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Measuring Colorsource press control and calibration charts using MYIROtools application (For Konica-Minolta MYIRO et FD7)

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Measuring Colorsource press control and calibration charts using Konica-Minolta MYIRO or FD7.

COLORSOURCE S.A.S. - R.C.S. ÉVRY 453 219 768 - SIRET 453 219 768 00018 - CODE APE 7022Z - © Colorsource 06/2023



1) Format of the measurement files processed by Colorsource applications:

Colorsource applications use conventional measurement files in **CGATS** standardized text format (Committee for Graphic Arts Technologies Standards), which can be produced by a wide range of 45/0° spectrophotometers (**X-Rite i1Pro, i1Pro 2, i1Pro 3, Konica-Minolta Myiro, FD7, Techkon SpectroDens** etc.), combined with a wide range of color charts measurement software, most of which are free. X-Rite **i1Pro 1, 2 and 3** connected spectrophotometers can be used in their lowest cost **BASIC** versions with **Colorsource** applications.

Spectral measurements, the only complete information about color, allow **Colorsource** applications to calculate all the adjustment instructions you need to properly calibrate, drive and control your CMYK printing presses, and more generally your printing presses using one to ten inks, with or without a CMYK process base.

If your measurement file only contains colorimetric data (e.g., the C.I.E. L*a*b* D50 2° apparent color of each patch in the chart), **Colorsource** applications can use this data, but the results displayed will often be less complete; for example, it is not possible to calculate the density corrections to be made on a press, or to check the formulation of a PANTONE ink, in the absence of spectral data.

2) Proof and press control bars supplied with each Colorsource application:

Of course, you can design and use your own control bars and according reference files, but **Colorsource** application offer, in their distribution's ZIP, a choice of ready-made classic charts. Each press calibration and/or proof control bar we supply includes **a printable** image (e.g., a CMYK TIF or PDF image of the chart), plus:

- The charts' reference file in standard CGATS text format, allowing measuring the control bar using free measurement software MeasureTool or i1Profiler, with X-Rite i1Pro, i1Pro 2 or i1Pro 3 spectrophotometer,
- The charts' reference file in **MYIROtools** proprietary **XML** format, allowing s measuring the control bar using free **MYIROtools** application, with Konica-Minolta **MYIRO** spectrophotometer (or with **FD7**, which is very unnecessarily expensive!).

Current limitations of Konica-Minolta MYIROtools software (v1.40.0012):

a) To date, MYIROtools software can only measure CMYK press and proof control bars:

MYIROtools therefore allows you using **MYIRO** with Colorsource applications for all classic CMYK four-color printing process and quality control applications. For example, for setting your CMYK presses matching ISO12647-2-3-4-6 CMYK print standards. You can use **MYIRO** with **MagicPress**, **MagicPrepress**, **Magic_Proof_&_Print_Control** applications, plus **PLATE** application for CtP calibration and offset plate control.

Using a connected **MYIRO** spectrophotometer with Colorsource application is much more efficient and far less expensive than using an **FD7**!

But as **MYIROtools** does not know how to measure press calibration or press control charts using more than four inks, it is still better to use an X-Rite spectrophotometer from the **i1Pro** family if you do not print only CMYK.

b) To date, MYIROtools v1.40.0012 software does record your CMYK charts measurement files in CGATS spectral format, but care must be taken to avoid a BIG bug that can corrupt your measurement file when saving it.

Actually, Colorsource applications do detect if your measurement file has been corrupted by **MYIROtools**, and we could even correct this corrupted file, but this is not a development priority for us, given the very low number of users of **MYIROtools** and **FD7** spectrophotometers. The number may be so low that bugs remain uncorrected for many years...

Moreover, we consider big companies such as Konica-Minolta should be able to debug **MYIROtools** software they released ... more than 4 years ago!

Anyhow, we shall explain you in this document how to avoid this bug.

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3) Examples of reference files in CGATS (i1Pro) and XML (MYIRO) format:

The following example is a simple CMYK control bar that can be used with **MagicPress**, to determine in one single scan the four optimal CMYK print densities to be used for matching the solid CMYK aim colors specified by any public or private CMYK print standard such as ISO12647-2-3-4 or 6.



