

FOAM MATERIALS SOLUTIONS FOR FOOTWEAR



SCF
FOAMING

TSRC Corporation is proud to be a global elastomer leader in providing comprehensive solutions for the footwear industry. With a commitment to innovation and a focus on meeting the evolving needs of our customers, we offer a wide range of cutting-edge technologies and services. Our goal is to revolutionize the footwear manufacturing process while promoting sustainability and delivering high-performance products.

TSRC offers a comprehensive range of solutions including insole, outsole, midsole, and heel counter. We strive to deliver innovative, sustainable, and high-performance solutions that go beyond industry standards. Through our expertise in flexible processing, sustainability practices, and performance-driven materials, we aim to revolutionize the footwear manufacturing process. By partnering with TSRC, you could have the opportunity to join us in embracing the future of footwear, elevating your products to unparalleled levels of excellence. Together, let's shape a remarkable, efficient, and sustainable footwear industry.

VISION: A GLOBAL FOOTWEAR SOLUTION PROVIDER

ESG

- Total and Comprehensive Sustainability Solutions (All-in-One Sustainability Solutions)
- 3R Approach (Reduce, Reuse, Recycle)
- Eco-friendliness (low/no Volatile Organic Compounds)
- Free chemical residue

FLEXIBLE PROCESSING

- Low specific gravity (Lightweight)
- Quick to rebound (Responsive)
- Long-lasting functionality (Durable Performance)
- Grip-enhancing (Slip Resistant)
- Tactile sensation (Hand-feeling)
- Withstands wear (Wear Resistant)
- Allows airflow (Breathable)
- Lowered carbon emissions (Reduced Carbon Emission)

PERFORMANCE

- Streamline the production
- Glue-free
- Sustain production
- Automation
- Minimize labor requirements
- Saving energy

T-BLEND HIGH-TECH ELASTOMER COMPOUNDS FOR ATHLETIC FOOTWEAR

T-BLEND® excels in both rebound and stabilization, effortlessly absorbs sudden impacts, and delivers advanced comfort and a delicate feel. Alongside its distinctive qualities of damping, anti-slip, resistance to abrasion, high-impact endurance, and adaptability in low temperatures, this substance boasts a low melting point. Given these attributes, T-BLEND® stands as the ideal material for footwear due to its durability and suitability for shoe components.



RESILIENT



STRUCTURE
CUSHIONING



SOFTNESS

FOOTWEAR PROCESSING TECHNOLOGY & APPLICATION

INSOLE/MIDSOLE

- CCF (Chemical Crosslinked Foaming by Injection/Phylon)
- SCF (Supercritical Foaming by Autoclave/Injection)

OUTSOLE

- Compression Molding
- Injection Molding

HEEL COUNTER

- 2K Injection Molding
- Injection Molding

COMPOUNDING TECHNOLOGY

- One Step Compounder
- Kneader
- Roller mill
- Pelletizer



TOTAL SOLUTION PROVIDER IN FOOTWEAR

HEEL COUNTER
Coloring/Over-molding

INSOLE
SCF & SEBS Gel

ESG VALUE VIA ALL-IN-ONE

- Leverage Application Domain Knowledge & RD Capability to Provide Total Solution
- Balance Performance – Property - Processibility Features

MIDSOLE
SCF/Monolithic SEBS

OUTSOLE
Injection/Monolithic SEBS

MIDSOLE-CCF

CROSSLINKED

FEATURES

- Boasting a strong ability to create customized formulations.
- Designed to deliver outstanding bounce, lightweight properties, and minimized compression.
- Mindful of environmental impact.
- Our range of foam products meets the requirements of renowned international footwear brands.
- Covering a range of hardness levels from Shore C45 to C55.

CROSSLINKED-BIO

FEATURES

- Embracing sustainability and eco-friendliness to align with forthcoming global demands.
- Incorporating a significant 47% of biomass content.
- Employing materials that have been recycled or repurposed.
- Encompassing a hardness spectrum that extends from Shore C45 to C55.

GRADE	CXW-001	CXS-001	CXR-003	CXD-001	CXD-002
FEATURES	Light Weight	Low Compression Set	High Rebound	Damping	Damping
HARDNESS(SHORE C)	43	50	40	50	45
SPECIFIC GRAVITY	0.12	0.19	0.15	0.29	0.17
REBOUND(%)	54	50	65	9	8
COMPRESSION SET (50°C/6HRS)	55	30	40	19	40

Note: The data shown is foam properties and not to be construed as specifications.

GRADE	CXB-001	CXB-002
HARDNESS(SHORE C)	48	48
SPECIFIC GRAVITY	0.20	0.16
REBOUND(%)	50	40
COMPRESSION SET (50°C/6HRS) OR (*RT/6HR)	49	51

Note: The data shown is foam properties and not to be construed as specifications.

