

# Corrosion Control System For Protection and Maintenance



BNB Head Office



Corrosion Control System

**BNB**



## Company Overview

- Establishment : 1982
- Type of Business : Manufacture, Sales and Construction

BNB Corp. was founded in 1982, and its own R&D specialists and production experts developed Atometal. Atometal is a multi-component product composed of ceramic and metallic powder in a polymeric binder, which provides strong and reliable resistance against most types of corrosion. We, BNB Corp., have been putting all the efforts to only one goal which is preventing corrosion for the past 32 years, so we are now producing under the Quality/Environmental control management system in compliance with the requirement of ISO 9001 & 14001.





▼ BNB Phoccheon Factory





## Incorporation 32 years

AntiCorrosion Specialized Company

Cold Coating Material

Welding Without Heat (Cold Welder)



Ceramic Coating Material

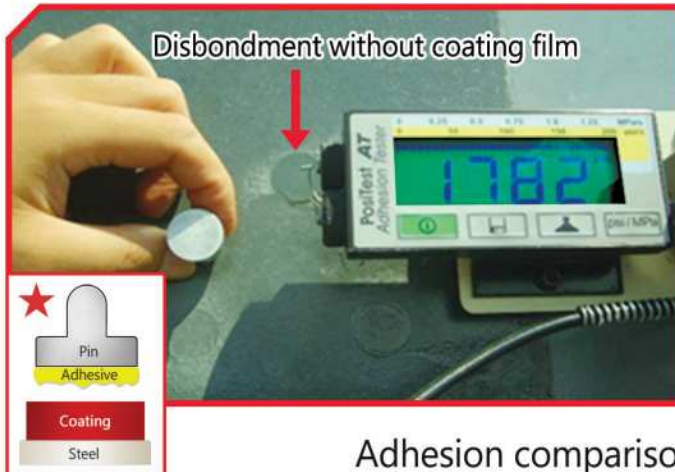
Underwater coating work in the world





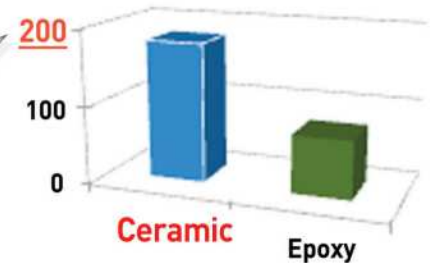
## Atometal Coating System

232% stronger than Epoxy!



Adhesion comparison test by POSCO

Adhesion (kgf/cm<sup>2</sup>) ASTM D4541




Atometal is twice much stronger than epoxy.

## Antifouling



## Resistance to Impact



**CERTIFIED COPY**


Project: Ceramic Coating AM-C  
 Client: Kyung Heung Industry Co.  
 Certificate Number: SEO 9811142  
 Office: Seoul  
 Date: 2 July 1998  
 Order Status: Complete  
 Client's Order Number: None  
 Inspection Dates: First: and Final: 10/06/98

This certificate is issued to the Messrs, Kyung Heung Ind. CO., Ltd., Pochon, Kyongki-Do, to certify that the undersigned Surveyor to this Society did attend at the building site, Yang Ju, Kyongki-Do on the above date for the purpose of examining and witnessing tests for the undermentioned ceramic coating.

**Corrosion Control Coating**

Trade Name	: AM - C
Type of Coating	: Silicate
Applicability	: Refined Spirits, Crude Oil, Sea Water
Surface Preparation	: Blast cleaned ISO 8501-1, Sa 2½
Number of Coat	: 3 Coats x 60 Microns
Dry Film Thickness	: 180 Microns

The coated steel pile (406 mm O.D.) was vertically hammered in to the earth up to 7.3 Metre deep with 82 times impact by means of 7 Tons hammer.  
 of pin hole tester. No recordable defects found from the surface of coating.  
 The coated steel pipe (45 mm O.D.) was vertically hammered 20 times by using of 5 Kg Hammer. No recordable defects found from the surface of coating.  
 The coated steel plate (300 x 200 x 12 mm) was hammered 20 times by using of 5 Kg Hammer. No recordable defects found from the surface of coating.  
 From the results of the above tests, it is considered that the above ceramic coating is mechanically suitable for corrosion control of general steel structure.  
 it is recommended that, in order to achieve final recognition, chemical & environmental test to be performed additionally.

