

ARMEX DURAGRID GEO-T composite membrane TECHNICAL DATA SHEET

PATENT No. ROA 2006-00960

ARMEX DURAGRID GEO-T is a multi-reinforced thermo-adhesive bituminous composite membrane, consisting of two layers of bituminous mass, a composite reinforcement (polyester reinforcement doubled with a glass fibre woven), a polypropylene silicon coated film applied on the lower side of the membrane, a protection reinforcement made from non-woven polypropylene yarns, applied on the upper side of the membrane and a siliconised sheet for protection of the lateral overlapping, meant for road's hydroinsulation and reinforcement. The membrane can be used between the base layer and the attrition tarmac layer, both for rehabilitating the roads and for the execution of new roads.

The membrane composition, and its bituminous mass respectively, ensures the road surfacing hydroinsulation. The membrane is perfectly compatible with the asphalt mass, and the structure and the reinforcement characteristics ensures the reinforcement and delays the cracks propagation in the upper or lower road layers.

The advantages of using this membrane are :

- it blocks the water ascension from the groundwater through the base layer towards the road surfacing attrition level. The water, by repeated freezing-thawing cycles deteriorates the road structure in time at the separation level of the two layers. It blocks the access of water accumulated inside the possible cracks in the attrition layer to the base layer of the road, under the pressure exerted by the cars wheels. The water can generate horizontal shearing stress or cracks cleavage strains. The system is thus constituted as a **waterproof layer**, giving the time to the foundation bed to sew the water and to the attrition layer to evacuate the water by evaporation.
- **it reduces or blocks the cracks propagation** from the road support layer to the attrition layer by taking over the stresses which exist between layers. The reinforcement used and specially designed for this product has special mechanical characteristics, particularly the strength characteristics, the elongation at break and static loading characteristics
- **easy application** and self-fixing the membrane by thermal adherence and easy superposition of lateral and end sides by the displacement of the protection siliconated film
- **perfect cohesion inside the road surfacing structure** due to the special composition of the bituminous mass and of the used thermally active additives
- **the stability of shape** and implicit composite membrane characteristics
- **it reduces the working time**, immediately after the adhering on the support layer the membrane permits the circulation of the asphalting equipments

Bituminous compound	Distilled bitumen with APP/SBS additives, thermally active polymers, adherence accelerators
Roll length (EN 1848 -1), m	7 - 10
Roll width (EN 1848 -1), m	1
Thickness, (EN 1849-1), mm	3; 4; 5
Specific weight (EN 1849 - 1), kg / m ²	3,5; 4; 4,5
Cold flexibility (EN 1109), °C	-10
Reinforcement	Nonwoven Polyester, 140gr/m ² + Woven Glass Fibre, 120 gr/mp
Tensile strength EN ISO 10319, kN / m	30; 40
Elongation at breaking (EN 12311-1) L/T, %	4
Dimensional stability (EN 1107 -1), % maxim	0,1
Shape stability at elevated temperature (EN 1110), °C min.	150
Static loading (EN 12730), kg minim	30
Reaction to fire (EN 13501-1), class	F