Minutes of the Microplate Standardization Development Group (MSDG)
At LabAutomation'05, San Jose-California

Date: Feb 02, 2005

By: Amer El-Hage

Attendees and Consensus Body (CB):

Name	Organization	CB member	New member
Deborah Morton	Corning Inc.	Y	
Gunther Knobel	Greiner Bio-One	Y	
Irmgard Suominem	Thermo Electron	Y	
Marcy Engelstein	Millipore	Y	
Amer El-Hage	Beeston engineering Consulting	**Y***	
Bruce Turner	Bridge Bioscience Corp	-	yes
Rainer Heller	Greiner Bio-One	"	
Larry Lugo	Aurora Discovery	Y	
Mike Shanler	Becton Dickinson	Y	
Andy Muser	Becton Dickinson	"	
Dagma Weber	Evotec	-	yes
Keith Whitinger	Nunc – (Fisher Scientific)	Y	
Christoph Kaufmann	Tecan	Y	
James Fergus	Pfizer	Y	

* Became a CB member after attending this meeting.

Agenda:

Co-Chair, Amer El-Hage called the meeting to order at 3:03 pm. The following proposed agenda was reviewed.
1- Call to order, update membership and Consensus body (CB) members
for a quorum and voting
2- Review and approve last meeting minutes
3- Committee updates since last meeting
4- Discussion of proposed standard for plate flatness – Standard 6
5- Other issues- Nominations for a Co-chair
6- Summary and adjournment

Amer asked if anyone would like to change anything. The agenda approved with no change.

Amer reviewed the legal summary guidelines and the SBS Standards Setting Committee guidelines.

Committee Update

See if we have a Quorum. Of the new consensus body, 10 were present at the meeting. A quorum was established. We also do this if we find a need to vote.

To become a consensus member company – One needs to attend 2 of the previous 4 meetings.

The CB membership prior to the meeting consisted of the following organizations (17):

1. Fisher Scientific (Apogent , NUNC, Abgene) [1,2]	2. Aurora Discovery [1,2]
3. REMP [2]	4. Corning [1]
5. Millipore [1]	6. Thermo Electron [1,2]
7. Weidmann Plastics [1]	8. Beckman Coulter [2]
9. Greiner BioOne [1]	10. Tecan [2]
11. Pfizer [3]	12. Merck [3]
13. BD Biosciences [1,2]	14. Boehringer-Ingelheim [3]
15. Wyeth [3]	16. Innovative Microplate [1]
17. Molecular Devices (Axon, Skatron, LJLBio, Universal Imaging) [1,2]	

Interest groups

1. Manufacturers of microplates (n= 10)
2. Manufacturers of instrumentation that utilizes microplates (n= 7)
3. Users of microplates that do not fit in either of the previous categories (n= 4)

NOTE: Total greater than 17 because 4 organizations represented two interest groups

ANSI Approved Proposed Microplate Standards:

The microplate Standards Development Committee (MSDC) is an interest group that meets typically at 1 or 2 meetings per year. Typically we meet at SBS and at LabAutomation conferences.
Membership is open to anyone interested in microplates, and an individual or organization does not have to be an SBS or ALA member to join this group.

SBS is an approved ANSI Standards Development Organization. The MSDC writes the standards, and then submit it to the CB for vote and approval then to ANSI. We have four 4 ANSI approved Standards.

Legal Summary guidelines review. Standards Setting Committee Guidelines
Review and approve last meeting minutes. Minutes published in October, open for comments. No comments, so approved. Minutes will be filed on the Listserv.

Committee updates since last meeting. MSDC/SBS had a preliminary audit by ANSI – Review required changes. Will publish audit results by next meeting.

Review of Standard SBS-5

Discussion of proposed standard for plate flatness (see Appendix for detail discussion)

Discussion on New or additional Standards:

Other issues – Nominations/Volunteers for a Co-Chair
Amer asked if anyone would like to nominate for this position. Mike Shanler (BD) volunteered, and it was second by Keith Whitinger (NUNC).
Other candidates can be nominated and we can vote online – We can also have candidates and approval by SBS.