  
 C. Y. Bang  
 Surveyor to Lloyd's Register

NOTICE: This certificate is subject to the terms and conditions overleaf, which form part of this certificate.  
 FORM 1123 (05/94) Lloyd's Register of Shipping, registered office: 21 Fenchurch Street, London EC3M 4BS

### ■ Lloyd's Hammering Test





## Protective Coating (AM-C)

### AM-C Series

- AM-C-T (Offshore structure)
- AM-C-TU (Anti-fouling Top coating)
- AM-C-T 200 (Enhanced Coating for Offshore Structure)
- AM-C-T 310 (Silicone type Anti-fouling Top Coating)
- AM-C-I (General steel structure)
- AM-C-I(S) (Recoating for Steel Structure)
- AM-C-IGF (Enhanced high heat resistance (250℃))
- AM-C-O (Chemical Structure)
- AM-C-O 430 (Enhanced Chemical Resistance)
- AM-C-E (Potable water supply pipeline)
- AM-C-AF (Enhanced Weather resistance, Anti-pollution performance)
- AM-C-U 3000 (Enhanced Chemical resistance top coating)
- AM-C-P (Primer for steel surface)
- AM-C-P 100 (Primer for steel surface)
- AM-C-C (Water Treatment Plant)
- AGREEN (Inorganic water-based paint for building)



## Protective Coating (AM-C)







## Applications : AM-C for steel facilities

- Bridges
- Sluice Gates, Dock Gates and Dams
- Oil and Gas Plants and Facilities
- Bar Screen, Heat Exchangers, Water Pipelines in electric power plants and distilling water plant
- Ship's hull, deck and tanks
- Pontoons, ramps, cranes and jetty pile in Harbor Facilities
- Other marine structures should be protected from corrosion and fouling

## Protective Coating (AM-C)



- Owner : Korea Agriculture Development Co.
- Construction: Hyundai Construction
- Space of Coating
  - 1<sup>st</sup> Period : 8 EA 40,000 m<sup>2</sup>
  - 2<sup>nd</sup> Period : 10 EA 50,000 m<sup>2</sup>
- Coating Period : Year 2002 ~ 2005





February 9, 2007

Dr. Shin, Hyun Gwan  
President  
B&B Korea  
474-2 Gasan-ri  
Gasan-myeon  
Pochon-si  
Gyeonggi-do  
KOREA



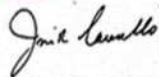
CORROSION  
CONTROL  
CONSULTANTS  
AND LABS,  
INC.

## STATEMENT OF EXPERT OPINION

I am pleased to provide my expert opinions concerning the Atometal line of coatings formulated and manufactured by B&B Korea.

I visited South Korea during the week of January 22, 2007. During my visit, I toured your manufacturing facility, met with your technical staff, and visited a number of sites at which Atometal coatings had been applied. These sites included pier structures at Incheon, flood control gates at Bu'an, and new highway bridges near Incheon International airport. In all cases, the Atometal coating systems are performing well in very aggressive environments.

In my expert opinion, the Atometal line of coating materials is unique in the coatings industry. The combination of a robust resin system with high-grade ceramic pigments has resulted in a line of coating systems which are both durable and highly corrosion resistant. I look forward to the introduction of the Atometal line of coatings to the US market so that facility owners in the US can avail themselves of the benefits of Atometal coatings.



Jon R. Cavallo, PE, PCS  
Vice President



P.O. BOX 226 • ELIOT, ME 03903 • 603-431-1919 • FAX: 603-431-2540 • WEB-SITE: www.cccolabs.com