The associated CGATS reference file for measuring this chart with **MeasureTool** or **i1Profiler** software, (Named **CMYK_RGB.txt** in the ZIP distribution kit), is as follows:

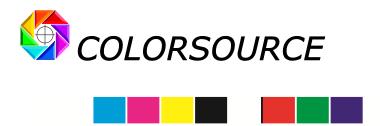
CREATED KEYWORD KEYWORD NUMBER_	ENGTH "1/26/201 "SampleIE "SAMPLE_ OF_FIELDS TA_FORM	 L4" # Time:)" _NAME" 5 6	14:58			
SampleID	SAMPLE_I	NAME	CMYK_C	CMYK_M	CMYK_Y	CMYK_K
END_DAT	A_FORMAT	-				
NUMBER_	OF_SETS	8				
Measurem	nent_mode	e "gap"				
BEGIN_DA	TA					
1	A1	100	0	0	0	
2	B1	0	100	0	0	
3	C1	0	0	100	0	
4	D1	0	0	0	100	
5	E1	0	0	0	0	
6	F1	0	100	100	0	
7	G1	100	0	100	0	
8	H1	100	100	0	0	
END_DATA	4					

Regardless of the software you use to measure this CMYK chart, the resulting spectral measurement file will contain on a same line for each patch: An index number (e.g., 1 for patch 1), then the name of the patch (e.g., A1), then the patch CMYK value (e.g., 100, 0, 0, 0), then its spectral values (e.g., 0.0685, 0.119, 0.2103, etc.: With i1Pro, i1Pro2, or i1Pro 3, 36 reflectance values for the 36 visible wavelengths ranging from 380 to 730 nm by 10 nm steps):

CF IN M KE	LGOROWLENGTH 1 CREATED "11/16/2020" # Time: 12:10 INSTRUMENTATION "Eye-One Pro" MEASUREMENT_SOURCE "WhiteBase=Absolute Filter=No" KEYWORD "SampleID" KEYWORD "SAMPLE_NAME" NUMBER_OF_FIELDS 42												
	_	TA_FORM											
Sa	mpleID	SAMPLE_	NAME	СМҮК_С	СМҮК_М	СМҮК_Ү	СМҮК_К	nm380	nm390	etc	nm710	nm720 nn	n 730
	_	A_FORMAT											
	_	OF_SETS	8										
	GIN_DA												
1		A1	100	0	0	0	0.0685	0.119	0.2103		0.4778	0.5704	0.669
2		B1	0	100	0	0	0.0959	0.093	0.1027		0.1661	0.1828	0.1946
3		C1	0	0	100	0	0.0479	0.0384	0.0314		0.0316	0.0315	0.0338
4		D1	0	0	0	100	0.0114	0.0118	0.0137		0.0181	0.0191	0.0196
5		E1	0	0	0	0	0.3509	0.3998	0.4931		0.9202	0.9836	1.0024
6		F1	0	100	100	0	0.0271	0.0215	0.0183		0.0217	0.0222	0.024
7		G1	100	0	100	0	0.0191	0.0226	0.0291		0.0411	0.0447	0.052
8		H1	100	100	0	0	0.0271	0.0456	0.0723		0.1507	0.1781	0.2051
EN	ID_DATA	A											

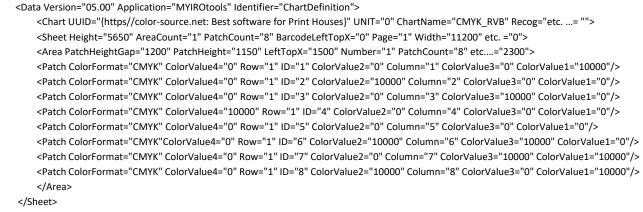
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Below is the XML reference file for measuring the same CMYK control bar using MYIROtools software (Named CMYK_RGB.xml in the ZIP distribution kit):

<?xml version="1.0" encoding="UTF-8"?>



- </Chart>
- </Data>

The spectral **CGATS** measurement file produced by **MYIROtools** will have a slightly different content, but it does contain all the necessary information for Colorsource **MagicPress** (or **MagicPrepress**) application:



