



THE PRACTICAL WHAT WHY AND HOW OF HIGH-ALLOY PROBLEM PREVENTION IN WELDED CONSTRUCTION

Fabrication of high-alloy equipment intended for service in aggressive processing environments requires special knowledge, techniques, and precautions to successfully meet customer performance requirements to avoid problems. Satisfactory resistance to aggressive environments will not be obtained unless welding is carried out with attention to every detail beginning with prior thermal processing to weld heat input and filler metal selection. Join WRC-EUROWELD and a team of internationally known welding and fabrication specialists for the full story. See, hear and ask questions about the 'state-of-the-art' in welding technology for high-alloys as applied in typical industry situations. You will obtain the practical information needed for selection, specification and economical utilization of modern duplex stainless steels and nickel-base alloys and widely used alloys ranging from low carbon corrosion resistant (304L, 316L) grades to pitting resistant high molybdenum stainless steels.

The Conference has been organized by high-alloy welding specialists from industry for those involved in welding and construction of process and power equipment. The program of authoritative speakers will report on the principles and latest technologies needed for assuring high quality products. There will be ample time for questions after each presentation and also for discussions during informal networking sessions. The venue of the Conference is Houston, Texas at the Fluor Sugarland Conference Center.

Presentations will reveal how to avoid errors in consumable and material selection and what welding procedures and thermal processing to specify. Understand complex materials such as duplex alloys and where to use 6% molybdenum stainless. Save money by choosing the right alloy for the right job. The team of welding specialists assembled by WRC from industry for this conference embodies a vast array of welding experience that you can share. Topics include process selection, orbital welding, health and safety concerns, post welding surface control, dissimilar metal welding, NDT, optimizing weld corrosion resistance and saving money on material procurement,



The latest knowledge will be presented in clear and concise terms so attendees may apply it to deal with their most severe service applications and demanding customers. Welding, corrosion, manufacturing and metallurgical engineers involved in specification, process selection, quality assurance and failure analysis and prevention will benefit.

This conference is another in a series of EUROWELD-WRC problem solving events. The Welding Research Council (WRC) has been a key source of information on welding, heat treatment, fabrication and repair technology for over sixty years. WRC's Committees on Stainless Steel and High Alloy Welding have organized this unique 2-1/2 day conference to present new and practical information.

Enlightening question and answer periods will follow each presentation. There will be a Networking Reception at the conclusion of the Tuesday afternoon session and group lunches on Tuesday and Wednesday. A volume containing the presentations of the speakers will be given to each attendee.

To facilitate discussions with specialists in the field on Tuesday and Wednesday, exhibition space has been arranged adjacent to the Conference room. To display there see TABLETOP form below.

WRC-EUROWELD Conference



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Fluor Conference Center, Sugarland Texas

The meeting format will include opportunities for discussion and problem solving as well as question-and-answer periods. Attendees are encouraged to submit their questions in advance to wrc@forengineers.org.

Tuesday, October 4, 2011

SESSION 1 (AM): CONFERENCE ROAD MAP AND CURRENT PROBLEMS

- **KEYNOTE – PREVENTING AND SOLVING HIGH ALLOY WELDING PROBLEMS** *Don Tillack, [Nickel Institute](#)*
- **FUNDAMENTALS OF DUPLEX STAINLESS STEELS** *John Grubb, [Alleghany Ludlum](#)*
- **WHAT YOU SHOULD KNOW ABOUT JOINING CREEP STRENGTH ENHANCED FERRITIC STEELS** *Phil Van Fossen, [Consultant](#)*
- **WELD PROCESS SELECTION AND JOINT DESIGN** *Jack Bissey, [ESAB Welding and Cutting](#)*
- **Q & A Session**

SESSION 2 (PM): GETTING THE JOB DONE-DO IT RIGHT THE FIRST TIME

- **ADVANTAGES OF AUTOMATED WELDING for CODE CONSTRUCTION** *Robert Pistor, [Liburdi Automation/Dimetrics](#)*
- **EXTENSION OF A MULTI-LAYER “PLYWALL “ REACTOR IN THE FIELD** *Mike Rice, [Nooter Corporation](#)*
- **WIRE SURFACE CONDITION IMPACTS WELD QUALITY** *William Newell, [Euroweld](#)*
- **6% Mo SUPERAUSTENITIC STAINLESS STEELS: PROPERTIES AND FABRICATION** *John Grubb, [Alleghany Ludlum](#)*
- **Q & A Session**

All Speakers and Attendees are Invited to a Networking Reception Following the Tuesday Afternoon Session

