

## **TAPPI Useful Methods Guidelines**

### **Revised November 2013**

#### **Preface**

This manual contains the TAPPI regulations and style guidelines for TAPPI Useful Methods. The regulations and guidelines in this manual are developed and approved by the Quality and Standards Management Committee with the advice and consent of the TAPPI Board of Directors.

Use the guidelines in this manual **only** for development and management of TAPPI Useful Methods. The TAPPI Useful Methods are **not** TAPPI Standards. A separate set of guidelines exists for TAPPI Standards and should be used for any documents that are to be developed as consensus standards in accordance with TAPPI regulations, which are certified by the American National Standards Institute (ANSI).

#### **Scope**

This manual describes the procedures and policies that are used to develop and publish TAPPI Useful Methods, and the guidelines for style and format of these documents. In many ways, these elements of the Useful Methods are similar or identical to those of TAPPI Standards but permit greater flexibility in execution.

#### **History**

At one time, TAPPI published a set of Routine Control Methods. These test procedures were designed to be easily understood laboratory or plant floor methods for quick determination of certain properties of pulp, paper, raw materials, or related products. They were never intended to be used as referee methods in commerce, as the TAPPI Standard Test Methods are. At some point, the set of Routine Control Methods evolved into what was to be called Useful Methods (UMs). New Useful Methods were added to the set by TAPPI members who submitted methods to TAPPI PRESS. There were never any written guidelines developed to ensure consistency of quality or content of either the Routine Control or Useful Methods.

In 1991, the TAPPI Board committee that at the time regulated test methods (Test Methods Management Committee) recommended that the set of Useful Methods be reviewed by a panel of experts in order to delete or edit methods that were technically unsound or used materials deemed to be hazardous. Certain UMs were edited, others were eliminated, and others were left unchanged. This resulting set of UMs was published in book form in 1991 and continued to be sold in this fashion until the issuance of these guidelines. The primary reason for maintaining this set of UMs is because, over time, many of the UMs were referenced in other technical literature, so it was believed that their preservation as a reference was important, although it was also recognized that the UMs did not have TAPPI organizational sanction or consensus agreement by any

TAPPI technical groups and were not developed in the same way that TAPPI Standard Test Methods are developed and reviewed.

In 2009, the issue of developing a set of “plant floor methods” was introduced to the Board committee that now regulates Test Methods, the Quality and Standards Management Committee (Q&SMC). Since the UMs from 1991 were still being sold through TAPPI PRESS, and since there was a desire to have more consistency of form and style of the UMs, it was suggested that the UM category could be reinstated and restructured, as necessary, for use as a repository for these newly proposed plant floor methods. The UMs would once again be reviewed by a panel of technical experts, and a new set of guidelines would be proposed to monitor the development, review, quality, and style for the UMs, along with suggestions for distribution of these documents. These guidelines are the result.

### **Definition**

A **TAPPI Useful Method** is a document written to describe a test, procedure, or practice which may be proposed by a Working Group of no fewer than three TAPPI members not employed by the same organization and written in the same general style as a TAPPI Standard Test Method, but with the inclusion or exclusion of certain sections as deemed appropriate by the Working Group, and with minimum precision requirements that may be expanded at the discretion of the Working Group. A UM is written with no less attention to proper use of the language to describe the procedure using essentially the same elements of a TAPPI Standard Test Method, but in a less rigorous manner. TAPPI Useful Methods do not receive the same review through a rigorous process of openness, voluntary review, and consensus as do the TAPPI Standard Test Methods, and as such, TAPPI Useful Methods are not intended to be used as referee methods as the TAPPI Standard Test Methods are.

### **Precision**

The minimum required precision data for Useful Methods shall be at least a simple statement of repeatability in a single location which may be developed by a statistically recognized process of choice by a Working Group but might include performance of the test on a series of samples by different technicians or by different persons or the same person on different days in a single location. That data could then be used, only by way of example, to calculate a within laboratory standard deviation for the procedure. Other protocols for doing testing and calculating a statement of precision may be devised by Working Groups developing UMs. In such cases, a simple statement of the precision process used and the data obtained shall be included in the Useful Method.

For qualitative Useful Methods or Useful Methods where the results are in descriptive form, a precision statement is inapplicable. The precision section must still be included with a statement explaining the inapplicability of a true precision statement.

A spreadsheet, “Calculating Precision Data for Useful Methods,” is available from TAPPI to assist in calculating precision data. It may be downloaded from the TAPPI website on the Standards and TIPs page or it may be requested from the Standards Manager.

