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THE SHAPING OF CEMENT MORATARS SHRINKAGE MODIFIED BY LIME AND SHRINKAGE REDUCER ADMIXTURE

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Keywords: mortars, lime, shrinkage reducer, shrinkage

Abstract

Lime has been traditionally used material for the production of masonry mortars and plasterworks. The effect of the lime addition onto shrinkage of standard mortars is presented in the paper. The shrinkage of tested mortars was determined by Graff-Kaufmann method and the modern method so called the gutters shrinkage method. The analysis of the possibility of mortars shrinkage reducing by the use of admixtures is also presented in the article. The following admixtures were chosen for tests: a typical shrinkage reducing admixture based on polypropylene glycol (SRA) and an expansive one based on calcium oxide (EXP).

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THE INFLUENCE OF GRANULES CONTENTS OBTAINED FROM FRESH CONCRETE ON SELECTED PROPERTIES OF CONCRETE

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Keywords: recycled aggregate, unused fresh concrete, concrete properties, compressive strength, flexural strength, consistence.

Abstract

Because of the increasing production of concrete in the world, there is a problem related to the unused concrete mix utilization. The use of two component powder admixture, causing binding and granulating the unused fresh concrete is described in the paper. The granules obtained in this way may be used as a substitute of the part of natural aggregate in newly produced concrete mixes. The aim of the tests was to determine the effect of added granules amount on selected properties such as: consistency and air content of fresh concrete and compressive strength of concrete.

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ASSESSMENT OF CONSTRUCTION JOINTS IN THE PANEL PREFABRICATED BUILDINGS

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Keywords: large panel prefabricated buildings, examination of construction, construction joints

Abstract

This paper presents the characteristics of the large panel prefabricated buildings in Poland, prefabrication methods and the problem of the quality of realization of construction joints. The aggressiveness of the environment and their influence on individual elements of buildings were specified. The tests methods were described. The results of investigations, carried out in more than 300 open pits in buildings realized as technologies Szczecin, W70 / Wk70 and OWT. The results showed that the technical condition of the construction joints in examined buildings is satisfactory. There were no signs of degradation of concrete as well as corrosion of steel construction joints.

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GEOPOLYMER BUILDING COMPOSITES – TECHNOLOGY, PROPERTIES AND PERSPECTIVES

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Keywords: geopolymer, composites

Abstract

Contemporary trends in technology development of mineral binders are oriented in particular to the search for materials with a reduced negative environmental impact, while obtaining not worsened performance characteristics and durability. A common approach includes modification by introducing conventional non-clinker additives. The main direction of development of cement technology, however, is the search for new materials of chemical base similar to that in the case of clinker raw materials, but not yet used. This article presents selected trends of currently conducted research in the field of mineral building binders and selected topics related with geopolymer binders production. The basic properties and characteristics of geopolymer binders and also the perspectives of its applications in building applications have been presented.

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REPAIRS OF REINFORCED CONCRETE BRIDGE CONSTRUCTIONS DAMAGED BY CHLORIDE CORROSION

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Keywords: concrete bridges, chloride corrosion, reinforcement corrosion, protection against corrosion of reinforcement, concrete repair

Abstract

The paper discusses ways to repair reinforced concrete bridge structures damaged as a result of chloride corrosion of reiforcement. Specifies the most common causes of failure of repair, and gives recommendations to avoid them.

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SELECTED ISSUES IN CONCRETE REPAIR AND CORROSION PROTECTION TECHNOLOGIES

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Keywords: PN-EN 1504 standard, repair and corrosion protection of concrete

Abstract

The standard PN-EN 1504 has created a solid basis for the selection of materials and technologies for the repair and corrosion protection of concrete. However, it should be remembered that the requirements contained in the standard must be considered minimal and, that in many cases, there should be introduced some additional requirements. The authors indicate the need for the improvements in already existing technologies for the repair and protection of concrete, as a result of significant changes in technology and properties of concrete. This applies to the necessity of using new components for the repair and protection materials in order to maintain compatibility with new generation concrete. The article also discusses the function of corrosion inhibitors in the repairs of concrete.