Wednesday, October 5, 2011

SESSION 3 (AM): WHAT YOU NEED TO KNOW-ABOUT HIGH ALLOYS

- **6% Mo SUPERAUSTENITIC STAINLESS STEELS: PROPERTIES AND FABRICATION** *John Grubb, [Alleghany Ludlum](#)*
- **WELDING AND POST-WELDING TREATMENT OF MODERN DUPLEX STAINLESS STEELS** *William Newell, [Euroweld](#)*
- **THE NiCrMo ALLOYS – WHAT THEY ARE AND HOW TO WELD THEM** *Don Tillack, [Nickel Institute](#)*
- **EFFECTS OF ENVIRONMENTAL AND METALLURGICAL VARIABLES ON THE CORROSION OF STAINLESS STEELS** *James Fritz, [TMR Stainless](#)*
- **WELDABILITY ISSUES OF DUPLEX STAINLESS STEELS** *Ryan Neal, [Acute Technologies](#)*
- **Q & A Session**

SESSION 4 (PM): PROBLEM PREVENTION

- **DISSIMILAR METAL WELDING** *Don Tillack, [Nickel Institute](#)*
- **WELD OVERLAY/CLAD LIMITED ONLY BY OUR IMAGINATION** *Pat Patrick, [Euroweld](#)*
- **DESIGN, FABRICATION & WELDING CODES AND GAS SPECIFICATIONS, HOW TO PREVENT PROBLEMS WHEN FABRICATING HIGH-ALLOY MATERIALS** *Fred Schweighardt, [Air Liquide](#)*
- **APPLICATION OF GMAW PROCESS VARIATIONS** *Lori Kuiper, [Euroweld](#)*
- **MATERIAL SELECTION AND WELDING FOR SULFIDE SERVICE APPLICATIONS INVOLVING NACE MR0175** *Terry Phillips, [Consultant/Fluor](#)*
- **Q & A Session**

Thursday, October 6, 2011

SESSION 5 (AM): TAKING ALL THE RIGHT STEPS-FIRST TO LAST

- **HOW CLIENTS AND USERS CAN HELP CONSTRUCTORS DO A GOOD JOB ON PROJECTS** *Gary Lewis, [Superheat](#)*
- **PROCUREMENT FOR SPECIAL FILLER METALS,** *Roger Swain, [Euroweld](#)*
- **ULTRASONIC EXAMINATION OF 9% Ni LNG TANK HIGH NICKEL ALLOY WELDS** *Ron Kruzic, [CBI](#)*
- **PLANNING FOR CRITICAL JOBS** *Kevin Joiner, [CM2Hill](#)*
- **CHALLENGES OF HIGH ALLOY CLAD WELDING IN CONFORMANCE WITH NACE MRO175** *Dan Allford, [Arc Specialties](#)*
- **Q & A Session**

Register now using the forms below and watch for future announcements at

<http://www.forengineers.org/>

For additional information contact
Welding Research Council

Phone: 216-658-3847

Fax: 216-658-3854

WRC-EUROWELD Conference



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October 4-6 2011

CONFERENCE REGISTRATION

Registration Fees-Send to WRC as shown below

Check one and take the discount if it applies to your organization: Group discount prices available on request

- \$700 Early bird for WRC committee members and cooperating organizations, before September 1, 2011**
- \$825 Early bird for all others before September 1, 2011**
- \$850 WRC committee members and cooperating organizations after September 1, 2011 **
- \$950 All others after September 1, 2011 **
- \$990 All on-site

** **Call 216-658-3847 if needed to determine qualification for this price and group rates.**

Conference Registration -(Use a separate form for each attendee) Please type or print clearly.

Date: _____ Name: _____

Title: _____ Company: _____

Street/P.O. _____

City, State/Province: _____

Zip/Postal Code: _____ Country: _____

Phone _____ Fax _____ E-mail: _____

_____ American Express _____ Mastercard _____ Visa

Credit Card No.: _____ Expiration Date: _____

Cardholder Name: _____

Credit Card Billing Address (Must Include Zip Code): _____

Signature: _____

The registration fee includes the volume of conference presentations. In addition, there will be 3 continental breakfasts 2 lunches and a networking reception.