Highly recommended from  
Jon R. Cavallo, Vice President of SSPC



## Protective Coating (AM-C)

### Concrete Structures





## Pipeline



## Protective Coating (AM-C)

### Offshore Structures





## Chemical Structures



## Protective Coating (AM-C)

### Weather Resistance

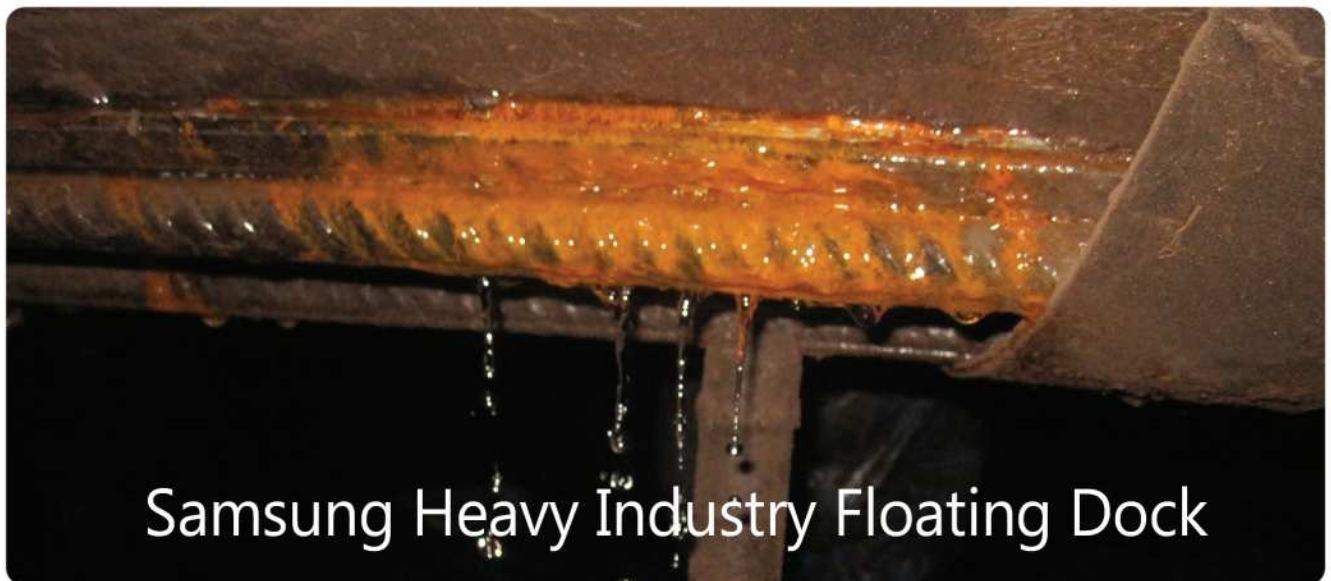




## Repairing (AM-A)

### Repairing Series

- AM-A (General Steel Structure)
- AM-A-5111 (Belzona 1111 replacement)
- AM-A-5311 (Belzona 1311 replacement)
- AM-A-5391 (for elevated temperature (130°C))
- AM-A-5700 (Non-ferrous metal)
- AM-A-Q (Rapid-cure type)
- AM-A-M (Vessel, ship)
- AM-A-1000 (Enhanced abrasion resistance (Soft))
- AM-A-3000 (Enhanced abrasion resistance (Coarse))
- AM-A-7200 (Enhanced heat resistance (200°C)) - Dry Corrosion)
- AM-A-5591 (Enhanced heat resistance (200°C)) - Wet Corrosion)
- AM-A-8141 (Cavitation resistance)



## Repairing (AM-A)

### Pump Impeller



### Repairing Pipeline





High Pressure Pump Casing



Seawater Pipe



## Repairing (AM-A)

### Repairing Pump Casing

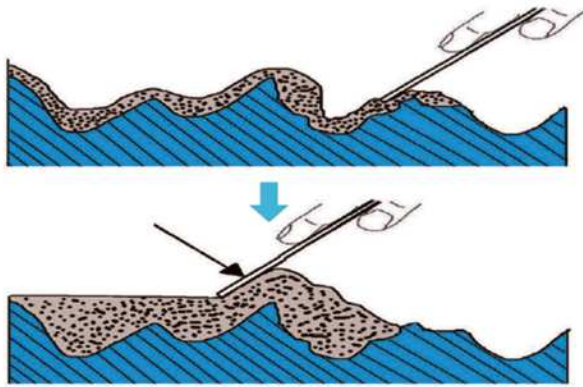


### Taping Method





## Repairing Application Method



( O )

Bubble by non - adhesion



( X )

### 1 Surface Treatment

Remove all rust and metal scale on the surface by using sand paper or wire brush & string or power tool.

### 2 Cleaning

Mop the surface by dry fabric or brush.

### 3 Mixing

- ① (1st step) Add hardener to the base by the instruction and then mix thoroughly with the knife.
- ② (2nd step) Continuously scrape material away from sides to bottom.

### 4 Spreading

- ① (1st step) Slightly apply material on repair area and then continuously scrape them away from sides to bottom.
- ② (2nd step) Work firmly into substrate to ensure maximum surface contact.
- ③ (3rd step) Gradually increase the thickness so as not to generate bubble when shaping.

## AGREEN



Zero VOC  
& Zero HCHO



Heavy  
Metal Free



Anti - Fungus



Odorless



Far- Infrared  
Radiation



Anti-  
Condensation



Covering hair  
line cracks



Flame  
retardant

### Singapore Green Labelling Scheme (SGLS)



The Singapore Green Labelling Scheme (SGLS) was launched in May 1992 to endorse consumer products and services that have less undesirable effects on our environment. This is administered by the Singapore Environment Council.

