

**RESUME**  
**GEOFFREY B. BYRNES**

Born: Kingston-Upon-Hull, UK - 1937

**Education: University of Durham**

1955-58 Bachelor of Science - Chemistry  
1958-61 Post graduate Research and Studies in  
Polymer Chemistry

**Certification:**

NACE Certificated Corrosion Specialist, Number 3225  
NACE Certificated Materials Selection and Design Specialist, Number 3225  
NACE Certificated Coating Inspector, Number 199

**Educational Activities and Affiliations:**

National Association of Corrosion Engineers (NACE)

*Formerly - now retired:-*

Instructor, Course ETC-50, "Protection by Coatings and Linings"  
Instructor, Coating Inspector Training Program and Examining Peer.  
Instructor, Course "Successful Coating & Lining of Concrete"  
Technical Editor, "Materials Performance" Journal.

Fellow of the American College of Forensic Examiners  
Steel Structures Painting Council (SSPC)  
The American Coatings Association

Following completion of his post graduate studies he joined British Paints as a Development Chemist in their marine coatings laboratories. His work there included the development of epoxy coating systems for immersion service on ship's hulls as well as protective tank linings. It also included the development of polyurethane topcoat systems for marine superstructures and intumescent fire retardant coatings for the protection of vessels living quarters.

In 1962 he joined Burmah Oil where he continued his work on protective coatings for marine structures and vessels including the development of coal tar epoxy coating systems and 100% solids epoxy coating systems as hull coatings and tank linings. He did much of the early development and research on zinc preconstruction primers including a four year program to determine the behavior of coating systems based on these under seawater immersion. The results of this were published at The Haig FATIPEC Congress in UK journals.

In 1967 he joined the European Subsidiary of Calgon, working on water treatment chemicals and inhibitors before returning to the Coatings Industry in 1974 as manager of a group of North Wales companies specializing in the development manufacture and application of high performance coating dispersions based on Ryton, PTFE, Kynar and Halar resins.

In 1977 he joined AS System Services as a Consultant Corrosion Engineer, work which he continued later with ITI Anti-Corrosion. During this period he worked on many International projects in Europe, Africa and the far East.

His work included the design and performance monitoring of Cathodic Protection Systems on both underground pipelines and marine and off-shore structures. The preparation of coating specifications and supervision of coatings projects on both on-shore and off-shore structures. The design and implementation of quality control/quality assurance programs for both coatings manufacture and application. Studies of corrosion problems and designing and monitoring corrosion protection systems for natural gas production, petroleum refining and petrochemical facilities.

Since 1986 he has been an independent technical consultant and until March 1999 was head of a laboratory specializing in Coatings and Corrosion Control Technology. He was President of The Coatings Laboratory Inc., a coatings failure investigation, testing and analysis facility. Since then he has continued both field and laboratory investigation of coating failures as an independent consultant and President of G.B. Byrnes Consulting, Inc.

During the past twenty years he has been actively engaged in coatings failure analysis and has successfully conducted over three thousand investigations. He has continued to work on coatings formulation and performance testing. His speciality is the development of 100% solids coatings and linings based on Epoxy/Amine, Polyurethane, Polyurea and Furan resin technology and solvent based fluorocarbon systems.

He has directed several research projects to develop new analytical techniques and testing procedures for coatings and resins. He is the Author of numerous technical publications including papers on the Cathodic Disbondment of Coatings, the use of Laboratory Analytical Techniques in Coatings Quality Control, QC in FBE Powder Coating Application, Film Stress in Coatings, the behaviour of Zinc Primers in Immersion Service and a Novel Analytical Technique for Determining the Cure of Inorganic Zinc Primers.

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## PUBLICATIONS

**Quality Control of Coating Material Supplies.** Materials Performance, Vol.28, No.5, pp 30 (1989) May.

**Blistering of Immersed Coatings Under Cathodic Protection.** Materials Performance, Vol.28, No.9, pp 31-32 (1989) September.

**Delamination by Design.** Materials Performance, Vol.32, No.2, pp 45-47 (1993) February.

**Measuring the Rate of Cure of Solvent-Based Inorganic Zinc Primers.** (Co-Author L.D. "Lou" Vincent. Materials Performance, Vol.33, No.2, pp 31-34 (1994) February.

**Potential Toxins in Old Coatings.** Materials Performance, Vol.34, No.1, pp 32-33 (1995) January.

**Coating Newly Galvanized Steel.** Materials Performance, Vol 34, No 10, pp 44-46 (1995) October.

**Alkyds** Chapter in "Generic Coating Types" Lloyd Smith, Ed. Technology Publishing Company, 1996. Republished in the Journal of Protective Coatings and Linings, Vol. 13, No. 12, pp 73 - 87 (1996) December.

**Prepare for Painting.** Plant Services Magazine, Putman Media, Inc., June 2010.