



Society for Surface Protective Coatings India



Dear Friends

I hope you are managing with difficult times since March 20. We all hope for the best after the lockdown relaxation date but then we find the restrictions are still there along with additional precautions. All of us know we can go on doing business provided we remain fit and the fitness formula is mask and distancing. And doing business is not easy with these restrictions. But then all of us must be doing something. Use of virtual conferencing, meetings webinars have become very common. I myself gave two lectures on Webinar, three board meetings and one big show of Inauguration of a CGR Plant in Punjab where I gave a technical lecture. I hope all of you must be utilizing these facilities from your homes. We started SSPC office and SECC Lab three weeks ago and are regularly working on that. Several reports were pending and several new requests were pouring in. We are taking utmost precautions to run the lab.

Last week I thought of communicating with all members and I thought the best way was to revive the News Letter and make it only E-Newsletter. We had some activities done in January to March and some being planned for September October. Many requests came to organize a webinar Course on Paint coating inspection & Quality Control Level 1, but the problem is practical part cannot be done on webinar. But we are planning to do this month a Crash Course on Paint Coating Inspection. Soon we will announce that.

On discussion with several industry contacts, we heard that the business is in the process of picking up but still no where near to normal situation, which I think may take still more time. Till then please keep sending us your struggle story or success story and may be you can share some new experience with us which can be part of SSPC News letter.

Thanks be safe, use mask and follow social distancing rule and be calm and cheerful.

Prof. A.S. Khanna
Chairman - SSPC India

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Prof. A.S. Khanna
Retd. IIT Bombay

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Advance Paints Pvt. Ltd.



The Society for Surface Protective Coatings, India

UG -26, Dreams The Malls, LBS Marg, Bhandup (W), Mumbai-400078

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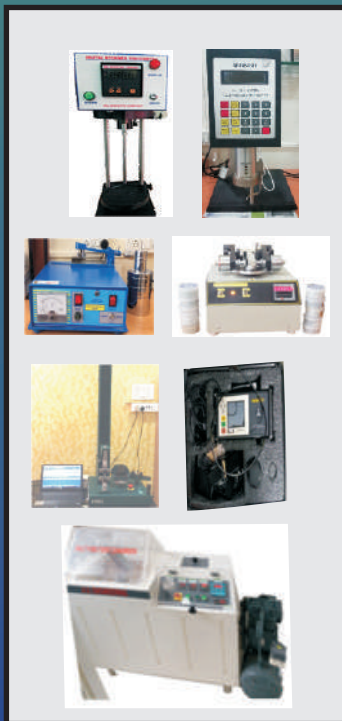


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New Organizing Committee Member of SSPC INDIA

During AGM Meeting of SSPC India Held at the Acres Club, Chembur on April 21st, 2017, new organizing committee have been formulated keeping members from industries in balanced manner.

The Name of the new organizing committee members are

Chairman

Prof. A.S.Khanna	<i>Retired IIT Bombay</i>
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Vice Chairman

Mr. Amrit Rekhi Mr. S. Ravichandran Mr. K.G.K. Moorthy Mr. Dharendra Singh	<i>Kansai Nerolac Paints Ltd</i> <i>Berger Paints India Ltd.</i> <i>SSPC Southern India</i> <i>Akzo Nobel India Ltd.</i>
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Hon. Secretary

Mr. Neerav Thacker	<i>Unique Speciality Chemicals</i>
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Hon. Treasurer

Mr. K.J. Aiyangar	<i>Advance Paints Pvt. Ltd.</i>
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Members

Mr. N.H. Jani Mr. H.S. Shankar Mr. Sanjay Chowdhury Mr. Ishan Raveshia Mr. Santosh Kumar Mr. Hemant Moghe Mr. Sujit Sinha Mr. S. Mahadevan Mr. Vijay Bhamburkar Mr. Manoj Patil Mr. Rahul Sharma Mr. Gokul Sutradhar	<i>Ajanta Surface Treatment Pvt. Ltd.</i> <i>Clean Coats P. Ltd.</i> <i>Shalimar Paints Ltd.</i> <i>Voxco Pigments and Chemicals Pvt.Ltd.</i> <i>OCS Services (I) Pvt. Ltd.</i> <i>Kansai Nerolac Paints Ltd.</i> <i>Grauer & Weil (India) Ltd.</i> <i>Metcon Coatings & Chemicals (I) Pvt.Ltd.</i> <i>Shivshakti Paints</i> <i>Demech Chemical Products Pvt. Ltd.</i> <i>Director-India, International Zinc Association</i> <i>Shalimar Paints Ltd.</i>
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2nd Int. conference on "Protective Coatings & Surface Treatment" held on November 18-19, 2019 at Holiday Inn., Mayur Vihar, New Delhi

