



## **SBS POLYMERS: HIGH POTENTIAL**

The new Voronezhsintezkauchuk's capacity will not only help SIBUR to boost the existing production of materials for the needs of road construction and roofing industries, but to offer product grades for compounds and glues.

### **Reliable roads**

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POLYMER-BITUMEN BINDERS (PBBS) ARE A KEY APPLICATION AREA FOR RUSSIAN SBS POLYMERS. THE LIFETIME OF PBB-CONTAINING PAVEMENT IS INCREASED FROM 3–4 YEARS TO 7–10 YEARS.

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SIBUR's Voronezh site remains the only thermoplastic elastomers producer in Russia and, moreover, in the CIS. Voronezhsintezkauchuk offers unique products: at normal temperatures, the characteristics of SBS polymers are close to those of rubber, while at higher temperatures, starting from 120o C they soften like plastic. Products that have SBS polymers among components are flexible and resistant to cold, which makes them indispensable in cold climates.

One of TPE's key application areas is the production of polymer-bitumen binders (PBBs), which are part of the road pavement's top layer. This segment successfully contributes to Russia's import substitution strategy: most of the production is domestic.

"We seek to make the main highways' interval between repairs longer," says Liliya Zhukova, Head of Marketing and Strategic Development at Gazpromneft–Bitumen Materials. "They have already been increased to 12 years between minor repairs and to 24 years between major repairs. Pavement quality is crucial for such projects. SIBUR, our core supplier, accounts for 97% of the total feedstock supplies for PBBs production. SIBUR is on par with the best foreign peers in terms of product quality."



*SIBUR's Voronezh site.*

According to expert forecasts, consumption of TPE in the road construction segment has a growth potential of 7–10% per year, driven mainly by Russian President Vladimir Putin's so-called May decrees about increasing road lifetime and the Government's position on the quality of federal highways.

The demand is also boosted by the Safe and High-Quality Roads national project that includes programmes for developing the roads in major urban agglomerations and bringing them to the required working condition.





*Volzhskoye Highway in Samara was repaired under the Safe and High-Quality Roads project Source: <http://bkdrf.ru> (<http://bkdrf.ru>).*

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PBBS FEATURE HIGH ELASTICITY AND THERMAL RESISTANCE, AND PAVEMENTS BASED ON PBBS HAVE INCREASED RUTTING RESISTANCE. ALL THIS REDUCES THE PAVEMENT MAINTENANCE EXPENSES ALMOST BY HALF, WHILE SIGNIFICANTLY INCREASING TRAFFIC SAFETY AND ROAD CAPACITY.

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“Such projects are indeed a major market development driver,” says Anna Ryzhikova, Chief Marketing Expert at SIBUR’s Plastics, Elastomers and Organic Synthesis Division. “Previously, the project covered only cities of over one million people, while now the cut-off line is at 100,000 people. 26,165 km of roads were planned for improvement in 2018. SBS polymers produced by SIBUR served as components for the polymer-bitumen binders used for the above purposes. We also hope that a significant part of products for the automotive industry will be made from our raw materials.”

### **Semi-finished product with potential**

For the last five years, TPEs consumption by Russian compound producers has more than doubled as the result of active development of new grades and production capacity expansion.

“However, imported TPEs are still strong in some sub-segments of the market,” says Vadim Lunev, Head of the Engineering Plastics Group at RUSPLAST. “One of such sub-segments is footwear industry: shoe soles are made from Italian materials. Chinese TPEs with Shore durometer measuring less than 30 hardness units are popular with toy manufacturers.”

After its product grade offering is expanded, SIBUR is planning to move to the domestic market segments traditionally occupied by its foreign competitors.



*The polymer-bitumen binders in road pavement provide the required cold resistance.*

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TPE COMPOUNDS ARE MATERIALS USED IN THE PRODUCTION OF VEHICLES, SHOE SOLES, TOYS, DOOR/WINDOW SEALS.

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Particularly, next year Voronezhsintezkauchuk will put into operation new SBS polymer grades that can be used to make compounds and glues in the roofing segment.

## **Investments in roofing**

Recently, market experts have noted two trends. First, consumers are ready to switch to higher quality domestic roofing materials containing TPEs: it pays off in operation. Another trend is related to construction programmes for flat roofed multi-storey buildings.

“Housing renovation and construction programmes, as well as repairs really boost the roofing segment of the Russian market,” Anna Ryzhikova confirms. “The European roofing market is also on the rise. It is driven by the stricter requirements for energy efficiency, environmental legislation, along with the economy and construction industry picking up. SIBUR is interested in strengthening its position in the TPE market as a reliable supplier with a broad range of products. That is why next year we will continue to develop product grade offering in the segment as well.”





