

Technology of Laying Tiles on Pavements

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ABSTRACT

This article presents the types of paving slabs laid on sidewalks, roads, playgrounds, preparation of the base for laying them, the composition of the tiles and methods of laying them.

At one time, the practice of laying asphalt and concrete layers was used everywhere, but today more attention is paid to laying tiles on sidewalks. The reason for this is the following: compatibility with the landscape unit, low price, variety (shape, color, appearance, etc.), ease of replacing the broken one, and does not require a specially prepared, highly qualified specialist and special equipment for laying.

Basically, paving slabs are high-strength tile blocks designed for paving streets in the formation of sidewalks, paths and playgrounds. It is not for nothing that it is also called paving stones, similar in appearance to stone paving. Laying street tiles allows you to get rid of procedures such as paving or concreting.

The main advantages of such a coating are ease of installation and use, repairability, high strength and wear resistance, resistance to sunlight, heat, precipitation, temperature changes and frost. Its decorative effect is especially emphasized, because the variety of shapes and colors allows you to create different decorations and even drawings on the ground.

The shape, size, and color of the selected tile should be chosen depending on the area to be laid, and it should be suitable for the landscape of the area. The color of the tile depends on the architectural appearance of the existing buildings around the area to be laid. The thickness of the selected tile, the load on it, i.e., whether the vehicle will move in the area where the tile is laid, must be taken into account.

In general, the selection of paving slabs is made according to the following parameters: dimensions, thickness, shape, color, surface topography. Smooth tiles are not placed on the pavement to prevent foot slippage. A certain relief is created on its surface, which can also play the role of decoration. Relief patterns are an important parameter when choosing products. It can be a little noticeable, that is, in this case, the tile just has a rough surface. When creating a specific design, preference is

sometimes given to a clear relief in the form of an ornament or pattern. Pavements and areas with tiles are mainly composed of two layers, the upper layer of tiles and the base layer. Cement-concrete (monolithic and aggregate), asphalt-concrete combined (cement-concrete, aggregate and asphalt-concrete), ceramic tiles and bricks are used as the upper covering layer. In responsible places, it is built from granite, marble and stone slabs.

Technologically correct and high-quality laying of tiles is closely related to several factors. One of these factors is the correct selection of tiles, as there may be defective tiles in every batch of quality manufactured tiles.

International standards also require that up to 5% of the batch may be defective. Taking this into account, it is desirable that the surface of the tile to be removed should be on average 7-10% more than the surface of the required tile. A surplus of laid tiles allows you to replace tiles that fail during operation, otherwise it may be difficult to find a tile of the same shape and color after a while.

In general, it is recommended that the surface of the removable tile be 2-2.5 m² more than the surface to be laid.

Regardless of the type of tile, it is necessary to create a good, high-quality base on the surface to be laid. The quality of the base under the tile is one of the factors that determine the service life of the tile, otherwise the tile will quickly break, chip or move.

Solid cement-concrete, lime or brick screed, bituminous mineral mixture, cement primer layer or other similar layers can be used as a base under the tile. The thickness of the tile base can be 5-8 cm. This layer is sand to It is installed on the shama layer, and the thickness of the sand layer is in the range of 10-20 cm, depending on the construction area. Before laying the sand layer, the base should be leveled and compacted with 1.5...5 ton rollers. The quality of laying tiles depends on the quality of the tile and the quality of the base layer, which ensures the quality of the seams.

Before laying the tile, it is necessary to determine the way to drain snow and rainwater. These waters should be directed from the ventilation of the building or from the corridors to the direction of water drainage wells or lawns. Water drainage is carried out through longitudinal and transverse slopes. The slope can be longitudinal, transverse and longitudinal transverse, it is recommended that the value is not less than 5%. That is, the slope should be 5 mm per meter, and it is required that this slope be taken into account in all layers. will be done.

If the base on which the tile is laid is uneven, it is leveled. If the strength of the base is not sufficient (load-bearing capacity), compaction (compacting) is required after the moisture content of the soil on the base approaches the "optimal" (most effective) state after water has been applied with a hose. In cases where the volume of work is small, a hand hammer made of a single piece of wood is used for plastering.

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In order to ensure the correctness of the seams, a plan thread is drawn in the longitudinal direction every 3 meters. When there is a large area, it is required to pull the plan string in both directions.

When laying tiles, it is always necessary to ensure that the seams are 3...5 mm. When laying tiles, it is placed in accordance with the scale, ensuring its flatness with the help of a rubber hammer. After

the tile is laid on the sidewalk, it is possible to go over it with a rubber-based webroplita to improve its evenness and density once again.

In winter, it is not recommended to use a crowbar or other sharp iron tools when cleaning the area where the tile is laid from snow and ice. It is also not recommended to sprinkle salt and other antifreeze on the tiles. It is desirable to sprinkle ordinary clean sand.

If the above-mentioned technology and requirements are followed, the laid tiles will meet the quality requirements and serve for many years.

Today, the tiles laid in the city and in the district are unusable after one winter. After studying it, we believe that the reasons are as follows:

1. The cement content of the tiles is low;
2. Failure to fully comply with technological requirements when laying tiles;
3. The strength of the base on which the tiles are laid, that is, the load-bearing capacity does not meet the requirements;
4. Lack of sufficient slope to avoid snow and rainwater in the area where the tiles are laid and in the corridors;
5. Movement of vehicles or other machines and mechanisms in impossible places.

In conclusion, these mentioned factors render the jointed tiles unusable by drastically shortening their service life.

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