Return completed form to WRC with check or credit card information to (DO NOT send this form to hotel):

Welding Research Council Inc. P.O. Box 201547 Shaker Heights, OH 44120-8109
Telephone 216-658-3847 Fax 216-658-3854
e-mail: bulletinsales@forengineers.org

Each attendee will be given gratis copies of the following WRC Bulletins (an over \$200 bonus value):

- **No. 509** *Weldability and Hot Ductility Behavior of Nuclear Grade Austenitic Stainless Steels*
- **No. 502** *Effect of Microfissures on Corrosion Performance and Mechanical Properties of Austenitic Stainless Steel Weld Metals*

Cancellation Policy

Before **September 1, 2011** no charge
Between **September 1, & October 1, 2011**, \$250 charge
After **October 1, 2011**, no refund

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HOTEL RESERVATION FAX FORM-USE ONLY IF REQUESTED CALL NEARBY HOTELS FOR FLUOR OR YOUR PREFERRED RATES

Hilton Garden Inn, Sugar Land (Tele:281-491-7777) and Hyatt Place, Sugar Land (Tele:281-491-0300) offer discounted Fluor rates and shuttle service to Fluor and are 1/2 and 3 miles from Fluor, respectively.

The Sugar Land Marriott Town Square (Tele:281-275-8400) is within 5 miles from Fluor.

Please reserve ____ room(s) as follows:

Name: _____ No. in Party: _____

Company: _____

Address: _____

City: _____ State: _____ Zip: _____ Country _____

Phone Number: _____

Arrival Date: _____ Time: _____ Departure Date: _____

WRC Discount Rate: + Tax

Guaranteed by: First Night Deposit Check _____ (mark X if enclosed) or indicate Credit Card, below:

_____ American Express _____ Mastercard _____ Visa _____ Diners Club

_____ Discover _____ Carte Blanche _____ Other _____

Credit Card No.: _____

Expiration Date: _____

Cardholder Name: _____

Credit Card Billing Address (WITH Zip Code): _____

Signature: _____

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DISPLAY REGISTRATION

Send to WRC as shown below

____ \$1000 Early-Bird Rate for Conference Table Top Display (\$1250 after 9-10-11)

Conference Registration -(Use a separate form for each attendee) Please type or print clearly.

Date: _____ Name: _____

Title: _____ Company: _____

Street/P.O. _____

City, State/Province: _____

Zip/Postal Code: _____ Country: _____

Phone _____ Fax _____ E-mail: _____

_____ American Express _____ Mastercard _____ Visa

Credit Card No.: _____ Expiration Date: _____

Cardholder Name: _____

Credit Card Billing Address (Must Include Zip Code): _____

Signature: _____

The Table Top Display registration fee covers one attendee and includes the volume of conference presentations. Included are 3 continental breakfasts 2 lunches and a networking reception.

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Fluor's Sugar Land Office

Driving Directions and Reserved Parking

Fluor Corporation
 One Fluor Daniel Drive
 Sugar Land, Texas 77478
 281.263.1000

From Bush Intercontinental Airport

Sam Houston Tollway Route

1. Head South on John F Kennedy Blvd. 3.5 mi
2. Turn right at Texas Beltway 8 Frontage Rd. 0.5 mi
3. Merge onto Sam Houston Tollway/ Beltway 8 via the ramp on the left. Continue to follow Sam Houston Tollway W. (There will be 3 tolls of \$1.50 each) 31.5 mi
4. Take the exit onto US-59 S. toward Victoria 5.6 mi
5. Take the exit toward TX-6 and merge onto frontage Rd. 0.7 mi
6. Turn right at TX-6 N. 0.5 mi
7. Turn right at Fluor Daniel Dr. 0.3 mi

Or –

US-59 Route

1. Head South on John F Kennedy Blvd. 3.5 mi
2. Turn left at Greens Rd. 2.4 mi
3. Turn right at Eastex Freeway Service Rd. 0.6 mi
4. Take the ramp on the left onto US-59 S. 34.1 mi
5. Take the exit toward TX-6 and merge onto frontage Rd. 0.7 mi
6. Turn right at TX-6 N. 0.5 mi
7. Turn right at Fluor Daniel Dr. 0.3 mi



Visitors:

Enter through main entrance. Park in the first parking area to the right past the stop sign. Sales/Client Reserved parking is located in the second parking entrance to the right as shown on the map.

