GAP-GRADED ASPHALTIC CONCRETES

RUGOVIA®

Thin surfacings for every situation
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The spectacular increase in the strength of today’s asphalt mixes used for surface courses is due to specific mix designs using high-quality modified binders.
With these binders, it is now possible to formulate asphalt mixes that can be applied in thin layers while ensuring excellent, durable surface characteristics.

Building on its innovative drive and expertise, Eurovia has developed a complete range of gap-graded asphaltic concretes: Thin (M), Very Thin (TM) and Ultra Thin (UM).

**KEY BENEFITS**
- A surfacing with a very long service life
- A multi-purpose process: from highways to urban streets, for both new construction and maintenance
- Highly cost effective
- Can be produced with Tempera® processes

**KEY FIGURES**
- 3 types of solution to match applications
- Laid in a thickness of between 15 and 50mm
- Millions of m² applied
- 20 years of technical success
VERSATILITY COMBINED WITH PERFORMANCE

A MULTI-PURPOSE PROCESS

Rugovia® is suitable for all types of traffic and can be used in both new construction and maintenance work on highway and motorway pavements as well as on urban streets. A tack coat is essential. The characteristics of Rugovia® M make it suitable for uneven and even heterogeneous substrates. The main purpose for which Rugovia® TM and Rugovia® UM are used is to improve the surface characteristics of pavements that exhibit no structural weakness and have only slightly deformed profiles; prior repaving can be considered. They can be used to lay surface courses of excellent durability and surface roughness that offer optimum safety for motorists. Rugovia® M and Rugovia® TM are applied by conventional roadworks equipment. Eurovia has designed and patented special high-speed laying equipment for Rugovia® UM.

The type of emulsion chosen for the tack coat and the tack coat spread rate are adapted to the type of substrate, the traffic and the thickness of asphalt mix applied. At high spread rates, this tack coat can help to waterproof the substrate.

ONGOING EFFECTIVENESS

Rugovia® uses high-performance polymer modified bitumens which have high cohesion, low thermal sensitivity, high elasticity and excellent resistance to ageing. They are selected from the Polybitume® range of polymer-modified bitumens developed by Eurovia or from the Styrelf® range of binders.

The different degrees of modification of the Polybitume® product range make it possible to adopt the choice of bitumen to the specific requirements of each project: nature and characteristics of the substrate, traffic, loadings, weather conditions (see technical fact sheets for the various types of Polybitume®).

A French Technical Opinion has been issued for Polybitume® P. French Technical Opinions have also been issued for Rugovia® M, Rugovia® TM and Rugovia® UM under other brand names.
ALL THE CHARACTERISTICS OF A PERFECT SOLUTION

Rugovia® M is designed with binders which give it very good bending fatigue strength and excellent resistance to permanent deformation. The minimum mechanical performance values set out in the thin asphaltic concrete standard are more than met. Rugovia® TM and Rugovia® UM have excellent surface characteristic durability thanks to the cohesion of the binders used and the gap-graded mix designs employed.

Aggregates are chosen by reference to the EN 13043 "Aggregates for bituminous mixtures ..." standard and meet the requirements of the EN 13108-2 standard. A high percentage of crushed 6/10mm chippings and a low percentage of crushed 0/2 fines ensure the gap grading and coarse texture of the mix.

When first opened to traffic, their average texture depth value (EN13036-1) is greater than 1mm.

The durability of this macrotexture is shown by the values obtained before and after traffic simulation (3,000 cycles, permanent deformation of less than 3mm):

- **ATD after traffic/ATD before traffic** > 0.85
- **Complex modulus (EN 12697-26)**
  - Modulus at a temperature of 15°C and a frequency of 10Hz ≥ 8,000MPa
- **Fatigue (EN 12697-24)**
  - Relative deformation ε, at 10⁶ cycles a temperature of 10°C and a frequency of 25Hz ≥ 130 μdef
- **Rutting (EN 12697-22)**
  - Rutting depth on a slab of 50 mm thickness at 60°C and 30,000 cycles ≤ 8%

The braking force coefficient measured for Rugovia® TM and Rugovia® UM at more than 6 months age is very satisfactory, whatever the measuring speed used.

- **BFC (P 98-220-2)**
  - 40 km/h ≥ 0.40
  - 60 km/h ≥ 0.36
  - 90 km/h ≥ 0.33
  - 120 km/h ≥ 0.30

Rugovia® is a registered trademark.