

AFRIMETS

Mass and Related Quantities

Report to CCM - 2015

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7th AFRIMETS TCM from 1 to 2 June 2013 in Lusaka , ZAMBIA.
With the attendance of 18 delegate from 12 countries

Contents

Progress in comparisons 2012 – 2013
Roadmap TCM 2013 – 2017/ 2018
Election of the new 2nd chair and the 2nd sub-WG chairs
Visit of Zambia Bureau of Standards

8th AFRIMETS TCM from 16 to17 June 2014 in Addis Ababa – Ethiopia
With the attendance of 25 delegate from 17 countries

Contents

Review of AFRIMETS TCM comparisons
Research activity within AFRIMETS
CMC review process
Review of the chair, vice chairs and sub working groups chairs
Visit of National Metrology Institute of Ethiopia



Progress in comparisons

Review for all comparisons either registered or suggested on the base of the following requirements

- **Wither the comparison is needed or not then the priority.**
- **Existing of pilot lab**
- **Availability of artefacts**
- **Linking laboratories**

A procedure for the registration of comparisons is applied where the reference number will be given when the essential requirements of a comparison are available, protocol is ready, artefact is characterized and ready for circulation

Planned comparison will not have a reference number



AFRIMETS.M.M-S6

Information

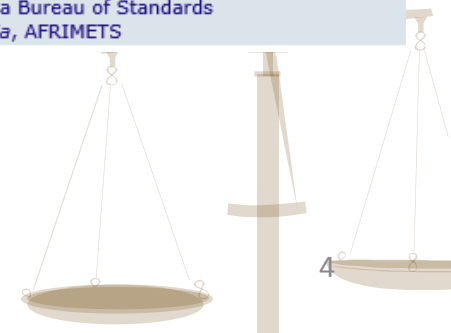
Metrology area, branch	Mass, Mass Standards
Description	Comparison of mass standards
Time of measurement	2014
Status	Measurements completed
Reference(s)	AFRIMETS.M.M-S6 Registration and Progress Form AFRIMETS.M.M-S6 Technical Protocol
Measurand	Mass: 0.1 g, 100 g, 500 g, 1 000 g and 5 000 g
Parameter(s)	Calibration of mass standards at OIML class F1 level
Transfer device(s)	Two sets of five OIML class E2 stainless steel weights with the serial number 3831013 for set 1, and 3851013 for set 2.
Comparison type	Supplementary comparison
Consultative Committee	CCM (Consultative Committee for Mass and Related Quantities)
Conducted by	AFRIMETS (SADCMET expansion) (Intra-Africa Metrology System)

Pilot laboratory(ies) / Contact person(s)

NMISA	National Metrology Institute of South Africa <i>South Africa</i> Pilot-Web
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Participants

BOBS	Botswana Bureau of Standards <i>Botswana, AFRIMETS</i>
GSA	Ghana Standards Authority <i>Ghana, AFRIMETS</i>
INNOQ	Instituto Nacional de Normalização e Qualidade <i>Mozambique, AFRIMETS</i>
MSB	Mauritius Standards Bureau <i>Mauritius, AFRIMETS</i>
NMI-SIRDC	National Metrology Institute <i>Zimbabwe, AFRIMETS</i>
NSI	Namibian Standards Institution <i>Namibia, AFRIMETS</i>
OCC	Office Congolais de Contrôle <i>Congo, The Democratic Republic of, AFRIMETS</i>
SBS	Seychelles Bureau of Standards <i>Seychelles, AFRIMETS</i>
TBS	Tanzania Bureau of Standards <i>Tanzania, AFRIMETS</i>
UNBS	Uganda National Bureau of Standards <i>Uganda, AFRIMETS</i>
ZABS	Zambia Bureau of Standards <i>Zambia, AFRIMETS</i>



