera (Prinect Production Workflow only) and the output data for both workflows (Prinect Production Workflow and Prinect Pressroom Workflow) is stored in a location defined for data transfer with the press.

Heidelberger Druckmaschinen AG

Gutenbergring

D-69168 Wiesloch

Germany

Phone +49 6222 82 00

Fax +49 6222 82 37 05

heidelberg.com

Copyright © 2025 Heidelberger Druckmaschinen AG.

No part of this book may be reproduced without prior written permission.

Important Notice:

We are dedicated to improving and enhancing our products. Consequently, the information in this manual is subject to technical modifications and other changes without notice. Heidelberger Druckmaschinen AG assumes no responsibility for information and description as far as third-party products are concerned.

The information contained in this manual about performance and speed as well as technical data concerning application of our products is not legally binding as it does not constitute a written contract of features. If any problems occur with the product described in this manual, please contact the Heidelberg agency which is responsible for you.

Revision 5055.0.10

Version Prinect CR

Impressum

Fonts: Heidelberg Antiqua MI, Heidelberg Gothic MI

Trademarks

Heidelberg, the Heidelberg logotype, Prinect, SupraSetter and Speedmaster are registered trademarks of Heidelberger Druckmaschinen AG in the United States and other countries.

Adobe and PostScript and Acrobat are either registered trademarks or trademarks of Adobe Systems Incorporated in the United States and/or other countries.

PANTONE and Hexachrome are registered trademarks of Pantone Inc.

All other trademarks are property of their respective owners.

Subject to technical modifications and other changes.