*Housing renovation and construction programmes boost the growth of the roofing segment.*

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HOWEVER, A SIGNIFICANT PART OF MATERIALS IS STILL IMPORTED. EXPERTS SAY THAT IN THE NEXT FEW YEARS, THIS WILL CHANGE – SIBUR'S SHARE IN THIS SEGMENT IS GROWING LIKEWISE.

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## **Export opportunities**

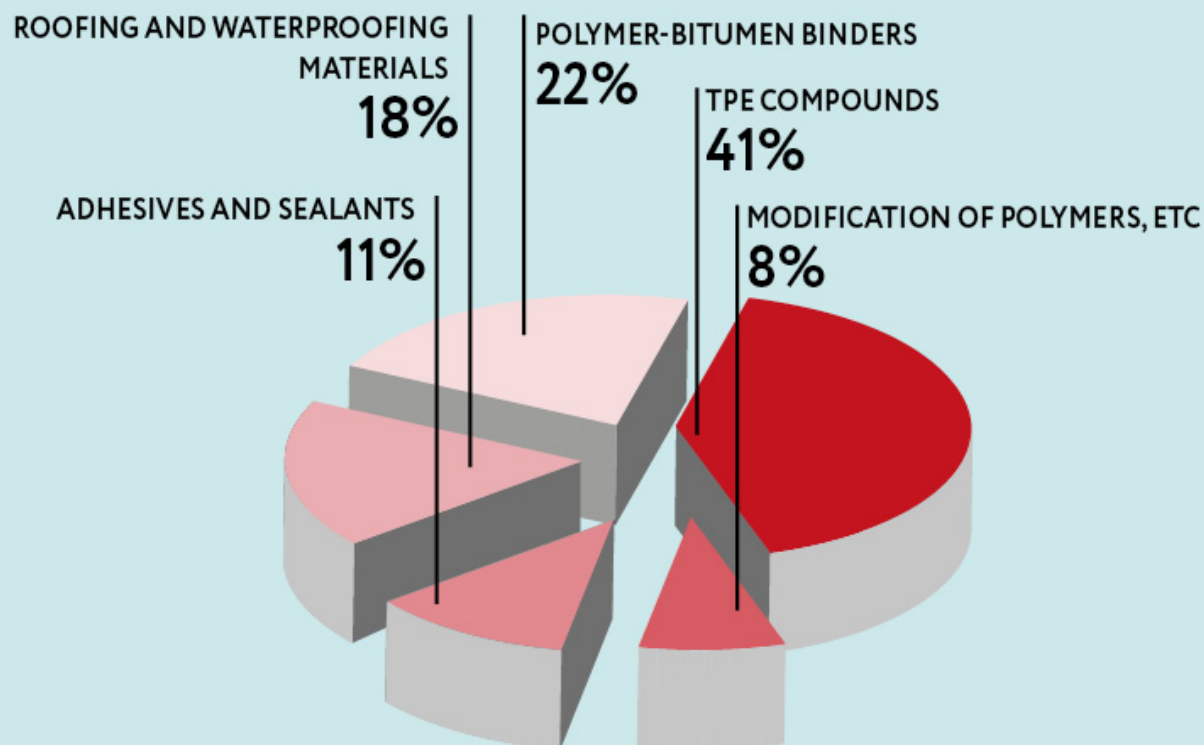
While nearly half of TPEs produced by SIBUR is supplied to the domestic market, the rest is exported. The key export market is Europe, but export destinations are gradually expanding. North America, the Middle East and Africa spur additional demand for SIBUR's products.

Important: TPE is a highly seasonal product, so SIBUR may use the warmer climate countries to offset seasonality.

SBS polymer consumption in the global market totals 1.9 mtpa. Asia accounts for over half (55%) of SBS type TPEs consumption, 18% goes to the European market and 9% – to North America.

Currently, the share of Russia in the global SBS polymer production and consumption is still modest, but it will change in the coming years.

## GLOBAL CONSUMPTION OF SBS POLYMERS IN 2017, %



“In the next few years the growth in the thermoplastic elastomers market will be driven mainly by import substitution,” Vadim Lunev says. “I agree with the experts who estimate the market growth rate at up to 7%. I even think those numbers could go even higher – 10–15%. We expect a growth spurt in the TPE compounds segment: new facilities are launched, modern equipment used, new grades developed. All of the above makes a successful competition with foreign peers.”