

IAGI Newsletter

NEWS, NOTES AND RESOURCES FROM IAGI

A Note from IAGI's President—Brian McKeown



Dear IAGI Members,

Several IAGI members have approached the association with questions regarding occupational exposure to titanium dioxide. Titanium dioxide is used in white geomembranes and members expressed concern about their workers inhaling titanium dioxide during grinding. Boyd Ramsey, Chief Engineer at GSE provides an explanation about the use of titanium dioxide in geomembranes and the exposure associated with this additive.

This spring there was an unexpected vacancy on the Board of Directors. Max Brady, DDT Liners was nominated to the Board to complete the term. He will serve the remainder of 2011. Chris Eichelberger was elected to serve as treasurer for the remainder of 2011. My personal thank you to Max and Chris for volunteering their time to IAGI.

Speaking of the IAGI Board, it is time for elections again. Each year four board seats open up for election. Given how busy everyone is, it is amazing how many talented people are willing to volunteer their time to serve this organization. Most Board meetings are held via telephone conference call. If you are interested in serving on the Board, please let me or Laurie Honnigford know right away. I expect a slate of candidates to go out at the end of October.

It remains a challenging business climate. The geosynthetic industry seems to be weathering the downturn better than some industries. I hope your projects are going well.

All my best,
Brian McKeown



Brian McKeown,
IAGI President

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IAGI's Installation Awards Winners

During the GeoFrontiers 2011 conference, the International Association of Geosynthetic Installers announced the winners of IAGI's first Installation Awards of Excellence Program. Three awards were given: Extreme Project Award, Innovative Project Award and the Award of Excellence. Brian McKeown, IAGI President, presented the awards during a ceremony honoring the winners.

The entry that received the highest number of votes in the Extreme Project category was Colorado Lining International (CLI) for the Olympic View Sanitary Landfill – Floating Leachate Cover in Port Orchard, WA USA. This project consisted of fabrication and installation of a Defined Sump Floating Cover with gas venting. The purpose of the cover installation was to prevent the mixing of rain water and leachate in the landfill collection ponds.

CLI had many factors to consider including seasonality, complicated design/build, limited and difficult access to the pond, and keeping the collection pond in service during construction. Even with those issues, CLI was able to complete the cover promptly and within the client's budget. A savings of \$175,000 to \$200,000 per year was calculated



John Heap accepted Colorado Lining International's Award for the Olympic View Sanitary Landfill Floating Leachate Cover.



Hand Blown Glass Awards were presented to the winners

for treatment and transportation costs based upon yearly rainfall.

This year's award winner in the Innovative Project category was Servicios de Ingeniería Geosintética, S.A. (S.I.G.S.A.) for the P.H. El Llano – Relin-



Nicky Araujo accepted the IAGI Installation Award on behalf of S.I.G.S.A. for the Innovative Project Category.

IAGI's Installation Awards Winners (continued)



2011 Award winners of IAGI's Installation Awards Program



P.H. El Llano—Relining of Reservoir, Orosi Cartago, Costa Rica

ing of Reservoir in Orosi Cartago, Costa Rica.

The El Llano Generating Station, owned and operated by the Instituto Costarricense de Electricidad (I.C.E.) has been in operation for over 30 years and the reservoir or catch basin had originally been lined with CPE. With time the liner had deteriorated significantly and needed to be replaced. One challenge with this project was that to do the work, the Generating Station would have to be put out of service when other hydro units were producing at their peak. This meant that work had to be done during the months of heaviest rainfall. Special accommodations were engineered to keep the area being welded dry.

The entry that received the highest number of votes from either category is the Award of Excellence winner. The Award of Excellence

winner for 2011 was CETCO Contracting Services for the Pennsylvania Department of Transportation I-99 State College, PA.

The project involved the construction of a four-lane limited access highway with 4 interchanges and approximately 18 miles of roadway. The project was part of a much larger transportation project to extend I-99 to I-80. Section 12 of the project extended from North Bald Eagle Creek to the

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Installation Awards Winners (continued)

Mount Nittany Expressway.

The total area lined was just over 40 acres and the contract value was over \$20 million. The large cut face was a 400 foot-long 1:1 slope that was lined without any penetrations to the geomembrane. The cross sections consisted of a specialty geogrid embedded non-woven, 40mil HDPE, 16 oz/sy nonwoven and 4 inch geocell. This was supported by stainless steel cables that are connected to soil nails. Crews attended rock repelling safety classes for a week prior to starting the installation.

