



Transparent polymeric binder B2color™ for colored asphalt concrete production



Benefits of transparent binder implementation



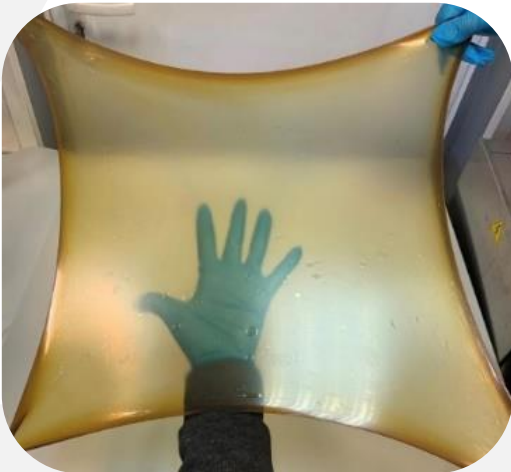
Additional source of revenue for the plant worldwide



Extension of the product range



Production and sales



Transparent polymeric binder **B2color**

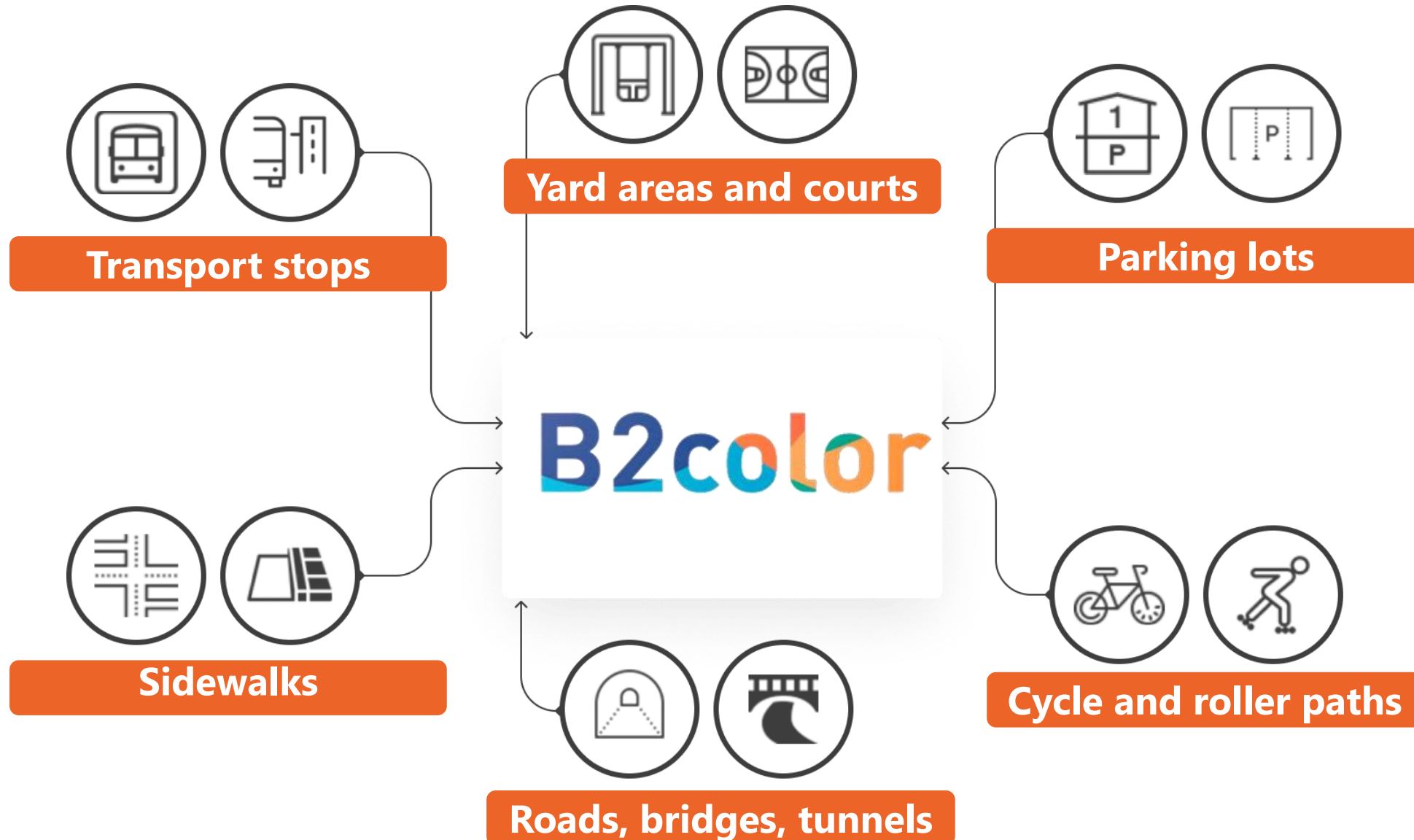
B2color™ is the trademark of the Russian patented transparent polymeric binder (TPB) with the in-house original formula developed by the Research Center of AO "ABZ-1" (trademark №719435).

