Program
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2019 BJRS TECHNICAL PROGRAM COMMITTEE
JERRY WATERLAND, CHAIRMAN

ASME

On behalf of ASME and the organizing committee, it is with great pleasure to welcome you to the Bolted Joint Reliability Symposium (BJRS). This international event is the first in a new ASME conference series that will focus exclusively on Bolted Flange Connections. The main objective of this conference is to present in one venue, the advances around the world in the design, component selection, assembly and troubleshooting of Bolted Flange Connections that have been made in the last decade.

This 2019 BJRS is the result of the great effort of the technical program committee whose names are listed in the program and for whom I want to express my gratitude. I would like to acknowledge the special contributions of the ASME Pressure Vessels & Piping Division, and specifically the Bolted Joints Technical Committee. I want to also express my thanks to Jaime Hart, the ASME Senior Staff member who handled all of the “behind the scenes” details and made all the necessary arrangements. I know she will be of great help to you if you have any questions or needs before, during or after the Symposium. I would also like to express our appreciation to the sponsors of the conference.

In addition to the technical program that includes twenty eight technical presentations, we have two panel sessions; one on the second day of the Symposium and one on the third day. Of special interest to everyone in attendance, there are many major suppliers to the BFC industry who are attending and participating as exhibitors; demonstrating and discussing their unique technologies and expertise.

All technical presentations and both tutorials will be included on a memory stick and available to all attendees. Last but not least, I would like to thank all the authors, the reviewers, the session chairs and all the participants. I sincerely hope that you enjoy the technical presentations, discussions, exhibits and social program, and that you find your participation in 2019 BJRS to be very worthwhile.

Jerry Waterland
Conference Chair

CONFERENCE ORGANIZING COMMITTEE

Jerry Waterland
Conference Chair
Session 1-1 Understanding BFC Design Methods Organizer
Session 5-1 BFC Assembly Organizer

Clay Rodery
PVP Awards Chair
Session 6-1 BFC Lessons Learned Organizer

Hakim Bouzid
PVP Division Chair
Session 2-1 Gasket Testing Organizer
Session 7-1 LDAR/Emissions Organizer

Warren Brown
Session 3-1 Gaskets/Technology Organizer
Session 4-1 Fasteners Organizer

Jim Kaculi
PDEC Member
Sessions 8-1 High Temperature/High Pressure Technology Organizer

Dan Peters
Conference Organizer and PVP Senator
Track 1 Understanding BFC Design Methods

1-1 UNDERSTANDING BFC DESIGN METHODS
Houston, Norris Conference Center, Magnolia 8:45am - 10:15am

Session Organizer: Jerry Waterland, VSP Technologies, Prince George, VA, United States

On the ASME proposed New Flange Design Rules Based on Tightness Technical Publication. BJRS2019-7032
Hakim Bouzid, Ecole Technologie Superieure, Montreal, QC, Canada

Tightness-Based Design of Bolted Flanged Joints
Oral Presentation. BJRS2019-7017
Manfred Schaaf, amtec GmbH, Lauffen, OO, Germany

A Comparison between Current BFJ Design Methods
Oral Presentation. BJRS2019-7014
Warren Brown, Integrity Engineering Solutions, Dunsborough, WA, Australia

Track 3 Gaskets and Packings

3-1 GASKET TESTING
Houston, Norris Conference Center, Magnolia 10:45am - 12:15pm

Session Organizer: Hakim Bouzid, Ecole Technologie Superieure, Montreal, QC, Canada

Oral Presentation. BJRS2019-7030
Joel Baulch, Teadit North America, Pasadena, TX, United States

Effect of Heating Rate and Gasket Stress at Assembly on Hot Blowout Test
Oral Presentation. BJRS2019-7016
Ming-Hang Yang, Nicholas Wheeler, Garlock Sealing Technologies, Palmyra, NY, United States

Room Temperature Tightness Test (ROTT) ? Derivation and Use of Gasket Factors
Oral Presentation. BJRS2019-7019
Adam Arnett, amtec North America, Inc., Athens, OH, United States, Manfred Schaaf, amtec GmbH, Lauffen, OO, Germany

Track 4 Fasteners

4-1 FASTENERS
Houston, Norris Conference Center, Magnolia 3:45pm - 5:15pm

Session Organizer: Warren Brown, Integrity Engineering Solutions, Dunsborough, WA, Australia

Are There Nut factor Differences at Several Elevated Temperatures on Anti-Seize Compounds
Oral Presentation. BJRS2019-7035
Donald Oldiges, Jet-Lube, Fate, TX, United States

The Effects of Fluoropolymer Coated Fasteners on Nut Friction Factors
Oral Presentation. BJRS2019-7034
Karson Clark, VSP Technologies Inc., Prince George, VA, United States

Kolsterising Surface Hardening of Stainless Steels
Oral Presentation. BJRS2019-7040
David Cummings, Bodycote, Inc., Houston, TX, United States
Track 9 Tutorials

9-1 TUTORIAL #1: WRC 538 BACKGROUND AND APPLICATION OF WRC 538 FOR DETERMINING FLANGE STRENGTH
Houston, Norris Conference Center, Magnolia 8:15am - 9:30am

