



HIGH QUALITY STANDARDS

While the roofing materials market is still dominated by metal roofing, asphalt shingles enjoy stable demand in Russia, with manufacturers working actively to expand exports and obtain patents on some of their unique products. **Sergey Klyukin** CEO of Döcke Home Systems.



Döcke Group has been manufacturing materials for individual housing construction since 2005. Today, it is one of the market leaders in Russia, with the three of its production facilities spanning 20 hectares. Annually, the company manufactures some 10 mln sq m of siding; 5 mln linear m of drainage systems; 3 mln sq m of facade panels; and 12 mln sq m of asphalt shingles.

Who are your customers and why do they prefer asphalt shingles to metal roofing?

Our materials are primarily used in low-rise construction. Among our customers are construction companies, architects, designers, investors, individuals and all those involved in the construction of low-rise housing. Some customers rely on their own taste to choose shingles, while others seek professional advice. The market has always been dominated by metal roofing solutions, but asphalt shingles have certain advantages. They provide better waterproofing, come in a wide range of shapes and colours, and are less noisy during precipitation compared to metal roofs. Most importantly, asphalt shingles can be used on complex roofs, adjusting to any shape and maintaining its roofing functionality.

On top of that, they have a longer service life compared to conventional materials. The material is relatively new for Russia. It has been used in construction since the late 1980s, but at the time, all of it was imported. Gradually, facilities manufacturing asphalt shingles started popping up in Russia, with Döcke Home Systems launched five years ago. Over the past few years, the shingles market in Russia has been stable both in terms of output and consumer demand.



Asphalt shingles enjoy longer service life compared to other roofing materials

CONSUMERS ARE MAINLY ATTRACTED TO THE LONGER SERVICE LIFE OF ASPHALT SHINGLES COMPARED TO CONVENTIONAL MATERIALS.

Your production facility in Kirzhach, Vladimir Region, is one of the most advanced in Europe. How did you manage to create this cutting-edge facility?

We started by looking for the best equipment available in the market. The asphalt shingle technology was developed in the middle of the previous century in the United States, with US companies still leading the industry. Currently, we have two lines deployed at our facility: shingles are produced on US equipment, while Italian technology is used to manufacture rolls. We strongly believe in investing only in the most reliable and high-quality equipment to achieve good results. All production processes were streamlined in advance to ensure the facility's seamless operation from day one. We made sure to adopt the best international practice of the past several decades. Having the most recently opened asphalt shingles facility in Russia, we benefited from the opportunity to furnish it with the most cutting-edge technology.



The Company's production facility in Kirzhach.

IN THE PAST FEW YEARS, THE SHINGLES MARKET IN RUSSIA HAS BEEN STABLE BOTH IN TERMS OF OUTPUT AND CONSUMER DEMAND.

You are not only successfully adopting the best international practice, but also developing innovative solutions. What new technologies have you been able to patent?

We make every effort to ensure compliance with international quality standards, while also working continuously to improve our production technology and expand the product range. The facility is equipped with its own R&D laboratory, which is tasked with developing new technological solutions that are promptly tested and implemented in the production process. The rapid development of the industry makes innovation particularly challenging. To obtain a patent, you need to come up with something fundamentally new and unique, and our specialists have done it.

We have patented our own technology for gluing asphalt shingles known as bitumen welding. This is a unique technology unmatched both in Russia and the US. Usually, asphalt shingles sinter and turn into a single waterproof cover under sunlight. Our technology provides for glueing together the asphalt shingles prior to mounting them onto the roof to ensure better adhesion. When laying the roofing, it is exposed to wind and other elements. If individual shingles are not glued beforehand, they can shift and even come off the roof. Our patented technology ensures adhesion of shingles three times as strong as similar solutions across the world.



Glass fibre used in the production of asphalt shingles. Start of production process.

WE STRONGLY BELIEVE IN INVESTING ONLY IN THE MOST RELIABLE AND HIGH-QUALITY EQUIPMENT TO ACHIEVE GOOD RESULTS.

What are the main hurdles faced by manufacturers of asphalt shingles and what hinders the industry's development?

The metal roofing is still dominant in the market. Customers are mainly guided by price when choosing the roofing type. Compared with an asphalt shingles roof, a metal roofing of the same service life will cost just as much or even more. However, manufacturers of metal roofing cut the cost of their product by reducing the metal thickness and quality, meaning that it cannot be directly matched with asphalt shingles roofs. Metal roofing is cheaper, but has a much shorter service life.