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HYBRID METHOD AS THE INNOVATION SOLUTION IN SPRAYING TECHNOLOGY OF PROTECTIVE COATINGS

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Keywords: thermal spraying, innovation technology, hybrid method, protective coating

Abstract

The paper presents an innovative hybrid method (HM) as a modification of the supersonic spraying process of coating material, that was designed to limit the total spraying costs of the coating including material and energy consumption in the spraying process. This method makes it possible to produce protective coatings with similar operating characteristics to the classic HVOF method. In the paper the results of the oxidation resistance of HM coatings were presented. The presented oxidation test was carried out in laboratory conditions. The test was cyclical. It was run at 6500C for 500 hours. The results of structural studies on corrosion products formed on the coatings during the test are presented. The high resistance of the tested materials is determined by their chemical and phase composition and the obtained compact structure of coating. The results show, that the chosen parameters of spraying in the innovative method are correct and the results confirm its ability to produce a compact, dense coatings with significant corrosion resistance.

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CORROSION OF THE ELEMENTS OF FUEL GAS DESULFURIZATION INSTALLATIONS

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Keywords: fuel gas desulfurization installations, crevice corrosion, 904L steel

Abstract

The article presents the test results for the corrosion of heat exchanger basket frames in fuel gas desulfurization installations. The frames were made of austenitic steel type Ni-Cr modified by 4% Mo (904L), with the aim to improve the pitting corrosion resistance. An assessment of the chemical and the phase composition of the deposits present on the surface of the tested elements was performed, and the presence of a large amount of sulphides different types. Such a chemical composition of the deposits, in combination with the humidity present under the working conditions at the temperature above 100°C, caused the creation of the conditions favourable for intense processes of pitting corrosion. Despite the presence of molybdenum in the steel, very strong effects of pitting corrosion, penetrating deeply inside the substrate material, were observed.

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CORROSION OF THE ELEMENTS OF FUEL GAS DESULFURIZATION INSTALLATIONS

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Keywords: fuel gas desulfurization installations, crevice corrosion, 904L steel

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STEEL STRUCTURE CORROSION PREVENTION IN POWER INDUSTRY – FURTHER CONSIDERATION

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Keywords: steel structure, power plant, anti-corrosion, protective coatings

Abstract

The problem described in the paper is related to protective coatings applied onto prefabricated elements for power plant. The authors emphasise that, despite outspreading the knowledge the quality of work is not always satisfied. The specification is quite often the source of error, because its statements are botched.

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FAILURE OF ACID-PROOF LININGS

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Keywords: acid-proof coatings, industrial tanks, acidic environment

Abstract

Destruction of acid-proof coating on industrial tank in the acidic environment and increased temperature was presented. It was found that the main reason of destruction were neither failure painting nor the incorrect choice of coatings but design failures of the tank construction.

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TROUBLE WITH PINHOLES

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Keywords: coating defects, protective coatings, pinholes

Abstract

In the paper it has been described one attempt of painting thermally sprayed with zinc steel surface. Paint application was performed in accordance to requirements from both paint's manufacturer and project's owner. However, defects in the shape of pinholes developed, which elimination was very hard. It has been presented in the paper range of trials performed in order to identify the reason of the defect, the mechanism and solution implemented to reduce its intensity.

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REQUIRED COMPETENCES AND TYPES OF QUALIFICATION OF ANTICORROSION PERSONNEL IN POLAND AND GERMANY – SIMILARITIES AND DIFFERENCES

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Keywords: corrosion, anti-corrosion personnel, competences, Frosio inspector, ZTV-ING, VBG/BAW, construction of wind turbines

Abstract

This article presents examples of requirements in different topics of anticorrosion in Poland and Germany, especially under consideration of the requirements for the personnel. In the German market following standards are named: EN 1090, ZTV-ING and VBG/BAW, construction of offshore wind turbines and components of wind parks. In the Polish market there is an explanation of the standard EN 1090 and available requirements for selected types of constructions. The requirements for personnel are referred to the possibility of passing the training by certificates like KOR Schein, Frosio certificate and IBDiM inspector.

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QUALITY CONTROL OF STEEL STRUCTURES PROTECTED WITH ZINC ANTICORROSION COATINGS USING DIFFERENT TEST METHODS

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Keywords: control, zinc coating, corrosion, laboratory, Non Destructive Testing

Abstract

In the study, there are presented requirements of the standard EN ISO 1461 and DASt 022 guidance in terms of control and zinc anticorrosion coatings tests. There are characterized test methods for zinc anticorrosion coatings to confirm a degree of conformance with the requirements. There is shown visual assessment method for the coating using additional equipment. There is presented and assessed effectiveness of non-destructive methods that are used to find defects of zinc coating – cracks. As for measuring the thickness of coatings, in addition to the most commonly used magnetic method, there are presented alternative destructive methods.