### Eco-Label



The Eco-Labeling Program aims at providing accurate environmental information to consumers and to induce rms to develop and produce environment-friendly products in line with consumers' preferences by affixing the Eco-Label on products causing relatively less pollution or using less resources in the production and consumption processes among products for the same purpose.







# Global Technology Standards



## Technology for

{ Saving Cost  
Environment Protection  
Strong National Defense

- Product Registration to Bureau of Repair of MLIT  
(Ministry of Land, Infrastructure, Transport and Tourism) Japan
- Certificate by Lloyd's Register U.K
- Standard by CNPC (China National Petroleum Corporation)
- Registration to KNPC Kuwait (Kuwait National Petroleum Company)

### ▼ Applicatoin to Anticorrosion of Steel / Concrete Structures

- Pipes(Waterworks, Oil, Gas)
- Iron manufacturing equipment
- Sluice gate, Flood gate
- Oil tank
- Water purification plant/ Dam



## Indonesia High Temperature Buried Pipeline

High temperature buried pipeline coating - Chevron





## Kuwait Shuwaikh Desalination Plant



Comparison - Atometal vs Epoxy







**Ministry of Electricity and Water**  
**Shuwaikh Power Generation & Water Desalination Station**  
**P.O. Box: 516 Safat 13006**

**January 22, 2013**

**Project: Trash Racks of Shuwaikh Desalination Plant**

**Subject: Certified Coating Work at Shuwaikh Desalination Plant**

To whom may it concern,

I am pleased to inform you that I have entrusted Certified Coating Work of B&B Corporation with trashracks at Shuwaikh Desalination Plant, Kuwait and am extremely happy with great performance of this ceramic coating material as well.

I have noticed remarkable change from their coating work and am highly satisfied overall with both antifouling coating material based on ceramic and installation. Therefore, I can guarantee that ceramic coating of B&B will save your cost.

From start to finish, I am completely gratified with not only the coating products that installed in shuwaikh, but also with B&B Corporation's commitment.

We did experience a problem with the trashrack coating for a long time but thanks to ceramic coating material of B&B, the issue was quickly resolved and we have not any problem since.

please accept this letter as my recommendation of your ceramic coating products of B&B.

As stated above, I would recommend both your ceramic products of B&B and their technology and also feel that my decision to choose B&B ceramic coating material was a choose well made.

Sincerely

**Eng. Khaled Hashem Al Saffar**

**Mechanical Superintendent, MEW**

**Eng. Khaled Hashem Al Saffar**  
**Mechanical Superintendent**

## Malaysia Offshore Structures



### Offshore jacket pile coating





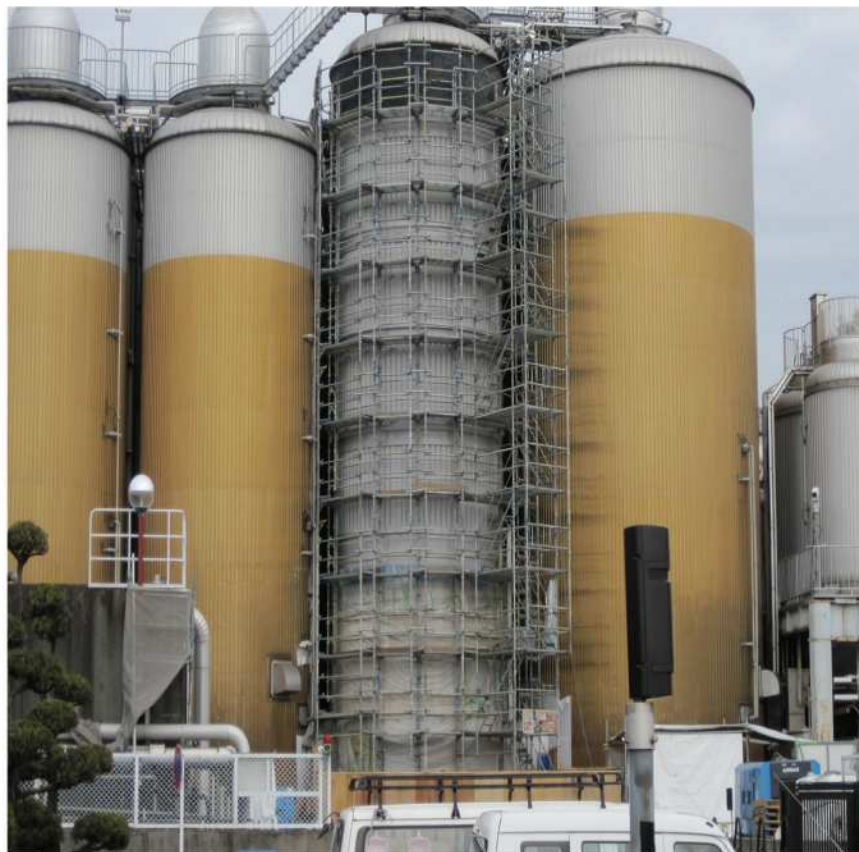
# Mexico PEMEX Refinery



Mexico PEMEX Salina Cruz refinery Maintenance work for cooling tower pipeline



## Japan (Kirin Beer Tank)



8th February 2013  
Access Co., Ltd.

