

BRONYA®

SUPERFINE HEAT INSULATION

Advantages
participation in tenders,
contests, auctions



Liquid ceramic thermal insulation materials are currently presented on the Russian market, which find their consumers due to a wide range of applications and ease of use with low labor costs. Since the materials offered are mainly produced abroad, they have a high cost, which limits the possibility of their mass use in construction, energy and housing, etc. Whereas domestic analogues often leave much to be desired, and their "quality" and ultra-high mark-up for "know-how" cause negativity and bias in the end user towards liquid ceramic thermal insulation materials.

In addition, today, in the vast majority of cases with analogues, there is a banal absence of documents on the declared thermal conductivity in "one thousandth" and other legitimate documents on thermal parameters. Often, in addition to basic certificates, there is nothing to show to our competitors - "colleagues".

Dear partners!

The purpose of this publication is an urgent recommendation to provide the customer with the Advantages of Bronya file, as well as to provide him with Tests and Certificates (described in this file) in addition to your presentation documents and events.

Since the products manufactured by NPO Bronya LLC have been tested for physical and thermophysical parameters in certified laboratories of large research centers and the availability of certificates of various levels confirming the conformity of products with quality standards in various spheres of the national economy, gives us and our commercial representatives (dealers) strategic advantages when concluding contracts with customers for the supply of products, as well as increases the likelihood of concluding transactions when participating in tenders, the above-mentioned package of documents in the form of a set of tests confirming the declared quality, as well as certificates and admission documents, give our partners and their customers an unprecedented advantage in relation to tender or other competitive events. It seems obvious, but I want to talk about how it is implemented specifically:

The properties of GITM Bronya, which are characterized by a list of specific supporting documentation and certificates of admission, in the case of their description in the documentation at the stage of laying in the project of the first stage, then in the case of a competition in the form of, for example, similar documents, which are absent from analogues, give an undeniable advantage.

It is necessary to inform the client that the liquid heat insulator agreed upon by him during the presentation (according to characteristics and price conditions) and the decision made to approve the Bronya for his objects and (or) equipment must be fixed, i.e. for today if the customer specifies.

- a) thermophysical and physical characteristics of products;
- c) description of mandatory certificates and admission documents;

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d) (as an option, but important) the company participating in the competition must have and provide the necessary document from the manufacturer of the bronyaed housing equipment to those trained by the manufacturer and (or) other admission indicating the competence of the supplier's employees - as an opportunity to participate in the tender and (or) tender (auction) for the performance of work, and (or) supervising the application in the form of installation supervision, training of the customer's employees, etc.

We do not see today, in the case of honest and legitimate tender events, who could really replace us!

An important addition is that as soon as we received the package of benefits described in the file to this letter, the practice began that customers - customers willingly go for it - since no one wants to become a hostage to the fact that the material agreed upon by them in terms of price and characteristics, often even tested at the customer's facilities, can be replaced with an "analogue" due to bureaucratic inaccuracies and pseudo-identity substitution.

At a tender, auction, or tender in case of a client's need for "abstract liquid thermal insulation", including if the conditions require that a specific material, "no name", with a thermal conductivity of one thousandth, is not included in the project, then all other things being equal, in the form of prices and delivery conditions, our material will be the leading, or even the dominant contender for victory.

And in general, the unprecedented package of documentation for the housing and communal services market that the Bronya has, for the first time, makes it more likely to lay the material in the project documentation at the initial stage (which is now happening massively), and not as it was before in the main - in the current and completed project, the replacement for the housing and communal services was often made for "financial and political" reasons.

Own Modern production of Innovative developments of modifications of Bronya heat insulators, with confirmed numerous tests of all declared physical and thermophysical parameters, an impressive set of certificates and permits, and of course an unsurpassed team of technical and marketing specialists - that's what distinguishes us, Volgograd Innovative Resource Center Group, from numerous catching up.

Advantages

Liquid Ceramic Thermal Insulation materials are currently presented on the

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Russian market, which find their consumers due to the wide scope of application and ease of use with low labor costs. Since the materials offered are mainly produced abroad, they have a high cost, which limits the possibility of their mass use in construction, energy, housing and communal services, etc. Whereas domestic analogues often leave much to be desired with their "quality", and an extra high mark-up for "know-how". Causing negativity and bias in the end user towards liquid ceramic thermal insulation materials. In addition, in the vast majority of cases with analogues, there is a banal absence of documents about the declared thermal conductivity in "one thousandth" and other legitimate documents about thermophysical parameters. Often, in addition to basic certificates, there is nothing to show to our competitors - "colleagues".

Own Modern production of innovative developments and modifications of Bronya heat insulators, with confirmed numerous tests of all declared physical and thermophysical parameters, a total set of certificates, permits and, of course, an unsurpassed team of technical and marketing specialists - that's what distinguishes us, LLC Bronya, from numerous "catching up analogues".

