

Official edition
Of the Union of Composites Manufacturers
With the assistance of the magazine
«Composite World»

Industry Newsletter

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Composite Materials



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**UNION OF COMPOSITES
MANUFACTURERS**

1. The UNION'S ACTIVITY NEW MEMBERS OF THE UNION



LLC «SPU Energosvayzproject» (Voronezh oblast, Russian Federation)

About the company: The company LLC «SPU Energosvayzproject» is the young company of the domestic composite industry, the main specialization of which is the designing and production of the parts from composite materials of different purposes. At present the company manufactures the armature: glass reinforced composite, basalt composite and mixed as well as the light poles and transmission line poles. About 180 employees work on the enterprise.



LLC «ARMPLAST» (Nizhnevartovsk, Russian Federation)

About the company: LLC «ARMPLAST» has been producing glass reinforced pipelines during about ten years. The company produces the pipes and fittings for transportation of crude (including highly paraffinic crude) and refined oil, multiphase mixtures and emulsions, refined products, products from soft, stratal and waste water of oil-extracting enterprises, industrial wastes, saline solutions, water solutions of inhibitors; as well as the pipelines for domestic water supply, hot water supply, heating supply, and drainage for above-ground, under-ground pipelining in all ground conditions and under water. The main consumers of the factory are: LLC «RN-Uganskneftegaz», OJSC «Slavneft-Megionneftegaz»; OJSC «Samotlorneftegaz»; LLC «Parjanmarneftegaz».



LLC «Exhibition Company «Mir-expo» (Moscow, Russian Federation)

About the company: LLC «EC «Mir-expo» is the member of Guilds of the exhibition and congress organizations of Moscow Chamber of Commerce and Industry since 1999, organizes and conducts the international specialized subject exhibitions, science and practical conferences and seminars in Moscow, regions of Russia and CIS countries and far-abroad countries. LLC «EC «Mir-Expo» is the organizer of the exhibition «Composite-Expo» the main sections of which are dedicated to the composite materials: raw materials, equipment and technologies for their production.

Modern condition and perspectives of the development of the production and application of composite materials in Russia

(the results of the conference)



The 6th exhibition «Composite-Expo» was conducted from 26 to 28 of February 2013 in MEC «Krokus-Expo» - the leading international specialized event of composite industry in Russia on which the full range of the manufacturers of raw materials, equipment and ready products from composite materials was presented.

Against the previous year the square of the exposition was increased for more than 50 percent. About 120 companies from 16 countries (Austria, Great Britain, Germany, Italy, PRC, Macedonia, the Republic of Belorussia, Russia, USA, Turkish, the Ukraine, France, Czech Republic, Finland and Thailand) took part in the exhibition.

Traditionally the exhibition offers the visitors the intensive business program the key event of which is the **conference «Modern condition and perspectives of the development and application of composite materials in Russia»**. The conference was organized by the Union of Composites Manufacturers together with the EC «Mir Expo» on February 26, 2013. **Annually tis event gathers more than 200 listeners in the hall and more than 300 near the PC monitors from all country as well as from CIS countries and far abroad countries.**



Already several years the interest to the composite materials steadily grows and it was noticed during opening the conference by the representatives of the companies – organizers of the event – the executive director of the Union of Composites Manufacturers Sergey Vetrohin and the general director of the Exhibition Company «Mir Expo» Vladimir Bannikov. The proof of it is not only increased number of the exponents and visitors, participants of the conference but also constantly growing attention to the problems of the industry from the government authorities side. One of the main achievements in this direction is the development of the support program of the composite industry on the Government level. The Union of Composites Manufacturers and FSUR «VIAM» took the active participation in the formation of this program. Sergey Vetrohin briefly told about the program noticing that the solutions for different topical issues of the industry have been laid in it, such as: working out of the normative and technical documents, creation of the register of composite materials, products and construction from them as well as collective engineering centers. Implementation of the program will allow realizing of the predicted tenfold growth of the composite industry. At the end of his opening speech he

noticed that at present moment the program is on the agreement in the Ministry of the economic development of the RF and Ministry of Finance of the RF.



The head of the composite technologies department of the Company – sponsor CJSC «Techno Express» Igor Topolov opened the program of the conference with the story about the production of the yacht hull from composite materials with the application of the advanced technologies. The peculiarity of this presentation was that the presented technologies are applicable not only in shipbuilding industry but practically in all industry sectors.



Picture 1 – Preparation of the mold surface for further reinforcement layer applying (presentation of the company «Tehno express»)

This year the conference included several reports dedicated to the equipment for the production of products from composites. This, Victoria Ruppel, the general director of the company «Stevik SAS» together with the colleague from the company «Techni-module» told about advanced presses for production of bulk products from composites. The general director of «EHA Composite Machinery» Klaus Ritter and the general director of LLC «Expert» Alexey Razin presented the modern equipment for the production of the parts from carbon composites by filament winding. The technology and the equipment for the produc-

tion of multi-layers laminates and sandwich – structures were described in details by the specialists of the company Reliant and LLC «IK-Technology». The commercial director of LLC «Ecopromika» Margarita Kolicheva told about the machine for pollutant emissions refining.