2nd Int. conference on "Protective Coatings & Surface Treatment" held on November 18-19, 2019 at Holiday Inn., Mayur Vihar, New Delhi. Along with the conference, there was also a Paint Expo. More than 110 delegates, including 20 students, registered for this twin event. The Technical program consisted of three Keynote talks which followed 6 Technical Sessions. The topics of various session were: Functional Coatings and Smart Coatings, Advanced Industrial Coatings Mechanism, Corrosion Protection by Coatings in Oil and Gas-Offshore Structures and underground Pipelines, Graphene & Carbon Based Coatings, Surface Engineering-CVD/PVD and Laser Surface Modifications & Corrosion Protection in Ships and Naval Applications. Paint Expo had more than 10 stalls, represented by various paint manufacturing companies, companies dealing with raw materials, paint equipment manufacturer and dealers, new functional coatings etc.

The event was sponsored by Grauer & Weil (India) Limited as Gold Sponsor & Dow Chemical as Session Sponsor.

The program started with an opening remark by K. J. Aiyangar, Honorary Treasurer of SSPC India followed by Welcome address by Prof. A.S.Khanna, Chairman, SSPC India.



AWARD CEREMONY

Ask Endowment fund Awards for the Best Ph. D Work



Ms. Eva Krakor, Research group, Institute of Inorganic Chemistry, University of Cologne, Germany



Mr. M. Shiva Prasad, (CSEM), International Advanced Research Centre for Powder Metallurgy and New Materials (ARCI).



Dr. Sandhaya Kumari, CSIR-IMMT, Bhubaneswar, Odisha.



Mr. Mahesh Aradhye, Grauer & Weil (India) Ltd., Mumbai



Group Photo

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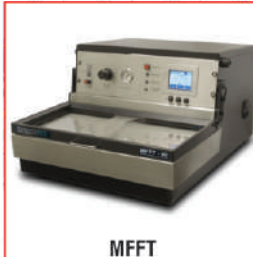
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Four Days Certification Course on Paint Coating Inspection & Quality Control, on February 05 – 08, 2020 (Level-1 & 2) at Bhandup

The Last Training program on “Paint Coating Inspection & Quality Control” Level 1&2 was held on Feb. 05-08, 2020 at Bhandup.

About 12 Participants attend from the following organizations.

Sr. No	Company Name	Number of Participants
1	Hindalco Industries Limited	1
2	Phenix Construction Technologies	2
3	Kirloskar CorroCoat Pvt Ltd	1
4	Sumangalam Formulations Pvt. Ltd.	2
5	Bombay Chemical Equipments	1
6	JSM Enterprises	2
7	International Certification Services	1
9	Self	2



Lecture by Mr. Santosh Kumar



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Certificate Course
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Certificate distribution by
Prof. A. S. Khanna



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Visit us PAINTINDIA 2020 12-14 March 2020, Mumbai Hall 3 Stall U2

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4 Day Certification Course on Paint Coating Inspection & Quality Control

SCOPE

With thousands of paint formulations, available from various manufacturers, and a lots of new sophisticated Techniques of paints application and surface preparation, paint coating has become a science and art, and every

Person, whether he is a user, supervisor, applicator, supplier or manufacturer needs a proper knowledge in order to get maximum life out of a particular paint formation. Further, paint testing has become necessary both at the pre-qualification stage, during the application and even after the paint has been applied for periodic assessment of its life. Since a large number of paint suppliers, users, supervisors do not have a formal education on paint coatings, education and training through these courses has become necessary to take best out of paint coating.

What information you require?

Theoretical Knowledge

Level 1 Course

1. Fundamental knowledge of Corrosion
2. Basic of paint coatings and chemistry of various kinds of paints, resins, and formulations, their relation to corrosion protection.
3. Conventional and advanced coating systems.
4. Surface preparation methods with latest standards and specification.
5. Paint Application techniques and best application practice mantras.
6. Reasons for Paint Failure and its Mechanism.
7. Paint repair and rehabilitation – maintenance Coatings.
8. How to write paint specifications.
9. Safety aspects in paint coating application.

