

## TESTING FORUM

### Committee D-18 News

#### D-18 Subcommittee Developing Standards for Impermeable Barriers

"The properties of the entire system of liner, soil or rock containment, and the enclosed liquid is the concern of Subcommittee D18.20 on Impermeable Barriers," according to Subcommittee Chairman A. Ivan Johnson, a Denver consultant to Woodward-Clyde Consultants. Johnson states that "the subcommittee was formed within Committee D-18 on Soil and Rock because of the great need for soil and rock mechanics expertise in the use of impermeable barriers in geotechnical projects such as slurry walls, cut-off trenches, tailings and waste containment ponds, landfills, lagoons, solar and biomass ponds, ditches, canals, and reservoirs." The materials used for such applications can vary from plastics and rubbers to concrete and compacted soil, the latter sometimes with clay, cement, asphalt, chemicals, and other additives. "The increasing interest in irrigation systems, waste disposal, solar-pond energy, and containment of mine tailings, among other topics, has created an accelerated demand for the standards being developed, or already on the books, of Committee D-18," according to Johnson.

The subcommittee had a meeting on 22 June 1981 during ASTM Committee Week in Detroit. The meeting included a mini-seminar with speakers discussing flexible membrane liners, solar-energy ponds, and the National Sanitation Foundation's activities related to specifications for synthetic liner materials. The subcommittee maintains official liaison with the National Sanitation Foundation and presently has four working sections—20.01—Slurry Walls, 20.02—Flexible Membrane Liners, 20.02—Compacted Earth and Earth-Mixture Liners, and 20.04—Hard-Surface Liners. The subcommittee also is working closely with the other D-18 subcommittees, such as D18.19 on Geotextile Applications, since their concerns include testing methods and recommended practices of value to the use of impermeable barriers. Other ASTM committees, as well as liner committees in the American Society of Agricultural Engineers and the American Society of Civil Engineers, also are likely to work closely with Subcommittee D18.20 and other D-18 subcommittees.

Participation in Subcommittee D18.20 is open to all interested parties; its next meeting will be held in conjunction with the 24-27 Jan. 1982 meeting of Committee D-18 in Lake Buena Vista, Fla. Another mini-seminar, in addition to section working sessions, is planned for that meeting. For more information contact A. Ivan Johnson, Woodward-Clyde Consultants, 2909 W. 7th Ave., Denver, Colo. 80204 (303/573-7882) or Kenneth C. Pearson, ASTM Standards Development Division, 1916 Race Street, Philadelphia, Pa. 19103 (215/299-5520).

#### Awards

Members of ASTM Committee D-18 on Soil and Rock enjoyed an awards banquet last June in Detroit while honoring D-18 mem-

bers for outstanding contributions to ASTM and the committee. Special guests at the banquet were ASTM President William T. Cavanaugh, Public Relations Manager Pam Whitaker, and Deputy Directory of Standards Development Ken Pearson. The Chairman of Committee D-18, A. Ivan Johnson (Woodward-Clyde Consultants, Denver, Colo.), served as master-of-ceremonies. The Awards Committee is under the able chairmanship of Carl R. Crawford of the National Research Council of Ottawa, Canada.

President Cavanaugh presented the ASTM Honorary Member Award to Earl B. Hall (Consultant, Sun City West, Ariz.) for his lengthy and outstanding contributions to ASTM. Then President Cavanaugh presented the C. A. Hogentogler Award for the best 1980 paper on soil and rock testing to Jean-Louis Briaud (Texas A&M University, College Station, Tex.). The award paper, "A Special Pressure Meter and Pressure Meter Test for Pavement Evaluation and Design," was coauthored by D. H. Shields (University of Manitoba, Winnipeg, Canada) but he was not present to receive his award.



FIG. 1—Barbara Hall and D-18 Chairman Ivan Johnson look on as President Cavanaugh (right) presents the ASTM Honorary Member Award to Earl Hall.



FIG. 2—Jean-Louis Briaud (center) receives C. A. Hogentogler Award from President Cavanaugh (right) and congratulations from the D-18 Chairman (left).

