Exhibitor Spotlight:
Titanium Industries - Charters of Freedom Exhibit

The Founding Fathers of the United States of America set the precedent for determining the language and laws that shaped this nation. Since 1776, several individual documents have represented the voice of America that clarifies individual citizen rights and responsibilities. These parchment documents are considered the Charters of Freedom and include the Declaration of Independence, the Constitution and the Bill of Rights.

Every year millions of people from around the world visit the National Archives in Washington, DC, to view the Charters of Freedom that have formed the United States of America. Our founding fathers created these documents in the late 1700’s and yet they continue to play a significant role as the stepping-stones in our history. In the early 1950’s the decision was made to place important records in airtight glass and metal containers. These encasements have withstood time for more than 50 years; yet as time passes, these documents are slowly beginning to weaken under their current encasements.

The Charters of Freedom have traveled through time and have endured various temperature and preservation treatments. It is no wonder that these documents have begun to deteriorate.

(Continued on page 2)

Conference Sponsorships Available!

Present your company as an industry leader at the upcoming Conference and Exhibition. ITA offers sponsorships for every budget, from tote bags to evening receptions. With every event you sponsor your name will be displayed and acknowledged on the ITA website as well as in all conference literature. This is your chance to be a part of that tradition by hosting your choice of “Conference Events” in which all attendees and guests participate!

Current sponsors include:
Airport Metals
Allegheny Technologies Incorporated
Grandis Metals
Perryman Company
Rome Metals
RTI International Metals, Incorporated
TechSpec Incorporated
TIMET

See the possibilities on the website at www.titanium.org!

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Over the years the National Archives conservation experts examined these documents. Testing discoveries have indicated slight variations in deterioration in the original glass encasements as well as on the parchment paper indicating possible chemical reactions. A team of experts from the National Institute of Standards and Technology (NIST), National Archives and Records Administration, NASA and Heery International have developed, tested and further preserved the documents by creating a new and improved version of the encasements.

As stated in the NARA News Release, February 1999, “The design concept called for separate encasement of each of the seven pages; maintenance of an inert atmosphere, such as argon, inside each encasement; 40% relative humidity within each encasement by a self-contained, passive system; and surrounding the encasements with a stable temperature of 67° Fahrenheit. There must be no possibility of intrusion by insects or particulate matter; therefore, there must be no airflow through the encasement, and there will be no separate temperature control for each encasement.”

The newly refurbished encasement, developed and manufactured by NIST consists of an aluminum alloy base, titanium frame and 3/8” thick laminated tempered glass encasement. As stated in the Annual Report from the National Archives, NIST laboratories “used a block of titanium, with 24-karat gold plating to blend in with the décor of the Rotunda.” The titanium metal and first stage processing was supplied by Titanium Industries, an Allegheny Technologies Company. The high-tech picture frames are a nickel-plated titanium color that is bonded with a 24-carat coating of gold.

Each frame contains devices to monitor the activity inside each encasement. The space inside the frame has been eliminated and replaced with inert argon gas as opposed to its helium predecessor. Each document is then placed on specially designed cellulose paper thus exerting minimal pressure on the documents.

Titanium Industries will sponsor a booth displaying a corner section of the new titanium frames at the 17th Annual Conference & Exhibition. During the General Session, ITA will also introduce a chief engineer from NIST who will present an overview of the decision to use titanium, the design criteria, and the manufacturing of the titanium frames.

Visit the National Archives web site for further information at www.nara.gov.

**ITA Exhibition Around the Corner**

Present your organization by sponsoring an exhibit booth at the 17th Annual Conference & Exhibition. Spaces are limited to 65 booths. To further promote your success at the Conference and Exhibition, ITA is featuring an “Exhibitor Profile” available on-line as well as in all conference packets. The Exhibitor Profile is a complete write up of your organization, new product introductions, or special products you want to feature.