Level 2 Course

1. Integrity Management & Coatings for Underground Pipelines
2. Coatings for concrete structures
3. Corrosion Problems in Chemical Industries
4. Coatings for Offshore structures, refineries & Chemical Plants

Practical Training

1. **Surface preparation** – Each participant will be asked to carry out surface preparation using blast cleaning Method, asses its cleanliness as per NACE/SSPC/Swedish Standards and also measure its surface profile.

2. **Paint Application** - Various methods of paint application ranging from brush, roller, air-spray, and airless spray will be demonstrated and each applicant will be asked to prepare his own sample.

Paint testing – Divided into following three categories:

1. Paint Characterization - % Volume solid, total non volatile component, density, viscosity, drying time, surface coverage, paint wastage calculations etc.
2. Mechanical Testing – Adhesion, Pull off Strength, impact, abrasion, scratch, flexibility, hardness test etc.
3. Chemical Resistance – Salt spray, humidity, weathering and immersion tests.
4. Miscellaneous Test – Cathodic Disbondment, moisture/water permeability, high and low temperature resistance.

WHO SHOULD ATTEND

This programme is designed for persons interested in broadening their theoretical and practical knowledge about Coating and Linings, including Manufacturers, Plant Maintenance personnel, Engineers, applicators, Contractors, Architects and sales & marketing personnel's.

WHAT YOU WILL TAKE HOME

Lecture notes in bound volume, list of recommended practices for coating and linings, literature for various coatings and list of important books and technical papers on coatings. Information on the available coating from some manufactures in the country and abroad.

COURSE FEE

Rs. 25,000/+. 18% GST for Level 1

Rs. 28,000/+. 18% GST for Level 1 & 2

REGISTRATION

Please send the duly filled registration form along with the **Cheque /Draft in favor of "SSPC India"** at least 1 month in advance. Cancellation in genuine cases will be allowed with 50% refund. There are limited seats (50) and would be allotted on the first come first basis.



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Tel: 022-21661249, 49792544, Mobile No. 08655365058

EMAIL: sspcindia1@gmail.com, Website: www.sspcindia.org



Second Edition of Prof. A S Khanna Endowment Fund Award for Excellence in Surface Engineering & Corrosion Protection



Last date for application September 15, 2020

After successful organization of first edition enclosed please find details of awards for the second edition

Annual Awards for the Best Lectures on (1) Surface Engineering & (2) Corrosion (New research, process or Technology)



Rs. 1,00,000 each

Application Fee :Rs. 5000/-

The award will be given to an individual from R&D establishment, educational Institute or Industry who has :

1. Developed a new process or modification of existing process for surface modification/Corrosion protection.
2. A new characterisation technique for Surface evaluation/Corrosion measurement or modification of an existing surface technique.
3. A new research paper which can highlight any of the above or provide substantial modification in the existing technique or methodology.
4. New corrosion free material, new surface coating, a new developments in health monitoring or new industrial application.

Best Award to Teaching Faculty in Corrosion & Surface Engineering

The Aim of this Award is to see how much effort the faculty is taking to teach corrosion & Surface Engineering. He has to submit

1. Course Details
2. Methodology of Teaching
3. Style and
4. How he checks whether student have understood or not.



Rs. 51,000/- each

Application Fee :Rs. 3000/-

Four Best Ph. D Awards –

The aim of this award is to encourage and motivate research by young Ph.D's. The award will be given on the following basis:

1. The research output of first 2 years.
2. Final product, its immediate application in industry or on day to day utility or an extra ordinary new invention which has a wider scope.



Rs. 25000/- each

Application Fee :Rs. 2000/-

Four Best M.Tech / M.S. Awards –

The aim of the award is to encourage the work by a young Master student who has created new invention or a new product of immediate use to industry or common man.



