

Minutes
Floors Working Group
Saturday, March 17, 2007
Hyatt Regency Hotel
Phoenix, AZ

Presiding chairman: Tim Hansen; Oasis Stage Werks; P; MP

Recording secretary: Karl G. Ruling; ESTA

Members attending: Keith Sklar; Actors' Equity Association; O; G (via telephone)
Bob Dagger; American Harlequin Corp. (Harlequin Corporation); P; MP
Ron Bonner; PLASA; P; G
Robert R. Scales; I; U
Tracey Cosgrove; Rosco Laboratories; P; MP
David H. Rosenburg; Theatre Projects Consultants, Inc.; P; U (joined at this meeting)
Jerry Gorrell; Theatre Safety Programs; P; U
Pete Happe; Walt Disney Imagineering (Walt Disney Company); O; U

Visitors: Stephen Vanciel
Nathaniel Wiessner; Williams College and Jacob's Pillow Dance Festival
Jennie Gorrell

1 Opening Remarks

The meeting was called to order at 08:06 by Tim Hansen. The nominally 08:00 start was delayed by Karl Ruling having to get the speaker phone, and his not finding it where it was normally stored in the ESTA suite.

2 Attendance and Membership

A blue attendance sign-in sheet was circulated.

2.1 Introduction of those present

Those present introduced themselves.

2.2 Call for quorum

The quorum requirement was three voting members. Tim Hansen noted that a quorum was present and business could be conducted.

2.3 Requirements for membership

Tim Hansen read the following statement aloud to the assembly:

"Membership is open to all parties who are affected by the work of the group; membership in ESTA is not a requirement. Voting members are required to attend meetings. Any principal member and alternate that both miss three consecutive meetings will have their membership status changed to observer. This action will be taken as the last item of business at the third missed meeting and will be recorded in the minutes of that meeting."

2.4 Processing of new membership requests

David H. Rosenburg of Theatre Projects Consultants had applied as a principal voting member in the user interest category. Bob Dagger moved that his application be accepted. The motion was seconded and then approved by a unanimous show of hands

The full consensus body, including those voters not present, during this meeting was:

Name	Company	Representing	Voting status	Int. cat.
Bob Dagger	American Harlequin Corp.	Harlequin Corporation	P	MP
Tim Hansen	Oasis Stage Werks	Oasis Stage Werks	P	MP
Gary Justesen	Oasis Stage Werks	Oasis Stage Werks	A	MP
Ron Bonner	PLASA	PLASA	P	G
Robert R. Scales	Robert R. Scales	Robert R. Scales	I	U
Tracey Cosgrove	Rosco Laboratories	Rosco Laboratories	P	MP
Steve Rust	Sachs Morgan Studio	Sachs Morgan Studio	P	G
David H. Rosenburg	Theatre Projects Consultants	Theatre Projects Consultants	P	U
Jerry Gorrell	Theatre Safety Programs	Theatre Safety Programs	P	U
		Total votes possible	8	
		Votes by interest category	0	CP
			3	MP
			0	DR
			3	U
			2	G

3 Approval of the minutes from the 19 January 2007 meeting

See Floors/2007-8000, file name FLmin01-2007.pdf.

Jerry Gorrell moved that the draft minutes be accepted as written. The motion was seconded and then approved with a unanimous show of hands.

4 ESTA Declarations

4.1 Anti-trust statement

The following statement was read aloud to the assembly by Tim Hansen:

"The ESTA Board of Directors, the Technical Standards Committee, and the leadership of this working group will reject or nullify any actions that unlawfully restrain trade. Anyone who feels that such an action is being or has been taken is requested to bring that matter to the attention of the chair immediately. Anyone who feels that actions in restraint of trade have been taken and not properly annulled is requested to notify the TSC chair or ESTA president immediately.

"ESTA legal counsel has informed us that violations of the anti-trust laws can have serious consequences. Individuals engaged in certain unlawful conduct can be found criminally liable. An individual convicted of a criminal violation of the Sherman Act may be fined as much as \$1,000,000 and imprisoned for up to ten years. An easy to read pamphlet describing restraint of trade issues is available from the Technical Standards Manager."

No restraint of trade issues were brought to the attention of the assembly.