The official dryage company for the exhibition is GES Decorating Services. GES will provide exhibitors with quotes for all additional information regarding shipping, furniture, labor and any other items that your company may need to make your exhibit booth a complete success.

### Exhibit Booth Prices:

<table>
<thead>
<tr>
<th>Size</th>
<th>Member</th>
<th>Non-Member</th>
</tr>
</thead>
<tbody>
<tr>
<td>10’ x 10’ booth</td>
<td>$250</td>
<td>$1,500</td>
</tr>
<tr>
<td>20’ x 20’ booth</td>
<td>$750</td>
<td>$2,500</td>
</tr>
<tr>
<td>Additional 10’ x 10’ space</td>
<td>$500</td>
<td>$1,000</td>
</tr>
</tbody>
</table>

Note: DRAWING NOT TO SCALE

General Session

Floormap last updated: May 15, 2001
Please contact the ITA at 303-404-2221 for the most updated exhibit booth reservations.
NEW MEMBER SPOTLIGHT!

United Alloys Aircraft Metals is a manufacturing service center. They carry a full line of bar, plate, block, and billet items. In the event you require non-standard block sizes, United Alloys Aircraft Metals can manufacture small or large lots to order. They are PWA/LCS, ISO9002, and AS 9000 approved, and have recently received approvals from GKN Westlands, IAI, Vought and General Electric. They are also approved by NASA, Boeing Commercial, Northrop, and Bell Helicopter. Our inventory consists of titanium, nickel base, and PH grades of stainless steels. Below is a partial summary of stock on hand in the various alloys and grades.

For more information visit United Alloys web site at www.unitedalloysair.com.

Give Away Free Publications

Promote your products and give away over $150 worth of titanium publications at the next tradeshow you attend! ITA is excited to continue the postcard program for member companies.

Postcards are tailor made to meet your companies needs. The postcards feature the ITA logo, your company logo, booth number and web site address. While attending the tradeshow, distribute the postcards to attendees. For a limited time, attendees will be able to request free titanium literature from the ITA website. The literature includes the following publications: Titanium Facts, Titanium: The Ultimate Choice, Specifications Guide, Statistical Review, Ti and It’s Alloys, and End Use Market Data Sheets (over a $150 value).

As part of this program, ITA will identify each postcard user and inform your company of the complete contact information. This is an excellent opportunity to promote and support member companies as well as distribute titanium literature to your prospective customers! Contact Stacey Jorgensen at (303) 404-9400 or e-mail sjorgensen@titanium.org to order your postcards before your next tradeshow! Please note that the ITA will need 3 weeks notice to complete orders on time.

Safety Committee

The ITA will host the annual Safety Committee Meeting on Thursday, September 13, 2001 at the RMI facility in Niles, Ohio. The Safety Committee Meeting is open to all ITA Members.

The Committee is seeking papers. Authors are invited to submit a one-page, summary of their topic of interest to the ITA. Each presenter will have 10-15 minutes to discuss successes and failures over the past year. Accepted submissions will be published at the end of the committee meeting. Submission does not guarantee a speaking slot in the program. For more information contact Stacey Jorgensen at sjorgensen@titanium.org or (303) 404-9400.

Specifications Committee

The Specifications Committee has updated all US specifications and is currently cross-referencing foreign specifications. ITA is looking for assistance in cross-referencing German and Italian specifications. To assist please contact Stacey Jorgensen at (303) 404-9400 or sjorgensen@titanium.org.

Front of postcard
What’s New in Titanium

RMI Holds Open House in September

RMI Titanium Company celebrates its 50th anniversary in 2001. This is quite an accomplishment considering the titanium industry itself is only a few years older than RMI. During these past 50 years, titanium has gone from a metal that few knew or understood, to the metal “...that makes space travel possible”. Once considered an “exotic” metal, titanium can now be found in golf clubs, on credit cards, CD’s, buildings, jewelry and much more. RMI has helped shape the metal more than the myth during these past 50 years and their titanium has been used from the deepest parts of the ocean to the furthest reaches of outer space...and the best is yet to come.