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WHO CAN PAINT AND WHO CAN PROTECT THE STEEL

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Keywords: anti-corrosion, owner, structure.

Abstract

The article describes examples of tasks risen by clients, designers and major contractors as well the resulting consequence. In addition, some examples of requirements for companies and contractors are given not to reflect in any way the current needs in regard to the matter of the order.

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POSSIBILITIES OF SUPPRESSING LEAD ALLOYS CORROSION IN LEAD-ACID BATTERIES WITH IONIC LIQUIDS ADDITIVES

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Keywords: corrosion, lead acid battery, lead alloys, ionic liquids

Abstract

The lead-acid battery was invented over 150 years ago, but it is still one (beside lithium-ion batteries) of the most common secondary chemical source. One of the most frequent cause of leadacid battery damage is the amount of active mass and corrosion of the positive grid. The paper presents the influence of bisulfate (VI) and sulfate (VI) ionic liquids additives on the intensity of the PbCaSn alloys corrosion process. These types of lead alloys are used for grids production by expanded metal technology. Ionic liquids used in presented research contained alkylpyridinium and alkylimidazolium cations. Electrolyte consisted of 37% sulfuric acid with 5 mg cm -3 of particular ionic liquid. Experimental procedure included analysis of potential changes, corrosion current and polarization resistance determined by DC and AC methods. It has been shown that in the case of bisulfate ionic liquids containing both alkylpyridinium and alkylimidazolium cations, corrosion potential shifts about 200 mV to more positive values. Moreover, sudden reduction of the corrosion current and an increase of polarization resistance in values relative to the initial ones has taken place. Analogical effects were not observed for sulphate ionic liquids. The results of the research are creating new perspectives for improvement of lead-acid batteries performance based on ionic liquids.

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THE USE OF ORGANOSILICON COMPOUNDS FOR STAINLESS STEEL PROTECTION AGAINST CORROSION

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Keywords: corrosion, siloxane coatings

Abstract

Deposition processes of the organosilicon compounds on stainless steel 304 surface were performed from three different solutions. Electrochemical measurements were carried out in a 3.5% NaCl solution. Potential at open circuit conditions was measured. Additionally linear polarization and electrochemical impedance spectroscopy studies were performed. Preparation of the silane compound solution strongly influenced the anti-corrosive properties of the deposited coating. Due to the presence of a passive oxide film on the surface of the steel, metal-O-Si bonds are formed. This is an intermediate layer between the inner oxide film and the outer siloxane layer (Si-O-Si). In addition, the long aliphatic chain present in the coating increases the hydrophobicity of the modified stainless steel 304 surface.

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WHAT KIND OF STEEL CAN BE HOT DEEP GALVANIZED?

PARAMETERS OF ZINC COATINGS DEPENDING ON CHEMICAL COMPOSITION OF STEEL AND PRETREATED SURFACES.

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Keywords: forming of the zinc coatings in HDG, Fe - Zn alloy phases, chemical composition of steel, shot blasting before HDG

Abstract

Anticorrosion zinc coating are set on steel elements by dipping in zinc alloy. They are formed in the process of reaction between the surface and liquid zinc. Their parameters are influenced essentially by chemical composition of steel and the types of pre-treating the surface of the given element.

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COATING ADVANCEMENTS FUELLING THE ADOPTION OF UHP WATER JETTING AS SURFACE PREPARATION METHOD OVER AGED AND NEW STEEL

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Abstract

This paper is a revised version of an earlier paper first presented at Eurocorr 2016, in Montpellier, France, September 2016. It has four objectives: 1. explain the limitations of Ultra High Pressure (UHP) water jetting for steel surface preparation when high durability is required; 2. report a coating technology able to remove such limitations; 3. illustrate the use of that coating solution with practical field data; 4. report how the concept expanded to new steel construction. Key reasons limiting UHP use are discussed (mind set, negative track record, speed, flash rust, lack of roughness, dampness). The paper describes a specific coating technology helping UHP adoption, by addressing the obstacles listed above, tolerating dampness, low dew point, poor surface profile and flash rust. Performance evidence and practical examples are given, including customer testimonies, over different types of projects. Two practical cases of UHP use in new building are described, one where the shipyard was designed around the concept, the other in an existing shipyard uses the concept to better adapt to new steel fabrication. Cost, time and overall project predictability impact is reported. The paper concludes that all key technical barriers to the adoption of UHP as surface preparation method, both over aged and new steel, have been removed with the help of proper coating technology selection. The removal of the perception barrier to such adoption is a work in progress, that this paper attempts to contribute for.