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Two Awards for Young Scientists from Research Institutes/Industrial Research Houses-

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- Each Award has a specific application fees for administrative expenses which should be paid by Bank transfer along with the online application.
- Intimation to the scrutinised applicants will be given at the end of April
- The scrutinised application will be forwarded to Selection Committee for finalisation of Nominee for specific Awards in each Category.
- Intimation to Nominees for the final Award ceremony will be given by the end of July and the selected nominee shall be required to present for the Award Ceremony which will be held on September 15 2019.
- The nominated candidate has to take care of his travel and stay while attending the Award ceremony function.

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The Corrosion of Fire-fighting Lines & Sprinkles

Prof. A. S. Khanna, Retd. IIT Bombay

I am reporting here a brief case history of corrosion problems in multi-storey fire-fighting line in Delhi. It has been revealed that chemistry of water, oxygen level and water stagnancy which leads to microbiological corrosion is the main reason for this failure. One of the solution for such fire fighting lines is to reduce oxygen by purging nitrogen, or add biocides and corrosion inhibitors. Dynamic motion due to periodic running of pump is rather important factor.

Introduction

Fire fighting lines and sprinkles is a network of water lines in all multi-storey buildings which are used in case of fire and supply water to sprinklers. These lines are different from standard water flowing lines in the buildings which supply drinking or flush waters to houses kitchen areas etc., as this water is mostly stagnant compared to almost running water in other water supply lines. Stagnancy of water is the main reason for the leakage due to localized corrosion, initiated by micro-biological corrosion thru' the deposits at usually 6 O'clock positions in the pipelines.

The factors responsible for such corrosion depend upon several factors, important being:

1. Source of water and its treatment if being carried out.
2. How frequently the water is put under flowing conditions.
3. Any treatment to the flowing lines such as use of inhibitors or biocides or purging of inert gases.

To illustrate this I am presenting a case history of a building in Delhi :

Failure Analysis of the leaking pipe

Quality of water flowing in the fire fighting lines is very important. One has to analyse, pH, Chloride level, and TDS.

The failure analysis reveals very important information. The report shows the steel was of right composition with right mechanical properties and microstructure and the level of chlorides and TDS was

also right. Still many leakages were seen. The salient feature of the report was thick deposits on the internal wall of the pipe as shown below (Fig. 1):.

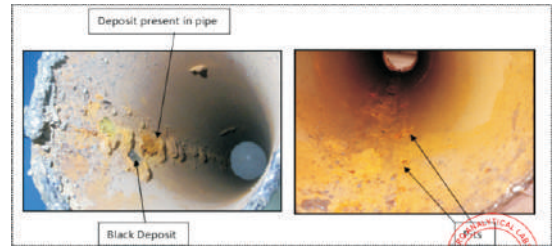


Fig. 1 showing deposits on the inner wall surface of fire fighting pipelines

Analysis of the deposits shown in the table 1, below confirms again a little role of chlorides in causing leakage but presence of 0.56% of S confirms the leakage occurring due to microbiological induced corrosion (MIC). The MIC has been initiated by sulphate reducing bacteria (SRB). As can be seen from the water analysis (Table 2) of the pipe, there is more than 22 mg/l of sulphate which on reduction by SRB produces 0.56% of S which in turn reacts with Fe in steel forming FeS thereby thinning the steel, leading to pin hole formation & leakage.

Table 1 – EDAX Analysis of the Deposits
EDX RESULTS:

Element	C	O	Fe	Si	S	Cl	Zn	Ca
Atomic %	1.20	58.05	35.26	1.04	0.56	0.04	2.82	1.03

Table 2 Water parameters of

Parameter	Observation
pH	7.81
Chloride Test	30.62 mg/l
Sulphate	22.34 mg/l
Hardness	200 mg/l

Thus this detailed failure analysis shows a strong role of microbiological corrosion leading to leakage. Now the question is how MIC takes place and where from so thick deposits are formed. There are two reasons for:

1. The deposits can form because of TDS in water.
2. Stagnancy of water leads to SRB formation.

Following schematic(Fig. 2) illustrates how MIC takes place

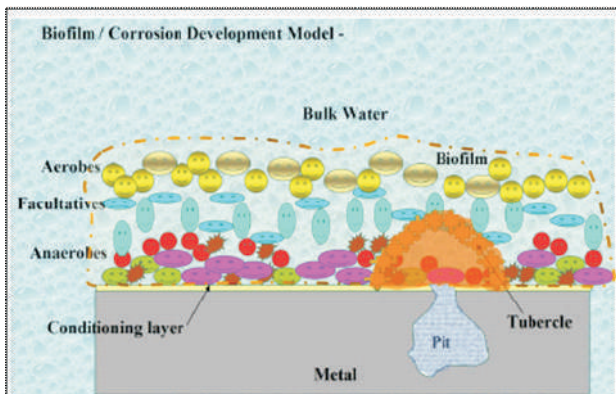
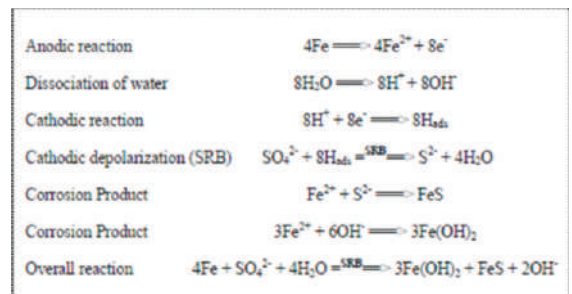


Fig.2 illustration of MIC Corrosion on Pipe [1]

This is related to deposits formed which initially have enough oxygen and appear to cause corrosion which depends upon the chemistry of water and flow via electrochemical reactions. Factors like dissolved oxygen in the water, chlorides, sulphates ions, stagnant water and dead end branch lines provide conducive environment to non-MIC corrosion. Many leakages which generally take may be due to this reason (Fig. 3). But can be noted that stagnancy and dead end branch lines could also provide quiescent environment for microbiological corrosion.

Fig. 3 Schematic illustration of corrosion occurring thru' non-MIC deposits (A) outer crust, (B) Inner shell, (C) Core material (D) Fluid filled cavity and (E) corroded wall pipe surface[1]

The inner core area after long time becomes devoid of oxygen and SRB bacteria present react with sulphates and form sulphides and directly react with steel to thin the wall of the pipe. The reactions taking place in various sections leading the MIC are given in report [1] and are summarized below :



Conclusions and Recommendations

Thus it is clear that the leakages in the fire fighting lines are due to water chemistry, stagnancy and MIC. Remedial measures in many chemical industry plants and refiners lines is to start the pump ever fortnightly with the introduction of inhibitors and biocides. For such pipelines the source of water is a nearby pond or water reservoir where all the active bacteria etc are thrown out from the pipelines and fresh inhibits and biocides take care of corrosion problems. In closed loop fire fighting lines, the solution given is to reduce oxygen in the water by purging it with nitrogen gas(Fig. 4). Methodology of nitrogen purging and details required are given in the attached reports [1.2]. That can be looked into and fire fighting lines can be made corrosion free.

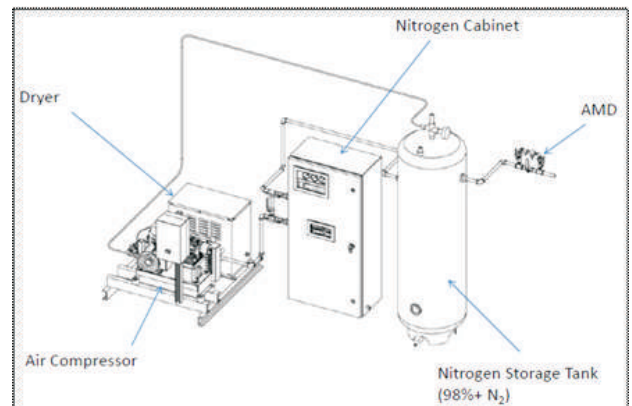
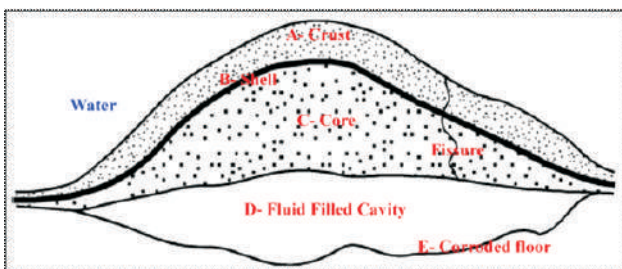