AFRIMETS.M.FF-K4.2.2015

Information

Metrology area, branch	Mass, Fluid Flow
Description	Calibration of micropipettes
Time of measurement	2014 - 2016
Status	In progress
Reference(s)	AFRIMETS.M.FF-K4.2.2015 Registration and Progress Form AFRIMETS.M.FF-K4.2.2015 Technical Protocol
Measurand	Volume: 100 μ L
Transfer device(s)	Three micro pipettes of nominal volume 100 μ L
Comparison type	Key comparison
Consultative Committee	CCM (Consultative Committee for Mass and Related Quantities)
Conducted by	AFRIMETS (SADC MET expansion) (Intra-Africa Metrology System)

Pilot laboratory(ies) / Contact person(s)

NIS	National Institute for Standards <i>Egypt</i> Pilot-Web
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Participants

BOBS	Botswana Bureau of Standards <i>Botswana, AFRIMETS</i>
GSA	Ghana Standards Authority <i>Ghana, AFRIMETS</i>
IPQ	Instituto Português da Qualidade <i>Portugal, EURAMET</i>
KEBS	Kenya Bureau of Standards <i>Kenya, AFRIMETS</i>
LPEE	Laboratoire Public d'Essais et d'Etudes <i>Morocco, AFRIMETS</i>
NIS	National Institute for Standards <i>Egypt, AFRIMETS</i>
NMIE	National Metrology Institute of Ethiopia <i>Ethiopia, AFRIMETS</i>
NMISA	National Metrology Institute of South Africa <i>South Africa, AFRIMETS</i>
NMI-SIRDC	National Metrology Institute <i>Zimbabwe, AFRIMETS</i>
TBS	Tanzania Bureau of Standards <i>Tanzania, AFRIMETS</i>
UNBS	Uganda National Bureau of Standards <i>Uganda, AFRIMETS</i>
ZABS	Zambia Bureau of Standards <i>Zambia, AFRIMETS</i>



Table (1) Running Comparisons (currently operated)

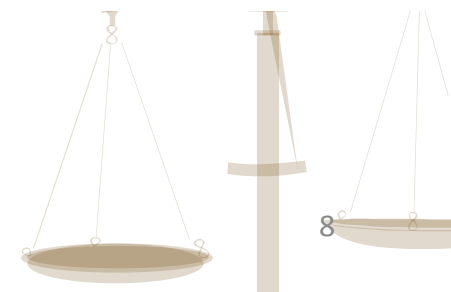
#	<u>Comparison</u>	<u>Status</u>	<u>No of Participants</u>	<u>Pilot lab</u>	<u>Artefact provider</u>	<u>Linking laborites</u>	<u>Who is in charge</u>	<u>Status/Next action</u>	<u>Proposed date for next action</u>
1	AFRIMETS.M.FF-S4 Volume comparisons	Draft A report available. Draft B report in progress	8 AFRIMETS	KEBS	NMISA	NMISA	Vida	Draft A to participants. Awaiting comments	Did not register on KCDB Workshop to be organized
2	AFRIMETS.M.P.-K2 Pressure, (10 to 110) kPa absolute,	In progress	6 AFRIMETS 1 EURAMET	NMISA	PTB	INRIM, NIS	Brian	Stuck in Tunisia for 1 year. At NMISA to resume	End March
3	AFRIMETS.M.M-S6 Weights at OIML F1 level	Planned (Currently finalizing the protocol)	11 AFRIMETS	NMISA	PTB	NMISA	Thomas	Protocol completed Draft A under preparation	3 months
4	AFRIMETS.M.M-S3 OIML Masses	Measurement completed	3 Afrimets	NIS	NIS	NIS	Eltawil	Protocol completed Draft A under preparation	2 months
5	AFRIMETS.M.P-S1 Oil pressure	In progress	3 Afrimets	NIS	NIS	NIS	Eltawil	Ghana to carry out measurements	3 months
6	AFRIMETS.FF-K4.2.2015	In progress	11 Afrimets 1 Euramet	NIS	IPQ-Portugal NIS	NIMSA - KEBS	M. Elsyed	Artefact to be send to Morocco	March