### Atometal AM-C Reasult of Kirin Beer Tank Coating

Construction Company	Construction Year	Use Material	Construction Name	Construction Area	Construction Area By One Year
Access	2004	Atometal AM-C-O	Outside coating of silo	400 m <sup>2</sup> X 1 set	400 m <sup>2</sup>
Access	2005	Atometal AM-C-O	Outside coating	85 m <sup>2</sup> X 15 set	1,275 m <sup>2</sup>
Access	2006	Atometal AM-C-O	Outside coating	85 m <sup>2</sup> X 15 set	1,575 m <sup>2</sup>
Access	"	Atometal AM-C-O	Outside coating	300 m <sup>2</sup> X 1 set	
Access	2007	Atometal AM-C-O	Outside coating	285 m <sup>2</sup> X 6 set	2,910 m <sup>2</sup>
Access	"	Atometal AM-C-O	Outside coating	300 m <sup>2</sup> X 4 set	
Access	2008	Atometal AM-C-O	Outside coating	285 m <sup>2</sup> X 9 set	4,110 m <sup>2</sup>
Access	"	Atometal AM-C-O	Outside coating	300 m <sup>2</sup> X 8 set	
Access	2009	Atometal AM-C-O	Outside coating	285 m <sup>2</sup> X 4 set	2,340 m <sup>2</sup>
Access	"	Atometal AM-C-O	Outside coating	300 m <sup>2</sup> X 6 set	
Access	2010	Atometal AM-C-O	Outside coating	85 m <sup>2</sup> X 12 set	12,675 m <sup>2</sup>
Access	"	Atometal AM-C-O	Outside coating	285 m <sup>2</sup> X 3 set	
Access	"	Atometal AM-C-O	Outside coating	300 m <sup>2</sup> X 36 set	
Access	2011	Atometal AM-C-O	Outside coating	85 m <sup>2</sup> X 19 set	10,315 m <sup>2</sup>
Access	"	Atometal AM-C-O	Outside coating	200 m <sup>2</sup> X 3 set	
Access	"	Atometal AM-C-O	Outside coating	300 m <sup>2</sup> X 27 set	
Access	2012	Atometal AM-C-O	Outside coating	200 m <sup>2</sup> X 15 set	8,700 m <sup>2</sup>
Access	"	Atometal AM-C-O	Outside coating	300 m <sup>2</sup> X 19 set	
Total				203 set	44,300 m <sup>2</sup>



## Emergency Repairing kit

Registration to the Ministry of Land, Infrastructure  
Transport and Tourism  
Ceramic Repairing Material(AM-A)  
NETLS Registration No. N 240125

公共工事等における新技術活用システム登録

平成 24 年 3 月 31 日  
石川県金沢市南 3-120-4  
株式会社 アクセス  
代表者 熊谷 隆

下記の新技術について NETLS 登録が完了した旨をご報告致します。

申請登録先 国土交通省関東地方整備局

① 新技術名称 ラススタッフ1100セラミック金属補修工法  
開発会社名 株式会社 アクセス  
NETLS 登録番号 N24012511

② 新技術名称 ラススタッフ2100超硬セラミックコーティング工法  
開発会社名 株式会社 アクセス  
NETLS 登録番号 N24020611

以上



## Korea GS Caltex Offshore Platform





## Certificates & References



**TYPE APPROVAL CERTIFICATE**  
**형식승인증서**

Certificate No. : SEL03286-CR001      Date of Approval : 20th September, 1989.  
Product : Corrosion Resistant Paint  
Manufacturer : B&B Korea Co., Ltd.  
#474-2, Gasan-ei, Gasan-myeon, Pochon-si, Gyeonggi, Korea

Product Description : Brand : ATO-COATING METAL  
Kind : Ceramic coating for anti-corrosion  
• Remark : The paint shall not be applied to seawater ballast tanks of ships.

Approval Condition : 1. This approval is granted on the basis of Test report No. 11292 dated 7th September, 1989 issued by National Industrial Research Institute.  
2. The product or packing is to be marked with the manufacturer name and type designation on a suitable position.  
3. Individual Product Certification is not required.