HQUMAP_2010_Fluor_Bush Airport.ai

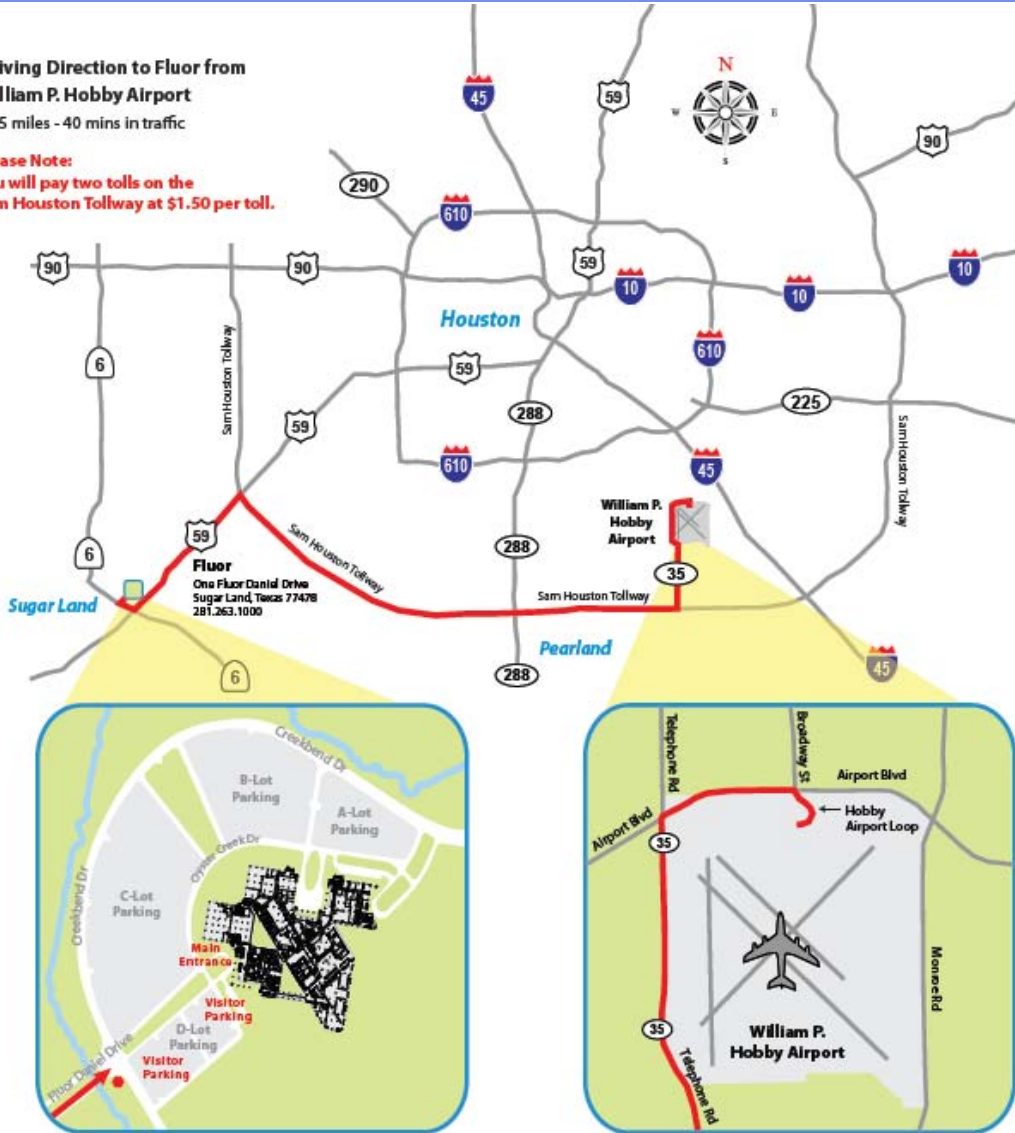
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Driving Direction to Fluor from William P. Hobby Airport
29.5 miles - 40 mins in traffic

Please Note:
You will pay two tolls on the Sam Houston Tollway at \$1.50 per toll.



Driving Direction:

- | | | | |
|--|--------|---|---------|
| 1. Head east on Hobby Airport Loop | 0.3 mi | 6. Merge onto Sam Houston Tollway (Toll Road) | 16.9 mi |
| 2. Continue onto Broadway St | 262 ft | 7. Take the exit onto US-59 South toward Victoria | 5.6 mi |
| 3. Turn left at Airport Blvd | 0.8 mi | 8. Take the exit toward TX. Hwy. 6 | 0.2 mi |
| 4. Turn left at Telephone Rd, Hwy. 35 | 3.8 mi | 9. Merge onto Frontage Rd/Southwest Frwy. | 0.5 mi |
| 5. Turn right at South Sam Houston Pkwy. East/Texas 8 Beltway West | 0.1 mi | 10. Turn right onto TX. Hwy. 6 North | 0.5 mi |
| | | 11. Turn right onto Fluor Daniel Drive | 0.1 mi |

Visitors Parking:

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HO20100527_Map_Fluor-Hobby Airport.ai