

ISAC Installation

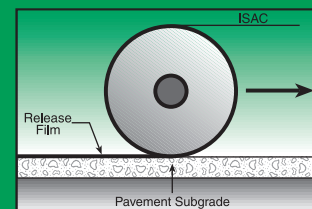


ISAC Specifications

Property	Value	Test Method
Cold Flex	No cracking or separation of fabric	ASTM D146(modified)
Tensile Strength (Peak)	4,000 psi minimum	ASTM D412(modified)
Elongation (@ Peak Tensile)	10% minimum	ASTM D412(modified)
Weight	0.76 lbs/ft ² minimum	N/A
Density (mastic)	69 lbs/ft ³ minimum	ASTM D70
Thickness	0.15 inches typical	ASTM D1777
Resistance to Puncture	5,000 lbs. psi typical	ASTM E-154-93 Subsection 10.0 ASTM D-1790
Absorption (mastic)	1% maximum	ASTM D517
Brittleness	Passes	ASTM D517
Softening point (mastic)	220°F (104°C)	ASTM D36

Width 36" x Length 50'

Other roll widths and lengths are available upon request.



ISAC: Features and Benefits

- Pavement base isolation
- Pavement thickness reduction
- Pavement life cycle extension
- Reduced maintenance cost over the life of the pavement
- Well documented engineering principles and supporting data
- Sound investment into pavement protection
- Technical support nationwide
- Template project specifications

Manufactured and marketed worldwide by Pavetech International under an exclusive license from the University of Illinois.

Advanced Products for Roads and Bridges

EXPANSION JOINTS

MATRIX 502	Asphaltic plug expansion joint system
MATRIX BLUE	Elastomeric header and polymeric sealant system
MATRIX CMX	Flat, cold pour, high performance polymer-modified plank joint system
MATRIX ONE	Pre-measured, all-in-one plug joint system

GEO-COMPOSITES

PAVEPREP	Reflective crack control for AC overlays
PAVEPREP SA	Self-adhesive crack control for AC overlays
ISAC	Base isolation stress relief geo-composite for overlays
GEOTAC	Peel-and-stick waterproofing membrane for bridge decks and roads
GEOTAC POLYESTER	Reinforced polyester backing for increased durability
GEOTAC HS	High strength woven polyester for maximum durability
GEOFILM	Peel-and-stick waterproofing membrane for underground applications

SEALANTS

RALLITHANE 862	Two component, rapid cure sealant ideal for bridge expansion joints
RALLITHANE 872	Two component, fuel-jet blast resistant sealant ideal for airfield pavement joints
PCF-3405/5078	Specification grade, hot applied sealant
PCF-100	Special blend, hot applied, polymer-modified sealant

MAINTENANCE / REPAIR PRODUCTS

ELASTOCRETE	Rugged, three part elastomeric concrete header material
ELASTOPATCH	Elastomeric, impact resistant, grey colored patching material
MASTIC ONE	Hot applied mastic repair material
MASTIC TWO	Grey, thermal-mastic concrete repair material
HB-200	Optimum performance mixer applicator for dispensing heated materials
AT-4812	Application trolley for Pavetech geo-composites

U.S. Patent 5,513,925 and other foreign patents.

ISAC, PavePrep, GeoTac, GeoFilm & PCF-100 are registered trademarks of Pavetech® International.

1.800.544.7737 • www.pavetech-intl.com



02/04-dm



ISAC

Interlayer Stress Absorbing Composite

Base Movement Isolation for Overlays



Performance. Solutions.

Movement in underlying pavement layers is a major cause of deterioration in AC overlays. Such movements reflect through the top layer of asphalt causing potholes, pavement roughness, cracks and other costly failure modes in the new pavement. Since 1994, studies detail pavements incorporating ISAC have shown dramatic improvement in overlay performance as well as a reduction in maintenance costs.

ISAC: Interlayer Stress Absorbing Composite

ISAC has been in development at the University of Illinois since 1992 in cooperation with the Illinois Department of Transportation. During this period, Pavetech International has refined the manufacturing process and procedures for the product.

ISAC isolates the base pavement subgrade from the top wearing course. The engineering principle behind base isolation is found in seismic engineering. By reinforcing and stiffening the weak areas of a structure, movements can be transferred to designated areas of the structure that are able to absorb multi-rotational movements. The engineering community has shown that incidental but sudden movements beneath a pavement overlay should be isolated from the top pavement surface. As an example, the impact loading and movement deflections caused by aircraft take-offs and landings place immense strains on the pavement structure.



ISAC: Allows the thickness of overlays to be reduced

By providing a rigid layer of heavy duty viscoelastic material over the underlying pavement layers, pavement overlay thickness can be reduced. The base isolation characteristics of ISAC allow funds earmarked for overlays to be redirected for other overlay projects. By using ISAC, overlay thickness may be reduced by as much as 50% to obtain equivalent or better pavement performance.

ISAC: Extends the life of overlays

ISAC isolates the base pavement and provides a sound level structure for placement of the new overlay. The top surface is protected from the load and temperature related movements and strains in the underlying pavement that cause displacements and distresses in the new pavement.

