How can I use using Best Practices with my GretagMacbeth iQC / iMatch system?

"Best Practices" refers to a system of defining, documenting, and complying with agreed-upon procedures which are shown to support rigorous data and assessment tools. For color measurement, establishing Best Practices requires you to consider several factors:

- Standardizing bodies whose methods and standards can guide you in best practices for your industry. Whenever possible, you will want to refer to existing standards, instead of writing your own. This leverages the strengths of known, published methods, and improves the ability of your partners to comply with your Best Practices.
 - o ASTM (American Society for Testing and Materials http://astm.org
 - AATCC (<u>http://www.aatcc.org/</u>)
 - SAE (Society of Automotive Engineers) http://automobile.sae.org/
 - SPE/CAD (Society of Plastic Engineers, Color and Appearance Division) <u>http://www.specad.org/</u>
 - ISO (International Organizqation for Standardization) <u>www.iso.org</u>
 - o and others.
- Instrumental measurement parameters will need to be defined for your applications.
 - Sensor geometry (45/0, sphere, or other)
 - Aperture size
 - Specular reflectance included or excluded
 - UV energy included, excluded, or calibrated (calibrated is preferred for many industries)
 - NetProfiler Certified within 30 days
 - Color i7, CE7000A, and Color i5 are frequently selected as part of Best Practices programs.
- Sample presentation parameters also need to be defined, including:
 - Sample thickness or number of layers
 - Backing material if samples are not opaque
 - Temperature and humidity of sample and ambient conditions
- Color measurement system parameters can also affect your results, and need to be defined. Colorimetric values will be calculated from spectral measurements using consistent:
 - Illuminant (D65, TL84, U3000, F02, etc) and observer (2 or 10 degree)
 - Color space (CIELAB or other)
 - Color difference equation (DE*, DEcmc, CIEDE2000, etc)
 - All of these are supported by Color iQC and Color iMatch.

Whew -- that's a lot to keep up with! How do I keep it all straight, especially if I have customers with differing requirements?

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Actually, Color iQC and iMatch make it easy. Here's what you do.

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11 Te Te	Calibration Mode Propert Enable auto cor R/T Mode Reflectance Regular (Direct) Transmittance Total Transmittance Haze (Transmittance) Specular Condition Included Excluded	figuration by spectrophotometer UV Filter Pos / UV Energy VV Filter Pos / UV Energy Out / UV Inc 7.400 % Out / UV Inc Cal / UV Cal UVD65 C In / UV Exc Port Plate Aperture / Lens Port SAV (0.30 in) Ignpre port plate errors Lens Lens = Port	This screen is filled with items you will need to define for Best Practice for your application
	Enable NetProfiler® Extended measurements Normal (Single mode) your name for this OK Cancel	Glass Correction Applied?	

Now, let's set up the colorimetric parameters:

ł Job



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Selected Colbr System © CIEL*a*b* © Hunter L,a,b © FMC-II Illuminants 1: D65-10	Database Name (overrides System Default setting) b Default Database Name Connect Temporary Database and select your color space and illuminant/observer Printing Print Header: GretagMacbeth Demo					
2: A -10	Sub Header: Sob Title>					
Default Measurement Mode None (use current selected)						
Settings Filename Disconnect job from settings file (Note: If no settings file, settings will be stored inside the job file)						
	OK Cancel Apply Help					

Once you set up a job in conformance to your Best Practice for a specific application, you can save the settings to a file for future work. For example, we'll save these settings as "Apples".

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From now on, any jobs that point to the Apples settings file will have the parameters and setting you have defined. Now, let's say you need to create a different set of Best Practice parameters for another application. We'll call it Oranges.

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	Trial Name	DL*	Da*	Db*	DC*	DH*	
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Data	Sample 002	-0.54 D	-0.66 G	-1.36 B	-1.33 D	-0.72 R	
Fire Red (P)	Sample 003	-0.03 D	0.22 R	-0.03 B	0.16 B	-0.16 R	
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Now, you can easily assess color measurement results in compliance with your two defined Best Practices for two difference applications, simply by using the appropriate settings file.

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1 (ET	Color iMatch Job Settings
	You can always check to see which settings file is currently System General QC Options selected by clicking on the Settings icon here,
	Selected Color System Database Name (overrides System Default setting) © CIEL*a*b* Job Default Database © Hunter La,b Connect Temporary Database © FMC-II Connect Temporary Database
	Illuminants Printing 1: TL84-10 Image: Second Secon
	Number reads to average (override cal mode): Logo start (0-100) 0 Logo width (0-100) 0
~	Default Measurement Mode None (use current selected)
10	Concentration Units: Percent file name here.
	Settings Filename C:\Color_iControl\System\oranges.st3 Disconnect job from settings file
Light	(Note: If no settings file, settings will be stored inside the job file)

You now have the tools you need to establish and maintain a program of Best Practice color measurement. And, you've made it easy for others in your organization to understand the relevant parameters of your Best Practice, and conform to your requirments.