Amer asked if there were any ideas for new standards. Mike Shanler suggested one for auto-fluorescence and/or background noise. Material restrictions, some companies have licenses on some films, beginning to see a marketing need for this kind of thing.

Amer – It could be a QC thing – We have to define instrumentation or means of measuring, someone mentioned transmission or haze. Is that important to anyone?

Next Meeting:

The next MSDC meeting will be held at SBS in Geneva, Switzerland in September 2005.
Minutes, agenda and dates will be posted on the users' online group.
The meeting was adjourned by Amer El-Hage at 4:30 pm.

Appendix

Transcript of the discussion on well bottom standard

Thank you, Ms. Deb Morton (Corning).

a. Amer - Last heard we leave to mfg to determine, they decide, and guarantee to certain confidence
b. Mike Shandler – We do 9 point flatness for spec on 384, 9 point also on 96.
c. Deb Morton (Corning)- Need individuals to state name or organization when first talking.
d. Amer El-Hage(Beeston Engineering)– Tend to agree
e. Mike Shanler (BD) – What about using x number per sq millimeter?
f. Andy ??– BD – Take multiple within well, then all wells when qualifying tool then use 9 for verification – question of who needs and what are real requirements
g. Mike S. – customer should be able to do this
h. Gunther K. (Greiner) – Need qualifying tool – on first time versus routine 9-24, recommend to leave # wells open, mfg know any specific measurements and requirements in order to meet range, mfg know process best internally, Rec - Min, Max, Range, have to look at in general items, depends on product solid vs. thin film, error in plate, contact versus non-contact, vs optically.

i. Amer – not fixed dimension, depends on customer
j. Deb – Measurement standard – no imput from equip manufacturers
k. Mike – if did define wells then have to define where
l. Dogma, Evotec – in addition to flatness of plate, need flatness within one well,
m. Mike – BD bought Atto BioEngineering – learning that delta from well to well has more drastic effect particularly if there is bow in plate. Definitely need more input form equipment side
n. Front row? – work for V bot
o. Me – intended to work for everything, makes sense to have a spec for intra well flatness
p. Amer – talk about measurement procedure for intrawell – any suggestions on how to do this?
q. Dogma (Evotec) – three point within one well, better to measure 5 points
r. Amer – define method – David as is brought scan of whole plate, scan or put number of measurements, do we think that we don't need to specify number of data points for plate flatness, intra well - ?
s. Me
t. Mike – contact measurements for 1536 not real useful
u. Andy – even some imagers – using confocal lense to measure – sometimes difficult depending on the depth of the well
v. Dogma – measure form the bottom – best to scan and have small scan, not good for everyone
w. Mike – 90 % customers using bottom detection
x. Amer – put something in the standard for Intra well, Min, Max, Range – stay with the same type of thing
y. Amer – not number of plates either, Tw metrics same for intra and across plate, no mention so far of uniformity, is it needed?, Useful
z. Dogma – Would be helpful to have more info on bending across plate and within well.
aa. Amer – that is possible.
bb. Larry Lugo (Aurora Discovery)– measure with own reader – so many different kinds of well bottoms, all looking for different uses for our plates, doesn't feel like we could come up with a common standard, use scanning, what is the end product out of all of this? Determine this before we continue
cc. Amer – someone suggested we needed a way to define the flatness of a plate, what does that mean? I appreciate the comment, what is our goal? It is not a number or dimension that we are trying to come up with, trying to come out of with this standard so that there is a common language
dd. Larry – even that becomes difficult – defining flatness in 100 microns, others don't care, flatness means different things to different plates, too loose for assay or too tight for dispensing
ee. Amer – encourage everyone to think about why we need the standard, purpose of the standard, believe in defining the method, I have some rating, define the level of flatness, after we define the method, dispensing – mm, imaging another rating – like flange one, we allow differences
ff. Andy – just to have it in there as a definition so that everyone knows what flatness means
gg. Amer – general guidelines on who to test MEMS device – effort to define the procedure - what does a clean room mean – how do you interface, when say silicon what does it mean