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Chairman Johnson then presented a number of Committee D-18 awards. The D-18 Outstanding Achievement Award was presented to W. G. "Woodie" Shockley (Consultant, Vicksburg, Miss.) for his generous contribution of time and energy to Committee D-18 for many years. The D-18 Honorary Membership Award then was presented to Preston C. Smith (Consultant, Maitland, Fla.) for his extensive activities on a number of subcommittees and his efforts to reconcile American Association of State and Highway Transportation Officials (AASHTO) and ASTM Standards. Next, Chairman Johnson presented D-18 Special Service Awards to H. E. "Hank" Davis (Mobil Drilling Co., Inc., Aptos, Calif.) and Robert G. Packard (Portland Cement Association, Skokie, Ill.) for their special efforts on behalf of Committee D-18. Others receiving the D-18 Special Service Award in absentia were: John H. Schmertmann (Schmertmann and Crapps, Inc., Gainesville, Fla.), Frank Steiger (Consultant, El Toro, Calif.), R. N. Yong (McGill University, Montreal, Quebec, Canada) and F. C. Townsend (University of Florida, Gainesville, Fla.). The latter received their awards for their organization of the "Symposium on Shear Strength of Soil," the papers from which are in *Laboratory Shear Strength of Soil and Rock, STP 740*. Lastly, there was a surprise Special Service Award expressing D-18 appreciation to Ken Pearson for his outstanding and dedicated staff assistance to Committee D-18 and its subcommittees.

### International Conference on Geotextiles

ASTM is one of the organizations cooperating in presenting the Second International Conference on Geotextiles. The conference is scheduled for 1-6 Aug. 1982 at the MGM Grand Hotel in Las Vegas, Nev. Other organizations sponsoring the conference are the Industrial Fabrics Association International, American Society of Civil Engineers, Ecole Nationale des Ponts et Chaussees (ENPC)



FIG. 3—D-18 Chairman Ivan Johnson (left) presents the D-18 Outstanding Achievement Award to W. G. Shockley (right).



FIG. 4—Marjorie Smith (left) and Preston Smith (center) admire the D-18 Honorary Membership Award just presented by Chairman Johnson.



FIG. 5—H. E. Davis (left) and R. G. Packard (right) display the D-18 Special Service Awards just presented by the D-18 Chairman (center).

Paris, RILEM (International Union of Testing and Research Laboratories for Materials and Structures), and European Committees on Geotextiles.

The Conference Executive Committee and Program Committee, most of whom are ASTM Committee D-18 members, met in September at Las Vegas to develop the conference program. Out of over 250 abstracts received, 169 were accepted. The papers, from 28 countries, will be presented in plenary sessions on Monday morning and Friday afternoon and at three concurrent sessions Monday afternoon, all day Tuesday and Thursday, and Friday morning. Tuesday evening and all day Wednesday are reserved for touring international exhibits on geotextiles and a banquet is planned for Thursday evening. Postconference technical tours are scheduled for Saturday. The main topics to be discussed during the conference include drainage, dams, erosion control, unpaved roads, paved roads, railroads, walls and foundations, slopes and embankments, properties and tests, international standards, and

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FIG. 6—D-18 Chairman Ivan Johnson (left) expresses appreciation of the Committee as he presents a D-18 Special Service Award to Deputy Director Ken Pearson (right).



FIG. 7—Organizing Committee of the Second International Conference on Geotextiles at planning meeting in MGM Grand Hotel in Las Vegas, Nev.: left to right are Chairman Jean-Pierre Giroud (Woodward-Clyde Consultants, Chicago, Ill.); ASTM Representative A. Ivan Johnson (Woodward-Clyde Consultants, Denver, Colo.); ASTM Representative Trudy Raumann (Monsanto Co., Decatur, Ala.); ASCE Representative Ara Arman (Louisiana State University, Baton Rouge, La.); Technical Program Chairman J. R. Bell (Oregon State University, Corvallis, Ore.); Etienne Leflaive (Lab. Central des Ponts et Chaussées, Paris, France); Lee Murch (E. I. DuPont de Nemours, Wilmington, Del.). Missing at time of photo were: R. D. Holtz (Purdue University, West Lafayette, Ind.); Exhibits Chairman Joe Fluet (Terrafix Erosion Control Products, Inc., West Palm Beach, Fla.); Allen Haliburton (Oklahoma State University, Stillwater, Okla.); Robert Koerner (Drexel University, Philadelphia, Pa.); and Secretary Steve Warner (Industrial Fabrics Assoc. International, St. Paul, Minn.).

new applications. Adequate time is scheduled for discussion of the papers.