Fig. 4 Nitrogen Generation Plant

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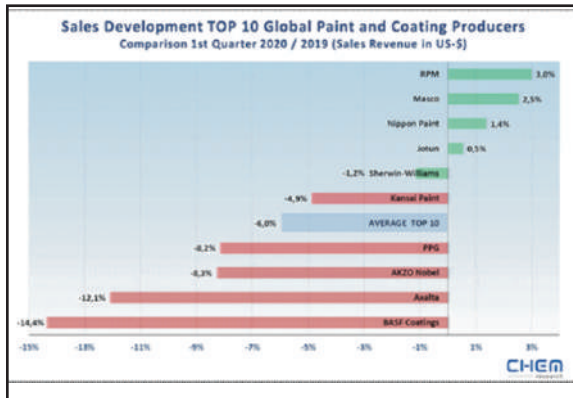
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NEWS

Paint, Coatings Industry Records Losses Worldwide in 1Q 2020



In the first quarter of 2020, sales of decorative paints declined three percent from the previous year's level, while sales of industrial coatings were down about eight percent year-on-year.

For the second quarter of 2020, a sharp sales drop of up to 35 percent is expected, especially in the industrial coatings segment, as production volumes in the key automotive and metal processing market segments will have fallen drastically.

The individual companies are showing different growth trends, which is due to their segment and regional mix or acquisition activities. The companies with a high proportion of automotive OEM finishes and industrial coatings in their product portfolio show more negative development.

With sales of approximately \$60 billion in 2019, the top 10 global companies hold a share of about 45 percent of the global market for paints and coatings.

Source : <https://www.coatingsworld.com>,
June 08, 2020

Researchers: Metallic Coatings Could Slow Virus

Research out of Montreal's Concordia University is looking into antiviral metallic and ceramic coatings as a way to slow the transmission of COVID-19.

The Surface Engineering for Advanced Manufacturing (Green-SEAM) Network, which is based at Concordia, is putting its team to work to see how its resources can be applied to the pandemic.

The Research

"Copper and titanium oxide, we know, are active in killing bacteria and viruses, so they are effective materials to spray on surfaces to fight the spread of COVID-19," said Christian Moreau, Director of Green-SEAM and Canada Research Chair in Surface Engineering.

"We have a unique network of experts in surface engineering from 11 universities across Canada, 14 industrial companies and government laboratories including the National Research Council who specialize in coating materials."

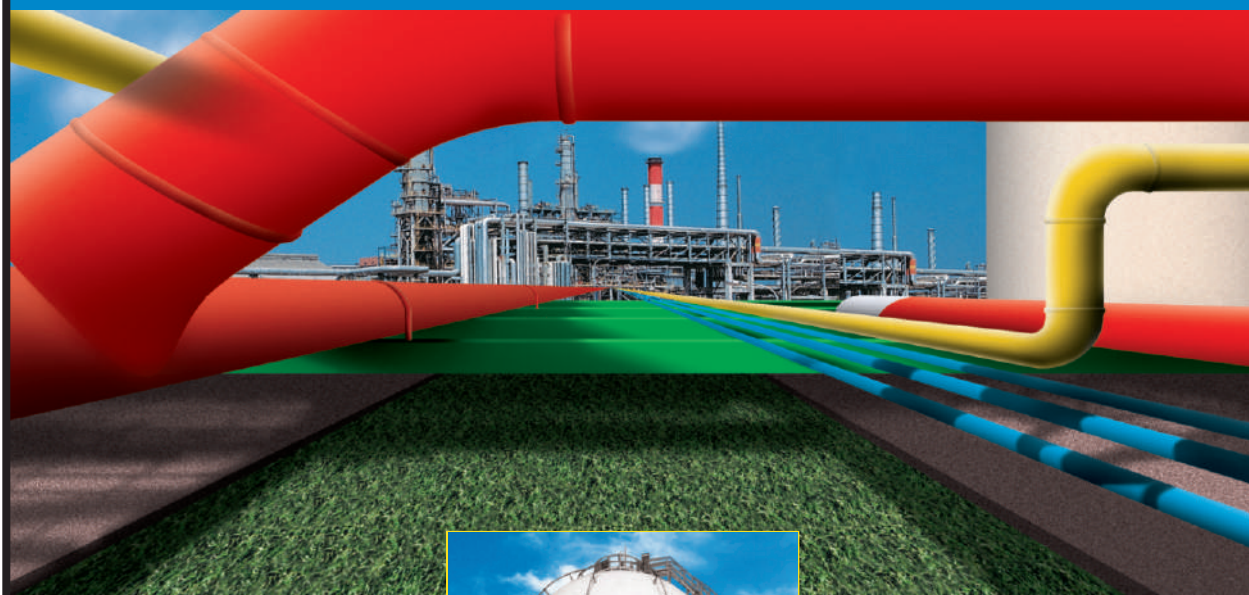
Green-SEAM was reportedly established three years ago as a Natural Sciences and Engineering Research Council of Canada Strategic Network to integrate Canada's surface engineering leaders. Recent work at the University of Toronto by professor and Green-SEAM member Javad Mosthaghimi has demonstrated the benefit of the copper coatings on hospital waiting-room chair armrests, according to the university.