**THIS IS TO CERTIFY** that the above-mentioned product has been approved in accordance with the relevant requirement of this Society's Rules and / or of the recognized standards as follows and entered in the "List of Approved Manufacturers and Type Approved Equipment".  
Ch. 3, Sec. 3 of the Guidance for Approval of Manufacturing Process And Type Approval, etc..

This Certificate is valid until 19th September, 2013.  
Issued at Daejeon, Korea on 24th December, 2008.

  
Lee Woon-ho  
General Manager of Materials and Equipment Team

Note 1 : The approval will be automatically suspended and the Certificate become invalid from the expiry date of the Certificate in the event that the extension has not been granted or is not under attendance for completion of the renewal survey.  
2 : The manufacturer should notify this Society of any modification or changes that may affect the validity of this Certificate.

AC-3A(2004.02)




**TYPE APPROVAL CERTIFICATE**  
**형식승인증서**

Certificate No. : SEL03286-CR002      Initial Approval : 20th May, 2009.  
Product : Anti-fouling System  
Manufacturer : B&B Korea Co., Ltd.  
#474-2, Gasan-ei, Gasan-myeon, Pochon-si, Gyeonggi, Korea

Product Description : Tributyltin (TBT)-free Self Polishing Type Paints  
• Brand : AB-C-T  
• Remark : This approval does not cover the characteristics such as anti-fouling performance, service life, or environmental properties other than regulated by the Convention.

Approval Condition : 1. This approval is granted on the basis of Test report No. K015-09-01601 dated 4th May, 2009 issued by PITT Testing & Research Institute.  
2. Individual Product Certification is not required.

**THIS IS TO CERTIFY** that the above-mentioned product has been approved in accordance with the relevant requirement of this Society's Rules and / or of the recognized standards as follows and entered in the "List of Approved Manufacturers and Type Approved Equipment".  
IMO AFS Convention 2001 and the Guidelines for Survey and Certification of Anti-fouling Systems on Ships, IMO Resolution MEPC.103(48).  
This Certificate is valid until 19th May, 2014.  
Issued at Daejeon, Korea on 20th May, 2009.

  
Lee Woon-ho  
General Manager of Materials and Equipment Team

Note 1 : The approval will be automatically suspended and the Certificate become invalid from the expiry date of the Certificate in the event that the extension has not been granted or the renewal of the Certificate is not underway.  
2 : The manufacturer should notify this Society of any modification or changes that may affect the validity of this Certificate.

AC-3A(2004.02)



**CERTIFICATE OF APPROVAL**

Certificate No. A 0561

AWARDED TO  
**B&B CORP.**

Head Office : #474-2, Gasan-ei, Gasan-myeon, Pochon-si, Gyeonggi-do, Republic of Korea

Korean Register of Shipping hereby certifies that the Quality Management System of the above organization has been audited and found to be in compliance with the requirements of the quality management system standards and scope of certification detailed below.

QUALITY MANAGEMENT SYSTEM STANDARDS  
**KS Q ISO 9001:2009 ISO 9001:2008 EN ISO 9001:2008**

SCOPE OF CERTIFICATION  
Design, Development, Production and Servicing of  
Ato-Ceramic Coating, Ato-Ceramic and  
Agreen(Environmental Paint)

Locations : HEAD OFFICE  
Auditor : J. S. Na, J. H. Park, Y. H. Woo      Initial Audit Date : 21 Dec. 2008

Subject to the continued satisfactory operation of the organization's Quality Management System, this certificate is valid from 21 Dec. 2011 to 20 Dec. 2014.

Date of Issue : 23 Dec. 2011

  
  
  
Korean Register of Shipping  
MEMBER OF INTERNATIONAL ASSOCIATION OF CLASSIFICATION SOCIETIES

• The KAS Accreditation Mark indicates that the certification body has been accredited by Korea Accreditation Board(KAB-KO-05)  
• KR : 50 Gaseonghwa-ro, 22-7, Jang-dong, Yuseong-gu, Daejeon, Korea / Tel : 042-809-0114, Fax : 042-802-0308



**CERTIFICATE OF APPROVAL**

Certificate No. B 0047

AWARDED TO  
**B&B CORP.**

Head Office : #474-2, Gasan-ei, Gasan-myeon, Pochon-si, Gyeonggi-do, Republic of Korea

Korean Register of Shipping hereby certifies that the Environmental Management System of the above organization has been assessed and found to be in compliance with the requirements of the environmental management system standards and scope of certification detailed below.