CGATS.17																	
ORIGINATOR	"	MYIROt	VYIROtools"														
DESCRIPTOR	"	MYIROt	YIROtools CGATS export file"														
CREATED	"	2023-05)23-05-24T19:14:18"														
INSTRUMENTATION	"	KONICA	DNICA MINOLTA, INC. MYIRO-1, Serial No. 10001972"														
MEASUREMENT_SOURCE	"	M1"															
WEIGHTING FUNCTION	"	ILLUMIN	JANT,A	uto"													
WEIGHTING FUNCTION	"	OBSERV	'ER,2°"														
DATA_FORMAT_IDENTIFIER	"	nm380"															
Etc																	
DATA_FORMAT_IDENTIFIER	"	nm720"															
DATA_FORMAT_IDENTIFIER	"	nm730"															
NUMBER_OF_FIELDS		47															
NUMBER_OF_SETS		8															
BEGIN_DATA_FORMAT																	
SAMPLE_ID	С	MYK_C	MYK_C	MYK_C	MYK_	XYZ_X	XYZ_Y	XYZ_Z	LAB_L	LAB_A	LAB_B	nm380	nm390	etc	nm710	nm720	nm730
END_DATA_FORMAT																	
BEGIN_DATA																	
	1	100	0	0	0	0.069	0.119	0.21	0.345	0.478	0.57	0.669	0.7339		0.0333	0.0353	0.0462
	2	0	100	0	0	0.096	0.093	0.103	0.134	0.166	0.183	0.1946	0.1875		0.787	0.7909	0.8046
	3	0	0	100	0	0.048	0.038	0.031	0.031	0.032	0.032	0.0338	0.0419		0.8794	0.8831	0.8897
	4	0	0	0	100	0.011	0.012	0.014	0.016	0.018	0.019	0.0196	0.02		0.0389	0.0418	0.0446
	5	0	0	0	0	0.351	0.4	0.493	0.707	0.92	0.984	1.0024	0.9865		0.9345	0.937	0.9408
	6	0	100	100	0	0.027	0.022	0.018	0.02	0.022	0.022	0.024	0.0269		0.7925		0.8101
	7	100	0	100		0.019			0.036	0.041	0.045	0.052	0.0644		0.0351		0.0478
	8	100	100	0								0.2051			0.0416		0.0535
END_DATA					-												



4) Measurement of a press calibration bar over several copies, for computing press correction curves from the average value of charts' measurements on several copies:

In the previous example, measuring a single CMYK chart is sufficient, since **MagicPress** calculates the four optimal CMYK density corrections to be made from a single measurement of any CMYK chart including solid colors, printed with any CMYK densities.

But when using **MagicPrepress** application in order to match a printing standard, we recommend measuring the press calibration chart not on a single, but on several printed copies, in order to compute the press correction curves from an average measurement that characterizes the average press behavior. This is why each press calibration bar dedicated to **MagicPrepress** is supplied with several reference files, which allow measuring the press calibration chart on a single or on several printed copies.

For example, the following press calibration chart is very convenient for working on web offset presses. It can be used with **MagicPress** (a single scan is enough for computing the optimal CMYK print densities), and with **MagicPrepress** (You can scan this chart on 15 different printed copies, in order to establish or update your CMYK plates correction curves, taking into account the average of 15 charts measurements):



- The reference file named CMYK_offset_1_line_32_patches.xml allows measuring this chart once, on a single copy, for computing your optimal CMYK print densities, using MagicPress (Or using MagicPrepress if you do not own MagicPress),
- The reference file named CMYK_offset_1_line_32_patches_15X.xml allows measuring this same chart 15 times, on 15 different copies. (15 x 32 patches = 480 patches in total).

5) Practical measurement of proof control bars and press calibration charts using MYIROtools software (with Konica-Minolta MYIRO or FD7 spectrophotometers):