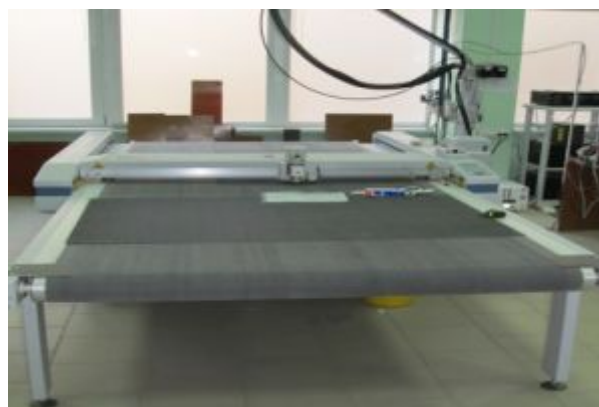


Picture 2 - «Gasconvector «Yatagan» on the object (presentation of the company «Ecopromika»)

Developments of FSUE «VIAM» for civil sectors of the industry were presented by the Deputy General Director of the Institute Denis Graschenkov. «VIAM» organizes the complete cycle – from fundamental, application studies to the development of the materials, technologies, equipment and transfer the licenses to a manufacturer or organization of low-tonnage production. The Center of competence for developments and qualification of PCM attached to the Institute was created with the purpose to conduct the full-scale researches in the sphere of polymer composite materials (carbon, glass, organocomposites, etc.) valuation of fiber and other fillers, polymer matrixes for the provision of certification and qualification of structural materials for aviation and other industry sectors. The Institute has the Center of climatic tests in Moscow and Gelendzhik. Uljanovskij science and technological center, Technological Complex for serial production of PCM are in the structure of the institute. FSUE «VIAM» organized 19 low-tonnage productions including the prepregs for PCM.

The questions of designing and solutions from ESI Group were presented by Ekaterina Pescherenko from the Company «PLM Ural». And Nikolay Vimorkov, the head technologist of SPC «Kompozit» of OJSC «ORPE «Technology» shared the experience of implementation of digital technologies at the preparation of

the production and manufacture of the products from polymer composite materials with the application of «FiberSim» package. Usage of the computer equipment of «FiberSim» allowed to shorten the time of the initial design; to shorten the time of introduction of changes; to increase the efficiency of the materials application; to increase the strength characteristics of the products from PCM per 10%; to decrease the labor intensity of the production of the products from PCM for 50%; to shorten the technological cycle of PCM parts layout for 40%; as well as to improve the working conditions and ecology during the manufacturing of the products from PCM.



Picture 3 – The system of automated cutting (presentation of SPC «Kompozit» OJSC «ORPE «Technology»)



Picture 4 – Installation of the automated layout system (presentation of SPC «Kompozit» OJSC «ORPE «Technology»)

The specialists of the leading companies – manufacturers of the raw materials and basic materials presented their new products. Toine Dinissen shared the long experience of the company «DOW Europe GmbH» for the production of the epoxy resins and presented new products of the company widening the application spheres of the products from composites.

Yaroslav Yashevskij from the company «Ashland» told about the resins with low styrene emission designed for the production of the products of shipbuilding and transport purposes.

The possibilities of the application of fire retardant additives for polyester resins and gelcoats at the production of high quality products for different industry sectors were presented by Peter Kornas, the technical specialist of the company «BÜFA Gelcoat Plus GmbH & Co.KG».

In 2012 there were conducted the researches of the influence of UV-curing to the properties of glass fiber composites. The Director of the company LLC «SAMPOL» Viktor Ershov shared the results of this work. This technology appeared on the composite market not so long ago but it already occupies its niche deservedly. The report contained the information about the equipment for UV-curing as of the industrial purpose and of small portable light-emitting-diode applicator.

Vladimir Shesterikov, the administrator of the man-made structures department of FSUE «ROSDORNII» told of the peculiarities of the reinforcement of bridge structures with the composite materials.



Picture 5 - Gluing of the canvases to the end sections of bridge girders through Kirzhach river (2002) (presentation of FSUE «ROSDORNII»)

The report of the Holding Company «Kompozit» finished the program of the conference.

As in 2012 this year there was organized the broadcast of the conference in the internet in real time and by the results of the conference all video records are available for free download from the web site of the Union www.uncm.ru

The booth of the Union of Composites Manufacturers on the «Composite Expo» exhibition



The 6th exhibition «Composite Expo» was conducted from 26 to 28 of February, 2013 in the MEC «Krokus Expo». It was possible to become acquainted with the products manufactured by the Union's members on the collective booth of Souzcomposit and the «Composite World» magazine.



We express a great gratitude to all visitors of our booth for interest taken and hope for further fruitful cooperation!

2. INDUSTRY NEWS

Tomsk student from Indonesia values the carbon fiber and believes in liquid-crystalline future in Russia

Tomskij polytechnic university (TPU) informed that one of its foreign magistrates, the Indonesian Alfa Edison Ilela offers to produce the shells for TFT monitors from carbon fiber.