RMI Titanium Company will host an open house on Saturday September 8th from 11:00 am - 3:00 pm. Please contact RMI at 330-544-7600 for more information.

Vulcanium Metals International Receives ISO-9002 Certification

NORTHBROOK, IL – Mar. 26, 2001- Vulcanium Metals International (VMI) is pleased to announce it has been awarded ISO-9002 certification. VMI is a division of Vulcanium® Corporation.

ISO-9002 certification requires VMI to maintain strict levels of quality conformance and traceable records on all of its mill products. Long-term records are preserved on each item, confirming its pedigree from receipt through shipment.

ISO is a worldwide standards organization that has established quantifiable measures for various business processes. ISO registration requires a program of continuous improvement in process management, training and in-house quality auditing of results.

VMI has been a global source for titanium for the past 30 years, focusing on the aerospace, medical and industrial metal markets. With two U.S. warehouse locations and worldwide mill contacts, VMI has built a well-deserved reputation for reliability in product and service. ISO-9002 certification is another way in which VMI is continually upgrading in order to best serve its customers.

For more information contact: Joanie Leopold at (847) 498-3111 x 256 or e-mail jleopold@vulcanium.com.

The “Black Ti™” Affair

Deerfield Beach, FL, May 1, 2001 – Spectore Corporation, the world’s leading innovator in aesthetic titanium, announced today the newest member of the Spectore Collection. The “Black Ti” ensemble is the centerpiece of the most complete line of titanium jewelry available today. The newly patented alloy, a Spectore exclusive, retains all the characteristics of the titanium jewelry that has been produced by Spectore Corp. for nearly two decades. “The Black Ti Collection is the result of a unique marriage of art and technology”, states Edward Rosenberg, company founder and President. “The resulting alloy is extremely hard, scratch resistant and impervious to all chemistry, with the exception of hydrofluoric acid, and is completely biocompatible.”

The announcement was made at a conference of The World Titanium Council which encourages the development of such technologies. “We have been working with many clients interested in titanium applications and they have shown great interest in Black Ti potential,” says Rosenberg. Impressed with an extremely high Rockwell rating, the commercial prospects include electronics cases for computers and wireless devices.” The rich elegant aura unique to “Black Ti” will greatly enhance any product worthy of such a beautiful and enduring appointment.

The “Black Ti” jewelry features inlays of gold and platinum and come with a selection of gemstones. The line will be displayed at all major jewelry shows this season, and has enjoyed resounding notoriety at preliminary introductions.

For more information contact David Maltrotti at dmaltrotti@spectore.com or call (954) 481-8422.

Ticomp Metals Forming Open House

Subsequent to the 17th Annual ITA Conference and Exhibition in Las Vegas, Nevada, TICOMP Metals Forming will be hosting an open house on October 3 at their Chino facility. For more information please contact TICOMP’s office directly at 909-393-6311.

Send ITA your next press release to be included in the next issue of Titanium Update. Forward press releases to sjorgensen@titanium.org.
What’s New in Titanium - Continued

Continuity Through Changes
The Third Generation of the Hempel family is taking over the responsibility!

F.W. Hempel & Co. Erze und Metalle (GmbH & Co.) - well known to you over the last 50 years - will now be the holding company of the group.

The operating companies will be:
F.W. Hempel Metallurgical GmbH, Dusseldorf, headed and managed by Mr. Christian P. Hempel. This company will handle all raw material business (formerly Rudolf Schäfer + Co. GmbH and raw material trading activity of F.W.Hempel & Co. Erze und Metalle GmbH & Co.)
F.W.Hempel & Co. Gesellschaft fur Spezial - und Rostfrei-Metalle mbH, Oberhausen (formerly F.W. H. Erze und Metalle Handels- und Beteiligungsgesellschaft mbH) will be the operating company as a stockist and service center for nickel alloys, titanium, stainless steel, sheets, plates, bars, tubes etc, run by Mr. Andre’ Hempel and Mr. Henk J. Ruberg.
Mr. Andre Hempel will also be heading the so-called Hempel Special Metals Group.