Download link of MYIROtools for Windows: https://www.myiro.com/fr/downloads

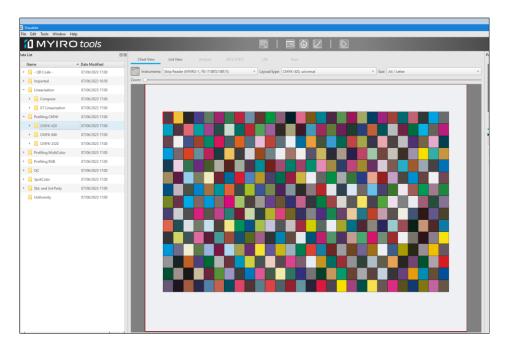
ta	List		ØX	Chart View	List \
	Name	 Date Modified 			CISC
ŀ	- QR Code -	07/06/2023 17:00		Instruments:	Strip Re
ŀ	Imported	07/06/2023 16:56		Zoom:	
~	Linearization	07/06/2023 17:00			
	Compose	07/06/2023 17:00			
	G7 Linearization	07/06/2023 17:00			
-	Profiling CMYK	07/06/2023 17:00			
	СМУК-420	07/06/2023 17:00			
	CMYK-840	07/06/2023 17:00			
	CMYK-2520	07/06/2023 17:00			
ŀ	Profiling MultiColor	07/06/2023 17:00			
ŀ	Profiling RGB	07/06/2023 17:00			
ŀ	📙 QC	07/06/2023 17:00			
ŀ	SpotColor	07/06/2023 17:00			
ŀ	Std. and 3rd Party	07/06/2023 17:00			
	Uniformity	07/06/2023 17:00			

5-1) Charts and reference files installed by default with MYIROtools:

Once installed, the **MYIROtools v1.40.0012** software has only offered, for almost four long years, to print and measure a very limited choice of preprogrammed CMYK and RGB patterns, intended either for the characterization of presses or color printers by RGB or CMYK ICC profiles, or for quality control (Measuring a few proof CMYK control bars):

- A few CMYK linearization charts,
- 3 RGB charts offering 420, 840 and 2520 patches,
- 3 CMYK charts offering 420, 840 and 2520 patches,
- A few classic third party CMYK targets (ECI2002 etc.)
- A few classic CMYK control bars (Fogra, G7/IDEAlliance etc.)
- And since a few days only (v1.41.0008) a very limited number of N-Color charts... that need to be debugged



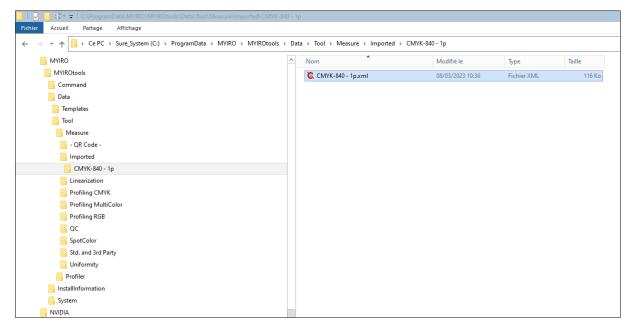


Of course, professional users often need to measure their own CMYK test charts with **MYIROtools**, including all or part of the test charts dedicated to Colorsource press calibration applications.

In this scope, **MYIROtools** allows importing third-party CMYK test charts, strangely specified **not by the classic and convenient CGATS format**, but by **XML files, in a proprietary and undocumented format**!

All imported test charts specified by files in this XML format must be placed in the following Windows hidden directory: <u>C:\ProgramData\MYIRO\MYIRO\MYIROtools\Data\Tool\Measure\Imported</u>

An example of a CMYK chart specified by an xml file is provided when installing **MYIROtools**: This sample file is named **CMYK-840 - 1p.xml**, and placed in a sub directory having same root name **CMYK-840 - 1p**:





This **CMYK-840** - **1p** imported pattern supplied as an example can be measured by **MYIROtools** application, by selecting it in the **Imported** section of **MYIROtools**:

a List		ØX	Chart View	List View	Analyze	2D (L*a*b*)	LIN
Name	 Date Modified 				·	(7	
- QR Code -	07/06/2023 17:00		Instruments:				Tayout/type:
Imported	07/06/2023 16:56		Zoom:				
🕨 📙 СМҮК-840 - 1р	22/05/2023 11:48						
Linearization	07/06/2023 17:00						
Profiling CMYK	07/06/2023 17:00						
Profiling MultiColor	07/06/2023 17:00						
Profiling RGB	07/06/2023 17:00						
QC	07/06/2023 17:00						
SpotColor	07/06/2023 17:00						
Std. and 3rd Party	07/06/2023 17:00						
Uniformity	07/06/2023 17:00						

Colorsource has developed a program that automatically converts any CMYK chart specified by a standard CGATS reference file, into an xml reference file with **MYIROtools**' proprietary XML format. Therefore, **Colorsource** now provides all CMYK charts with their reference files both in **CGATS format for X-Rite** users, and **XML format for Konica-Minolta** users.