Transparent polymeric binder is used in the production of the colored asphalt concrete for:

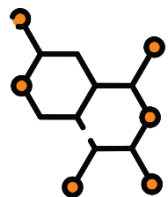
- designation of special areas that require greater attention of all road users (bike lanes, stops, etc.);
- production of light pavement in dark structures (tunnels, underground parking lots, etc.) for the purpose of energy efficiency of facilities;
- solving of the aesthetic tasks of the architects and designers in the organization of pedestrian and bicycle paths, driveways, other areas (roller skating, patios, etc.) in public spaces, parks, private commercial residential and industrial facilities.



Application field of B2color



Characteristics of B2color



B2color™ TPB is a mixture of oils, resins, polymers, and additives.



The qualitative characteristics of the B2color transparent polymeric binder were proven to be **equivalent in their values to traditional bituminous binders** and can be used in the composition of types of asphalt concrete mixtures according to GOST 9128, GOST 31015, GOST R 54401, 58406.1, 58406.2, which makes it possible to comply with all the requirements laid down in the road pavement project documentation **to loads, climatic zones, and other operating conditions.**



B2color™ is the only transparent polymeric binder in Russia adapted to all climatic zones of the country: from the Arctic to the subtropics

Characteristics of B2color

Classification of B2color transparent polymeric binder by brand marks depending on the value of penetration index (depth of needle penetration) at the temperature of 25°C.



Brand mark	Penetration at the temperature of 25°C, 0.1mm
B2color 100/130	101-130
B2color 70/100	71-100
B2color 50/70	51-70

The maximum warranty shelf life of B2color™ TPB at the temperature of 155°C is 3 days, subject to all the requirements to storage and transportation are met.



In solid form, in closed containers, the maximum shelf life of B2color™ TPB is 12 months from the date of manufacture.

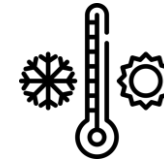


Technology of colored asphalt concrete production in ACS

1. B2Color™ TPB may be used on the standard mixing equipment of the asphalt concrete plant of any brand, having previously cleaned the production units



2. To work with B2Color™ TPB in ACS, it must be heated to a temperature of 100°C



3. Use the temperature necessary for the required type of mixture during production



4. After cleaning the units, the process of supplying B2Color™ TPB to the ACS is similar to bitumen or PBB



On demand:

- we send the full instructions for TPB operation in ACS
- consultation visit of ABZ-1 technologists to the production site for the technology implementation is possible

Delivery capabilities

Bitutainer

1. For lease
2. Does not require purchasing of additional equipment for heating and storage of B2Color™ TPB
3. Volume – 24 m³, electric heating – 15 kW capacity
4. Mixing is carried out by the circulator (customer's pump)
5. Connection to the ACS is considered individually after the provision of the bitumen supply line diagram by the customer. In the original version, a container with a ball valve with a camlock connector is provided.



200 L barrel

1. Is included in the cost of TPB
2. Requires the purchase of additional equipment for barrel heating, pouring from the barrel into a storage tank, pumping from the storage tank into a tank with agitators
3. Heating with silicone belts or in standard smelt furnaces



Instruction for working with TPB in ACS

1. How to drain TPB from a barrel into a container?

It depends on the capabilities and equipment of the production site. One of the options is to heat a container (a barrel) to 100 degrees and pour it into a specially made container by gravity, from where to pump into transparent polymeric binder container in ACS.

2. What kind of container is needed and where to buy it?

A container is similar to a container for polymeric bituminous binder, equipped with temperature maintenance system and mixing (or circulation) system.

3. What should be adjusted to the unit for pigment dosage?

It all depends on the ACS configuration. There may be many options. The pigment is fed directly into the ACS mixer. It is possible to feed similarly to the mineral powder, or perhaps by analogy with the input unit of a stabilizing agent.

4. What is the minimum amount of TPB required for a complete production cycle of a color mixture batch (let's say 25 tons)?

The amount will depend on the content of the binder in the mixture planned for release. In addition, a binder must be fed to flush the bitumen line if this line is used for conventional binder. The recommended amount is equal to the amount of a binder required for three batches of asphalt concrete mixture.