Table (2) planned comparisons to be start 2014/2015

#	<u>Comparison</u>	<u>Status</u>	<u>No of Participants</u>	<u>Pilot lab</u>	<u>Artefact provider</u>	<u>Linking laborites</u>	<u>Who is in charge</u>	<u>Next action</u>	<u>Proposed date for next action</u>
1	Micropipette Artefacts 100 µL	Planned	7 Labs	NIS	IPQ- Portugal NIS	KEBS & NMISA	NIS	Started	
2	20 L prover calibration	Planned	To be defined	KEBS	KEBS	To be defined	Dominic	Registration process by Pilot lab and TCM chair	No action yet
3	Liquid Density using oscillation technique (800 - 1300kg/m ³) at 20°C	Planned	Only Kenya & Zambia at moment	KEBS	KEBS	KEBS	To be defined	Registration process by Pilot lab and TCM chair	
4	force comparison (tension, compression) up to 500 kN or 1MN	Planned	To be defined	NIS	NIS	NIS and maybe NMISA	To be defined	Registration process by Pilot lab and TCM chair	

Table (3) the potential comparisons of interest.

<u>No.</u>	<u>Comparison</u>	<u>Status</u>	<u>Status/Next action</u>	<u>Proposed date for next action</u>
1	E class Mass comparison from 100 mg to 5 kg	Planned	Change to be linked with CCM.M.K7	On Hold till next TCM WG
2	Calibration of hydrometer	Planned		On Hold till next TCM WG



Technical work and research within group

- Solid density measurement using hydrostatic method.
- Primary method for hydrometer calibration
- *Force balance piston gauge*
- Realization of mass scale from 1 mg to 50 kg using matrix method.



Chair, vice-chairs and sub-working groups chairs

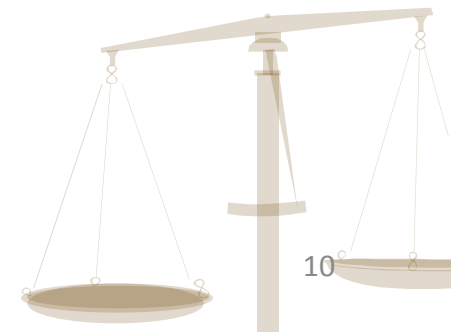
Study of the situation of chair, vice-chairs and sub-working groups chairs in the view of the changing in the members of the working group. Certain positions becomes empty so review of all the working group member was carried out. Changes were only in the empty positions.

The final situation for the chair, vice-chairs and sub-working groups chairs:

TC-M chair: **Alaaeldin A. Eltawil**

Vice chair : **Dominic O.Ondoro**

Vice chair : **Thomas MAUTJANA**



Sub-WG: Mass

Sub-WG chair : **David Tonui**

Vice Sub-WG chair : **Thomas MAUTJANA**

Sub-WG: Volume and Flow

Sub-WG chair : **Dominic O.Ondoro**

Vice Sub-WG chair : **Given KALONGA**

Sub-WG: Density and Viscosity

Sub-WG chair : **Mostafa Mekawy (viscosity)**

Vice Sub-WG chair : **Thomas MAUTJANA (density)**

Sub-WG: Pressure and vacuum

Sub-WG chair : **Brian Yashi**

Vice Sub-WG chair : **Prince N.Y Tawiah**

Sub-WG: Force, Torque and Hardness

Sub-WG chair : **Gouda M. Mahmoud**

Vice Sub-WG chair : **Josephat BANGI**



TCM notice that the review process through the review panel that was organized 2 years ago is not effective

It was decided that on each CMC under review the TCM chair, vice chairs and the chair and vice chair of the sub working group are responsible to review all the CMC.

TCM chair will collect any concern from the persons on charge then only one report will be finalized by the TCM chair after discussion of all the concerns of the persons in charge of this process.

A training need on the review process and the requirements of BIPM was observed.

Thank you

Merci

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