For more information on this conference, contact Chairman Jean-Pierre Giroud, Woodward-Clyde Consultants, 11 East Adams St., Chicago, Ill. 60603 (312/939/1000) or Secretary General Steve M. Warner, IFAI, 350 Endicott Bldg., St. Paul, Minn. 55101 (612/222-2508).

### International Society of Soil Mechanics and Foundation Engineering

The International Society of Soil Mechanics and Foundation Engineering Subcommittee on Soil Testing is organized to promote the exchange of technical information worldwide for field and laboratory geotechnical testing. The committee is made up of representatives of many countries having experience and interest in field and laboratory testing of soils. The U.S. member on the committee is Dr. Marshall Silver, an ASTM member (Department of Materials Engineering, University of Illinois at Chicago Circle, Chicago, Ill. 60680, (312) 996-5165).

At the present time the committee is preparing recommended standards of practice for field and laboratory tests. The following test procedures are under discussion:

- (1) consolidation test,
- (2) pile load test,
- (3) plate load test, and
- (4) triaxial strength test.

The first draft of a test procedure for the pile load test and the triaxial strength test have been prepared and have been distributed to committee members for comments. A revised draft of the procedures will be discussed at the next committee meeting to be held in Amsterdam at the European Symposium on Penetration Testing on 28 May 1982.

Anyone wishing additional information on subcommittee activities or copies of the drafts of the recommended test procedures may contact Dr. Silver.

## SI Conversion Factors for Geotechnical Engineering

During the past several years, Subcommittee D18.93, through the initiative of Marshall Silver, has developed a table of factors for converting U.S. customary and metric units into SI units. The objective is to assist authors in converting their results into SI units and to promote uniformity in the use of SI units in geotechnical engineering. Additional information on the SI system can be obtained from ASTM Metric Practice Guide (E 380) and "SI Units in Geotechnical Engineering," by R. D. Holtz in the *Geotechnical Testing Journal*, Vol. 3, No. 2, June 1980, pp. 73-79. Comments from the profession are invited as letters either to the editor for publication in the journal or to Subcommittee D18.93 for its consideration.

*Ernest T. Selig*  
Technical Editor

To Convert From	To	Multiply By
<b>Length</b>		
inches (in.)	millimetres (mm)	25.4
inches (in.)	metres (m)	0.0254
feet (ft)	metres (m)	0.305
miles (miles)	kilometres (km)	1.61
yards (yd)	metres (m)	0.914
<b>Area</b>		
square inches (in. <sup>2</sup> )	square centimetres (cm <sup>2</sup> )	6.45
square feet (ft <sup>2</sup> )	square metres (m <sup>2</sup> )	0.0929
square yards (yd <sup>2</sup> )	square metres (m <sup>2</sup> )	0.836
acres (acre)	square metres (m <sup>2</sup> )	4047
square miles (miles <sup>2</sup> )	square kilometres (km <sup>2</sup> )	2.59
<b>Volume</b>		
cubic inches (in. <sup>3</sup> )	cubic centimetres (cm <sup>3</sup> )	16.4
cubic feet (ft <sup>3</sup> )	cubic metres (m <sup>3</sup> )	0.0283
cubic yards (yd <sup>3</sup> )	cubic metres (m <sup>3</sup> )	0.765
<b>Mass</b>		
pounds (lb)	kilograms (kg)	0.454
tons (ton)	kilograms (kg)	907
<b>Force</b>		
one pound force (lbf)	newtons (N)	4.45
one kilogram force (kgf)	newtons (N)	9.81
<b>Pressure or Stress</b>		
pounds per square foot (psf)	kilonewtons per square metre (kN/m <sup>2</sup> ) or kilopascals (kPa)	0.0479
pounds per square inch (psi)	kilonewtons per square metre (kN/m <sup>2</sup> ) or kilopascals (kPa)	6.89
kilogram force per square centimetre (kgf/cm <sup>2</sup> )	kilonewtons per square metre (kN/m <sup>2</sup> ) or kilopascals (kPa)	98.1
<b>Liquid Measure</b>		
gallon (gal)	cubic metres (m <sup>3</sup> )	0.0038
acre-feet (acre-ft)	cubic metres (m <sup>3</sup> )	1233
<b>Quantity of Flow</b>		
gallons per minute (gal/min)	cubic metres per minute (m <sup>3</sup> /min)	0.0038
cubic feet per minute (ft <sup>3</sup> /min)	cubic metres per minute (m <sup>3</sup> /min)	0.0283
<b>Mass Density</b>		
pounds per cubic feet (pcf)	megagrams per cubic metre (Mg/m <sup>3</sup> )	0.0160
kilonewtons per cubic metre (kN/m <sup>3</sup> )	megagrams per cubic metre (Mg/m <sup>3</sup> )	0.102
<b>Temperature</b>		
°F = 1.8 Temp °C + 32		
°C = (Temp °F - 32)/1.8		