Instruction for working with TPB in ACS

5. How to clean ACS (all units and time for cleaning before production)?

Mixer cleaning – with hot crushed stone.

Mixer leaves cleaning –with hot crushed stone, manually.

Charging skip cleaning (if direct charge is impossible) – with hot crushed stone, manually.

Discharge of the colored mixture through the finished product storage bunker is not recommended.

Cleaning time is individual for each ACS.

It is important to exclude entry of conventional mixture residues in the colored mixture.

6. What is the temperature of colored mixture production?

The mixture temperature is equal to the temperature of conventional mixtures produced with the use of modified binders.

7. At what time the pigment is dosed?

Together with mineral powder, before binder feeding.

8. What is the mixing time?

Particular for each ACS. Trial output is necessary.

9. Should the unit be cleaned after production of colored mixture?

Recommended.

Instruction for working with the colored mixture

- Temperature of a asphalt concrete mixture output is **not higher than 170°C** (depends on mixture type);
- Transportation in **cleaned** transport bodies;
- Laying with the use of **cleaned equipment** (it is desirable to add a soapy solution to the road roller);
- **Structure of pavements** from a colored compactible asphalt concrete mixture is **similar** to the structure of pavements from traditional compactible mixtures on the basis of a polymer-bitumen binder;
- Hermetic sealing of longitudinal and transverse joints of the pavement, mastic for lubrication of joints should be **colorless or of asphalt concrete color**;
- After laying, the surface of the pavement has a darker shade, **which brightens after complete cooling**;
- There may be cases of whitish hue after compaction, which disappears after a few weeks;
- It is not recommended to use solvents for the colored pavement cleaning, as this may lead to **deterioration of the properties** of the colored asphalt pavement;
- For better color retention, **frequent wet cleaning** with soapy solution and traffic control (acceleration/deceleration and overall flow rate limitation) are necessary.

Demand

State customers:

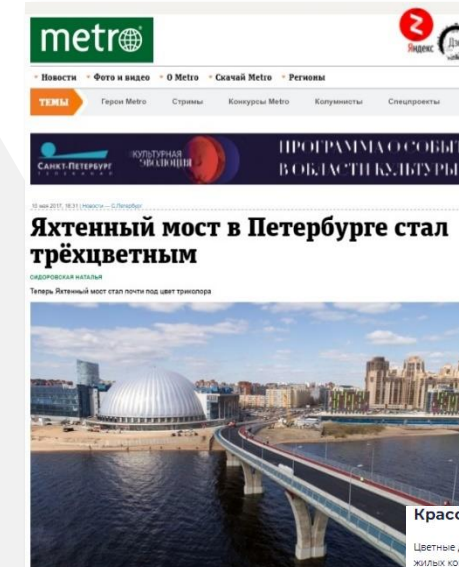
- State programs for creation of comfortable urban environment (yard areas, public spaces, parks, squares, bicycle paths, embankments);
- Development of bicycle road nets in cities and regions;
- Improvement of estimation of the urban environment quality index by the Ministry of Construction of the Russian Federation.

Commercial customers:

- Housing companies;
- Cottage settlements;
- Public and industrial facilities.

On demand

- Organization of material (colored asphalt concrete) presentation to the interested customers



На строящемся путепроводе во Всеволожске проложили красную дорожку для пешеходов

22 сентября 2021, 16:12

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3 КОММЕНТАРИЯ



Во Всеволожском районе Ленобласти появился цветной путепровод. Впервые областные дорожники использовали красно-бордовый асфальт. Он дорожке, зато ярче.

Как сообщили 22 сентября в дорожном комитете Ленобласти, красно-бордовый стал тротуар на путепроводе через железную дорогу во Всеволожске. Так его визуально отделили от проезжей части. Создать цветной асфальт сложнее, чем обычный, поскольку для него нужен прозрачный вяжущий компонент, в стандартной же асфальтобетонной смеси используется черный битум, отметили в ведомстве.

ДНЕВНИК

В Петербурге в общественном пространстве Бестужевского сада появился первый в городе зеленый асфальт

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В последние время там проводят работы по благоустройству территории



Красочный дизайн

Цветные дорожки используют как элемент дизайна при благоустройстве дворов в многоквартирных жилых комплексах и для оформления внутренних территорий коттеджных поселков. Разноцветные полосы разделяют пешеходные, игровые пространства и дорожки для велосипедов и самокатов. Такие решения можно встретить, например, в жилых комплексах «Светлый мир «Внутри...», «О Юности», GrönaLund, «Галактика PRO», «Авиатор» и других.