Track 2 BFC Assembly

2-1 BFC ASSEMBLY
Houston, Norris Conference Center, Magnolia 10:00am - 12:30am

Session Organizer: Jerry Waterland, VSP Technologies, Prince George, VA, United States
EVALUATION OF THE OPTIMUM TARGET ASSEMBLY BOLT LOAD FOR SOME ASME B16.47 SERIES B FLANGE JOINTS
Oral Presentation. BJRS2019-7011
Abdelgader Abdelgalil, Gys van Zyl, Sabic, Jubail, Saudi Arabia

Experience with alternative assembly patterns for bolted flanged joints
Oral Presentation. BJRS2019-7020
Anita Bausman, VSP Technologies, Kingsport, TN, United States

Common Problems and Pitfalls with Current Joint Assembly Methods and Procedures
Oral Presentation. BJRS2019-7015
Warren Brown, Integrity Engineering Solutions, Dunsborough, WA, Australia

ASME L&D Qualified Bolting Specialist Course - Status and Upgrades
Oral Presentation. BJRS2019-7028
David Lay, Hytorc, Highland, UT, United States

ASME - Bolting Safety
Oral Presentation. BJRS2019-7024
Jay Knudsen, HYTORC USA, Conroe, TX, United States

Track 6 BFC Lessons Learned:
Product or application case histories

6-1 BFC LESONS LEARNED
Houston, Norris Conference Center, Magnolia 1:30pm - 3:00pm

Session Organizer: Clay Rodery, C&S Technology LLC, League City, TX, United States

Lessons Learned in Ensuring Reliability and Performance of Chemical Process Bolted Flanged Connections
Oral Presentation. BJRS2019-7039
Chris Cary, DOW Chemical, Cincinnati, OH, United States

Lessons Learned: Top 5 Joint Integrity Issues for Refinery and Petrochemical Plants
Oral Presentation. BJRS2019-7012
Warren Brown, Integrity Engineering Solutions, Dunsborough, WA, Australia

Refinery Site Experiences in Implementing a Bolted Flange Joint Program
Oral Presentation. BJRS2019-7025
Stefan Smith, CITGO Petroleum Corporation, Lake Charles, LA, United States

Track 5 LDAR/Emissions Compliance

5-1 LDAR/EMISSIONS
Houston, Norris Conference Center, Magnolia 3:30pm - 5:00pm

Session Organizer: Hakim Bouzid, Ecole Technologie Superieure, Montreal, QC, Canada

An Historical Perspective on the Basis and ASME Code Approach with M&Y Gasket Factors, their Use and Limitations, and the Resultant Impact on the Difference between Design Bolt Loads and Assembly Bolt
Oral Presentation. BJRS2019-7033
RANDY WACKER, Inertech, Inc., NEWARK, DE, United States

Use of a Leak Rate Model to Develop Gasket Tightness Guidance
Oral Presentation. BJRS2019-7009
Dale Rice, VSP Technologies, Leland, NC, United States, Jerry Waterland, VSP Technologies, Prince George, VA, United States

Best Practices for Valve Packing Installation for Fugitive Emission Compliance
Oral Presentation. BJRS2019-7029
Joel Baulch, Teadit North America, Pasadena, TX, United States
Technical Sessions

THURSDAY, OCTOBER, 03

Track 9 Tutorials

9-2 TUTORIAL #2 - ASME PCC-1-2019 UPDATES, APPENDIX A
ACCEPTANCE AND USE, CURRENT RESEARCH
Houston, Norris Conference Center, Magnolia  8:15am - 9:30am

Track 8 Design and Testing of HPHT Flanges for Oil and Gas Applications

8-1 HIGH TEMPERATURE/HIGH PRESSURE TECHNOLOGY
Houston, Norris Conference Center, Magnolia  10:00am - 12:30pm

Session Organizer: Jim Kaculi, Drl-Quip Inc., Houston, TX, United States

Bolt Creep Relaxation in High Temperature Joints
Oral Presentation. BJRS2019-7038
Warren Brown, Nathan Knight, Tze-Yew Lim, Integrity Engineering Solutions, Dunsborough, WA, Australia

New Subsea HPHT Flange Design Verification Analysis and Validation Testing Methodology
Oral Presentation. BJRS2019-7021
Mark A. Manning, Drl-Quip, Houston, TX, United States, Andrew Grohmann, Drl-Quip, Inc., Houston, TX, United States

Influence of Thermal Gradients in Design Verification of Uninsulated HPHT Bolted Connections
Oral Presentation. BJRS2019-7027
Tom Luce, James Stevens, OneSubsea, Houston, TX, United States

Lessons Learned: Top 5 Joint Integrity Issues for LNG Plants
Oral Presentation. BJRS2019-7013
Warren Brown, Integrity Engineering Solutions, Dunsborough, WA, Australia