And, for the past five years, experts at Concordia's Gina Cody School have been tailoring the structure of titanium oxide coatings to optimize their photocatalytic and filtration properties that can now be deployed for their antibacterial and antiviral capabilities.

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NEWS

technologies that ensure environmentally responsible practices and solutions by the entire Canadian coating and surface engineering community—a community that can contribute its skillset to help flatten the curve,” said Moreau.

“Our principle focus is on student researchers supervised by university, industry and government experts to prepare the next generation of surface engineers and scientists to incorporate 'green thinking' throughout their careers.”

*Source : <https://www.paintsquare.com>,
June 22, 2020*

Scientists Develop Anti-Coronavirus Surface Coating

Researchers from the Ben-Gurion University of the Negev, in Israel, recently announced that they are developing a novel surface coating that aims to “contain nanoparticles of safe metal ions and polymers with anti-viral and anti-microbial activity,” a route in combating the COVID-19 pandemic.

Angel Porgador, from the Department of Microbiology, Immunology and Genetics at Ben-Gurion University and the National Institute of Biotechnology in the Negev, and Mark Schwartzman, the Department of Materials Engineering at BGU, along with PhD students Yariv Greenshpan and Esti Toledo, and postdoc Guillaume Le Saux, participated in research that assessed the effect of surfaces coated with nanoparticles of various metals on the infectivity of lentiviruses, which belong to the HIV family, in human cells.

The researchers note that certain metals that aren't poisonous to humans can be lethal to viruses and bacteria and, according to reports, the findings showed that surfaces coated with copper

nanoparticles “strongly blocked infection of the cells by the virus.”

Based on the findings, the researchers are developing an anti-viral coating that can be painted or sprayed onto surfaces.

“The nanoparticles embedded in the polymer will enable controlled release of metal ions onto the coated surface,” according to the University.

“Studies show that these ions have a strong anti-viral effect, which can eradicate virus particles that adhere to the surface. Because the release of ions is extremely slow, the coating can be effective for a long period of time—weeks and even months, and it will reduce the infectivity of the virus particles by more than 10-fold.”

“The need to develop anti-viral coatings has greatly increased recently, with the SARS-CoV-2 outbreak, and this need will likely remain high even after the pandemic ends, due to increased awareness,” said Josh Peleg, CEO of BGN Technologies, the technology transfer company of BGU.

“In addition, the product will be efficient as a general anti-viral and anti-bacterial coating. It can be applicable for medical settings, as an anti-pathogenic substance in places with increased risk of contamination, such as hospitals, but also for home use, and in public spaces such as schools, airports, public transportation and cinemas. We see a widespread and multidisciplinary academic commitment for finding solutions to currently medical and financial challenges as well as to the challenge of returning to normalcy once the pandemic wanes.”

The research has received support from the Israel Innovation Authority, which issued a call for proposals for coping with the coronavirus.

*Source : <https://www.paintsquare.com>,
May 28, 2020*

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CALENDAR OF EVENTS AND EXHIBITION IN 2020 - 21