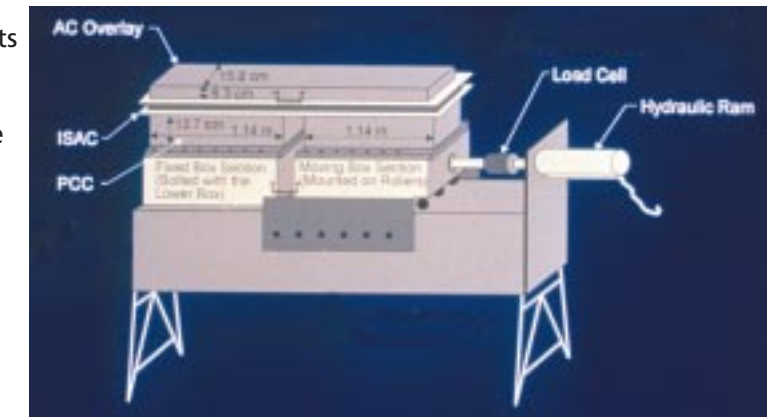


ISAC: Reduces pavement maintenance costs

ISAC curtails the need for early pavement repairs, such as pothole filling, patching and leveling of delaminated pavement sections. ISAC virtually eliminates a critical pavement condition: reflective cracking that requires constant sealing and resealing within a year or two of overlay placement. ISAC keeps moisture away from the most critical distress prone areas of pavement: the joints and cracks. In colder regions, ISAC prevents pavement tenting, a condition where water freezes within a joint or crack and heaves the pavement. Thus, ride quality and pavement performance are improved.

ISAC: Base isolation, the principle of seismic engineering, lead to the invention of ISAC at the University of Illinois

ISAC was developed in the laboratory at the University of Illinois. Compared to current products used in pavement rehabilitation, ISAC is a far superior, one-of-a-kind product. During development, thermal movement associated with concrete and asphalt pavements was simulated in the laboratory. Factors such as climatic data and rate of movement were simulated to replicate the experience of pavements in actual use. As seen from the test output data plotted below, ISAC ISOLATES the overlay from the underlying pavement. Therefore, the overlay is significantly less affected by the strain (movement) that occurs in the pavement subgrade. The ability of ISAC to isolate the overlay is the critical factor in reducing reflective deformations.

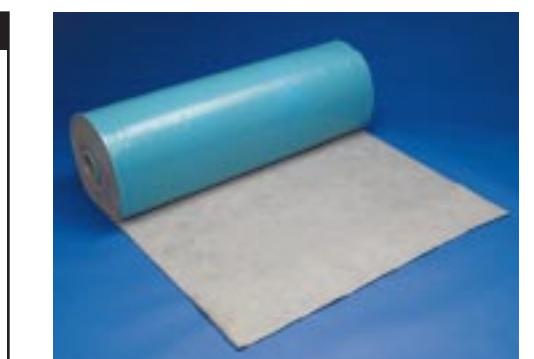
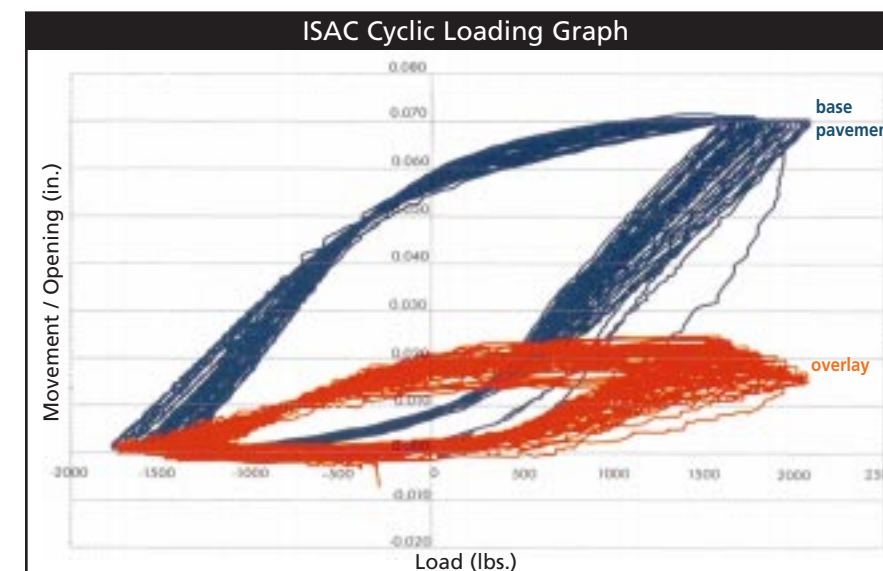
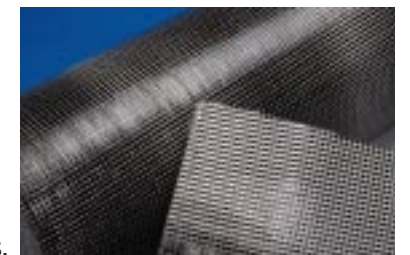


ISAC: Provides base isolation by absorbing stress through its interlayered design

ISAC is a multiple interlayer design. The bottom layer is a low stiffness, nonwoven polyester fabric that bonds to the existing pavement using an industry standard tack coat. It is able to accept repeated horizontal movement of the underlying pavement.

A viscoelastic mastic center layer allows for a multi-rotational bond between the top and bottom layers and dissipates strain energy from the sub-structure pavement. Temperature and load impact variations can be engineered to comply with pavement design requirements. An added benefit of the viscoelastic interlayer is to provide a superior waterproofing barrier.

The top layer is a high-stiffness open mesh grid designed to bond monolithically to the overlay and provide base isolation reinforcement in areas of maximum stress.



The graph illustrates ISAC's ability to absorb movement when it is installed as a base isolator between an underlying pavement and a new overlay.

ISAC Interlayer Stress Absorbing Composite