For faster installation, Colorsource applications distribution ZIPs provide as well the CMYK charts references for **MYIROtools** all in a single directory. For example, if you unzipped **MagicPrepress.zip** in your **Downloads** directory, you will find as below all the sub directories containing the necessary XML references in:

H:\Downloads\MagicPrepress\En_Docs\Press_calibration_bars_and_ref_files_CMYK_press_calib_bars_folders_to_copy_ to_MYIROtools_(faster)

2 Downloads	^	Nom	Modifié le	Туре	Taille
NagicPrepress		o-10%_black_plate	17/06/2023 09:02	Dossier de fichiers	
- En_Docs		0-10%_black_plate_5X	17/06/2023 09:02	Dossier de fichiers	
> 8 All_reference_files_for_Colorsource_free_CMYK_test_forms		CMYK_10%_3_lines	17/06/2023 09:02	Dossier de fichiers	
Old_ISO12647_standards_sample_library_re-created_with_MagicPrepress		CMYK_10%_3_lines_9X	17/06/2023 09:02	Dossier de fichiers	
Press_calibration_bars_and_ref_files		CMYK_10%_3_lines_15X	17/06/2023 09:02	Dossier de fichiers	
		CMYK_ECI_BVDM_1_line_31_patches	17/06/2023 09:02	Dossier de fichiers	
>CMYK_press_calib_bars_folders_to_copy_to_MYIROtools_(faster)		CMYK_ECI_BVDM_1_line_31_patches_9X	17/06/2023 09:02	Dossier de fichiers	
		CMYK_ECI_BVDM_1_line_31_patches_15X	17/06/2023 09:02	Dossier de fichiers	
ICLR_control_bar_1_line_10%_and_refs		CMYK_Gravure_1_line_32_patches	17/06/2023 09:02	Dossier de fichiers	
7 CER_Control_bar_i_inte_io/2_and_ref		CMYK_Gravure_1_line_32_patches_9X CMYK_Gravure_1_line_32_patches_15X	17/06/2023 09:02 17/06/2023 09:02	Dossier de fichiers Dossier de fichiers	
CLN_manequin_control_bar_and_ref ACLR_control_bar_1_line_and_ref		CMYK_Gravure_1_ine_32_patches_13A	17/06/2023 09:02	Dossier de fichiers	
		CMYK_offset_1_line_28_patches_9X	17/06/2023 09:02	Dossier de fichiers	
ACLR_control_bar_3_lines_10%_and_refs		CMYK_offset_1_line_28_patches_15X	17/06/2023 09:02	Dossier de fichiers	
7CLR_control_bar_1_line_25_patches_and_refs		CMYK_offset_1_line_32_patches	17/06/2023 09:02	Dossier de fichiers	
7CLR_control_bar_1_line_31_patches_and_refs		CMVK_offset_1_line_32_patches_9X	17/06/2023 09:02	Dossier de fichiers	
7CLR_control_bar_4_lines_10%_and_refs		CMYK_offset_1_line_32_patches_15X	17/06/2023 09:02	Dossier de fichiers	
7CLR_control_bar_5_lines_Flexo_and_refs		CMYK_RGB	17/06/2023 09:02	Dossier de fichiers	
CMYK_control_bar_1_line_and_ref	=	CMYK_RGB_CMYK_75%	17/06/2023 09:02	Dossier de fichiers	
CMYK_control_bar_1_line_ECI_BVDM_and_refs		Harlequin_black_plate	17/06/2023 09:02	Dossier de fichiers	
CMYK_control_bar_1_line_for_2_colors_press_and_ref		[9] _Read_Me_quick_installation_in_MYIROtools.rtf	17/06/2023 09:00	Format RTF	55 Ko
CMYK_control_bar_1_line_Gravure_32_patches_and_refs					
CMYK_control_bar_1_line_Offset_28_patches_and_refs					
CMYK_control_bar_1_line_Offset_32_patches_and_refs					
CMYK_control_bar_1_line_with_75%_and_ref					
CMYK_control_bar_3_lines_10%_and_refs					
> Proof_CMYK_control_bars_and_ref_files					
Sample measurement files					
Sample_measurement_mess Sample_measurement_mess					
Fr_Docs					