## **Development and Approval of Useful Methods**

To propose a TAPPI Useful Method for approval and publication requires a group of at least three persons who are members of TAPPI and are not employed by the same organization. In some cases, the Working Group may be formed from within one of the formally constituted groups in TAPPI, such as a Technical Division or a Technical Committee.

Any such group of three TAPPI members may draft new Useful Methods or may be called upon for expertise in reviewing or revising existing Useful Methods in accordance with these guidelines.

*New Useful Methods.* Any group within TAPPI may form a Working Group which shall follow the format and style guidelines in these guidelines to prepare a draft of a new UM. Each Working Group formed must select one of these individuals as Working Group Chairman (WGC). The WGC must submit a description of the project to the Standards Manager, who shall post the information in the TAPPI Standards and TIPs Action Report (STAR), and any other media deemed necessary for review by any members of TAPPI. The Standards Manager shall also distribute the information to any chairmen of any working technical committees or groups within TAPPI that would have an interest in the subject matter in the UM. The announcement in STAR and the distribution to interested technical groups shall include a deadline for response to the Standards Manager.

Any interested parties who respond to the announcement for a new UM shall be added to the working group for the UM, and their contact information shall be provided to the UM working group chairman. No application to join the working group by the posted deadline shall be refused.

The WGC should reach consensus within the Working Group on any questionable points prior to finalizing the draft. When developing a new UM, the WGC must first check to see whether the proposed procedure duplicates or relates to any existing TAPPI Standards or Technical Information Papers. If it duplicates any existing document within TAPPI, the WGC must notify the Standards Manager, who will coordinate the decision as to whether the work on drafting the new UM should continue, be revised or discontinued accordingly.

The UM, as developed and approved by the Working Group, is submitted for official publication through the Standards Manager, who must determine if the document follows

proper format and style as outlined in these guidelines and must consult with the WGC with changes that need to be made to conform to proper style before the document is processed for publication.

After following the procedure outlined above and after determining that all necessary changes have been made so that the draft conforms to proper format and style, the Standards Manager will prepare the document for publication and will publish a notice of availability in the TAPPI Standards and TIPs Action Report (STAR) and other media as deemed necessary. The WGC will be sent a proof copy of the UM for review prior to publication. The published version shall include a list of the names and organizations of the Working Group members.

Any matters regarding the technical content of a UM not covered or resolvable under these guidelines shall be referred in writing to Q&SMC which shall consider the issue at its next meeting.

*Periodic review of UMs.* All UMs published after the issuance of these guidelines shall be reviewed five years after initial publication and then every ten years thereafter. The Standards Manager shall contact the Working Group listed on the UM and ask them to review and respond with any changes within six months. If this task is not accomplished within this time period, the Standards Manager shall refer the UM to Q&SMC for resolution.

In the case where no members of the most recent working group are available to review the UM, then the Standards Manager shall attempt to find a different TAPPI member experienced in the UM's subject matter to assemble a Working Group to conduct the review. If no new Working Group can be assembled, the Standards Manager shall refer the UM to Q&SMC for resolution on how to proceed with a review.

*Revisions.* Any group of three or more TAPPI members not employed by the same organization that feels a revision is needed for a published UM shall contact the Standards Manager and submit the proposed revisions. Revisions shall be developed, written and approved in the same manner as a new UM, including the announcement in STAR and the notice to technical groups within TAPPI that may have an interest in the subject matter of the UM. Note: The word "revision" as used in this paragraph shall include the option for the Working Group to agree to a "withdrawal" of the UM.

*Withdrawals.* If the Working Group for a Useful Method determines, either during a regular review or any other time, that a Useful Method should be withdrawn, then the Working Group Chair shall notify the TAPPI Standards Manager, who will place an announcement in the next available issue of the STAR newsletter. The announcement shall indicate the reasons for the proposed withdrawal and shall ask for anyone who objects to the withdrawal to respond by a particular date and state reasons. After the response deadline, the Standards Manager shall provide any objections and comments to the Working Group for their resolution. The Working Group may override any objections or may decide not to withdraw based on the comments received. After a Useful Method

has been withdrawn by a particular Working Group, any interested parties who wish to form a new Working Group to reinstate the Useful Method may do so in accordance with the procedures outlined in these guidelines.