4.2 Call for Patents

The following statement was read aloud to the assembly by Tim Hansen:

"ESTA intends not to publish any standard that contains protected intellectual property, unless that information can be licensed by anyone for a reasonable fee. ESTA uses a process of open patent and copyright disclosures to implement its intent. ESTA does not conduct patent or copyright searches and does not warrant that its standards contain no protected intellectual property.

"In keeping with the open disclosures policy, I ask if anyone present wishes to notify this working group of the existence of a patent or copyright or other intellectual property that might protect material in a standard being developed by this working group. You need not be the holder of the patent or copyright to notify this working group of its existence."

No protected intellectual property issues were brought to the attention of the assembly.

5 **Approval of Agenda**

Ron Bonner moved that the draft agenda be accepted. The motion was seconded and then approved with a unanimous show of hands.

6 **Old Business**

6.1 **ANSI E1.26-2006 Status**

Tim Hansen said that we have been asked to do some sort of session or display at LDI of our work. There was general support for this. Jerry Gorrell said that he had already submitted a proposal for a session at USITT.

Keith Sklar asked for the presentation at LDI or USITT to be recorded on video so that he can show it to his constituents.

6.2 **BSR E1.34 floor slipperiness project**

Bob Scales showed his work on making drag sleds. He tried using hard board (a.k.a. "masonite") and found that it was rather flexible, which he didn't like. Then found that a 1/4" thick plastic cutting board (probably UHMWP) worked well. He screwed stainless steel bolts into the material, which did not need to have threads pre-tapped, and added some spring nuts to assure that the bolt feet don't turn.

Scales explained his search for a good scale. Ones from Edmund Scientific were inexpensive but difficult to read. He found another spring scale that was easy to read, but the units were too coarse. Finally he found a Wagner model FDIX digital scale that has memory. It measures in 5 gram increments and reads up to 5 kg. It gives a continuous readout and also records the peak tension and several points.

He found it was difficult to pull the sled at the rate of one meter in ten seconds. Bob Dagger said that his workers pulled it at a rate of a meter in about 8 to 12 seconds. They aren't too exact. Bob Scales said he gave up on the rate and simply tried to pull the sled smoothly. He also monitored the temperature of the room and the material. He found that the material was usually slightly warmer than the room air.

The bolts left an impression on the soft dance floor materials, and the impression showed that the contact area was about what is specified in our draft standard.

He tested various forms of leather (taken from leather belts bought at a used clothing store) as sole materials. The contact area with the leather was larger than with the bolts.

Tracey Cosgrove said that Bob Scales's test results with Rosco floor samples are consistent with what her customers tell her about her floors. The floors he found to be more slippery are the ones that her customers tell her are "faster."

David Rosenburg asked if humidity shouldn't be added to the test data, since people say that it has an effect.

At about 9:15 the assembly went to Symphony Hall across the street from the Hyatt Regency Hotel to test various sleds on floor samples there. Bob Dagger's sleds and Bob Scales's sleds were used. Although no detailed statistical analysis was done, the results with the different sleds seemed comparable, and are given below.

Test	Material	Material Temp	Room Temp	Skid	Peak Force	/5000	Dy 1	Dy 2	Dy 3	Dyno Avg	Dyno /5000	Notes
1	studio	73.9 F	72.0 F	steel feet	1965	0.393	1670	1835	1645	1717	0.343	Bob Scales pulling
2	studio	73.9 F	72.0 F	steel feet	2540	0.508	1870	1820	1850	1847	0.369	Pete Happe pulling
3	fiesta	73.9 F	72.0 F	steel feet	1230	0.246	880	875	890	882	0.176	Bob Scales pulling
4	orange cascade	73.9 F	72.0 F	steel feet	3010	0.602	2065	2210	2285	2187	0.437	20 second timed pull Bob Scales
5	orange cascade	73.9 F	72.0 F	steel feet	3025	0.605	2160	2230	2380	2257	0.451	12 second timed pull Bob Scales
6	gray 582	73.9 F	72.0 F	steel feet	2320	0.464	1700	1660	1705	1688	0.338	
7	gray 582	73.9 F	72.0 F	steel feet	2575	0.515	1970	2455	2435	2287	0.457	with chain attached between meter and sled
8	gray 582	73.9 F	72.0 F	leather #2	2590	0.518	2325	2440	2330	2365	0.473	with chain attached between meter and sled
9	gray 582	73.9 F	72.0 F	leather #2	3090	0.618	2625	2645	2665	2645	0.529	with chain attached between meter and sled
10	arabesque	73.9 F	72.0 F	steel feet	905	0.181	690	615	660	655	0.131	11 sec timed
11	cabriole	73.9 F	72.0 F	steel feet	2875	0.575	2580	2635	2495	2570	0.514	
12	dancefloor	73.9 F	72.0 F	steel feet	2865	0.573	2650	2745	2415	2603	0.521	13 second timed
13	plyron stage floor	73.9 F	72.0 F	steel feet	2300	0.460	1265	1310	1315	1297	0.259	stage floor of phoenix symphony hall