“Perhaps the most satisfying recognition that an individual in any profession can achieve is peer recognition of accomplishments,” commented Brian McKewon. “This type of recognition is not only gratifying but frequently is the spur to even greater accomplishment within the company’s associates and the general public.”

The Awards Ceremony was held during the GeoFrontiers Conference in Dallas, TX. IAGI also held a General Assembly meeting after the awards ceremony.

The next Awards Program will be held in 2013. Members are encouraged to get pictures and details of projects they are working on this year for submission next year. The entry form will be available in early January 2012.



Olympic View Sanitary Landfill — Floating Leachate Cover, Port Orchard, WA USA



PA DOT I-99, State College, PA USA

PROFESSIONAL INSTALLERS — PROFESSIONAL INSTALLATIONS

Awards Reception & General Assembly

Members of IAGI gathered to celebrate the IAGI Awards program and to hold the Annual Membership meeting. The Board of Directors reviewed the association’s financial position, activities of the Latin American chapter and the

activities of the Australian Chapter. A discussion was held on the renewal process for the Certi-

Continued on page 6



(left to right): Fernando Cruz, Pete Balderrama, Anne Steacy, Irene Rocha.



IAGI President Brian McKeown presented the Award of Excellence to Archie Filshil for CETCO’s I-99 Project.

Thank you Sponsors!

IAGI is grateful to the sponsors who have supported the IAGI Installation Awards (I²A) program.



PROFESSIONAL INSTALLERS — PROFESSIONAL INSTALLATIONS

Awards Reception & General Assembly (cont.)

fied Welding Technicians (CWT's). Brian McKeown reminded members that meetings are also being held via webinar. The times for these meetings varies so people from around the world can participate in the IAGI meetings. The next webinar will be held on November 16, 2011 starting at 5:00 p.m. central standard time (US). All members are welcome to attend the webinar.



Greg Scales and Wayne Farrow



Carl Apicella and Bob Groh



Brian McKeown and David Leggett



Bill Johnson and Fred Struve



Ron Frobels and Ron Bygness



Marco Araujo Leal



"Demo" Dave McLauray

Titanium Dioxide Exposure Explained

By Boyd Ramsey

In April, 2011 the Department of Health and Human Services, Centers for Disease Control and Prevention and the National Institute for Occupational Safety and Health issued a technical bulletin titled “Occupational Exposure to Titanium Dioxide” (linked here: <http://www.cdc.gov/niosh/docs/2011-160/pdfs/2011-160.pdf>) Within that document they issued updated exposure limits for fine and ultrafine particulates of TiO₂ (titanium dioxide), Specifically:

“NIOSH recommends exposure limits of 2.4 mg/m³ for fine TiO₂ and 0.3 mg/m³ for ultrafine (including engineered nanoscale) TiO₂, as time-weighted average (TWA) concentrations for up to 10 hours per day during a 40-hour work week... “Fine” is defined in this document as all particle sizes that are collected by respirable particle sampling (i.e., 50% collection efficiency for particles of 4 μm, with some collection of particles up to 10 μm). Fine is sometimes used to refer to the particle fraction between 0.1 μm and approximately 3 μm [Aitken et al. 2004], and to pigment-grade TiO₂ [e.g., Lee et al. 1985]. The term “fine” has been replaced by “respirable” by some organizations, e.g., MAK [DFG 2000], which is consistent with international sampling conventions [CEN 1993; ISO 1995]. “Ultrafine” is defined as the fraction of respirable particles with primary particle diameter <0.1 μm (<100 nm), which is a widely used definition.

Pertaining to the use of white geosynthetic materials, that is likely both more information than you might want, and certainly more information than is needed. The key to this issue as it relates to geosynthetics and those who work with them is particle size and the encapsulation of

TiO₂ as it is used by both geosynthetic manufacturers and geosynthetic users.

The particle size range that has been investigated and is described above includes very small particles of TiO₂. The units are 4 μm to 100 μm (also known as a micron, or micrometer: 4 μm equals 1.6 X 10⁻⁴ inches). For comparison purposes talcum powder has a particle size of ~ 10 μm (microns) and a human hair is ~ 70 μm (microns). These are extremely small particles and these particle sizes are not generated in the geosynthetics production or installation processes.

In fact, the geosynthetic manufacturing processes utilize TiO₂ that is encapsulated into a masterbatch or a plastic matrix that contains the particles. Further, this masterbatch is further dispersed and encapsulated into the geosyn-

This encapsulation serves to dramatically reduce the exposure to the titanium dioxide particles and thus alleviate the health and safety concern.