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ANTI-CORROSIVE PROPERTIES OF SILOXANE COATINGS DEPOSITED ON THE ANODISED ALUMINIUM SURFACE

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Keywords: corrosion, siloxane coatings

Abstract

Aluminium anodisation processes were carried out in oxalic acid solution. Part of the samples was subjected to hydrothermal sealing in order to seal the pores on the oxide surface. Siloxane coatings were deposited from acidic solution (pH 4).Surface analysis and spectroscopic methods were applied to characterize the pristine and coated samples. Anti-corrosive properties of all samples were assessed using electrochemical methods. It can be concluded that due to the condensation reaction between sealed anodised aluminium oxide and silane compounds, Al-O-Si covalent bonds are created. In the case of porous oxide layers with deposited siloxane coatings, composite coating containing trapped air in the pores is formed.

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APPLICATION OF STEREOLOGICAL ANALYSYS TO THE ANTICORROSION MATERIALS

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Keywords: stereology, anticorrosion system, corrosion

Abstract

The article presents stereological techniques that allow the measurement of objects located in the structure of hot dip zinc coatings and other types of building materials. Stereological analysis, which is based on recorded images of the structure, can be used in many areas related to the study of anti-corrosion systems. In this lecture, an example of stereological analysis will be presented on the example of bismuth and lead inclusions in the zinc coatings. The top layer of the prepared samples were assessed. The number of inclusions, their size, uniformity, and density of placement were described. The obtained results will be used to determine the influence of these parameters on corrosion processes

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MODERN ONE-, TWO- AND THREE-COAT SYSTEMS FOR LONG-TERM PROTECTION OF STEEL STRUCTURES

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Keywords: corrosion, corrosion protection, coating systems, testing

Abstract

The test results of protective properties of anticorrosive one-, two- and three coat systems – containing epoxy, acrylic, polyurethane, glass flake reinforced polyester and fluoropolymer paints – are discussed. Laboratory tests – covered physio-mechanical properties (adhesion, hardness, impact resistance) and protective properties in constant (salt spray test, humidity test, UV radiation) and changing conditions (combined effect of salt spray, UV and low temperature) – showed that the one- and two-coat systems can be used to replace traditional three-coat systems and provide longterm protection of steel structures.

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"I WANT TO HAVE IT"- HOW TO OBTAIN AND MAINTAIN QUALITY LABEL QUALICOAT FOR POWDER COATING

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Keywords: powder coatings, aluminum for architectural application, laboratory tests, Florida test

Abstract

The paper describes the testing procedure for powder coatings for which the manufacturer intends to have the license quality label QUALICOAT . The research processes including: preparation of samples, the measurements of physical properties and testing of coatings resistance to chemical agents and climatic conditions have been presented. Particular attention was paid to the Florida test due to its organization, implementation and requirements. This paper does not apply to conducting a formal procedure by the paint manufacturers before deciding on the implementation of the laboratory test procedure.

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STRUCTURES COATED IN RAL 9006 AND RAL 9007.

EXPERIENCE WITH APPLICATION

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Keywords: colour, colour evaluation, anticorrosion , steel structures.

Abstract

The article describes the experience of the steel structures with high requirements of decorative anticorrosion protection, painted with the topcoats in the colors RAL 9006 and RAL 9007. Presents doubts about the visual evaluation of the coating. It indicates possible scenarios proceedings in such contracts.

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APPLICATION AREAS AND PROTECTION MECHANISM OF Zn-Mg AND Zn-Al-Mg COATED STEEL

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Keywords: Zinc-based coatings; Atmospheric corrosion; Mechanism

Abstract

Hot-dip Zn-Al-Mg coatings for steel protection applied by continuous line galvanizing have been introduced to the market recently. Zn-Mg coatings applied by physical vapour deposition (PVD) are under development. Although the alloyed coatings outperform traditional zinc coatings in a large range of application conditions, their relative corrosion stability depends strongly on exposure conditions. Results of accelerated corrosion testing suggest that the application of the Zn-Mg(-Al) coatings is particularly advantageous under high chloride loads and permanently humid conditions where zinc fails. A number of analytical techniques have been applied for detail analysis of corrosion products formed in different stages of corrosion processes in order to understand the protection mechanism of magnesium and aluminium-containing zinc coatings.

