

18th International Conference on Pipeline Protection 2009

**Antwerp, Belgium
4-6 November 2009**

ISBN: 978-1-63266-495-2

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2009) by BHR Group
All rights reserved.

Printed by Curran Associates, Inc. (2014)

For permission requests, please contact BHR Group
at the address below.

BHR Group
The Fluid Engineering Centre
Cranfield, Bedfordshire MK43 0AJ
United Kingdom

Phone: +44 1234 750422
Fax: +44 1234 750074

contactus@bhrgroup.co.uk

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2634
Email: curran@proceedings.com
Web: www.proceedings.com

18th International Conference on
PIPELINE PROTECTION
Antwerp, Belgium: 4th – 6th November 2009

CONTENTS

FOREWORD	1
3 LAYER COATING PERFORMANCE	
Residual stresses in 3LPO external pipeline coatings – disbondment and cracking <i>B T A Chang, PolyLab LLC; S Hung-jue, J Han, Texas A/M University, USA; D Wong, ShawCor, Canada; A Kehr, Alan Kehr Anti-Corrosion; M Mallozzi, 3M; F Aguirre, H Pham, The Dow Chemical Company; W Snider, NOV Tuboscope, USA</i>	5
FBE APPLICATIONS	
A new application process that assures good adhesion of fusion bonded epoxy coating exposed to very severe conditions <i>G Gaillard, J L Bouliez, BS Coatings, France</i>	25
Adhesion failure of external 3 layer extruded polyethylene (3LPE) based coatings for gas/oil transmission pipelines buried under soil <i>A Hussain, C Pflugbeil, Comtech GmbH, Germany</i>	43
FBE POWDER	
Development and performance of a low application temperature FBE coating <i>J K Pratt, M L Mallozzi, 3M Company, USA</i>	57
Design of Mid.Tg FBE powder coatings to meet the requirements of pipe coaters and pipeline owners <i>M Patterson, S Drew, V Boerschel, Akzo Nobel Powder Coatings GmbH, Germany</i>	67
Rheokinetic modeling of fusion bonded epoxy powder coatings at standard and low application temperature <i>M A Shafi, F Aguirre, E Trottier, S Falcone-Potts, The Dow Chemical Company, USA</i>	81

FIELD JOINTS

- PNC: A new solution for offshore field joint coatings 95
M Mallozzi, M Perez, 3M Company, USA
- Novel field joint coating solutions for the construction of subsea pipelines 103
D Taylor, E Tacoma, Canusa-CPS, Canada

MAINTENANCE

- Pipeline rehabilitation for the 21st century 117
*T J M Bond, Pipestream® Inc, USA; D J Miles, Xodus Group Ltd, UK;
R N Burke, N J Venero, Pipestream® Inc, USA*
- The impact of logistic operations on coatings in the supply chain of pipelines 137
I M van Assema, Dhatec BV, The Netherlands
- Rapid hardening concrete cloth for oil, gas and water pipeline protection applications 151
F A Orr-Adams, Applied Concrete Systems Partnership; P Brewin, Concrete Canvas Ltd; E Hiam, Applied Concrete Systems Partnership, UK
- Dow products for 3LPE steel pipe coating – AMPLIFY™ GR 320 and HDPE 12110G 161
O Henschke, Dow Europe GmbH, Switzerland

REHABILITATION

- Rehabilitation of corrosion protective coatings on buried steel pipelines 169
M Schad, C Ströter, T Rehberg, DENSO GmbH, Germany
- The challenge – renovation project in new dimensions: the renewal of the anti-corrosion protection of the hydropower station at Wehr, Germany 185
A Zwanzinger, Corro Tec Korrosionsschutz Vertriebsges.m.b.H.; E Rainer, TIWAG-Tiroler Wasserkraft AG; T Huber, Schluchseewerk AG, Germany

WATER

- Foamed cement mortar to protect coated steel pipelines from external acid attack 201
D D P Trebicki, Rand Water, South Africa

AUTHOR INDEX