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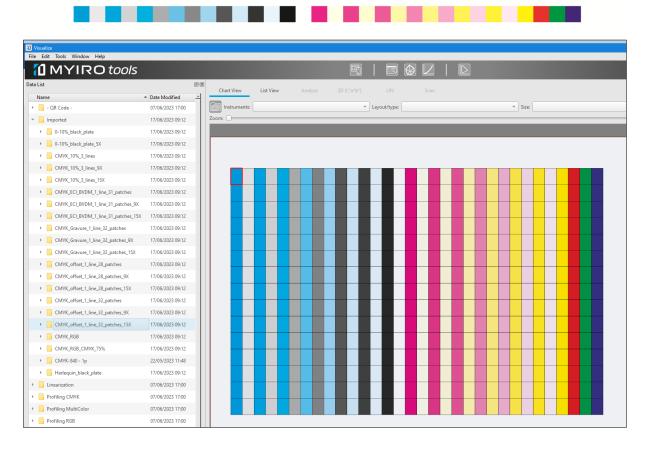
5-2) Installation of the XML reference files in MYIROtools application for measuring Colorsource CMYK control bars and press calibration charts:

All you have to do is copy and paste (or drag and drop) the xml mirror directories to the MYIROtools Imported charts folder: <u>C:\ProgramData\MYIRO\MYIROtools\Data\Tool\Measure\Imported</u>

This gives you the following:

er Accueil Partage Affichage					
→ ✓ ↑ - Ce PC → Sure_System (C:) → ProgramData → MYIRO → MY	IROtools > Data > Tool > Measure > Imported >				
V MYIRO	^ Nom	Modifié le	Туре	Taille	
V - MYIROtools	0-10%_black_plate	17/06/2023 09:12	Dossier de fichiers		
> Command	0-10%_black_plate_5X	17/06/2023 09:12	Dossier de fichiers		
V Data	CMYK_10%_3_lines	17/06/2023 09:12			
> Templates	CMYK_10%_3_lines_9X	17/06/2023 09:12	Dossier de fichiers		
V Tool	CMYK_10%_3_lines_15X	17/06/2023 09:12	Dossier de fichiers		
V Measure	CMYK_ECI_BVDM_1_line_31_patches	17/06/2023 09:12	Dossier de fichiers		
- OR Code -	CMYK_ECI_BVDM_1_line_31_patches_9X	17/06/2023 09:12	Dossier de fichiers		
	CMYK_ECI_BVDM_1_line_31_patches_15X	17/06/2023 09:12	Dossier de fichiers		
V Inported	CMYK_Gravure_1_line_32_patches	17/06/2023 09:12	Dossier de fichiers		
0-10%_black_plate	CMYK_Gravure_1_line_32_patches_9X	17/06/2023 09:12	Dossier de fichiers		
0-10%_black_plate_5X	CMYK_Gravure_1_line_32_patches_15X	17/06/2023 09:12	Dossier de fichiers		
CMYK_10%_3_lines	CMYK_offset_1_line_28_patches	17/06/2023 09:12	Dossier de fichiers		
CMYK_10%_3_lines_9X	CMYK_offset_1_line_28_patches_9X	17/06/2023 09:12	Dossier de fichiers		
CMYK_10%_3_lines_15X	CMYK_offset_1_line_28_patches_15X	17/06/2023 09:12	Dossier de fichiers		
CMYK_ECI_BVDM_1_line_31_patches	CMYK_offset_1_line_32_patches	17/06/2023 09:12	Dossier de fichiers		
CMYK_ECI_BVDM_1_line_31_patches_9X	CMYK_offset_1_line_32_patches_9X	17/06/2023 09:12	Dossier de fichiers		
CMYK ECI BVDM 1 line 31 patches 15X	CMVK_offset_1_line_32_patches_15X	17/06/2023 09:12	Dossier de fichiers		
	CMYK_RGB	17/06/2023 09:12	Dossier de fichiers		
CMYK_Gravure_1_line_32_patches	CMYK_RGB_CMYK_75% CMYK-840 - 1p	17/06/2023 09:12 22/05/2023 11:48	Dossier de fichiers Dossier de fichiers		
CMYK_Gravure_1_line_32_patches_9X			Dossier de fichiers Dossier de fichiers		
CMYK_Gravure_1_line_32_patches_15X	Harlequin_black_plate	17/06/2023 09:12	Dossier de fichiers		
CMYK_offset_1_line_28_patches					
CMYK_offset_1_line_28_patches_9X					
CMYK_offset_1_line_28_patches_15X					