ENVIRONMENTAL MANAGEMENT SYSTEM STANDARDS  
**KS 1 ISO 14001 : 2009 ISO 14001 : 2004**

SCOPE OF CERTIFICATION  
Design, Development, Production and Servicing of  
Ato-Ceramic Coating, Ato-Ceramic and  
Agreen(Environmental Paint)

Locations : HEAD OFFICE  
Auditor : J. S. Na, J. H. Park, Y. H. Woo      Initial Audit Date : 21 Dec. 2008

Subject to the continued operation of the organization's Environmental Management System, with satisfaction this certificate is valid from 21 Dec. 2011 to 20 Dec. 2014.

Date of Issue : 23 Dec. 2011

  
  
  
Korean Register of Shipping  
MEMBER OF INTERNATIONAL ASSOCIATION OF CLASSIFICATION SOCIETIES

• The above Accreditation Mark symbol that this certification body was accredited by Korea Accreditation Board(KAB-KO-10)  
• KR : 50 Gaseonghwa-ro, 22-7, Jang-dong, Yuseong-gu, Daejeon, Korea / Tel : 042-809-0114, Fax : 042-802-0308

## Certificates & References

Q/CNPC - GD

中国石油天然气管道局企业标准

Q/CNPC-GD 0228 - 2000

---

钢质管道常温固化型陶瓷外防腐层  
技术规范

2000 - 02 - 25 发布                      2000 - 05 - 01 实施

中国石油天然气管道局    发布

关于对韩国 ATOMETAL “爱涂” 超陶防腐涂料  
在陕京输气管道应用情况评价

1997 年建成的“陕甘宁气田-北京天然气输送工程”部分站场埋地管线上应用了韩国爱涂防水防腐株式会社生产的 ATOMETAL “爱涂”超陶防腐涂料。2006 年经我公司开挖检验，防腐效果良好，未见腐蚀。证明该种材料在标准施工条件下具有长效的防腐性能。

北京华油天然气有限责任公司管道维护分公司

2007 年 07 月 06 日


  
 卫生部认定涉及饮用水卫生安全性产品检测机构  
 (认定日期: 2003 年 3 月)

中国疾病预防控制中心  
 环境与健康相关产品安全所  
 Institute for Environmental Health and Related Product Safety  
 Chinese Center for Disease Control and Prevention

检 验 报 告

样品受理编号 2005SJ0026

样 品 名 称 爱涂牌常温固化型超陶防腐涂料 AM-C

送 检 单 位 韩国爱涂防水防腐株式会社北京代表处

2006 年 7 月 14 日

中华人民共和国卫生部  
 进口涉及饮用水卫生安全产品卫生许可批件

产品名称	中文	爱涂牌常温固化型超陶防腐涂料 AM-C
	英文	ATOMETAL (ATO CERAMIC COATING) AM-C
产品类别	防护材料	
生产企业	中文	韩国爱涂防水防腐株式会社
	英文	B&B KOREA CO., LTD.
生产国 (地区)	韩国	地址 京畿道抱川市加山面加山里474-2
审批结论	经审核，该产品符合《生活饮用水卫生监督管理办法》的有关规定，现予批准。	
批准文号	卫水进字(2006)第0014号	
批准日期	2006年08月09日	
批件有效期	截至 2010年08月08日	
附件	产品说明、主要成分或部件、使用范围和注意事项	
主送单位	韩国爱涂防水防腐株式会社北京代表处	

中华人民共和国卫生部



February 9, 2007

**CORROSION CONTROL CONSULTANTS AND LABS, INC.**

Dr. Shin, Hyun Gwan  
President  
B&B Korea  
474-2 Gasan-ri  
Gasan-myeon  
Pohcheon-si  
Gyeonggi-do  
KOREA

**STATEMENT OF EXPERT OPINION**

I am pleased to provide my expert opinions concerning the Atometal line of coatings formulated and manufactured by B&B Korea.

I visited South Korea during the week of January 22, 2007. During my visit, I toured your manufacturing facility, met with your technical staff, and visited a number of sites at which Atometal coatings had been applied. These sites included pier structures at Incheon, flood control gates at Bu'an, and new highway bridges near Incheon International airport. In all cases, the Atometal coating systems are performing well in very aggressive environments.

In my expert opinion, the Atometal line of coating materials is unique in the coatings industry. The combination of a robust resin system with high-grade ceramic pigments has resulted in a line of coating systems which are both durable and highly corrosive resistant. I look forward to the introduction of the Atometal line of coatings to the US market so that facility owners in the US can avail themselves of the benefits of Atometal coatings.