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Titanium Dioxide Exposure Explained (cont.)

thetic material itself. This encapsulation serves to dramatically reduce the exposure to the titanium dioxide particles and thus alleviate the health and safety concern. In fact, geosynthetic products are classified as an “article” according to Title 29 of the Code of Federal Regulations, OSHA Part 1916.1200 (c). They are formed to a specific shape or design during manufacture, have end use functions dependent upon their shape or design, and do not release any hazardous chemical under normal conditions of use. It should also be mentioned that this same situation has existed with carbon black particles and

black geomembrane for decades. Fine particle size carbon blacks are classified as potential carcinogens; their encapsulation within the polymer matrix eliminates the concerns of inhalation hazards.

Clearly good health and safety practices should be followed and every effort should be made to avoid the consumption and inhalation of geosynthetic materials. With safe installation and manufacturing protocols our industry can provide environmental solutions and protect all those who participate in our industry.

“Uncle Bill” — CWT Testing Around the World

“Uncle Bill” also known as William Steinke has been busy proctoring CWT exams around the world. His latest was at PT. TEKNINDO GEOSISTEM UNGGUL, in Surabaya Indonesia. Since the exam was translated into the Indonesian language, IAGI has had a lot of interest in CWT testing Indonesia.

Where will Uncle Bill’s next adventures take him? While he was in Indonesia an old friend looked him up and asked him to proctor his welders in Vietnam. This testing will occur just as soon as the polyethylene exam is translated into Vietnamese. IAGI has started the process of getting the translation done. A notice will be sent to members when the exam is ready.



Uncle Bill explaining the rules for testing samples.



Test Candidates at PT. TEKNINDO GEOSISTEM UNGGUL

Front (Left to Right): Fahar Sykustyono, Rudi Hermawan, Asta Kusumaningtyas Asmara, Uncle Bill Steinke, Sagita L. Jannati, Arif Pristiawan, Muhamat Agus.

Back (Left to Right): Sidik Ananto, Tunjung Suprayoga, Ferianto, Priyanto, Gini Sugianto, Heri Kuswanto, FX Aris Prasetyanto, Suminto.



Welder taking the hands on portion of the exam at PT. TEKNINDO GEOSISTEM UNGGUL

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IAGI YRC Program quote: \$550

Member Savings: \$541

EXAMPLE #2: Kansas City, KS → Chicago, IL
(350 lbs standard pallet)

Exhibit Contractor quote: \$948

IAGI YRC Program quote: \$309

Member Savings: \$639

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PROFESSIONAL INSTALLERS — PROFESSIONAL INSTALLATIONS

New Members

We would like to welcome our new members to the International Association of Geosynthetic Installers. Members are the foundation of IAGI, and we look forward to working with you to advance installation and construction technologies and to strengthen the knowledge, image and communication within the industry. We value your membership and look forward to your input.

ACF West Construction

Jeff Boys
Vice President
8951 SE 76th Drive
Portland OR 97206 USA
Phone: + 503-771-5115
Fax: + 503-771-1161
Email: jeff@acfwest.com
Website: www.acfwest.com
Installer Member

BLT Lining—BLT Sales

Jared Santoro
General Manager
3451 SW Empire Drive
Prineville OR 97754 USA
Phone: + 541-447-0712
Fax: + 541-447-0759
Email: jared@btliners.com
Website: www.btliners.com
Installer Member

Civil-Tex Geosynthetics & Engineering

José Roberto Montalvo
General Manager/Principal
1110 Timberline Place
Alpharetta GA 30005 USA
Phone: + 770-663-0914
Fax: + 770-663-0914
Email: r.montalvo@civil-tex.com
Associate Member

Comercial Industrial Delta S.A.

Herberth Roller
Av. Pedro Miota 910—Lima 29
San Juan de Miraflores Peru
Installer Member

Endurance

Hector Acevedo
General Manager
Panamericana Norte 19501
Santiago Chile
Phone: + 9 623 7279
Email: hacevedo@endurancesa.com
Website: www.endurancesa.com
Installer Member

Environmental Specialties International

Kevin Simms
Vice President
7943 Pecue Lane Suite A
Baton Rouge LA 70809 USA
Phone: + 225-291-2700
Fax: + 225-291-2788
Email: ksimms@esiliners.com
Website: www.esiliners.com
Installer Member

Fabtech SA Pty Ltd

Graham Fairhead
53 South Terrace
Wingfield South Australia 5013 Australia
Phone: + 408-081-863
Fax: + 8 8347 3729
Email: gfairhead@fabtech.com.au
Website: www.fabtech.com.au
Installer Member