Alfa Edison Ilela came to Tomsk to go to the platform of nanomaterials and nanotechnologies of Tomskij polytechnic university (TPU). This year he finishes Master's degree program and plans to enter the postgraduate study.

Mr Ilela won a special prize with his project in the competition of business-cases of the current nanoindustry enterprises. He offered the best technical solution in the sphere of carbon fiber application for CJSC «Holding Company «Kompozit» – the known Russian manufacturer of the carbon fiber. The magistrate believes that it is possible to produce the shells for TFT monitors (LCD TV) from carbon fiber that will exceed the current shells presented on the market today by the quality characteristics.

«My idea is in the fact that the carbon fiber can be used not only for the aircrafts production but also in mass production – for the production of LCD-monitors. Nowadays aluminum and plastic are used for the production of monitors but both materials are not enough strong, and the plastic is harmful for the health and ecology. The materials on carbon fiber base differ by its high strength and environmental friendliness», – Alfa Ilela declared.

According to his opinion new monitors will become stronger, lighter and more stable to the temperatures, corrosion and UV.

«I made my own design of the shell from carbon fiber. This model is very attractive from the material point of view and has futuristic view», – the magistrate of TPU told.

He supposed that HC «Kompozit» has a good possibility to produce a new competitive product in Russia because nowadays the LCD-monitors are not produced in Russia at all.

www.marchmont.ru

The unique repair works with the composites application have been started on the factory «Argon»

The unique repair works with the application of composites on carbon fiber tapes base have been started on the factory of carbon fiber processing «Argon» (Balakovo, Saratovskaja oblast, the enterprise of the State Corporation «Rusatom»).

As the chief engineer of «Argon», Mikhail Goncharov told the repair object is reinforced concrete roof slabs in the production shop located on the height 9 meters. The factory «Argon» was built 30 years ago. The capital repair of the internal supporting constructions on the «Argon» had never been made. The main reason is the problem of suspension of the pro-

duction and evacuating of much ton equipment (the factory works twenty-four hours). The cracks were appeared in the slabs in the results of corrosion that could lead to roof collapse. Traditional ways of roof slabs recovery of concrete applying and metal couplings were not applicable in this case. The application of the System of external reinforcement FibARM of the production of design company RUSNANO «Prepreg-SKM» (is the part of «Kompozit» holding) became the ideal solution.

The application of the system of external reinforcement has not required the suspension of the production and evacuation of the equipment. By the words of the chief engineer of the company «CompositeSpecStroy» Kirill Golovin the repair has already started but it does not affect the production of «Argon» that continues to operate. It is quite easy to lift the light carbon fabrics and the resin to nine meters height for reinforcement of roof slabs. According to the estimation of K. Golovin, the repair by the composites will continue not more than one and a half month (it should require at least a half of a year for traditional reinforcement). It became possible to decrease the labor resources significantly: external reinforcement is conducted by 5 people (not less than 15 workers are needed for traditional works).

Kirill Golovin also told that the unique tests of the system of external reinforcement (SER) with carbon fiber tapes FibARM on the real objects – roof slabs – will be conducted during the repair. During the experiment the slabs unreinforced and reinforced with the carbon fiber tapes will be loaded.

The carbon fiber tapes and the resin are in the ground of SER. The technology is designed for reinforcement of any constructions. The composites are used in the aviation, construction, car production, shipbuilding, etc.

During 2012 more than 30 construction objects in different regions of the country were repaired by the materials of «Prepreg-SKM». Thus the company occupied 50% of the Russian market of carbon fabrics provided for the construction purposes. For example, in the number of repaired objects there is the legendary cinema «Havana» in Moscow where the composites were used for reinforcement of truss and floor slabs.

One more unique project is the reinforcement of the deicing agent storage tank in Moscow

oblast. The metal tank 200 cubic meters capacity for the storage of liquid deicing agents located in Mosckovskoe (Leninskij district, Moscow oblast) was repaired in autumn 2012 with the application of the system of external reinforcement (SER). The project was realized by the company "CompositeSpecStroy" together with SBA "Automobile roads".

www.rosatom.ru

3. ADVERTISEMENT

May 12 – 16, 2013

The 2nd international science conference and IX All-Russian Olympiad of young specialists "Nanostructural, fiber and composite materials»

Location: Saint-Petersburg, the main building of Saint-Petersburg State University of Technologies and Design, Bolshaya Morskaya str., 18.

Organizer: SPSUTD, platform of nanostructural, fiber and composite materials; the Union of Composites Manufacturers

WITH THE SUPPORT OF the Union of Composites Manufacturers

The reports of the leading specialists of Russia, the Ukraine and Belorussia in the sphere of nanotechnologies and polymer materials are planned on the conference.

The program of the Olympiad includes the following directions:

- Nanostructural materials and nanotechnologies
- Conventional polymer materials
- Macromolecular systems

INVITE THE COMPANIES OF THE INDUSTRY TO TAKE PART IN THE WORK OF THE OLYMPIAD-SEMINAR AND PROVIDE THE SPONSOR SUPPORT!

With the questions of participation and sponsor support please address to:

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