

FREQUENTLY ASKED QUESTIONS REGARDING APPLICATION OF DECO PROFESSIONAL MATERIALS FOR ROAD MARKING

PAINTS FOR HORIZONTAL ROAD MARKING, produced by "Orgachim" JSC are used for horizontal road marking of roads and highways, airplane tracks, parking areas, children and sports yards with asphalt and concrete pavements primed in advance with Specialized Primer for Horizontal Road Marking. They are produced in two main colours - white and yellow according to Ordinance № 2 of 17.01.01 of the Ministry of The Regional Development and Public Works. The paints comply with the contemporary European standards BNS EN 1871: 2004. They have excellent operational qualities which provide for very good conditions for the safety of traffic – quick drying, high wear resistance, high coefficient of cohesion, elasticity, resistance to gasoline and water. The paints can be applied by marking machines. Their property to dry in short terms provide for the quick release of the road traffic. Recently we have received numerous interesting questions from our customers related to the application of paints for horizontal road marking and the consequent result.

Below are listed the most frequently asked questions:

1. What is horizontal road marking?

Answer: The road marking comprises of arrows, lines, symbols and inscriptions, applied by paint; thermoplastic materials; cold-hardening materials; preliminary made tapes and symbols or by other efficient manner on the roadway or on road facilities. The road marking can be:

1. Longitudinal;
2. Transverse;
3. Other.

The horizontal road marking is of white or yellow colours and in special occasions it could be red as well. Black road marking is used only in cases when correction of the marking is needed. The horizontal road marking could be temporary and permanent. The functional life of the temporary road marking is limited by the duration of the repair activities. In regard to permanent road marking, from the point of view of the safety of the participants in the traffic, it is best the functional life of it to be as long as possible.

2. How many types of materials for road marking are available?

Answer: There are several types of road marking materials:

Marking paint – a liquid product that consists of homogeneous suspension of pigments and fillers in organic thinner or water. It can be one- component or two-component system. The paint can be applied by brush, roller, marking machine as it forms a continuous film in the process of availability of the physical and/or chemical reactions.

Thermoplastic – a marking product, not containing thinner, delivered in the form of a block, granules or powder. The thermoplastic is heated to the melting point and after that is applied manually or by a mechanical device. When cooling down a continuous film is formed.

Cold plastic – a marking product, delivered in the form of single component or multi-component system. Depending on the type of the system, its components become homogeneous in different

ratio and shall be applied by an appropriate device. The cold plastic forms continuous film when there is a chemical reaction in process.

3. *What are the advantages of the separate types of Materials for Horizontal Road Marking/MHRM/?*

Answer: The advantages of the marking paint are:

1. Lower cost price
2. Lower application cost
3. Easier application by machines for airless and air spraying. Application by brush and roller also possible.
4. No necessity of Specialized application technique

Advantages of the cold plastics and the thermoplastic

1. Higher wear resistance;
2. Longer preservation of colour;
3. The thermoplastic is ecological and wasteless product;
4. The possibility for structural application provides opportunity for additional signaling and prevention to the traffic participants.

4. *What are the European standards to which MHRM must comply with?*

Answer: MHRM must comply with EN 1871/2000; EN 1436. In these European standards the physical characteristics of materials for road marking are defined. The most important characteristics that define the quality of a certain PHRM are: wear resistance, coverage, resistance to light and others. The highest class for “wear resistance” indicator is P7. It shows the erasability of the film after 4 million passing of automobile tyres. The Orgachim products - Deco Professional “City” and Deco Professional “Chlorine – Rubber” have certificates regarding this indicator by the Spanish laboratory AETEC.

5. *What are the necessary certificates for using MHRM in Bulgaria?*

Answer: As a construction product included in the list, defined by Ordinance of the Council of Ministers, it is compulsory to have a “certificate of compliance” for MHRM. Without such certificate a product cannot be sold on the market. Compliance Certificates of Deco Professional Paints for Road Marking can be seen [here](#).