## American Society for Testing and Materials

### *Committee D-18 on Soil and Rock*

#### Information Form for Applicants for Technical Committee Membership

1. Full Name \_\_\_\_\_ Position \_\_\_\_\_

Organization \_\_\_\_\_

\*Street Address \_\_\_\_\_

City, State, Zip \_\_\_\_\_ Phone \_\_\_\_/\_\_\_\_/\_\_\_\_

(Area Code) \_\_\_\_\_

( ) \*Check here if this is applicant's home address

2. Requested classification: ( ) Producer ( ) User ( ) General Interest

3. Society membership status:

( ) Member (membership No. \_\_\_\_\_)

( ) Membership applied for

4. If you are liaison representative from another society of ASTM Committee, please designate: \_\_\_\_\_

5. Major product of, or service performed by, your organization: \_\_\_\_\_

How long has company been active in this field? \_\_\_\_\_

How long have you been active? \_\_\_\_\_

6. Technical interests: \_\_\_\_\_

7. Qualifications (education and experience): \_\_\_\_\_

8. What laboratory facilities, if any, do you have available for cooperative committee activity? \_\_\_\_\_

How much time could you devote to specific research or cooperative assignments? \_\_\_\_\_

9. Are you participating in technical committee work of other professional or technical organizations and, if so, what are the organizations and what is the extent of your participation? \_\_\_\_\_

10. Please list by number in order of preference not more than three subcommittees or sections in which you have an interest and for which you would be willing to contribute additional time and effort toward their "Standards" activities (see list on front).

(1) \_\_\_\_\_ (2) \_\_\_\_\_ (3) \_\_\_\_\_

Applicant's Signature \_\_\_\_\_ Date \_\_\_\_\_

CODE: GOJ

## Application for 1982 ASTM Membership

Application is made for a membership in the American Society for Testing and Materials.

- ☐ **Organizational** an individual, business, governmental, research or professional organization, or trade association, or separate facility thereof subscribing to the purposes of the Society provided in the Charter and Bylaws.
- ☐ **Member** an individual or an institution (educational, public library, or a scientific engineering, or technical non-profit society) subscribing to the purposes of the Society provided in the Charter and Bylaws.

## Benefits and Fees for 1982

	<b>Organizational</b>	<b>Member</b>
Annual fee <sup>1</sup> .....	\$350.00 min.	\$50.00
Participation on ASTM Technical Committees .....	Official Rep. <sup>2</sup>	See #4 below
Annual Book of ASTM Standards:		
Free part .....	One	One
Free Index, Part 48 .....	One	One
Parts at 20% discount <sup>3</sup> .....	47	5
Price of complete set (Parts 1-48) including free part .....	\$1,485.00 <sup>5</sup>	\$1,800.00 <sup>5</sup>
Annual subscriptions to:		
Standardization News .....	1 free	1 free
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- 1) Membership year is 1 January to 31 December. Fees are payable in advance and are not pro-rated. Election to membership will become effective upon payment of fees.
- 2) Organizations applying for membership should select an official representative qualified to exercise the rights and privileges of membership. This includes voting on Society Ballot, and if appropriate, on technical committee matters. The official representative for the membership may be changed as needed by notifying the ASTM Headquarters. Committee participation is not transferable. Application will have to be submitted by the new representative to the appropriate committees. A member not officially serving on ASTM committees may not vote in committee matters.
- 3) Discount available only when order is placed on the Order/Invoice form furnished at the time of fee billing and only after the fee has been paid. Quantity prices available on request. All publications will be shipped to the address of membership.
- 4) For members serving on technical committees, their organizations may ask for this membership to be transferred without payment of additional fees. However, no additional free part or discount for the Book of ASTM Standards will be allowed. Committee participation is not transferable. Application will have to be submitted by the new member to the appropriate committee.
- 5) Prices are net with *all* allowable discount and provision for *free* part deducted.

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