

Product technical data sheet

Anti-Freezing AEI - Two-phase preventive anti-icing system for pavements and compacted roads

Code	AF-AEI-2F Components A and B AEI
Version	1.1 - confidential commercial edition
Date	21 August 2026
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Critical principle: Components A AEI and B AEI are stored and applied separately. They must not be mixed in the same tank, line, pump or application equipment.

1. System description

Anti-Freezing AEI is a sequential preventive anti-icing system supplied as two proprietary formulations ready for road use. Component A AEI conditions the surface; Component B AEI provides the anti-icing action. It does not replace mechanical removal of accumulated snow or ice.

2. Commercial presentation and preparation

Stage	Product supplied	Reference presentation	Site preparation
1 - Conditioning	Component A AEI	IBC up to 1,000 L or another agreed format	Product prepared by AEI; do not reformulate or add substances.
2 - Anti-icing action	Component B AEI	IBC up to 1,000 L or another agreed format	Product prepared by AEI; do not reformulate or add substances.

Formulation confidentiality: The composition, proportions, raw materials and manufacturing process are reserved technical information of AEI SpA. The product must be used in accordance with this data sheet and its batch certificate.

3. Properties and control criteria

Property	Component A AEI	Component B AEI
Appearance	White or milky, homogeneous aqueous dispersion	Transparent and colorless to slightly cloudy liquid
Concentration	AEI internal specification	AEI internal specification
Density at 15 C	According to AEI batch certificate	According to AEI batch certificate
pH	According to batch certificate; do not adjust on site	According to batch certificate; do not adjust on site
Thermal performance	Conditioning function; requires curing	Design and acceptance value controlled by AEI
Practical temperature	Apply without freezing and allow curing	Recommended use with pavement above approx. -9.5 C
Acceptance criterion	No lumps, gel or separation	Homogeneous liquid, without visible precipitates

Technical limit: Actual performance depends on temperature, precipitation, dilution, traffic and pavement condition. Effectiveness must be validated through a pilot test section before full-scale use.

4. Dosage and coverage

Surface	Component A AEI	Waiting period	Component B AEI	Total consumption
Asphalt	0.05 L/m2	Until dry and non-tacky film; 12-24 h reference	0.03 L/m2	0.08 L/m2
Compacted soil	0.12 L/m2	Until absorption, drying and surface stabilization	0.04 L/m2 - pilot dose	0.16 L/m2

Surface	Per 1,000 m2: Component A AEI	Per 1,000 m2: Component B AEI	Total system
Asphalt	50 L	30 L	80 L

Surface	Per 1,000 m2: Component A AEI	Per 1,000 m2: Component B AEI	Total system
Compacted soil	120 L	40 L	160 L

5. Application procedure

Stage	Operation	Control point
1	Clean, grade and compact the surface. Remove snow, loose ice, mud, oils and non-adhered material.	Firm, drained surface suitable for traffic.
2	Apply Component A AEI with a fine and uniform spray, avoiding accumulations.	No puddles or excessively shiny film.
3	Allow complete curing before applying the second component.	Dry, non-tacky surface with acceptable friction.
4	Wash or segregate lines, pumps and tanks before handling Component B AEI.	Clean equipment, without visible residue from the previous product.
5	Apply Component B AEI preventively before the ice event.	Uniform distribution; avoid heavy rain.
6	Inspect after the event and reapply only if dilution or removal requires it.	Record temperature, precipitation, dosage and surface condition.

6. Use restrictions

- Do not mix Components A AEI and B AEI in the same tank, IBC, hose or line without intermediate washing.
- Do not add additives, diluents or raw materials foreign to AEI without a formal compatibility study.
- Do not apply Component A AEI on asphalt open to traffic without first verifying wet and dry friction.
- Do not apply on saturated, frozen surfaces or surfaces with direct runoff to water bodies.
- Treatment of soil assumes a previously compacted surface; it does not replace structural stabilization.

7. Quality control and prior validation

Test	Proposed minimum criterion
Component A AEI stability	No flocs, clots or separation for 72 h and after cold-ambient cycles.
Component B AEI conformity	Density, pH and thermal performance within AEI internal specification.
Spraying	Passage through filter and nozzles without obstruction or irregular pattern.
Friction	No unacceptable decrease compared with the control surface; threshold to be defined with the client.
Performance	Comparison with control surface: ice adhesion, recovery time and duration of effect.
Corrosion and environment	Assessment on exposed metals and runoff and residue control plan.

8. Storage and presentation

Component A AEI: Keep in the closed original container, protected from freezing and extreme heat. Do not dilute or transfer to unapproved containers.

Component B AEI: Keep in the original container or AEI-approved compatible container, closed, identified and protected from contamination and extreme temperatures.

Presentation: Components must be delivered in differentiated, labelled containers with instructions that prevent accidental mixing.

9. Safety

Consult the specific SDS for each component. The SDS included for Anti-Freezing AEI corresponds exclusively to Component B AEI. Component A AEI must maintain its own SDS as an independent product.

Document status: This data sheet defines a pilot formulation. Before sale or tendering, validation of friction, performance, corrosion, stability, batch specifications and final labelling must be closed.

10. Technical references

FHWA. Manual of Practice for an Effective Anti-Icing Program, FHWA-RD-95-202.

Texas Department of Transportation. Snow and Ice Control Manual.

Missouri Department of Transportation. Operator's Guide for Anti-Icing.
Ministry of Health of Chile. Supreme Decree No. 57/2019.