Then if you select, for example as below, the imported chart named **CMYK_offset_1_line_32_patches_15X**, you can measure on 15 copies the following offset calibration chart offering 32 patches on a single line:



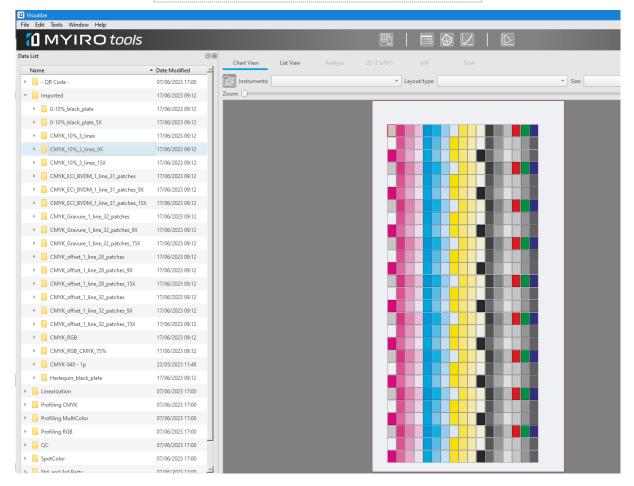
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6) MYIROtools v1.40.0012 software bug when saving measurement files made in CGATS format:

For example, let us measure as below our calibration chart offering 10% steps on 3 lines, and this on 9 copies printed in a row, by choosing as below the **CMYK_10%_3_lines_9X** reference file:





When saving your measurement file in CGATS format, two different recordings may occur (!):

- Either you save your measurement file in CGATS format as soon as your measurements are finished
 AND you keep the default file name proposed by MYIROtools application:
 For example, MYIROtools saves your CGATS spectral measurement file as CMYK_10%_3_lines_9X_00002.txt,
- Either you do not save your measurement file in CGATS format as soon as your measurements are finished: You select a different window on your PC desktop before returning to MYIROtools window, OR you save your measurement file as soon as you finish reading it, but you type a file name different from the default file name MYIROtools suggested, for example you name your CGATS measurement file "My_Measurments_over_9_copies.txt",

In both cases, the measurement files recorded by MYIROtools v1.40.0012 have a BAD index column! (And this bug remains NOT corrected in the just-released v1.41.0008 version).

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File obtained by immediate measurement file saving using default name given by MYIROtools:

Indices 1, 28, 55, 82 etc. in the first column are bad, and deliberately Colorsource applications do not use them, in order to read this bad file properly, and produce your results.

).6879
).6997
).7568
0.8711
0.047
0.2174
0.4656
0.8149
0.9319
0.9428
0.9355
0.0743
0.294

File obtained by saving with a chosen name and/or after selecting a window different from MYIROtools before returning to MYIROtools and save your CGATS measurement file:

Indices 1, 28, 55, 82 etc. in the first column remain bad, but in addition the measurement data associated with the CMYK values have been scrambled (... but yet not according to the index column!). The display of the measured pattern on MYIROtools window is also corrupted since the patches of the measured chart are suddenly displayed out of order. So that this CGATS measurement file is NOT usable (and not only by Colorsource applications!).

