

OFFICIAL TEST REPORT ON THE SUCCESSFUL TRIAL OF THE NMR PIPETECTOR

Anti-Corrosion Application, Hilton Portsmouth Hotel in UK (Domestic Hot Water System)

NMR Corporation

***Appearance of Building and Installation Place**



Appearance of the building

< Installation Purpose and Result >

The Hilton Hotel in Portsmouth is situated on the South Coast of England and belongs to one of the most prestigious hotel chains in the world having 120 bedrooms and was built in 1981. The hotel pipe work is also 25 years old, and for the prevention of the domestic hot water pipe work from corrosion, one NMR unit of 6 inch (PT-150DS) was installed onto 145mm outer diameter domestic hot water iron pipe header pipe.

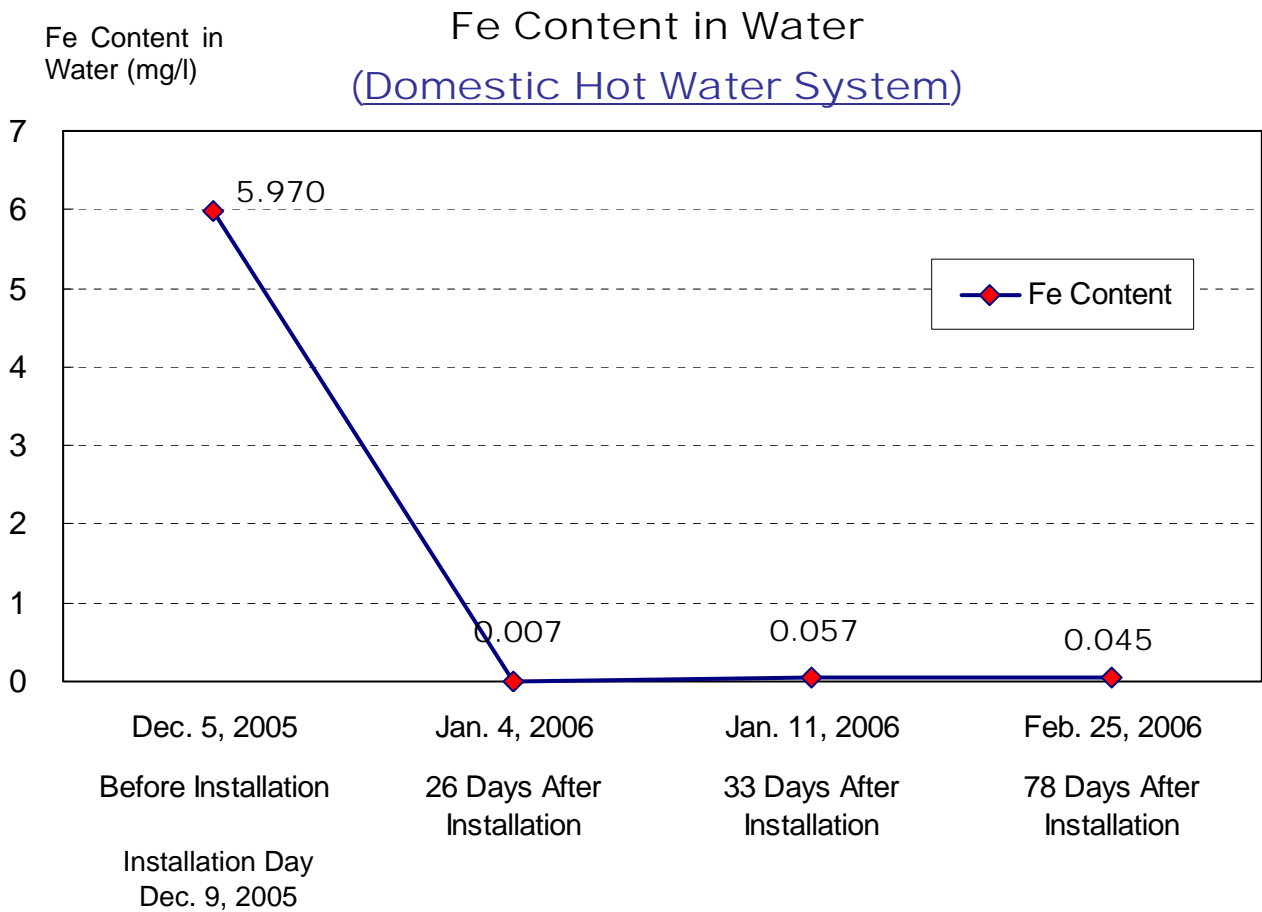
26 days after the installation of NMR Pipetector onto the domestic hot water pipe work, the Fe content drastically decreased from **5.97mg/l** (before the installation of NMR Pipetector) to **0.007mg/l**, stayed at the low of 0.057mg/l 33days after the installation, and 0.045mg/l 78 days after the installation. These data are far below 0.2 mg/l of the British Government Standard for Drinking Water. The decrease of Fe content means that new forming of corrosion (FeO(OH)) inside of the pipe work was terminated, and the existing corrosion was reduced to magnetite (Fe₃O₄) which is not dissolved into the water and protects the inside of the pipe from corrosion.