Technologically, we can bring down the cost of asphalt shingles to that of metal. However, metal roofing can be mounted on lath, whereas asphalt shingles require a solid foundation, adding to the overall cost of the roof. When asphalt shingles are 20–25 % more expensive than metal roofing, customers often opt for the latter without giving much thought to quality and service life. Then, of course, they will need to change their metal roofing every 5–7 years, whereas asphalt shingles can last more than 50 years. As a result, while trying to save, customers end up overpaying much more. We do offer shingles of various type and price range to our customers, but we also make certain to explain to them what makes these products different and how long they serve. For our customers, the roofing quality and service life are of utmost importance.

Feedstock quality is a key ingredient of successful production. What are your requirements for suppliers and how do you use SIBUR products in your production process?

Our main feedstock is bitumen. When it comes to raw materials, everything is quite straightforward and transparent: our country is a major oil and bitumen producer, therefore we work directly with Russian suppliers. The second key feedstock is glass fibre. For this material, we rely on a wider range of suppliers, both Russian and foreign, with cost and our feedstock requirements determining the

final sourcing decision. Finally, the third major raw material used in our production is basalt granules. The shingles are covered by basalt granules to protect them from ultraviolet light, which causes shingles to deteriorate, and provide a variety of colours for the roofing.



Finished asphalt shingles Packing into shrink wrap.

WE HAVE PATENTED OUR OWN TECHNOLOGY FOR GLUING ASPHALT SHINGLES KNOWN AS BITUMEN WELDING. THIS IS A UNIQUE TECHNOLOGY UNMATCHED BOTH IN RUSSIA AND THE US.

We use two types of bitumen: oxidised and modified. We employ styrene-butadiene-styrene modifiers (SBS) supplied by SIBUR. SBS provides greater elasticity and, most importantly, makes the bitumen mixture more durable. Bitumen is subject to aging, and adding the modifier helps extend its service life. This makes the end product more expensive, but it is certainly worth it: in addition to greater durability, it provides shingles with more plasticity on the beam, which means that the roof can be installed at near-zero temperatures. We manufacture both oxidised and modified products, but primarily focus on modified materials.

As much as 95% of our feedstock comes from domestic suppliers, as all but a few major raw materials are currently available in good quality in Russia. The in-house laboratory strictly controls the quality of the feedstock supplied to ensure that the facility adheres to pledged quality standards. Our process engineers are in constant contact with their SIBUR counterparts. We regularly attend new product presentations and annual conferences at SIBUR. These professional exchanges are extremely helpful for everyone working with polymers.

While the domestic market is stable, the company exports have been constantly growing. What are your priority export directions and do your foreign customers have any special quality requirements for your roofing materials?

Our footprint is rather wide, but we are primarily focusing on the CIS market. Historically established transport logistics drives cooperation with the neighbouring countries. Among our major partners are the Baltic states, all of Eastern Europe, customers in Western Europe and Asia. In recent years, India has emerged as one of our most important customers. While not new, our export

activity has been rapidly growing as foreign customers increasingly appreciate affordable pricing and high quality of our products. So far, we have not heard of any special requirements to our products from our foreign customers. However, if it turns out that local weather conditions require changing our standard technology, we are ready to adjust it accordingly.



The shop for applying bitumen to the base.

COMPARED WITH AN ASPHALT SHINGLES ROOF, A METAL ROOFING OF THE SAME SERVICE LIFE WILL COST JUST AS MUCH OR EVEN MORE.

Russian manufacturers often complain about difficulties in organising production. Have you formulated your secrets of success? What are your plans going forward?

I think everybody should be doing what they know best. Our goal is to produce high quality products and improve them continuously, making sure that consumers trust us. Even if the market is stagnant, there is always room for development. Our key drivers are quality and innovation. We are not trying to save on feedstock quality, since we believe that it will have a direct bearing on the quality of our end products. We have ambitious plans to expand our production capacity. Next year we are hoping to increase our product range by launching laminated shingles, a new product in the Russian market.

Looking at the US experience, double-layer laminated shingles account for over 80% of the market. Predicting the evolution of the shingles market in Russia is rather difficult, but hopefully, the trends in the developed roofing materials markets are also realised in our country. This will ensure that consumers enjoy more aesthetically pleasing and longer lasting products.