*Jon R. Cavallo*  
Jon R. Cavallo, PE, PCS  
Vice President

PO. BOX 226 • ELIOT, ME 03903 • 603-431-1919 • FAX: 603-431-2540 • WEB SITE: www.cccolabs.com

**Lloyd's Register** **CERTIFIED COPY**

Project: Ceramic Coating AM-C Certificate Number: SEO 9811142  
Client: Kyung Heung Industry Co. Office: Seoul  
Client's Order Number: None Date: 2 July 1998  
Inspection Dates: First: and Final: 10/05/98  
Order Status: Complete

*This certificate is issued to the Messrs, Kyung Heung Ind. CO., Ltd., Pohcheon, Kyongki-Do, to certify that the undersigned Surveyor to this Society did attend at the building site, Yang Ju, Kyongki-Do on the above date for the purpose of examining and witnessing tests for the undermentioned ceramic coating.*

**Corrosion Control Coating**

Trade Name	: AM - C
Type of Coating	: Silicate
Applicability	: Refined Spirits, Crude Oil, Sea Water
Surface Preparation	: Blast cleaned ISO 8501-1, Sa 2½
Number of Coat	: 3 Coats x 60 Microns
Dry Film Thickness	: 180 Microns

The coated steel pile (406 mm O.D.) was vertically hammered in to the earth up to 7.3 Metre deep with 82 times impact by means of 7 Tons hammer.  
On completion of hammering, coating condition has been examined visually and tested by using of pin hole tester. No recordable defects found from the surface of coating.  
The coated steel pipe (45 mm O.D.) was vertically hammered 20 times by using of 5 Kg Hammer. No recordable defects found from the surface of coating.  
The coated steel plate (300 x 200 x 12 mm) was hammered 20 times by using of 5 Kg Hammer. No recordable defects found from the surface of coating.  
From the results of the above tests, it is considered that the above ceramic coating is mechanically suitable for corrosion control of general steel structure.  
However, it is recommended that, in order to achieve final recognition, chemical & environmental test to be performed additionally.

*C. Y. Bang*  
Surveyor to Lloyd's Register

**NOTICE: This certificate is subject to the terms and conditions overleaf, which form part of this certificate.**  
Lloyd's Register of Shipping, registered office: 21 Fenchurch Street, London EC3A 4BS

**PT. NUKOTE INDONESIA**  
NUKOTE COATING SYSTEM

May 29th, 2010

**Product Statement**

This is to certify that PT. Nukote Indonesia are using, Atometal AM-C-4, for the external pipe coating of High Temperature Buried Pipeline, under the contract, C883033-OK, between PT. Nukote Indonesia & PT. Chevron Pacific Indonesia, effective date 17th March 2010.

Atometal AM-C-4, was chosen as the Qualified product after PT Chevron Pacific Indonesia had send the trial sample to intensive testing via 3rd party independent laboratory. As such, we do not have access to the result of the testing, and, was informed only as the only qualified product from the three manufacturers' product submitted.

Please refer to the attached contract for verification.

If there are any questions or concerns, please contact me for clarifications.

Thank you,

*John Tan*  
John Tan - *Marketing Director*  
PT Nukote Indonesia  
Jl. Batu Ceper No. 53  
Jakarta 10120  
Tel: (021) 385 2466  
Fax: (021) 385 3035  
Mobile: 0818-919-605

*Please consider the environment before printing this document*

www.nukote-indonesia.com | info@nukote-indonesia.com

Certificate No. : 2007-58

**Certificate of Reliability**

Product : Heavy Duty Coatings  
- Category/Purpose : Heavy Duty Coatings for Steel Structure  
- Class : Product Life 15 years (B<sub>10</sub>, C.L. 80%)

Company : B&B  
Representative : Hyun-Kwan, Shin  
474-2, Gasan - Ri Gasan - Myeon, Pohcheon - Si, Gyeonggi-Do  
Assessment Standard : RS M 0008

This is to certify that the above mentioned product has been recognized as reliable product in accordance with the clause 1 Article 25 of the Act on Special Measures for the Promotion of Specialized Enterprise for Components and Materials and the clause 3 Article 17 of the enforcement regulation of the Act.

March 20, 2007

*Kapung Cho*  
Administrator

**ATS** Agency for Technology and Standards  
Ministry of Commerce, Industry & Energy  
Republic of Korea



Corrosion Control System

# BNB

**BNB Head Office.**

474-2, Gasan-Ri, Gasan-Myun, Pocheon-Si, Kyunggi-Do, Korea  
(Zip code : 487-811)

Tel : +82 31 543 2223, Fax : +82 31 543 2240

