TECHNICAL DATA SHEET

HIGH-PERFORMANCE ASPHALT COATING "TYPE S"

The High-Performance Asphalt Coating **TYPE S** is a surface treatment designed to protect, waterproof, and provide a smooth and safe riding surface for asphalt pavements on highways, urban areas, and airport runways. This technology, developed in the United States by **Carbonyte Inc.**, incorporates **nanotechnology** that allows the use of very low-penetration asphalts combined with various polymers and ceramics, giving it high durability and exceptional resistance to heavy and continuous traffic.

System Benefits.

- Protects asphalt surfaces from oxidation caused by environmental factors.
- Renews the riding surface.
- Improves microtexture and increases friction values.
- Prevents water penetration into underlying layers.
- Enhances pavement appearance, providing a uniform surface.

Usos recomendados.

- As a protective layer for new pavements.
- On pavements exhibiting moderate cracking.
- On pavements with surface wear.
- In areas exposed to fuel and oil spills (special formulation available).
- In locations with restricted working hours (shopping centers, urban areas, airports).
- On surfaces with low friction coefficients.
- In general, for any pavement requiring extended service life and improved appearance.

Application.

Install safety and protection signage according to applicable standards.
Perform all necessary surface preparation such as patching, leveling, and crack sealing.
Allow all previous treatments to fully cure and develop their maximum strength before applying the product.
If required, perform a primary sweeping using a self-propelled sweeper, followed by a fine cleaning with air blowers, taking special care to remove water and dust from cracks. The surface must be completely dry before application.

Prepare the **High-Performance Asphalt Coating TYPE S** by thoroughly mixing its components according to the approved design.
Once mixed, apply using a rubber squeegee or spray equipment, depending on pavement conditions.

For small or isolated areas, light pumping equipment or manual squeegees may be used, ensuring correct dosage and uniform distribution of the material.
Once the product is dry to the touch, the surface may be opened to traffic and/or horizontal markings may be installed.

Multiple layers may be applied as required; dosage will depend on existing surface conditions.

Transport, Storage and Handling.

- Keep out of reach of children.
- Do not allow the product to freeze before application.
- Do not mix with other products.
- Avoid prolonged skin contact.
- Keep containers tightly sealed when not in use
  Store in a dry, cool place, protected from sunlight.
- For long-term storage (over 30 days), stir the material every two weeks to reincorporate components and reseal tightly afterward.
- In case of accidental ingestion, do not induce vomiting and seek medical attention immediately

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AGREGADO BASÁLTICO TRITURADO

PROPERTIES

Characteristic	Value
Crushing, %, minimum	100%
Sand equivalent, %, minimum	55%
Plasticity index, %, maximum	Non-plastic
Methylene blue, mg/g, maximum	12
GRADATION	
Sieve Designation	Percent Passing
#16	99-100

BINDER

Emulsion Characteristics	**Value**
Saybolt-Furol viscosity at 25°C; s	25-500
Settlement in 5 days; % difference, maximum	1
Settlement in 3 days; % difference, maximum	5
Asphalt cement content by mass, %, minimum	58
Naphtha content, %, maximum (distillation residue)	1
Base Asphalt Characteristics	**Values**
Penetration at 25°C, 100g, 5s; 10^{-1} mm	8-20
Softening point, °C, minimum	70
Dynamic shear rheology modulus at 86°C (G*/Send); kPa, minimum	1

MIX

Parameter	Test Method	Requirement
Wet Abrasion Test Method	SSA TB100 / ASTM D 3910	269 g/m² Max.
Lateral Displacement	TB 147	5% Max.
Specific gravity after 1,000 cycles of 125 lbs.	TB 147	2.10 Max.

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General Application Recommendations

Although material proportions and dosage depend on project specifications, the following guideline may be used as a practical reference. Test sections should always be executed and approved by the client prior to full-scale application.

Mixture Preparation.

- Before use, the asphalt concentrate must be thoroughly mixed in its container using manual mixers with extensions that reach the bottom Recommended volumetric proportions for on-site measurement:

  1,000 L of TYPE S concentrate
  320 L of crushed basaltic aggregate
  200 L of water

- All components must be thoroughly mixed before application
  Aggregate and water quantities may be slightly adjusted for better consistency and ease of application, ensuring the aggregate is **not less than 300 L** and water **not greater than 220 L**
  If mixed material remains unused, it may be stored in application equipment for **1 to 5 days**, provided it is remixed daily before reuse.

Dosage.

- For **high-traffic areas** and **continuous operation zones** such as airport runways, intersections, and vehicle crossing areas, the recommended dosage is **1.5 to 2.0 L/m²**, depending on surface conditions
- For **runway shoulders** and **low-traffic zones**, the recommended dosage ranges between **0.8 and 1.2 L/m²**, depending on surface conditions

Application.

- Perform preliminary works such as patching, leveling, and crack sealing in advance, allowing them to fully cure and dry, ensuring no oil exudation or moisture remains.
- The surface must be completely dry.
- Carry out fine cleaning to remove any foreign agents that may affect product adhesion, such as dust and dirt; in areas with fuel or oil spills, use a degreaser.
- The product may be applied in 2 to 3 coats to achieve the required drying times and ensure uniform coverage.
- It is recommended to use spraying equipment that allows maintaining the pavement's macrotexture, especially on runways.
- Rubber squeegee equipment or manual tools may be used for minor repairs or areas where fine aggregate replenishment is required

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