We are sure that your customers are making the right choice! **Certification**

In addition to basic certification (Firefighter, With GR, Compliance), GITM Bronya has an extended certification package:

- Certification in the Gazpromcertification system
- Certificate of conformity in the Mosstroycertification system (with the issuance of a separate framework certificate for each modification)
- Certificate of standard approval of the Russian Maritime Register of Shipping
- Certificate of the ISS "NEFTEGAZ ENERGOEXPERT", on entering into the register of suppliers of the oil and gas complex
- Certificate in accordance with GOST R
- Fire Safety Certificate
- Sanitary and epidemiological conclusion
- Certificate of fuel and energy complex TEKSERT
- Certificate of the Federal Directory of the Fuel and Energy Complex of Russia
- Certificate of the Ministry of Regional Development of the Russian Federation, represented by Zhilkomunstroycertification, on the inclusion of thermal insulation polymer coating in the official register of technologies, equipment and materials used in the housing and communal services of the Russian Federation
- Ultrathin thermal insulation Bronya and its production is certified in the ISO 9001:2011 system and can be used in Russia without restriction.

*Liquid ultrathin thermal insulation has carried out laboratory tests
of all physical and thermophysical*



parameters by certified laboratories. In its archive, regalia has a huge number of official acts, tests and conclusions on successful application from leading enterprises of industry, extraction and processing of resources, housing and communal services, CBM, etc. The production and use of liquid ceramic thermal insulation materials Bronya are protected by patents No. 118654 and No. 136461.

Trials

GC VIRTIS Bronya is responsible for fulfilling obligations and setting self-tasks. The main task of importance, after the production of high-quality products that have no analogues in many ratios, is the obligation to dealer partners and their customers to provide supporting documentation of the declared characteristics and admission documents. After all, the construction materials market does not tolerate unfounded statements - for successful and mass application and implementation, it is extremely necessary to confirm the declared innovative (in our case, thermophysical) characteristics in the form of conclusions and tests of reputable accredited laboratories and institutes! And in this, we simply have no equal in the GI market today"

a) One of the main factors in assessing the thermal insulation properties of the material is the coefficient of thermal conductivity. The exceptional thermophysical properties of GITM Bronya have been confirmed by tests in accredited laboratories, such as:

- JSC Mosstroycertification - test report of thermophysical properties (thermal conductivity and heat transfer) of all modifications of the bronyaed housing and communal services (classic, antikor, facade, winter).
- JSC Mosstroycertification - determination of the coefficient of thermal conductivity by a method close to real operating conditions on enclosing structures. These tests of liquid ceramic thermal insulation Bronya in the framework confirm the declared in TU 2216-006-09560516-2013 index of the coefficient of thermal conductivity.
- JSC "Mosstroycertification" - confirmation of all physical and thermophysical properties of the Bronya series GITM for compliance with TU 2216-006-09560516-2013.
- JSC Russian Railways (testing of JSC VNIIZHT) with a conclusion on thermophysical and physical parameters.
- V,P, Larionov Institute of Physical and Technical Problems of the North SB RAS - conclusion of tests of thermophysical characteristics (thermal conductivity) according to GOST 7076-99.
- LLC StroyLaboratoria SL is a testing laboratory (Center) in the system of voluntary certification of GazPromSert - testing of thermophysical properties (thermal conductivity and heat transfer).
- LLC "Stroyexpert Testing Laboratory" - determination of the thermal conductivity coefficient of liquid ceramic coating of the Bronya series (reconstruction of real operating conditions on the facades of buildings).
- GAZPROMNEFT - full-scale tests to determine the coefficient of thermal conductivity.



b) One of the important points of the criteria for the successful application of GITM on concrete structures is compliance with the necessary effective coefficient of vapor permeability of the insulated wall. Since most of the GITM presented on the market are film-forming (both in essence and in the way they are applied), the end customer - customer has to be vigilant when choosing the necessary GITM, in order not to encounter film formation and, as a consequence, "steaming" of the structure. A choice error can lead to at least an increase in the humidity level in rooms with mold, and as a maximum - steaming

of the wall and destruction of the structure in the "dew point" movement! The vapor-permeable modifications of the housing and communal services Bronya (Facade Bronya, Winter Bronya, Light Bronya) have the necessary vapor permeability coefficient of high-quality facade paint for use on walls. Due to this, they are applied in thick technological layers and do not give the risk of "steaming" concrete structures. The following tests serve as confirmations of the declared characteristics:

- Rutil LLC, St. Petersburg - conclusion on tests for the resistance of the vapor permeability coefficient of vapor permeable modifications - Bronya Facade, Bronya Winter, Bronya Light
- Ак Акрокор“, LLC NPF "INMA", St. Petersburg - conclusion on the results of tests for the coefficient of vapor permeability of the Bronya Facade.

c) Another indisputable advantage of GITM Bronya is the service life of the coating, which is 15 years, this is confirmed by tests on artificial aging of the coating (resistance to variable temperatures):

- Rutil LLC, St. Petersburg - artificial aging test (80 cycles of defrosting-freezing)
- Institute of Physical and Technical Problems of the North named after V.P. Larionov SB RAS - test for frost resistance of GITM Bronya

d) Also do not forget about such not unimportant parameters as adhesion, resistance to temperature, resistance to static water, flammability group, etc. all the declared indicators have also been subjected to rigorous testing:

- LLC "StroyLaboratoria SL" - confirmation of all physical and thermophysical properties of the Bronya series GITM for compliance with TU 2216-006-09560516-2013

Acts, Reviews, Competence

Specialists of VIRTIS Bronya Group supervised, accompanied and carried out deliveries to more than a thousand objects, we have gained rich experience in the use of liquid ceramic thermal insulation coatings in various fields of the national economy - construction, industry, housing and communal services, heat and power engineering. Hundreds of enterprises of the oil and gas industry, construction, manufacturing enterprises, as well as large

mining companies over the years have been able to assess the level and professionalism of our specialists (this is reflected in dozens of Acts, Reviews and Letters of Thanks), the knowledge and competence that we are willing to share with our partners and customers today.

