

The return of aluminum cable on the Russian market



Smart AlloyTM

The new generation of cables and
wires with residential-doped aluminum

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Aluminium returns : The story of "UPS" and "downs"

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Everyone knows, that aluminum is a natural conductor of electrical current. Low specific weight gives aluminum conductors the additional advantages.

The aluminum and transfer electricity

The aluminum is standard material for electrical conductors in the transfer of electrical energy from all power plants. It is used there for over a hundred years. High-voltage wires on poles – it is always aluminum wire, because aluminum wire is two times lighter than copper. Aluminum makes it possible to apply in two times less supports than copper. Aluminum use for transfer electricity on the aerial and underground networks. On this areas is sometimes used copper wire, but mostly still applies aluminum.

Aluminum wiring in Russia

It is worth noting, that copper still main material for building and other works with using wires. Aluminum ceased to apply as a standard internal wiring of buildings because of problems, which were with aluminum wiring in the past, in 1960-70-ies. A lot has changed, but the distrust of the aluminum the wiring remained. "Rules of the device of electrical units" in the 7th edition from 2002 (ER-7) categorically prescribes in paragraph 7.1.34 «to use cables and wires with copper cores". For networks, that is, to apply cables and wires with aluminum conductors, if their the calculated cross section is 16 mm² or more. What exactly is the difference?

Nowadays, the construction of buildings with copper wires complete much more expensive than aluminum.

However, every designer and manufacturer electrical work is obliged to act strictly in compliance with state regulatory documents – rules, standards and instructions.

With all of this, millions of people live in homes and apartments, which were built before 2000 years, and is equipped with the the aluminum electrical wiring.

Technology has changed. New "perfect" alloy.

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Aluminum wiring in USA

American cable the industry produced aluminum wire for internal wiring of buildings in 1960-70-ies. They were from aluminum, and high-voltage wires, in particular, brand 1350 aluminum. After some time with this aluminum wiring started having problems, mostly with overheating contacts. In the US the analogue of the Russian EMP is the NEC – National Electrical Code. This Code never explicitly prohibited the installation aluminum wiring inside buildings. However there was a period in the early 1970-ies, when American authoritative certification authority Underwriters Laboratories withdrew from your list, all conductor of aluminum for internal wiring buildings for a few years. Aluminum wiring is back to the list like wires of aluminum alloys of series 8000.

Aluminum alloys 8XXX: the use of iron

Copper, iron and aluminum, they all have face-centered cubic the crystalline structure. These atomic lattic always have in their nodes instead of atoms a certain number of empty seats – vacancies. However, the brand aluminum 1350 has such vacancies 20 times more than copper or steel. This weakens the structure of aluminum 1350 and when it is subjected to a constant load, in point loading occurs the phenomenon of creep. The iron atoms in the aluminum alloy 8030 strengthen the crystal lattice of aluminum and thereby significantly reduce the tendency of aluminum to creep. In addition, iron supplements provide increased the strength of aluminum while maintaining good plastic properties. In 2015, the Russian holding "RUSAL" has mastered the production of new alloys 8XXX series. Orlovskiy cable factory - is a strategic implementation partner project new return, devoid of faults, aluminum wiring for the consumer market

Government initiatives

After the orders of the President of the Russian Federation Vladimir Putin about modernize and improve the efficiency, The Ministry of energy and cable Institute VNIIEP appreciated opportunities and economic benefits from switching to aluminum in the construction. For "return" aluminum cables and wires is required to pass a great way to change the existing regulations. In The Ministry of energy was requested to make an addition to The EMP in terms of the use of cables with conductors of the new aluminum alloys, initiated by VNIIEP and UC RUSAL. Nowadays, the Ministry of energy has said that "allows for the introduction of modern technologies, such in the field of innovative cable and wire products based on aluminum alloys". What can to serve not just "signal", but rather a guide to the action for the entire cable industry.

For the effective and safe of use aluminum wire as inner wiring of residential buildings should: To use in the wiring of the aluminum wire alloys of the 8XXX series.

