



Unlocking Your Understanding of GRACoL®, SWOP®, G7® and other Must-Know Definitions

The purpose of this document is to facilitate understanding of the key differences between the terms Standard, Specification, & Method and how those terms appropriately apply to GRACoL®, SWOP® and G7®. This document also provides descriptions of GRACoL®, SWOP® and G7®.

A **Standard** applies to any definite rule, principle, or measure established by authority custom, or general consent. International Organization for Standardization (ISO) further defines a standard as:

'A document established by consensus and approved by a recognized body that provides for common and repeated use, rules, guidelines or characteristics for activities or their results, aimed at the achievement of the optimum degree of order in a given context'.

While there is no perfect definition of a standard, they are most often distinguished from specifications in that they apply broadly and have been through a formal process of review and acceptance by a governing body (i.e. ISO).

A **Specification** is not a standard. It is a detailed description of design criteria for a piece of work. GRACoL1, SWOP3 and SWOP5 are specifications for printing using a precise characterization data set for a specific print process and substrate.

A **Method** is defined by Merriam-Webster as "a way, technique, or process of or for doing something". Stated most simply, there can be many methods that yield a desired result. G7® is a method of attaining a desired grayscale and tonal curve used for calibrating a proofing and/or printing system.

Descriptions:

GRACoL® stands for the General Requirements for Applications in Commercial Offset Lithography. GRACoL is a color reproduction Specification for sheetfed offset lithography. The GRACoL specification pertains to sheetfed offset printing using ISO defined inks and paper (#1 or #2). CGATS TR006 is based on the reference characterization GRACoL2006 Coated1. IDEAlliance no longer specifies TVI (solid ink density (SID), dot gain or print contrast) GRACoL targets. IDEAlliance does recognize the value of TVI as an important element of managing and monitoring the chemical and



mechanical elements of printing machinery. Any reference you may read for GRACoL TVI metrics should be considered historical reference data only.

SWOP[®] stands for Specifications for Web Offset Publications. SWOP is a color reproduction Specification for web offset lithography. The SWOP specification pertains to web offset printing using ISO defined inks and paper. There are two SWOP specifications, SWOP3, for printing on a #3 sheet stock and SWOP5 for printing on a #5 sheet stock. CGATS TR003 and TR005 are based on SWOP2006 Coated3 and SWOP2006 Coated5 reference characterizations. IDEAlliance no longer specifies TVI (solid ink density (SID), dot gain or print contrast) SWOP targets. IDEAlliance does recognize the value of TVI as an important element of managing and monitoring the chemical and mechanical elements of printing machinery. Any reference you may read for SWOP TVI metrics should be considered historical reference data only.

G7[®] is both a definition of grayscale appearance, and a calibration method for adjusting any CMYK imaging device to simulate the G7 grayscale definition. G7 yields a visual match between different imaging systems using simple 1-dimensional curves, and enables shared appearance between different printing devices or specifications when additional color management is not available. G7 is the basis for GRACoL on #1 paper (TR006), SWOP on #3 paper (TR003), SWOP on #5 paper (TR005) and **FIRST's** Flexo on white polyester substrate (TR007). G7 utilizes one of the implementation methods of the new ISO 10128 standard for near-neutral calibration. A key benefit of G7 is that it is device independent. The G7 neutral print density curve (NPDC), gray balance definitions and calibration methodology are the same for any imaging technology, regardless of substrate, colorants, screening technologies, etc. The NPDC at the heart of the G7 grayscale definition was derived by analyzing the neutral tonality of typical ISO Standard commercial offset printing using computer-to-plate technology. G7 should not be confused with GRACoL7, which is the 7th edition of the GRACoL Specification

IDEAlliance[®] is a non-profit industry association guiding and publishing print media methodologies, specifications, and standards. Its primary role is facilitating a level playing field across ALL stakeholders to develop work that advances best practices. To maintain its effectiveness IDEAlliance must be agnostic and independent with all partners in the supply chain. It cannot endorse or provide an unfair advantage through the inappropriate use of its intellectual property - its methodologies, specifications, and standards. To protect its role IDEAlliance will take action to protect its trademarks that they used appropriately and in the best interest of the industry and NOT commercial advantage.

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