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TWIN – ABRASIVE BLASTING CHAMBER

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Pełnomocnik PEKOTEK Oy

Keywords: blasting, metal structures, industrial painting

Abstract

Production plant, manufacturing variety of products often requires blasting carbon steel and, so called, “white” surfaces (Al, Zn, stainless steel). Steel grit is commonly used for blasting carbon steel, while non-metallic abrasives for “white” surfaces. In the turn of 1980s Finnish company PEKOTEK Oy invented design of blasting chamber with pneumatic NON-WASTE floor, patented in 1990. Due to tightness of the abrasive circulation, it is exceptionally vulnerable to be used for work with two different abrasives. The system provides for entire removal of steel grit from transportation path, before introducing non-metallic abrasive (usually Alu-oxide). Thus, prerequisite of abrasive cleanliness is fulfilled. Such solution was elaborated and implemented to industrial practice in year 1995. The first installation of this type was built in Poland and started at Energop Sochaczew in 2009.

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MODIFICATION OF THE ELECTRODEPOSITION PROCESS OF ZINC COATINGS AS A RESULT OF EXPECTATIONS OF THE MODERN INDUSTRY

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Keywords: zinc coatings, pulse plating, alloys

Abstract

In this work illustrates actual trends in electroplating of zinc coatings. The electrodeposition of Zn coatings using a square-wave current pulse-plating technique and the co-deposition of zinc with nickiel were presented. The influence of the pulse plating parameters and a type of electrolyte on the chemical composition, surface morphology, corrosion resistance, roughness and hardness were studied. Pulse electrodeposition had considerable effect on grain size, roughness, corrosion resistance. Deposits of 20% of Ni have been obtained. The alloy coatings had higher mickrohardness and better corrosion resistance than the zinc coatings.

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SURFACE TREATMENT TECHNOLOGY OF Zn COATED ELEMENTS

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Keywords: Duplex coating, galvanized steel, chemical surface treatment, phosphating

Abstract

Duplex coatings are today best protection of steel construction elements, guaranteeing their longterm exploitation in the harshest weather conditions. Before covering the galvanized surface by paint coating is most commonly used abrasive blasting, which aims is to remove impurities, the oxide layer and increase adhesion by growth of surface roughness. In the case of painting thin-walled components application of abrasive blasting is not possible. In these cases, there are used various chemical surface treatments, whose task is to produce a conversion coating that ensures both a good adhesion of the paint coating to the substrate, and long-term corrosion protection. This lecture presents an overview of chemical surface treatment technologies, possible to apply for Duplex coatings.

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SURFACE PREPARATION OF STEEL FOR HOT-DIP GALVANIZING

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Keywords: surface preparation, hot dip galvanizing, appearance of the coating, new possibilities.

Abstract

This article describe how will be redact the paper for the conference of Polish Corrosion Society, which is taking place on 10-12 May 2017 at the Ossa center, near Rawa Mazowiecka. New possibilities of hot dip galvanizing in Poland's large baths allowed in many cases for replacing the expensive zinc thermal spraying, with galvanizing method of immersion unit. Before applying the zinc coating, the surface of steel should be in the technology process properly prepared. The anti-corrosion coating obtained in the hot dip galvanizing process is a long-term protection, therefore the surface condition of steel constructions supplied for galvanizing underlies specified requirements. Condition of the constructions surface leaving the plant must include possibilities of the galvanizing and used by its next chemical process of preparing the surface for galvanizing.

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INTERIOR TANK PROTECTION AGAINST AGGRESSIVE MEDIA

- PROTOTYPE LINE

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Słowa kluczowe: cysterny, transport chemikaliów, powłoki chemoodporne, gumowanie, ochrona przed korozją, Inteligentny Rozwój, Metalko Sp. z o.o.