For further information please visit their web site at: www.fwhempel.com or www.hempel-metals.com.

ESE’S Execs Eyewear Releases 5 New Trendy Styles

Elmont, NY - Exces Eyewear, distributed by Eastern States Eyewear, has introduced five new trendy ophthalmic styles for this fall.

The Exces 2003, 2004, and 2005 are the first 3 frames in the collection that are constructed of ticral; a copper, chrome and titanium alloy, making these frames especially lightweight. The Ticral frames is pure titanium. Ticral frames are composed of approximately 2.5% titanium, 2% chrome, and 95.5% copper. The frames are enameled in an oven within a controlled atmosphere at approximately 420ºC for 2 hours.

Another point of added value is that all three frames feature an encased spring hinge, adding to the durability of these new offerings. All 3 frames are unisex and come in sleek, modern shapes while sporting a variety of fashionable colors.

The Exces 1807 and 1808 are zyl frames. They both feature a wrap around end piece and a spring hinge, thus increasing comfort and durability. As are the other newest offerings, these frames feature exciting rectangular shapes and a variety of colors that are unisex and fashion forward. “Our Exces Collection has been a great way for us to attract a younger, hipper market,” explained Felix Perry, Vice President of Sales and Marketing. “This introduction will continue to do so.” The new frames are priced to dispensers from $49 to $55.

For more information contact Jason Shyer at jshyer@eseyewear.com or phone (516) 328-7790 x335.

ITA On-line Classified Ads

ITA members rely on the ITA website for the latest news & upcoming events. The website reaches more qualified personnel for titanium related operations.

Advertise:
Equipment
Materials
Products
or
Business Opportunities

The Classified’s section of the ITA Web Site is located at www.titanium.org. Simply click on ITA E-News & Classified’s icon from the Home Page.

When you submit a classified ad, ITA will proof your advertisement, process your payment, and post it to the website within 2-3 business days. ITA is not liable for confidentiality in classified advertising at any time and reserves the right to reject any advertising not in compliance with ITA standards.

This is a free service to ITA Members

Non-Member Fee: $25.00 for 120-day period. You will be notified via e-mail 3 weeks prior to the expiration date at which time you may renew your ad for an additional 120-days.

Business Opportunities Offered

Titanium Products for Sale

Date posted : March 6, 2001 Expire date : July 4, 2001
Company : Titanium Industries Incorporated
Contact Name : Bob Davies
Contact Email : sbtitannium@aol.com

Description : 1,200 ft 6” Sch-40 welded pipe. 6/4 alloy sheet-1,000 lbs min available per gauge .055”, .071”, .080”, .110”, .125”. 6/4 ELI flat bar- 690 lbs 1/4” x 5/8” 155 lbs 1/4” x 3/4”
Classified Ads

100 lbs 1/2" x 2" 180 lbs 1/2" x 3/4". Gr-2 bar 4,000 lbs 7/8" x 10'RL. Gr-4 bar 1,600 lbs 3 1/4" x 10'RL. Please contact Bob Davies 973-428-1900 or e-mail: sbtitanium@aol.com.

Products Wanted

Titanium Sheet, Pipe, Plate

Date posted: April 10, 2001 Expire date : August 8, 2001
Company: Shah Hastimal Laxmichand & Co.(India)
Contact Name: Ramesh Shah
Contact Email: ssapltd@vsnl.com

Description: Please quote your lowest CIF Bombay, India prices along with the delivery period: Titanium Sheets Grade 2: 1mm , 2mm , 3mm , 4mm , 5mm , 6mm , 25mm , 26mm 1 tonne each respectively. we also require Titanium Grade 2 (secondary,surplus) in form of pipe, sheet, plate etc. Please contact Ramesh Shah: Shah Hastimal Laxmichand & Co.(India) 53, Kika Street, Gulalwadi, Mumbai - 400 004. India email: ssapltd@vsnl.com Website :www.shlco.com Tel: 00 +91 22 3466221 / 3466217 Fax: 00 +91 22 3452161

