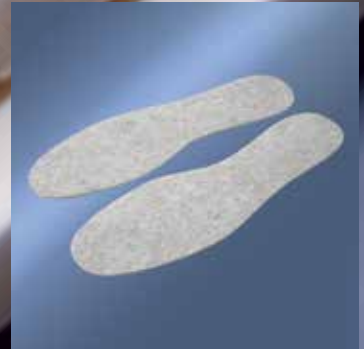




TRINSEO™

Materials. Powering Ideas.



ENVERSA™

Cushion Technology

A cushion coating solution for
Functional Nonwoven and
Building & Construction needs

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Introduction

At Trinseo, we're creating innovative solutions in advanced latex binder technologies to the Adhesives, Functional Nonwovens and Building & Construction industries to fulfill our customers' individual needs for success.

Trinseo's versatile ENVERSA™ Cushion Technology is a sustainable solution for a wide range of markets. Whether used for personal goods such as shoe insoles and sporting goods or as sound insulation with moisture barrier properties for building applications, ENVERSA™ Cushion Technology meets our customers' performance, sustainability, regulatory and economical needs.

ENVERSA™ Cushion Technology offers multiple green attributes like low VOCs and the elimination of traditional curing pastes and ammonia. This technology makes no use of sulfur, heavy metals including tin compounds and formaldehyde cure. It is another way in which Trinseo strives to bring products to our customers better, smarter and faster.

Benefits at a Glance

For the Manufacturer

- Simplified one-part manufacturing process, can be run on all typical latex foaming lines
- Customizable via filler level, cross-linker level, density, thickness, color, etc.
- Non-gel, via novel and patented cross-linking system
- Foam that can be applied with normal equipment such as direct foam applicator with doctor blade
- Low odor with significantly reduced ammonia level, free from sulfur
- No use of Heavy metals, including tin containing compounds

For the End-user

- Free from components hazardous to human life and the environment
- Superior cell structure
- Hardness, resiliency and visco-elasticity is tunable by change of polymer type
- For building and construction it provides sound and thermal insulation and acts as a moisture barrier
- Excellent resistance to aging compared to natural latex

Typical Cushion Properties for ENVERSA™ vs. Traditional “Non-Gel Foam” Technology

		Resilient ENVERSA™	Visco-elastic ENVERSA™	Reference (Non-gel)
Density	kg/m ³	219	241	274
Ball Rebound	%	16	6	20
30 min. Compr. Set	%, RT	31	47	2
22 hrs. Compr. Set	%, RT	10	15	0.7
30 min. Compr. Set	%, 37°C	34	47	19
22 hrs. Compr. Set	%, 37°C	10	14	0.4
CLD 25%	kPa	36	45	41
CLD 40%	kPa	53	65	58
CLD 65%	kPa	215	320	245

- Ball Rebound (Impact Resilience) is a measure of elasticity, bounce, or springiness of foam and is expressed as a % of return, or % resilience. It is measured on a stack of 20+/-2 mm.
- Compression set is expressed as the percentage of its original thickness that remained “set” after the foam has been compressed to 50% of its original thickness for 30 minutes and 22 hours respectively at a given temperature. Compression set is measured after 6 hours recovery time.
- CLD is a measure of firmness and is expressed in kilopascal, at a given percentage deflection.





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Trinseo and its affiliated companies have a fundamental concern for all who make, distribute, and use their products and for the environment in which we live. This concern is the basis for our Product Stewardship philosophy by which we assess the safety, health, and environmental information on our products so that appropriate steps may be taken to protect employee and public health and our environment. The success of our product stewardship program rests with each and every individual involved with Trinseo products – from the initial concept and research, to manufacture, use, sale, disposal, and recycle of each product.

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