Gast International SA Pty Ltd

Kevin Gast
154 Edward Avenue
Hennospark Centurion
Pretoria Gauteng 0157 South Africa
Phone: + 012 660 1616
Fax: + 012 660 2093
Email: info@gast.co.za
Installer Member

Geomembranas y Geosinteticos SA de CV

Ángel H Diaz Nunez Ing.
Av. Azcapotzalco 340 Angel Zibron
Mexico Distrito Federal 02099 Mexico
Phone: + 50056500
Fax: + 534772926
Email: irodriguez@geoygeo.com.mx
Website: www.geoygeo.com
Associate Member

International Lining Technology

Michael Salley
850 Maestro Drive, Suite #101
Reno NV 89511 USA
Phone: + 775-284-2929
Email: Michael@intlining.com
Website: www.intliding.com
Installer Member

New Members (cont.)

Jaylon

Alan Liebeck
General Manager
222 Leitchs Road
Brendale Queensland 4500 Australia

Phone: + 7 3881 1904
Fax: + 7 3881 3604
Email: jaypac@jaylon.com.au
Website: www.jaylon.com.au
Installer Member

Lining Victoria Pty Ltd

Matt Peers
Manager
4 William Street
Tyabb Victoria 3913 Australia

Phone: + 359774155
Fax: + 359774255
Email: matt@liningvictoria.com.au
Website: www.Liningvictoria.com.au
Installer Member

PT Geoforce Indonesia

Abdul Aziz Avicenna
Jl. Penjernihan I No. 2 Jakarta Pusat
Jakarta DKI Jakarta 10210 Indonesia

Phone: + 21 57951342
Fax: + 21 5737534
Email: Abdul.aziz@geoforce-indonesia.com
Website: www.geoforce-indonesia.com
Installer Member

PT Geotechnical Systemindo (GSI)

Faisal Saleh
General Manager
Wisma Slipi 10th floor, suite 1007
Jl. Letjen. S.Parman Kav.12 - Slipi
Jakarta Barat Jakarta DKI 11480 Indonesia

Phone: + 62.21.5307178
Fax: + 62.21.5307128
Email: faisal@ptgsi.com
Website: www.ptgsi.com
Installer Member

PT Pandu Equator Prima

Mr. Edwin Budiyanto
Director
Jl. Sangata, Blok G-10/1, Jatiwaringin Asri-Pondok Gede-
Bekasi
Bekasi, Jawa Barat 17411 Indonesia

Phone: + 62 21-84995477; 21-84999534; 21-84994765
Fax: + 62 21-8463504
Email: office.pandu-equator.com
Website: www.pandu-equator.com
Installer Member

Rhino Geosynthetic Linings

Gavin Olsen
15 Voyle Street
Sydenham
Prot Elizabeth, Eastern Cape 6014 South Africa

Phone: + 451 3197
Fax: + 451 2223
Email: gavino@rhinoagriculture.co.za
Website: www.rhinoplastics.co.za
Installer Member

Soles Enterprises

Ben Soles
Project Manager
26728 - 482nd Avenue
Brandon SD 57005 USA

Phone: + 605 321 8237
Fax: + 888 839 5092
Email: ben.soles@solesenterprises.com
Website: solesenterprises.com
Installer Member

Total Terrain Lining Systems

Gravin Martin
2 Warbler Close, Montague Gardens
Cape Town, Western Cape 7442 South Africa

Phone: + (0) 215528308
Fax: + (0) 215528307
Email: gravin@ttls.co.za
Website: www.ttls.co.za
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Shelby Theriot
Av. Alfonso Reyes 1969-2,
Fracc. Bernardo Reyes
Monterrey, N.L. 64280 Mexico

Phone: + 81 8311 5181
Fax: + 81 8371 9145
Email: tub-ex@live.com.mx
Website: www.tubex.com.mx
Installer Member

INTERNATIONAL ASSOCIATION OF GEOSYNTHETIC INSTALLERS

PO Box 18012
St. Paul, MN 55118
USA

Phone: +1 651-554-1895
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IAGI thanks Kenny Tran for translating the Certified Welding Technician test and all associated documents into the Vietnamese language. Kenny volunteered his time and completed the translation recently. IAGI appreciates the dedication of such individuals in serving the industry.

Note: IAGI welcomes new product announcements. Please send to Sally Perillat at info@iagi.org. A maximum of 100 words and one picture will be included.