Few Facts about implementation of aluminum on the market

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80%

Near 80 % of Russians live in homes built before 2002. More than 80 million people use in their homes "old" aluminum wiring



These people regularly conduct current repairs and is in need of aluminum cables and wires for to implement a partial replacement. Many of them tend to save on the cost of the cable and buy a cheap "understated" cable products

50%

At least 50%, other things being equal, you can reduce the cost of wiring by using modern and safe cables from alloys of 8XXX series



Financial the calculations prove that the use new aluminum cables and wires up to 3 times cost-effectively, and the use of new alloys makes the use of aluminum not just available, but safe

2016

Until the end of 2016, the energy Ministry and relevant committees to develop and make changes to the editorial Board of the SAE, what will be allowed and will recommend widespread use of the new aluminum alloy 8XXX series alloys

Holding "RUSAL", with Institute of cable VNIKP has made initiative. After consideration The energy Ministry and other relevant agencies document will be adopted before the end of 2016 and the aluminum will get the wide spread in the market.

Why will it happen?

The future of cable for aluminum

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3 times lighter

Aluminum is 3 times lighter than copper, which means that cables and wires from it will also be considerably lighter than copper counterparts

3 times cheaper

When comparing by weight of the finished products of similar characteristics

Up to 7 times more effective

Aluminum cables and wires up to 7 times better than copper in terms of conductivity/price and this gap only increases with increasing cross-section of the conductor.



It is important to understand!

The content of metals in the earth's crust

Aluminium (Al)

8,8%

Copper (Cu)

0,005%

Aluminium more than 1500 times more relevant and available chemical element compared to copper!

All of this means that in conditions when the prices for copper constantly growing - consumers will be forced to find an alternative material. With over the years the copper will just get more deficit, and prices will continue to rise in the as the aluminium is unlikely to be even threaten. This means that the transition to aluminum is inevitable.

We returned aluminium the consumer market

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New experience of "dialogue" with aluminum.

It's not just a nice "slogan". New cables and wires of doped alloys of 8XXX series aluminum (RUSAL) production Orlovsky cable factory is the "new" experience and new "discovery" of aluminum for a wide range of consumers. We have created a fundamentally new and a unique product with no analogues on the market. By combining the experience of creation and promotion on the cable market in various segments, we have developed cables "Smart Alloy™" ("Smart alloy"). All-new aluminum cables Orlovski cable factory received a letter index to brand "AL" (from the word "Alloy" from the English. - "alloy", "is it possible to dope") and will be produced and to move the market under the new brand Orlovsky cable factory Smart Alloy™ ("Smart alloy"). Additional the hallmark of the entire line of cables and wires from alloys alloyed aluminum would contrast stripe the shell – brand "mark" line of products – patentable solution Orlovsky cable factory.

Full line of cable products Smart Alloy certified to meet the requirements The customs Union and the fire safety insured RESO and meets the requirements of GOST ISO 9001:2012 (9001:2008)



New brand, new opportunities.
Full service and support

Smart Alloy™

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“*Reformatting" of consciousness buyers - a question of time. A lot of people "forgot" about aluminum. Of course, in the near future, aluminium is not replace all the copper cables and wires, but new cables, aluminum alloy, will occupy a new market niche. It a completely new product, which still needs time to settle. - the buyer for him to get used to gradually. In a country where the main part of the housing still aluminum cables and wires – the return "aluminum" is a matter of time.*



All products are certified and insured in RESO



System articles and barcode (EAN-13) for all products



The Smart Alloy will be produced in all usual packaging formats and in new formats "Service boxes"



Brand Smart Alloy uses full advertising-supported. We make planograms and stock the POS-materials

+ PROFESSIONAL MERCHANDISING
+A SPECIAL PROGRAM OF LEARNING AND ADAPTATION
+FULL MARKETING SUPPORT



Sergey Kuzminov
marketing & analytics
CEO «ElectroLombard.Ru»

Debriefing for the new "aluminum"

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"Non-combustible" and eco-friendly plastic

High-quality PVC compounds for sheath and insulation meet modern requirements of fire safety and environmental protection

No "tangency" and veins on the other

The Smart mine have the Alloy according to GOST with a cross section corresponding to the nominal. No "tangency" or "TU". "Thick" conductor.

The "white" stripe for the brand

White stripe - indicator of the brand. Only the Smart Alloy will have a distinctive white bar that separates the "new" cable from high-quality alloyed aluminum, from a legacy of the old aluminum cables.

Pliable, flexible, comfortable, but not brittle

The Smart Alloy have a much more flexible and 3 times lighter than copper, which ensures convenient transportation and cabling. Veins easily done, and thus keep their shape. But most importantly, the new aluminium "not broken" and has more flexibility than copper.

All versions of designs.

A wide range of the most popular brands and sizes of cables and wires in round, flat, and with different versions of the shell. The right cable there for everyone.

Orlovsky cable factory & UC «Kamit»

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Fly

with the new cables and wires
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