Streszczenie

Bezpieczeństwo techniczne i relacje ekonomiczne budowy urządzeń do przewozu chemikaliów wymagają unowocześnienia zbiorników transportowych. Obecnie używane, szczególnie w odniesieniu do cystern kolejowych, nie spełniają wymagań użytkowników i instytucji dozorowych. Na torach i drogach dominują drogie w wykonawstwie i kłopotliwe w eksploatacji zbiorniki z trzy- i dwuwarstwowymi gumowymi powłokami ochronnymi, przy jednowarstwowym standardzie UE. W referacie omówiono zrealizowane przez METALKO Sp. z o.o. przedsięwzięcie polegające na stworzeniu pilotażowej linii do montażu powłok gumowych najnowszej generacji. Opisano poszczególne etapy budowy prototypowej linii produkcyjnej, w tym etap badań materiałowych, modernizację oprzyrządowania technologicznego z przejściem do praktycznego zastosowania i upowszechnienia wyników prac badawczo-rozwojowych. Zadanie wykonano siłami własnymi METALKO Sp. z o.o. przy współpracy z krajowymi kooperantami oraz przy wsparciu finansowym Programu Operacyjnego Inteligentny Rozwój prowadzonego przez Narodowe Centrum Badań i Rozwoju w Warszawie.

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RBI AS A NOVEL APPROACH FOR PRESSURE EQUIPMENT INSPECTION

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Abstract

RBI (Risk Based Inspection) methodology is an integral part of risk management, focused on the improvement of the effectiveness of pressure equipment's workability. At the beginning prerequisites and foundation documents API (American Petroleum Institute) have been described for the RBI methodology, considered as controlled for risk assessment. Rudimentary changes with novel philosophy implemented have been discussed at the point of the former approach to pressured equipment periodic control. The supremacy of the risk assessment approach has been emphasized as the result of confusing failure probability and consequence with individual inspection schedule. At the end the effects of the RBI implementation as the safety level increasement factor as well as workability improvement have been discussed.

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CORROSION PROTECTION OF FUEL TANKS

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Keywords: corrosion, corrosion protection, fuel tanks

Abstract

The article raises the issue of corrosion protection of fuel tanks. In the article there are both causes corrosion problems Which should be included as I used solutions. The text is based on a normative solutions and applied in practice.

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BUDOWA TERMINALU REGAZYFIKACYJNEGO SKROPLONEGO GAZU ZIEMNEGO W ŚWINOUJŚCIU

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Keywords: steel structure, anti-corrosion, protective coatings

Abstract

The paper relates to construction joints painting at newly built gas terminal in Swinoujscie. It has been described the challenges which contractor faced during execution of the order. The particular aspects of performing surface treatment job at site in marine atmosphere has been brought closer.

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ROBOTIC PROCESS AUTOMATION (RPA) PROJECTS OF CORROSION PROTECTION PROCESSES

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Keywords: The need of robotic automation processes painting, preparing surfaces and automation of steel barriers painting process using electrostatic method.

Abstract

The lectures presents project and innovations in implementation of small automation processes of painting steel construction elements. They emphasize the necessity for mechanization of the paintingprocess due to the constantly growing needs of market. Range of automation tasks has been expanded to increase efficiency in shot, sandblasting chambers and ancillary equipment used for painting eg.: - station for washing and cleaning the air filters in blasting chamber - station for painting metal, rootstock's plates - station for painting steel beams and truss crates - station for painting steel railings with electrostatic method.

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LEVEL OF KNOWLEDGE OF PAINTERS ON MAINTENANCE AND EXPLOITATION OF SPRAYING EQUIPMENT

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Keywords: corrosion, coating processes, corrosion protection, painting of steel structures, maintenance of painting equipment, application of protective coatings

Abstract

The paper presents information on the level of knowledge of painters about usage and maintenance of their equipment and its influence on quality of painting works. Lists the main risks associated with the lack of proper knowledge about proper use of equipment for anticorrosion painting. Shown also proposals to improve the situation in this area.

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AGENT FLUIDS REDUCES DUST DURING SANDING DRY WITH AN OPEN STREAM OF NON-METALLIC ABRASIVES

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Keywords: abrasive dust, liquid additive absorbing dust shattered abrasive concentration of the individual components of dust in the air exceeded the size of the NDS, the effect of adding to the efficiency and quality of the blast - abrasive way an application supplement absorbing dust.

Abstract

Presents results of comprehensive laboratory studies of the effects of added to the nonmetallic abrasives used for pneumatic dry abrasive blasted surface with an open circuit abrasives. Compared abrasive with the addition of preparation and without in terms of productivity, the amount of spent abrasive, obtainable roughness, the percentage of broken grains after the first use, the percentage of grains stuck in the ground cleared, conductivity surface after blasting the surface, life imposed on such a cleaned surface coatings lacquer, the amount contained in the suspended particulate matter in the air and taken into account they contain substances harmful to humans and the environment.