hh. Larry – come up with guidelines – flatness from bottom of plate, from bottom of well
ii. Amer – needing more of a guideline, Corning proposal a good start, maybe we don't need to go further, don't have to come up with
jj. Larry – is there a third flatness that we need to define
kk. Deb Morton (Corning)- did I hear correctly that we need a separate section for measuring top versus bottom of the wells, top reader versus bottom reader
ll. Amer – well bottom is two places, flatness from top, flatness from bottom, flatness on well
mm. Deb – Top, bottom, well surface?
nn. Keith Whitlander (Fisher-NUNC)– Qualify by WB Interior, Exterior, at minimum draft is good as it gives definition if xyz claims WBE to be certain value have good idea as to how it's being measured, understand concern of mfg where specs need to be much more stringent, for garden variety has value in defining how it's being measured.
oo. Amer – What did you mean?
pp. Keith – Draft provides good amount of info, can give standard to customer, this is what we mean
qq. Amer – up to the maker to put a value?
rr. Keith – customer has good idea of how mfg reached the values
ss. Amer – Min, Max, everyone agrees these are basics for the standard
tt. Andy - don't think WB Exterior has much value because importance in the well is if the thickness is off can crash objective
uu. Larry – compensate for lack flatness by mapping, use auto focus to read, good plate for them is like glass
vv. Andy- WB Exterior, need to be able to detect, might need thickness
ww. Larry – film thickness and glass
xx. Keith – common language – be very specific
yy. Amer – WBE Interior, WBE Exterior, Flatness within the well
zz. Andy – doesn't like Interior vs. Exterior, but we need something
aaa. Larry – See if marketing folks would like this
bbb. Tecan – what about plate flatness? "Plate Bottom height
ccc. Deb – What about Plate Bottom Elevation?
ddd. Amer – "Plate Bottom Elevation – PBE similar to WBE
eee. Mike – Lens thickness – most crucial for us, what customers are interested in
fff. Tecan – Well Bottom Thickness
ggg. Andy – Lens Thickness
hhh. Andy – Intrawell Flatness
iii. Andy – WBEV – with respect to tolerance?
jjj. Deb – independent – range only
kkk. Other discussion items okay – do we need to discuss
lll. Amer – don't want to specify tool
mmm. Gunther K. – (Greiner) – more confusing or are they helpful – Try to define application to end user – need to carry out what kinds of bottoms, will depend highly on the material of the bottom, if films then need thick and thin films, no particular preference right now but think it may be confusing, how would you measure IW. 1536 in diam of .9mm at bottom, how would you measure?
nnn. Amer – Let us go back to the purpose
ooo. Rainer Heller (Greiner)– customer wants to know if plate useful for their application, ask if suitable, total flatness necessary for all plates, this inner well only for microscopic applications, have to split out, some customers don't ask for. Solid bottom 96 noone

cares about. Limits and tolerances come from microscopes in some applications and microscopes. More is just confusing for me

ppp. Larry – three measurements, not saying would have to have a spec for all three

qqq. Amer – not saying that flat plate must have addressed all three, what we're saying flat based on one of these three definitions, some need one, some others, some all three.

rrr. Millipore – isn't here already another flatness

sss. Gunther – already defined overall plate flatness in reference to datum A

ttt. Millipore – geared to higher tech

uuu. Amer – As I understand it the main drivers are the imaging and touch dispensing

vvv. Jim Furgus (Pfizer) – most applications don't need to know details until get into imaging, so can compare and buy from best vendor, willing to pay price up front. Need to have all vendors with the same values, we will shop based on these values.

www. Mike – really an imaging plate standard

xxx. Jim, used to also be contact dispensing issue but getting away from that

yyy. Greiner – marketing – most of requirements coming from imaging, Evotec, pge, Aurora

zzz. Larry – IW isn't critical for them, but for wetting and washing it might be

aaaa. Mike – for ultra high throughput IW not important

bbbb. Amer – is all we need one? Is this more than we need?

cccc. Mike – post and get feedback – WBE most important – see what we get.

dddd. Amer – take as action item – see what get on list serv, don't care, give us one number, or like the segregation

eeee. Deb – should we add to the draft or separate

ffff. Mike – rather see in the draft with copy of graphic

gggg. Deb – will add new definitions to the draft and publish to the listserv.