Technological differences



1. Microsphere

We use a fundamentally new combination of 3 types of microspheres. This combination is our know-how, which, thanks to the unique ratio of different diameters of the microsphere, as well as special materials, makes it possible to increase the volume of the contents of microspheres (that is, vacuum). Also, this combination of microspheres makes our material more resistant to mechanical loads and, above all, to pressure loads when applied mechanically! After all, a well-known problem of many of our competitors is the instability of the material to be applied by most airless application devices!

Important! If the shrinkage of our material when applied by an airless application device is 0-5%, then the shrinkage of the "competitor" is from 50% (!) to 80% (!!!). That is, it is absolutely not intended for mechanical application. But serious volumes imply precisely the application of airless application devices!

It is not difficult to verify the above. Apply the same amount of GITM "Bronya" and the tested "competing material" with an airless application apparatus to the same area, measure and fix the thickness of the liquid layer. The next day, or for a greater difference by applying several similar layers, measure the thickness of the dry residue. The result will be obvious! If the microsphere of the "competitor" is destroyed and (or) weeded out, which will lead to a significant difference in the thermophysical parameters of the test samples.

2. The total percentage of the microsphere in the composition.

In Bronya, thanks to the above-described know-how, it ranges from 75% to 83%, depending on the modification.

This is 1.5-2 times more than all analogues in the Russian market.

Bronya is a very thick material (the closest in consistency are American analogues with a price 2-2.5 (!) times higher). Despite the noticeably different thick consistency, it is absolutely not difficult to work with it. And the most banal test with applying a brush to a hot surface of the same thickness of the compared materials will show the difference in thermophysics, that is, in the amount of microspheres.

Summarizing, but it is the amount of microsphere per cubic unit of material volume and its integrity in the surface of the dry polymerized residue that is the key to confirming the claimed thermophysical characteristics!

3. Stabilization of the composition.

In the development of Bronya, fundamentally new stabilizers and preservatives are used,

odorless and absolutely PH neutral, that is, the material has become even less dangerous to human health and the consistency of the composition has become more conservative, that is, the material does not break down so much into fractions during transportation and storage, like a "competitor". This increases the actual shelf life of the material and reduces the time and labor required to prepare it before use.



Marketing

1. Packaging.

The material is available in containers of 5, 10 and 20 liters - the price for 1 liter in all types of containers is identical.

2. Related products.

The Volgograd Innovation Resource Center also develops and produces a constantly expanding line of related products - a series of special coatings that are ideally comparable in work and tasks to be solved, as well as being a panacea that has no analogues on the market! So, for example, a special bronya coating "Hydrophobizer" not only solves its main task of waterproofing and resistance of the coated surface to atmospheric and mechanical influences, but also, unlike other hydrophobizers, does not worsen the thermal insulation effect of the Bronya.

Engineering and Technical Department

- Our company provides full technical support for thermal insulation coatings of the Bronya series. The Engineering and Technical Department of the Volgograd Innovation Resource Center, among other things, performs the following main tasks and functions:
- Providing professional advice at any level (technical, thermal, engineering, etc.) at all marketing stages - both to employees of our Representative Offices and to end customers, representatives of customers of our Partner centers;
- Performance of thermal engineering calculations (for example, to determine the required thickness and amount of coating of liquid thermal insulation Bronya to solve the task, calculation of the dew point, etc.) of any complexity and level, with the construction of the necessary graphs and diagrams. Calculations are carried out by our staff of experienced specialists of the highest competence. This service is provided free of charge and promptly.
- Implementation of the author's supervision at all stages of application.
- The production of test applications (coating samples are provided free of charge), both by the specialists of the ITO of the Volgograd Innovation Resource Center, and by the employees of numerous Representative Offices, Dealerships and Distribution centers.
- Training and trainings on working with liquid thermal insulation coatings Bronya, including theoretical courses and practical skills.

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The result of the work were thousands of successfully completed objects.

Production capacity

The capacity without emergency production until recently was 20,000 liters per shift. However, a second mixing and bottling plant has recently been launched, and this capacity has at least doubled.

It is also worth considering that there is a storage buffer. That is, our company is ready to provide a volume of 20,000 liters for shipment within 0-3 days.

Shipment from our warehouse in 99% of cases occurs on the day of crediting funds to our checking account.

We work with all transport companies with branches in Volgograd and in most cities of Russia. It is also possible to consider the option of self-export.

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