*Review of UMs published prior to adoption of these guidelines.* The Quality and Standards Management Committee shall supervise and facilitate the review of UMs existing prior to the development of these guidelines. This may be done by appointment of one or more task forces to review these documents. Decisions to edit or delete any existing UMs shall be made prior to their publication or distribution of UMs under these guidelines. UMs published prior to the approval of these guidelines are not required to list a Working Group; however, if a previously published UM is edited and recommended for publication in this edited form by any task force appointed to review these documents by the Q&SMC, then a Working Group, which may include members of this appointed task force, shall be listed on the UM, as described in the section “Format and style of TAPPI Useful Methods.”

## **Format and style of TAPPI Useful Methods**

### *Terminology*

Write the Useful Method in plain, simple language. Do not use jargon, ambiguous statements, or undefined abbreviations. Consult a standard unabridged dictionary, e.g., the current editions of Webster's International Dictionary or the Oxford English Dictionary, for general terms or The Dictionary of Paper, latest edition, for papermaking terms. Use the present tense and active voice throughout, and use either indicative mood (for declarative statements) or imperative mood (for command statements instructing the user how to perform the test).

### *Units*

The International System of Units (SI) is the preferred system of measurement for use in TAPPI Useful Methods. Use SI units or other units recommended in T 1210 and UM 0800-01 "Units of Measurement and Conversion Factors" in all UMs as the primary means of expressing quantities, dimensions, tolerances, and results. English units or commonly used units may be given immediately following in parentheses. Exceptions to this requirement are permitted in cases where UMs were originally developed using the English system of measurement units, or where the majority of instruments in current use are designed to English unit specifications, or for which there is such a considerable body of existing measurement data within the industry that conversion to SI units for reporting results would cause considerable confusion, or for any combination of the above. The responsible Working Group must develop the rationale to support the use of this exception.

### *Sections*

The following is a list of sections that may be used in writing a UM, omitting inapplicable sections and adding appropriate ones where needed. The headings listed as "mandatory" are required:

Title (mandatory)

Introduction

Scope (mandatory)

Summary

Significance

Applicable Standards

Definitions

Interferences

Apparatus

Preparation (may be a separate section or included under Apparatus)

Calibration (may be a separate section or included under Apparatus;  
extended calibration or maintenance procedures are best placed in an  
Appendix)

Maintenance (may be a separate section or included under Apparatus)

Reagents and materials

Safety precaution statement (mandatory)  
Sampling, Test Specimens and Test Units (may be combined in one or included as separate sections)  
Conditioning  
Procedure (mandatory)  
Calculations (or Interpretations of the Observations) (mandatory for quantitative methods)  
Report  
Precision - must contain repeatability statement at a minimum (mandatory)  
Keywords (mandatory)  
Literature cited  
References  
Appendixes  
Working Group Member names and organization affiliations (mandatory)  
Date of issue (mandatory)

Not all of these headings may be required for a particular UM. Additional headings which are included to cover specialized subjects should appear in the most appropriate place, depending on their relation to the sections listed above.

#### *Trade names*

Avoid the use of trade names unless the instrument name is needed to differentiate the Useful Method from another TAPPI Useful Method or Standard Method purported to measure the same property. Use generic descriptions of equipment and materials which are sufficiently complete to allow the user of the equipment to locate the needed item using readily available supplier catalogs and buyer's guides. In these descriptions state the required properties of the material or apparatus in performance or characteristic based terms, rather than trade names or trademarks. [For example, "...chemically and thermally resistant borosilicate glass..." rather than Kimax<sup>TM</sup> or Pyrex<sup>TM</sup>.]

**In no case may materials or apparatus be cited in a Useful Method in a manner that appears exclusionary or inconsistent with the TAPPI Antitrust Policy.**

#### *Descriptions of chemicals and reagents*

Use generic descriptions of chemicals and reagents which are sufficiently complete to allow the user of the equipment to locate the needed item using readily available supplier catalogs and buyer's guides. In these descriptions state the required properties of the material or apparatus in performance or characteristic based terms, rather than trade names or trademarks. [For example, "...petrolatum or petroleum jelly..." rather than Vaseline<sup>TM</sup>.]

In cases where a Working Group finds that a chemical or reagent from a specific source is required for satisfactory performance of a procedure, or is aware of only a single chemical or reagent that permits the procedure to be performed, this fact should be indicated in the Useful Method. In cases where this is done, however, the phrase "...other

chemicals or reagents complying with the description of (item required) may work equally well...” should be placed immediately following the chemical or reagent description. (For example, “...indicator solution, a 0.5% (w/v) of [state the exact chemical name here] in distilled water. Keystone RediPuR™ [chemical name] was used for the studies reported in the precision section and found satisfactory. Other sources of [chemical name] may be available and may work equally well.”)