Date	Event	Venue	Organizer	Contact Details
August 6 - 8, 2020	SURFACE & COATING EXPO 2020	Chennai Trade Centre, Chennai, India	Confederation of Indian Industry	T : 044-42444555 E : surface.coating@cil.in W: ciisce.in
August 26 - 28, 2020	COAT INDIA 2020	Pragati Maidan, New Delhi, India	ACE Exhibition	T : 011-40204421, 49538601 E : events1@expopaintcoatings.com W: coatindia.in
October 12-15, 2020	PAINTEXPO	Karlsruhe, Germany	FairFair GmbH	T : +49(0)702260251510 E : info@paintexpo.de W: paintexpo.de
October 27-29, 2020	SURFACE TECHNOLOGY GERMANY 2020	Stuttgart, Germany	Deutsche Messe	T : 022-62672119 E : yash.panchal@hmf-india.com W: surface-technology- germany.de/en
October 27 - 29, 2020	PARTS2CLEAN	Exhibition Centre Stuttgart, Germany	Deutsche Messe AG	W: parts2clean.com
November 11 - 13, 2020	COATING EXPO VIETNAM 2020	Saigon Exhibition & Convention Centre, Ho Chi Minh City, Vietnam	VEAS Co. Ltd.	W: coating-vietnam.com
February 12-13, 2021	INDIA CORROSIN 2020	Nehru Centre, Mumbai	Corrosion Ind Expo LLP	T : 8850900377, 9667317805 E : contact@indiacorrision.com W: indiacorrosion.com
February 24-27, 2021	CHEMTECH WORLD EXPO 2021	Bombay Exhibition Centre, Goregaon (E), Mumbai	Chemtech Foundation	T:022-40373737 E:sudhanshu_nagar@jasubhai.com W: chemtech-online.com
March 8 - 10, 2021	SURFACE FINISHING MEXICO 2021	Queretaro Conference Center, Mexico		E: expo@amas.org T: (828) 429-2618, +521 667
March 23 - 25, 2021	EUROPEAN COATINGS SHOW 2021	Exhibition Centre, Nuremberg, Germany		T: +49 9 11 86 06-82 85 W: european-coatings-show.com
April 18-22, 2021	CORROSION CONFERENCE & EXPO- 2021	Salt Lake City, UT	NACE International	T: E: W: nacecorrosion.org

CALENDAR OF EVENTS AND EXHIBITION IN 2020 - 21

Date	Event	Venue	Organizer	Contact Details
May 17 - 19, 2021	EASTERN COATINGS SHOW 2021	Harrah's Resort, Atlantic City, NJ		W: easterncoatingsshow.com
May 18 - 19, 2021	ASIA COATINGS CONGRESS 2021	Windsor Plaza Hotel, Ho Chi Minh City, Vietnam		T: +44 (0) 1737 855 037 E: keyueli@dmgevents.com W: coatings-group.com
June 10-12, 2021	PAINT EXPO EURASIA	Istanbul Expo Centre, Turkey	Artkim	T: E: sales@artkim.com.tr W: artkim.com.tr
June 15-17, 2021	MIDDLE EAST COATINGS SHOW 2021	World Trade Centre, Dubai, UAE	DMG Events	T: E: coatingsgroup@dmgevents.com W: coatingsgroup.com
September 27 - 28, 2021	EGYPTIAN COATINGS SHOW 2021	Egypt International Exhibition Centre, New Cairo, Egypt		T: +44 (0) 1737 855 162 E: jessicasn@dmgeventsme.com W: www.coatings-group.com
September 27 - 29, 2021	MIDDLE EAST COATINGS SHOW SAUDI ARABIA	Jeddah Center for Forums & Events, Jeddah, Saudi Arabia		
October 17 - 20, 2021	WESTERN COATINGS SYMPOSIUM 2021	Paris Las Vegas Hotel & Convention Center, Las Vegas, NV		T: (714) 974-4511 E: westerncoatings@earthlink.net W: www.westerncoatings.org

An Appeal

Next Issue of SSPC India News letter is in Oct. - Nov. 2020 Articles. News item, new products, new R & D result and company profiles are invited Dead line: Sept. 15, 2020

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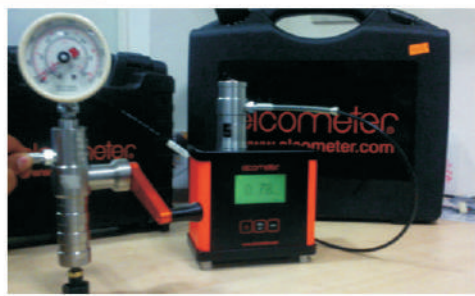
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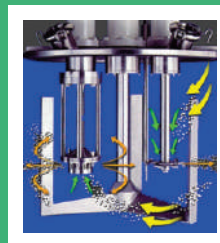
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