



Sub-Group Report 2017

Physical Test Methods (PTM)

Kitzbühel, Austria

October 9, 2017



- ❖ **The PTM Sub-Group**
- ❖ **Objectives**
- ❖ **Document Review**
- ❖ **Collaborative Study on Physical Parameters**
- ❖ **Round Robin Tests on Calibration Standards**
- ❖ **Other Work Items**
- ❖ **New Work Items**
- ❖ **Next Meeting**



The PTM Sub-Group

❖ **Sub-Group established in 2007**

❖ **Executives**

- **Coordinator** **Bernhard EITZINGER**
- **Secretary** **Patricia MÜLLER**
- **SC Liaison** **Bernhard EITZINGER**

❖ **Meetings**

- **24th Meeting** **Trier, Germany** **April 26-27, 2017**
- **25th Meeting** **Kitzbühel, Austria** **October 8, 2017**



Objectives

- 1. To develop and maintain CORESTA Recommended Methods (CRMs), pertinent to physical test methods related to tobacco products and their components**
- 2. To develop CORESTA Technical Reports and Guides for the application of physical test methods related to tobacco products and their components**
- 3. To organise, conduct and report on routine inter-laboratory studies in order to assess inter-laboratory consistency and to enable continual improvement of participating laboratories.**



Document Review - CRMs

- ❖ CRM 06 – Ventilation (1983) valid/not maintained ISO 9512
- ❖ CRM 41 – Draw Resistance (1995) valid/not maintained ISO 6565
- ❖ CRM 40 – Air Permeability (1994) obsolete ISO 2965
- ❖ CRM 53 – Wrapper Burn Speed (2002) valid/not maintained
- ❖ CRM 77 – Diffusion Capacity (2014) valid/maintained (2019)

- ❖ ISO 2965 and ISO 9512 under revision with support from PTM SG



Document Review - Guides

- | | |
|--|-------------------------|
| ❖ Guide 04 – Measurement of pressure drop (2008) | valid/maintained |
| ❖ Guide 06 – Use of balances for cigarettes (2009) | valid/maintained |
| ❖ Guide 10 – Measurement of diameter (2011) | valid/maintained |
| ❖ Guide 15 – Determination of diffusion capacity (2013) | valid/maintained |



Document Review - Technical Reports

ID	Project Title	Status	Time
PTM-061	Update of CRM 6 on Measurement of Filter Ventilation	CRM published	09/2016
PTM-065	TR for revision of ISO 2965 (CRM 40) on Air Permeability	TR published	09/2016
PTM-018	3 rd Round Robin Test on Air Permeability Calibration Standards	TR published	12/2016
PTM-020	3 rd Round Robin Test on Filter Ventilation Calibration Standards	TR published	11/2016
PTM-021	4 th Round Robin Test on Filter Ventilation Calibration Standards	TR published	04/2017
PTM-059	11 th Round Robin Test on Pressure Drop Calibration Standards	TR published	04/2017
PTM-062	7 th Proficiency Test on Physical Parameters (2014)	TR published	02/2017
PTM-063	8 th Proficiency Test on Physical Parameters (2015)	TR published	02/2017
PTM-108	9 th Proficiency Test on Physical Parameters (2016)	TR published	04/2017
PTM-123	3 rd Proficiency Test on Diffusion Capacity (2017)	TR published	05/2017



Annual Collaborative Study

(Proficiency Test)

- ❖ **Participation of 15-20 laboratories**
- ❖ **Measurement of filters and cigarettes**
 - **Filters** **weight, diameter, pressure drop (encapsulated)**
 - **Cigarettes** **weight, diameter, open pressure drop, closed pressure drop, filter ventilation**
 - **Repeated measurements on different days**



Annual Collaborative Study

(Proficiency Test)

- ❖ **Revision of Study Protocol and Statistical Evaluation**
 - ISO methods mandatory → Collaborative Study
 - 1 determination = average of 10 measurements
 - 5 determinations instead of 3
 - Repeat measurements on same sample set cancelled
 - Conditioning requirements adapted
 - Evaluation with respect to z-scores and r&R data



Annual Collaborative Study

(Proficiency Test)

- ❖ **PTM-122 10th Collaborative Study on Physical Parameters**
- ❖ **19 Participants (22 sample sets)**
- ❖ **Samples and protocol distributed in June/July**
- ❖ **Measurements completed until end of August**
- ❖ **Statistical evaluation and TR under preparation**

❖ Pressure Drop Calibration Standards

- PTM-112 12th RR Test – Circulation completed, draft report
- PTM-159 13th RR Test – Circulation started

❖ Filter Ventilation Calibration Standards

- PTM-124 5th RR Test – Circulation ongoing

❖ Air Permeability Calibration Standards

- PTM-022 4th RR Test – Circulation ongoing

❖ Main issues are delays at customs



Proficiency Test on Diffusion Capacity

- ❖ **PTM-123 3rd Proficiency Test on Diffusion Capacity (D^*)**
 - 10 Participants (18 sample sets)
 - Measurement of D^* on LIP bands and cigarette base papers
 - Report published in May 2017

 - Variability on LIP bands similar to past studies
 - Variability on base paper higher than past studies
 - Next study in 2019 with revision of CRM 77

 - Lack of calibration standards



CRM on Snus Pouch Sealing Strength

- ❖ **Development of CRM in cooperation with TTPA (formerly STS)**
- ❖ **Several drafts circulated**
- ❖ **Inter-laboratory studies carried out**
- ❖ **Variability high due to**
 - **sample preparation**
 - **within-sample variability**
- ❖ **Study with teabag paper as sample with lower within-sample variability**

- ❖ **CRMs for measurement of physical parameters on filter capsules**
 - **Crush strength to be the first topic**
 - **Project scope needs to be clarified**

- ❖ **On-line measurements of physical parameters**
 - **Calibration**
 - **Comparison to off-line measurements**

- ❖ **Extension of scope of PTM to other product categories**



Next Meeting

26th Meeting of the PTM Sub-Group

April, 2018

Host to be defined.



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26th Meeting of the PTM Sub-Group

April, 2018

Host to be defined.

THANK YOU!