< Installation Summary >

Name of Building :Address	Hilton Portsmouth Hotel Eastern Road Farlington, Portsmouth PO6 1UN, United Kingdom
Building Summary	One of the prestigious hotels in the world. The hotel was built in 1981 and has 120 rooms.
Installation Place	Header pipe of domestic hot water pipe work.
Installation Day	December 9 th in 2005
Number of installed NMR PIPETECTOR	6 inch header pipe of domestic hot water pipe work (Iron pipe) PT-150DSx1 unit




<Fe content in domestic hot water pipe (mg/l)>

	Before Installation Dec. 5, 2005	Installation Day Dec. 9, 2005	26 Days After Installation Jan.4, 2006	33 Days After Installation Jan. 11,2006	78 Days After Installation Feb. 25, 2006	The British Government Standard for Drinking Water
Fe Content In Water	5.97 mg/l			<0.007 mg/l	0.057 mg/l	0.045 mg/l



Before Installation

Certificate of Analysis

1314
0897
1229
1510

Sample 1 Laboratory Number: **186986**
of 3 Report Number: **BR/315688/2005** Issue 1




Sample Source: **Cambridge Water Company**
Sample Point Description: **Cambridgeshire Water Company**
Sample Description: **Hilton Hotel Domestic**
Sample Date: **05 December 2005** Sample Received: **05 December 2005** Analysis Complete: **13 December 2005**

Test Description	Result	Units	Limit	Accreditation	Method
Iron, Total as Fe	5970	ug/l	200	B	SBC44

Accreditation Codes: * = Not UKAS accredited, B = Analysed at STL Bridgend, C = Analysed at STL Coventry, R = Analysed at STL Runcorn, L = Analysed at STL Midlands, S = Sub-contracted
For Microbiological determinands 0 or ND = Not Detected, DET = Detected, For Legionella ND=Not detected in volume of sample filtered
IS = Insufficient sample

26 Days After Installation

Certificate of Analysis

1314
0897
1229
1510

Sample 1 Laboratory Number: **218881**
of 2 Report Number: **BR/320011/2006** Issue 1

Sample Source: **Cambridge Water Company**
Sample Point Description: **Cambridgeshire Water Company**
Sample Description: **hilton portsmouth room 280**
Sample Date: **04 January 2006** Sample Received: **04 January 2006** Analysis Complete: **11 January 2006**




Test Description	Result	Units	Limit	Accreditation	Method
Iron, Total as Fe	<7	ug/l	200	B	SBC44

Accreditation Codes: * = Not UKAS accredited, B = Analysed at STL Bridgend, C = Analysed at STL Coventry, R = Analysed at STL Runcorn, L = Analysed at STL Midlands, S = Sub-contracted
For Microbiological determinands 0 or ND = Not Detected, DET = Detected, For Legionella ND=Not detected in volume of sample filtered
IS = Insufficient sample

Hilton Portsmouth 3-4(20080226)

33 Days After Installation

Certificate of Analysis

1314
0897
1229
1510

Sample **3** Laboratory Number : **226571**
of **3** Report Number : **BR /321117/2006** Issue **1**

Sample Source : **Cambridge Water Company**
Sample Point Description : **Cambridgeshire Water Company**
Sample Description : **HILTON DOMESTIC HOT WATER**
Sample Date : **11 January 2006** Sample Received : **11 January 2006** Analysis Complete : **16 January 2006**




Test Description	Result	Units	Limit	Accreditation	Method
Iron, Total as Fe	57	ug/l	200	B	SBC44

Accreditation Codes : * = Not UKAS accredited, B = Analysed at STL Bridgend, C = Analysed at STL Coventry, R = Analysed at STL Runcorn, L = Analysed at STL Midlands, S = Sub-contracted
For Microbiological determinands D or ND = Not Detected, DET = Detected, For Legionella ND=Not detected in volume of sample filtered. IS = Insufficient sample

Signed : *Down* Name : **T. Down** Date : **17 January 2006**
Title : **Production Manager**

78 Days After Installation

Certificate of Analysis

1314
0897
1229
1510

Sample **3** Laboratory Number : **293848**
of **3** Report Number : **BR /330952/2006** Issue **1**

Sample Source : **Cambridge Water Company**
Sample Point Description : **Cambridgeshire Water Company**
Sample Description : **PORTSMOUTH DOMESTIC HOT WATER**
Sample Date : **25 February 2006** Sample Received : **03 March 2006** Analysis Complete : **08 March 2006**

Test Description	Result	Units	Limit	Accreditation	Method
Iron, Total as Fe	45	ug/l	200	B	SBC44

Accreditation Codes : * = Not UKAS accredited, B = Analysed at STL Bridgend, C = Analysed at STL Coventry, R = Analysed at STL Runcorn, L = Analysed at STL Midlands, S = Sub-contracted
For Microbiological determinands D or ND = Not Detected, DET = Detected, For Legionella ND=Not detected in volume of sample filtered. IS = Insufficient sample

Signed : *Down* Name : **T. Down** Date : **10 March 2006**
Title : **Production Manager**

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