Deformation and Stresses Generated on the Bolted Flange Joint Assembly and the Grayloc Clamp Connector at Elevated Temperatures
Oral Presentation. BJRS2019-7001
Mustafa Mogri, DHA Suffa University, Karachi, Sindh, Pakistan
<table>
<thead>
<tr>
<th>Sponsors &amp; Exhibitors</th>
<th>Description</th>
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<tbody>
<tr>
<td><strong>Applied Bolting Technology</strong></td>
<td>Manufacturer of Direct Tension Indicators for use in single pass flange tightening &amp; structural systems.</td>
</tr>
<tr>
<td><strong>Flexitallic</strong></td>
<td>The industry leader and sealing expert in manufacturing metallic, semi-metallic and sheet gaskets for all industries. Developer of the spiral wound gasket in 1912. Flexitallic is synonymous with quality and innovation; proven true by their revolutionary products such as Thermiculite®, Change®, and Change-HF® gaskets. Flexitallic offers a variety of products for multiple industries globally. Stop by their booth and see for yourself why Flexitallic is the most trusted name in industrial sealing.</td>
</tr>
<tr>
<td><strong>3S</strong></td>
<td>Superior Sealing Services is a leading manufacturer of high quality sealing products for the industrial market. Our commitment to quality starts from raw materials to finished goods by providing full traceability for each alloy and stainless parts through laser etch heat numbers along with the use of superior grade of inhibited graphite. We offer a comprehensive product line including spiralwound, kammprofile, corrugated metal, double jacketed, and sheet material to address sealing applications.</td>
</tr>
<tr>
<td><strong>Inertech, Inc.</strong></td>
<td>Inertech, Inc. has grown to be one of the largest global suppliers of expanded PTFE materials and specialty gaskets under the Inertex brand name. Established over 25 years ago and headquartered in Monterey Park, California, Inertech offers innovative sealing solutions derived from years of experience in nearly all types of plant environments including Chemical Processing, Pulp and Paper, Food and Beverage, Pharmaceutical, Aerospace, OEM’s and more. At Inertech, we are TESTED AND PROVEN.</td>
</tr>
<tr>
<td><strong>Integrity Engineering Solutions</strong></td>
<td>Integrity Engineering Solutions is a niche engineering consulting firm dedicated to applying advanced, practical knowledge to the solution of the most difficult engineering problems in the Oil &amp; Gas, Refining, Petrochemical, Minerals Processing and Mining industries. We are specialists in assessment techniques for Design, Fitness-For-Service, Failure Analysis, Inspection, Reliability, Repair and Modification of Fixed Equipment. We are world leaders in the field of Pressure Boundary Joint Integrity and Bolted Joint Assembler Training.</td>
</tr>
<tr>
<td><strong>HYTORC</strong></td>
<td>HYTORC makes industrial bolting safer and simpler. With 50 years of experience focused entirely on developing the highest quality industrial bolting systems, HYTORC is the most trusted name in the industry. From steel mills and mining equipment to refineries, power plants, and wind turbines; we have developed solutions for every bolting application imaginable. For custom projects, our highly experienced engineering team is at your service to design the most efficient solution for your job with simple operation and economical pricing in mind.</td>
</tr>
<tr>
<td><strong>Thermoseal Inc.</strong></td>
<td>Thermoseal Inc., An Independent Klinger Company, is a leading manufacturer and distributor of fluid sealing materials and fluid control products. KLINGER is a world-leading developer and manufacturer of fluid sealing and fluid control products founded in 1886 by Austrian engineer, Richard Klinger. KLINGER operates 60+ manufacturing, distribution and service hubs in over 40 countries worldwide. Our products can be found in most all industrial and manufacturing applications including chemical processing, power generation, oil and gas, food and beverage, Original Equipment Manufacturing, and Aftermarket applications. For over 130 years, KLINGER gaskets have been meeting the toughest sealing demands with quality, integrity and performance.</td>
</tr>
<tr>
<td><strong>TEADIT®</strong></td>
<td>TEADIT® is recognized worldwide as a leader in the development and manufacturing of innovative products for critical fluid sealing processes. Teadit® has helped key industries achieve the goal of an emission-free environment within their facilities. Teadit® is constantly investing Application Engineering and in Research and Development to keep up with the evolution of the industry’s needs. TEADIT® North America is located in Houston with worldwide locations in South America, Europe and Asia.</td>
</tr>
<tr>
<td><strong>VSP Technologies</strong></td>
<td>VSP Technologies is an engineering-focused company dedicated to saving our client time and money by supplying and supporting their site’s gasket, packing, and expansion joint needs. With backgrounds in engineering, manufacturing, fabrication, distribution, and field services, our staff is uniquely suited to handle any fluid-sealing need or requirement. Our innovative, comprehensive fluid-sealing management programs are designed to increase performance and reliability of customer’s equipment, saving time, effort, and money.</td>
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Thank you

PLATINUM

GOLD

EXHIBITORS
Map

Red Oak Ballroom - B
4,705 sq ft

Red Oak Ballroom - A
2,923 sq ft

Pecan Room
1,518 sq ft

Elm Room
1,380 sq ft

Magnolia Room
4,940 sq ft

Live Oak Room
1,701 sq ft

Movie Theater

Parking Garage