Materials For Sale:

15/3/3 seam free tube for sale

Date posted : February 8, 2001 Expire date : June 8, 2001
Company : Zeta Corp.
Contact Name : Jeff Carlson
Contact Email : peaham@aol.com

Description : 1) 1.250 x .032 x 40 2) 1.250 x .032 x 42 3) 2.241 x .056 x 105 4) 2.250 x .060 x 28 5) 1.250 x .040 x 40 6) 1.000 x .019 x 22.75 Mill prime certified, Timet produced. Items 1-4 are seam free, 5 and 6 are drawn.

Rutile and Ilmenite

Date posted : April 10, 2001 Expire date : August 8, 2000
Company : Rutilo Mexicano S.A. de C.V.
Contact Name : Mrs. Moctezuma, Intl. Marketing Dir.
Contact Email : ind-limex@clinker.net.mx

Description : Rutilo Mexicano S.A. de C.V. is the only one-mine producer of Ilmenite and Rutile in Mexico, for the last fifteen years. We are looking for a long-term business relationship to offer Rutile and Ilmenite sand (concentrate) direct from the plant. For further details visit the classified ads on the ITA website.

Materials Wanted:

Titanium for Surgical Implant Needed.

Date posted : February 8, 2001 Expire date : June 8, 2001
Company : TASARIMMED
Contact Name : Sumru Alperen
Contact Email : tasarimmed@turk.net

Description : Please see details section of ITA classifieds at www.titanium.org for a complete description and contact information. Please fax us price and delivery time.

We Want to Buy Scrap.

Date posted : Feb. 26, 2001 Expire date : June 26, 2001
Company : Centaur Metals & Alloys Limited
Contact Name : Keith Hayling
Contact Email : centaur@metalloys.demon.co.uk

Description : We want to buy Titanium scraps - Billets, rods, sheets, anodes, fabrications, Turnings. Commercially pure or Alloy.
Upcoming Conferences

May 2001

6-9  LiMat 2001 Haewoondae Beach Resort, Pusan, Korea
6-10  SAMPE 2001 Symposium and Expo, Long Beach, CA
6-10  2001 AWS/PMA-MAX International, Cleveland, OH
6-10  AWS Welding Show, Cleveland, OH
7-11  Protective Coatings & Linings-I (Basic), Amarillo, TX
7-11  Protective Coatings & Linings-II (Advanced), Amarillo, TX
8-9  Symposium on Outdoor and Indoor Corrosion, Phoenix, AZ
8-10  The Principles of Trading in Metals, Surrey, England
13-17  PM2 TEC 2001, New Orleans, LA
15-17  Rapid Prototyping & Manufacturing 2001 Exhibition, Cincinnati, OH
15-17  Twin Cities 2001 Advanced Productivity Exposition, Minneapolis, MN
22-24  EASTEC 2001: Advanced Productivity Exposition, West Springfield, MA
29-31  POWER-GEN 2001 Europe, Brussels, Belgium

June 2001

4-7  Finishing 2001, Rosemont, IL
9-12  25th International Precious Metals Conference, Tucson, AZ
10-12  13th Minor Metals, Nice, France
10-14  EUROMAT 2001, Rimini, Italy
11-12  Fundamentals of Titanium 101, New Hudson, MI
11-14  12th AeroMat Conference & Expo, Long Beach, CA
17-20  5th International Symposium on Superalloys 718, 625, 806, and Derivatives, Pittsburgh, PA
17-24  Paris Air Show, Le Bourget, Paris
19-21  Automotive Materials Conference, Dusseldorf, Germany
23-27  28th International Symposium on Controlled Release of Bioactive Materials, San Diego, CA
25-28  National Space & Missile Materials Symposium, Monterey, CA