As a result of the tests at Symphony Hall, there was further discussion of how to pull the sled more smoothly, what kind of device might be needed.

Action items:

(1) Revise the document to add a consideration of the humidity (specify what it should be for the absolute test--perhaps at several humidity settings--and a logging of it for the in situ forensic tests)

(2) Find a way to get a consistent pull speed and write that into the document.

7 New Business

None.

8 Other Business

None.

9 Schedule for Future Meetings

It was announced that the next meeting is scheduled for Friday, 13 July 2007, 13:00 to 17:00 at the Dallas/Ft. Worth Airport Marriott South in Ft. Worth, TX.

10 Changes to observer status due to lack of attendance

The following voting member has missed the last two meetings and will have failed to meet the minimum attendance requirement for voters if this meeting is also missed:

No one

11 Adjournment

Tracey moved that the meeting adjourn. Seconded. Unanimous. Tim announced that the meeting adjourned at 10:46.

Working Group Membership and Contact Information as of 9 May 2007

Name	Company	Representing (This is the sort field.)	Voting status	Int. cat.
Keith Sklar	Actors' Equity Association	Actors' Equity Association	O	G
Ken Greenwood	Actors' Equity Association	Actors' Equity Association	O	G
Tim Williamson	Northern Alberta Jubilee Auditorium	Alberta Government	O	U
Julie Rogers	City of Phoenix Civic Plaza	City of Phoenix	O	G
Fred Allen	Fred Allen & Associates	Fred Allen & Associates	O	U
Bob Dagger	American Harlequin Corp.	Harlequin Corporation	P	MP
Edward Paget	Jones & Phillips Associates, Inc.	Jones & Phillips Associates, Inc.	O	G
Christopher Purpura	Jones & Phillips Associates, Inc.	Jones & Phillips Associates, Inc.	O	G
Nevin Kleege	Kleege Industries	Kleege Industries	O	G
Seth Popper	League of American Theatres and Producers, Inc.	League of American Theatres and Producers, Inc.	O	G
Tim Hansen	Oasis Stage Werks	Oasis Stage Werks	P	MP
Gary Justesen	Oasis Stage Werks	Oasis Stage Werks	A	MP
Ron Bonner	PLASA	PLASA	P	G
Robert R. Scales	Robert R. Scales	Robert R. Scales	I	U
Tracey Cosgrove	Rosco Laboratories	Rosco Laboratories	P	MP
Steve Rust	Sachs Morgan Studio	Sachs Morgan Studio	P	G
Robert Barbagallo	Solotech Inc.	Solotech Inc.	O	DR
David Nash	StoweNash Associates LLC	StoweNash Associates LLC	O	U
David H. Rosenberg	Theatre Projects Consultants, Inc.	Theatre Projects Consultants	P	U
Jerry Gorrell	Theatre Safety Programs	Theatre Safety Programs	P	U
Pete Happe	Walt Disney Imagineering	Walt Disney Company	O	U
Mark Elliott	Walt Disney Company	Walt Disney Company	O	U
Steven Wiese	Wenger Corp.	Wenger Corp.	O	MP

Key to codes

- O Observer, non-voting
- P Principal voting on behalf of an organization or company
- A Alternate voting member representing an organization or company
- I Individual voting member representing only himself or herself
- G General interest
- U User of floors or flooring products
- MP Mass-market producer
- CP Custom-market producer
- DR Dealer or rental company