**In no cases may chemicals or reagents be cited in a Useful Method in a manner that appears exclusionary or inconsistent with TAPPI's Antitrust Policy.**

#### *Safety precautions*

If there is a hazard in performing the test such as explosion, fire, or toxicity, include a warning of the dangerous step. Repeat the warning in the text at the appropriate point and include the word “CAUTION.” Note safety equipment required and refer user to MSDS sheets when applicable. Avoid specific statements for protective devices or chemical disposal that may be subject to change due to regulations or current safety practices.

The accepted TAPPI Caution Statement shall appear in a box on page 1 of the Useful Method. The statement is:

This Useful Method may include safety precautions which are believed to be appropriate at the time of publication of the method. The intent of these is to alert the user of the method to safety issues related to such use. The user is responsible for determining that the safety precautions are complete and are appropriate to their use of the method, and for ensuring that suitable safety practices have not changed since publication of the method. This method may require the use, disposal, or both, of chemicals which may present serious health hazards to humans. Procedures for the handling of such substances are set forth on Material Safety Data Sheets which must be developed by all manufacturers and importers of potentially hazardous chemicals and maintained by all distributors of potentially hazardous chemicals. Prior to the use of this method, the user must determine whether any of the chemicals to be used or disposed of are potentially hazardous and, if so, must follow strictly the procedures specified by both the manufacturer, as well as local, state, and federal authorities for safe use and disposal of these chemicals.

If there are no particular safety precautions, this shall be stated under this section's heading.

#### *Procedure*

Describe in proper sequence the procedure to be followed in such detail that it can be performed independently by a technician trained in testing and laboratory work, but who may be unfamiliar with the test. Description of the testing procedure should also be useful to the “line operator” or person of similar organizational responsibility who has

limited if any formal testing or laboratory training, but who will be expected to perform the test. Subheadings may be used if they will help the organization of the material.

#### *Calculations and interpretations of the results*

Give directions for calculating the test result, i.e., value for the test unit, from the observations on the specimens of the test unit. For Useful Methods whose results are obtained directly from a measurement, then include a statement that no calculations are necessary.

#### *Report*

State the suggested form of reporting the test result for each test unit, including the number of significant figures and the units in which the result is to be expressed. Report any deviations from any section of the Test Method or other factors that may have influenced reported results. Exact form of the test report may be determined by the user of the method (verbal, hand written, entry into data system, etc.)

#### *Precision*

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A spreadsheet is available from TAPPI to assist in calculating precision data.

#### *Keywords (mandatory)*

List appropriate terms for indexing, selected from both the title and body of the Useful Method and including general, vernacular, and trade terms. These terms are the basis for preparing index terms.

To assure consistency in selecting keywords for indexing purposes and in selecting the proper form of a keyword, use the Thesaurus of Pulp and Paper Terminology, formerly published by the Institute of Paper Science and Technology, and currently published by Elsevier. Terms that appear in this thesaurus are preferred keywords and shall be used in the majority of cases. However, the Q&SMC shall maintain a supplemental keyword list

which shall be included as an Appendix in the guidelines for TAPPI Standards. Included on this list will be terms that the Q&SMC has chosen as part of the supplement to the Thesaurus.

The Working Group Chairman should select keywords, but these keywords must be reviewed by the Standards Manager for their acceptability in accordance with the Thesaurus and the supplemental list. If the Working Group Chairman and/or the Standards Manager determine that, for ease of use or clarity, additional terms need to be included in a particular Useful Method, then these terms shall be approved by the Q&SMC. When a majority of the members of the Q&SMC approve the inclusion of a new keyword, the new keyword shall be added to the supplemental list and to the Useful Method for which it was proposed.

#### *Literature cited/References*

Include in this section a listing of all literature references relevant for the Useful Method. Works that are specifically cited in the text of the method should be listed under "Literature cited," while other references of a general nature shall be listed under "References."

#### *Additional information*

For any Useful Methods developed after the approval of these guidelines, include in this section a listing of the Working Group Chairman and Working Group members and a listing of the effective date of issue.

Subsequent paragraphs may be added to this section to include any other information that would be helpful or useful for the user of the UM.

### **Publication and distribution**

TAPPI PRESS will make the Useful Methods available in various forms for distribution and sale, which may include, but will not be limited to:

- Individual documents
- Entire set on CD (either stand alone or with Standards and TIPS)
- Entire set added to the online version of Standards and TIPS
- Specialized sets as negotiated with TAPPI PRESS

Useful Methods that were deleted for technical reasons by the Useful Methods review task force will not be available for distribution.