July

17-19  Welding Class, Albany, OR

August

7-9  Welding Class, Albany, OR
28-30  ASNE 2001 Fleet Maintenance Symposium, San Diego, CA
29-9/1  Surfaces in Biomaterials 2001, Scottsdale, AZ

Visit the calendar page located on the ITA web site at www.titanium.org.
Member Companies

Affinity International, LLC
Airport Metals
Allegheny Technologies Incorporated
   Allegheny-Ludlum
   Allvac
   Titanium Industries Incorporated
   Wah Chang
Alpha Source Incorporated
AstroCosmos Metallurgical
Bekaert Fibre Technologies
BIAM / General Titanium Incorporated
BIBUS Metals AG
Body Cote Rancho Dominguez, formerly Vac-Hyd
Cast Alloys Incorporated
CK Worldwide Incorporated
Coastcast Corporation
Cogne Acciai Speciali S.r.I.
Conexão Sistemas De Prótese
CONSARC Corporation
Corrosion Materials
Danco Metal Surfacing
Deutsche Titan GmbH
Dynamet Incorporated
Dynamet Technology Incorporated
Dynamic Machine Works Incorporated
Dynamic Materials Corporation
ELLETT Industries Limited
Excelco Developments Incorporated
F.W. Hempel & Co.
FAE S.A. Fabricación de aleaciones especiales
Flowserve Corporation
Fluortech Ltd.
Fort Wayne Metals Research Products Corp.
GfE Metalle & Materialien GmbH
GFI Aerospace
GIB Resources Incorporated
Grandis Metals
Harvey Titanium Limited
Hi Tech Alloys
Howmet Corporation
Hyundai Titanium Company, Ltd.
Itochu Non-Ferrous Materials Company, Ltd.
Jamegy Incorporated
Joseph Oat Corporation
JSC "FIKO"
K.P.C. Corporation
Keywell LLC Vac Air Division
Luxembourg Company of Metals and Alloys S.A.
Metem Corporation
Monico Alloys Incorporated
Naval Surface Warfare Center
NF & M International Incorporated
Noble Alloy Valve
Non Ferrous International Corp.
Northwest Institute for Nonferrous Metal Research
Pacific Cast Technologies, Inc.
Perryman Company
Plymouth Extruded Shapes
Plymouth Tube Company
Poggipolini SRL
President Company, Ltd.
President Titanium Incorporated
Reading Alloys Incorporated
Remmele Engineering Inc.
Retech Systems LLC
RMF Refractory Metals Division
Rome Metals Inc.
RTI International Metals Inc.
   Galt Alloys Incorporated
Sandinox Comercio
Sandvik Special Metals Corporation
Siderval S.p.A.
Solar Atmospheres Incorporated
   Solar Atmospheres of Western PA
Spectore Corporation
Spemet Company, Ltd.
STADCO
Strohecker Incorporated
Suisman Titanium Corporation
Sumitomo Corporation of America
Sumitomo Sitix of Amagasaki Incorporated
Supra Alloys Incorporated
TechSpec Incorporated
Tibrasil Titania Ltda.
TICO Titanium Incorporated
TICOMP Metal Forming
TIMET
   LOTERIOS S.p.A., a TIMET Company
TIODIZE Company, Inc.
TiSurf International AB
Titania S.p.A.
Titanium Engineers Incorporated
Titanium Fabrication Corporation
Titanium International Fabricators (Pty) Limited
Titanium Sports Technologies LLC
Trans World Alloys Company
Tricor Industrial Incorporated
U.S. Chrome Corporation of California
U.S. Vanadium Corporation
Ulbrich Stainless Steels & Special Metals, Inc.
United Alloys Aircraft Metals, Inc.
United Titanium Incorporated
VALTIMET
VSMPO
Vulcanium Metals International
Wellmet International Inc.
Western Titanium Incorporated
ZAK, Inc.
Zirconium Research Corporation