NUMBER_OF	47				
NUMBER_OF	459				
BEGIN_DATA_FOR	MAT				
SAMPLE_ID CMY	K_C CMN	К_М СМҮК	_у смук_к	XY; XY; XY; LAILAI LAI nm380	מה מהמתחת מהמה מהמתחר מהמה מהמחת מהמה מהמה מהמה מהמה ההמה המהמה מהמה
END_DATA_FORM	IAT				
BEGIN_DATA					
1	20	16	19	0 57 59 49 81 0 -1 0.22	04 0 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
28	0	90	0	0 81 84 64 93 -1 5 0.28	34 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
55	0	60	0	0 67 61 57 82 19 -7 0.28	12 0 0 1 1 1 1 1 1 1 1 1 1 1 0 1 0 1
82	0	30	0	0 61 63 55 84 -0 -3 0.23	94 0 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
109	100	0	0	0 47 54 67 79 ## ## 0.22	92 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 0
136	70	0	0	0 11 11 10 40 -1 -2 0.05	96 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
163	40	0	0	0 75 80 31 91 -4 41 0.16	38 0 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1 1 1 1
190	10	0	0	0 59 51 49 77 26 -8 0.26	54 0 0 0 1 1 1 1 1 1 1 1 1 0 0 0 0 0 0 0
217	0	0	80	0 21 22 19 54 -1 -3 0.1	06 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
244	0	0	50	0 40 48 66 75 ## ## 0.21	02 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 0
271	0	0	20	0 7 17 6 48 ## 27 0.02	13 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
298	0	0	0	90 73 77 24 90 -4 52 0.13	44 0 0 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1 1 1
325	0	0	0	60 37 23 22 55 60 -6 0.21	82 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

Actually, Colorsource applications do detect that the measured values do not match the CMYK values in this file. Colorsource applications could then correct this bad file, but this is not a development priority for us. It's up to Konica-Minolta to debug their app, still bugged after for four long years!

7) Drawing CMYK or N-Color printable charts from their CGATS reference file:

Each **Colorsource** application comes with all the necessary CGATS reference files and corresponding printable charts. We recommend that you first use the standard charts and reference files supplied with each application.

You can also specify your own color targets by a CGATS reference file, and then generate from this reference file the corresponding printable color chart.

If you own a **ProfileMaker** key, you can use the **MeasureTool** charts' generator to produce a printable chart from any CGATS reference file. However, the generated charts often have an inconvenient and unnecessarily cumbersome geometry for use as a calibration bar on the press, so that the following solution is better, and free of charge:



Free **Colorlab** software allows you to generate your CMYK printable chart from any CGATS text reference file (Do **Filter/Layout and Format/Test Chart Define**). **Colorlab** also allows you generating printable N-CLR charts from N-CLR text reference files, with 4 to 8 colors: The generated chart is a TIF with alpha channels to be imported in Photoshop and then converted into multilayer .eps. Simply name each layer and assign it a Lab color for a more pleasant or realistic display.

Download link of the **Colorlab** software: <u>https://www.xrite.com/service-support/downloads/c/colorlab-utility-freeware-v281x</u>

8) Create custom color targets to be used as Fingerprints by MagicPress, MagicPrepress or Magic_Proof_&_Print_Control, from CMYK or N-Colors I.C.C. profiles:

Colorsource applications allow you choosing for aim standard any of the **ISO 12647-2**, **12647-3**, **12647-4**, **12647-6**, **G7/IDEAlliance**, or **WAN-IFRA** public CMYK print standards.

Colorsource applications allow you as well specifying **your own private CMYK or N-Colors aim printing standards** by specifying them by a **Fingerprint**.

A **Fingerprint** is a CMYK or N-CLR press characterization file that can be declared to be the aim standard to be matched. A **Fingerprint** measurement file can be established by measuring a reference press characterization test chart (Averaging a few press' characterization measurement files is even better).

A **Fingerprint** measurement file can also be computed from any existing CMYK or N-CLR press I.C.C. profile, such as for example "**Euroscale.ICC**" or "**USSheetFed_coated.icc**" CMYK profiles.

Colorlab v2.8.13 application allows computing for any CMYK or N-Colors chart specified by its CGATS text reference file, the Lab colors that will be obtained on paper: This makes it easy to obtain the colors in the form of a CGATS text file C.I.E. Lab targets any frame for any ICC profile.

Of course, this also works for the chart reference files supplied with **Colorsource** applications, which allows you to very quickly calculate your **aim** colors according to any ICC profile for **MagicPress**, **MagicPrepress** and **Magic_Proof_&_Print_Control** applications, then use these colors in their **Fingerprint** tab.

Download link of the **Colorlab** software: https://www.xrite.com/service-support/downloads/c/colorlab-utility-freeware-v281x



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