ЖК GrönaLund. Фото: ОАО «АБЗ-1»

Чтобы покрытия вписались в популярный «природный» стиль, можно использовать мягкие, натуральные оттенки. Впрочем, не все дизайнеры предпочитают нейтральные цвета. Например, на берегу озера Нахимова есть коттеджный поселок премиум-класса Likokolob. Здесь много внимания уделено благоустройству: вдоль набережной засеяны газоны, высажены туи, поставлены уличные фонари. А для обустройства дорожек использовался красный мелкозернистый асфальтобетон.

Аналогичное покрытие асфальтобетон компания «АБЗ-1» поставила для благоустройства территории у резиденции губернатора Петербурга в Сильном проезде. А в Бестужевском сквере использовано покрытие из зеленой мелкозернистой плотной асфальтобетонной смеси. «Комитет по благоустройству применяет наши материалы, нас приглашают в качестве экспертов при проектировании дорожек в парках и скверах», – комментирует Анастасия Никитина.

В 2021 году в издании Journal of Traffic and Transportation Engineering вышел обзор практик применения, авторы которого также рекомендуют использовать цветные дорожки на внутриквартальных территориях, чтобы разграничить зоны для пешеходов, велосипедов и пр.

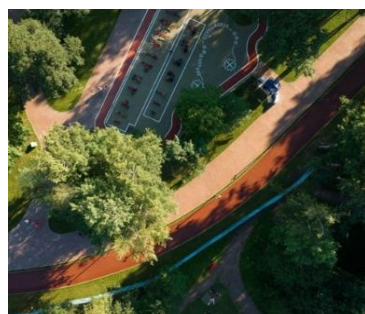
Customers appreciate colored asphalt concrete

Be the first in your region!

EXPERT OPINIONS



Issue No. 19 dated 11/28/2022



Anton KIRAKOSYAN, Founder and CEO of KAS-Dorstroy

«We have been working with ABZ-1 colored asphalt for more than four years, however, so far we have only used two shades of red. One of the last objects is the Fermskoye Highway in Pushkin: the road is six meters wide and one kilometer long. But we mainly work with this material when creating bike paths in residential complexes. However, there are examples of the successful use of

such material on overpasses, bridges, in squares, colored asphalt is laid, for example, at the Smolny Cathedral.

Despite our experience, each new application of colored asphalt is exciting. Its cost is much higher than the usual one, and installation requires special preparatory work. For example, it is necessary to carefully clean the equipment from the black bitumen with which it usually works. To prevent asphalt from sticking to the rollers, diesel fuel is used, but in the case of colored asphalt, only soapy solutions are allowed.»

Olga CHERDANTSEVA, Head of the Competence Center for the Formation of a Comfortable Urban Environment of the Improvement Committee

«Such material provides additional opportunities for architects and landscape designers. It will help create interesting and harmonious

courtyard spaces. If the equipment on the site is made in blue, then the approach to it can also be done in this color. This will allow you to form a whole picture of the yard space, and not a set of disparate landscaping elements.

Colored asphalt can also be used to create pedestrian crossings. Yes, the costs in the moment will be higher, but they are offset by the durability of the material.»

Denis ZASEDATELEV, General Director of Operational Business of Lenstroytrest Group of Companies

Colored asphalt concrete is a fairly new material. For example, we are currently working with it on the new lines of our Okla and Yanila projects. It is mainly used in business-class residential complexes. Firstly, this is due to the price: such a road surface is more expensive than a standard one. Secondly, from the very beginning, you

need to understand the semantic load and think over the use of the material at the design stage. Colored asphalt helps architects to realize an important task: to aesthetically and unobtrusively bring together the landscaping of the territory and the entire block.

Lyubov KOSTINA, Executive Director of the O-KRUG architectural bureau

We use colored asphalt mix for cycle paths, where color highlighting and surface uniformity are important. This coating is suitable not only for cycling, but also for rollerblading.

Rubber pavements are sometimes used for bike paths, but asphalt concrete pavements are more wear-resistant. In addition, in most of the projects of residential complexes that our bureau is working on, yards without cars are designed. In this case, the bike path is included in the fire lane, so we

also think about the service life of such a coating under traffic loads.

German MOYZHES, Executive Director of the Let's Go Association

Colored asphalt pavement improves the comfort and safety of cyclists, and with proper planning, improves the aesthetics of city streets, courtyards and squares. It does not wear out like paint, which means it is also an environmentally friendly solution. The Let's Go Association supports the use of such material in our region.

We believe that it is possible to color-code dedicated lanes for public transport, parking spaces for the disabled and other road sections that should be visually readable.

Given the preserved historical environment of our city, it is necessary, of course, to correctly enter colored areas and asphalt strips in the center.



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Website



Export