6. *What road pavement can I apply your paints for horizontal marking on?*

Answer: You can apply either on new or on old asphalt and concrete surfaces.

Advice of our technologists:

1. Upon new asphalt surfaces the paint shall be applied mainly by machines for airless spraying, without a thinner or with minimal dilution- up to 4 %. More dilution is not necessary since the

new asphalt surface has got sufficiently thick layer of bitumen which would dilute itself in highly diluted paint, thus the marking would become yellow and would blacken. It is advisable that the pavements are dry and cleaned from dust /washed/ in advance.

2. Upon old asphalt and concrete pavement the paint shall be applied in two ways:

1. By machines for airless and air spraying with compulsory dilution of the paint up to 6-8%. This is necessary in order to better moisten the old asphalt or concrete pavement with the diluted paint thus achieving the improvement of cohesion between them. It is advisable that the pavements are dry and cleaned from dust (washed);
2. By road marking machines for airless spraying, without a thinner or with minimal dilution up to 4% thinner after priming in advance with Specialized Primer for HRM (after achieving complete dryness -15-20 min). Concrete pavement shall COMPULSORY be primed in advance. It is advisable that the pavements are dry and cleaned from dust (washed).

7. *What kind of a thinner shall I use when applying PHRM?*

Answer: Our specialists have developed the thinner BAT designed specially for our weather conditions. The thinner has two variants- winter and summer ones. The time for using the summer BAT is from 01.05 to 01.09. During the rest part of the year winter BAT shall be used.

8. *At what temperatures of the road pavement shall I apply PHRM?*

Answer: The temperature on the surface should be in the scope of 5 ° - 35° C.

Technologists' advice: When necessary the paints shall be diluted to working viscosity with a thinner "BAT- Winter" at temperatures from 5° C to 25° C or with "BAT-Summer" at temperatures from 25° C to 35° C. At higher temperatures of the pavement in summer /50°-60°C/ the light thinner of the paint starts boiling and brings the part of the plasticizer to the coating surface which leads to rapid soiling of the road marking.

9. *What shall the thickness of the wet coating be so that good effect is achieved?*

Answer: The thickness of the wet film shall be 0.350-0.450mm since after complete drying the thickness of the dry coating becomes 0.250-0.300mm with the new and the comparatively new pavements. With older asphalt and concrete pavements the thickness of the dry coating shall be 0.250-0.300mm that is achieved by 0.450-500mm wet filter /because of the compulsory 6-8% dilution/. The consumption is 450-550 g/m² without the thinner. The road marking shall not exceed the level of the traffic roadway more than 6mm as specified by Ordinance № 2 of 17.01.01 of the Ministry of The Regional Development and Public Works.

Technologists' advice: If reflecting layer of pearls shall be applied it is reasonable that the wet film be a little thicker than 450-500 microns. We have noticed that on manual application of the paint /with regard to arrows or pedestrian pathways/ irregular thickness of the applied coating is observed, as in some places a thinner layer of coating than the recommended one is observed which leads to soiling and wearing of the marking. It is advisable that several tests with the machine that will apply the paint shall be done in order to achieve better regulation of the pressure. The position of the spraying pistol needs to be at least 40-50cm off the surface.

10. How long will drying of the paint take and when shall I release the traffic?

Answer: Time for drying of the paint - 20 min at 25° C of the pavement. Time for traffic release - min 1.5 hour.

Technologists' advice: In case of thicker wet film it is advisable to wait for the traffic release at least 2 hours.

11. What type of road marking pearls would you recommend to use? How shall I apply them?

Answer: According to the requirements of the Executive Agency "Roadways" two types of pearls shall be used having the following dimensions:

1. 0.100-0.600mm
2. 0150.-0.850mm

We recommend that the application be carried out by machine. Thus better adhesion with the paint is achieved and the pearls do not remain on the surface /as it happens when applying them manually/. Thus the pearls are prevented from wiping off by the passing automobiles.

Technologists' advice: The road marking pearls shall be put immediately after paint application.