MIDSOLE-SCF

BENEFITS

- Lightweight
- Exceptional rebound properties
- Minimal compression tendencies
- Gentle tactile sensation
- Commitment to sustainability

NON-CROSSLINKED

FEATURES

- Excelling comprehensively (Lightweight, High Rebound, Low Compression Set, and Exceptional Tactile Experience)
- Environmentally friendly (Free of chemical residues and odors)
- Aligned with sustainability goals (Non-crosslinked)
- Adhering to the principles of 3R (Weight reduction, Reuse, & Recycle)
- Minimized environmental impact in terms of carbon footprint
- Available hardness range from Shore 45C to 55C

MIDSOLE
Non-crosslinked



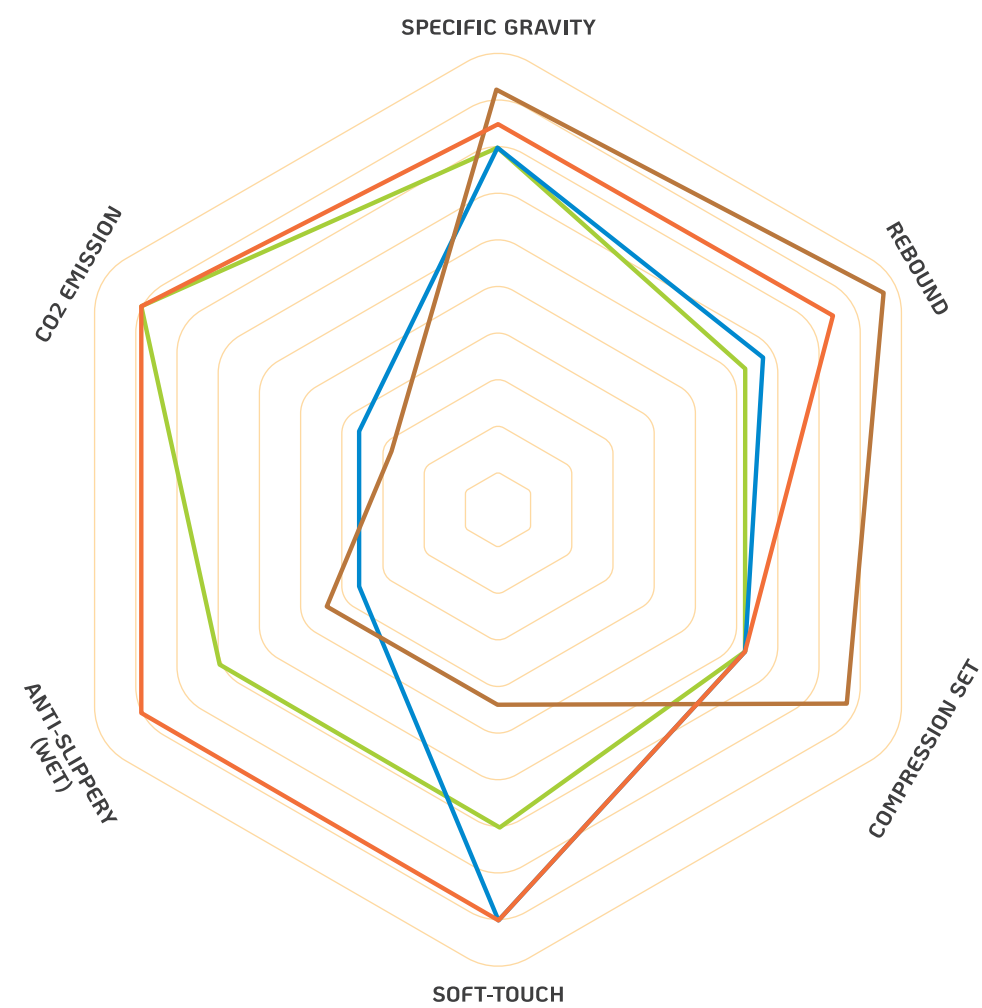


TSRC FOAM MATERIAL VIA SCF INJECTION

FEATURES

- Balance all-around superior performance (lightweight, high rebound, strong CS, and exceptional touch feel)
- Excellent Slippery Resistance
- Without chemical residues and no odor.
- Sustainability (Non-crosslinked)
- 3R (Weight Reduction, Recycling, and Reuse)
- Reduced Carbon Emission

— TSRC
— EVA
— TPU
— TPEE



SCF INJECTION PROCESS COMBINE WITH OVER-MOLDING TECHNOLOGY

DIRECT BONDING ON MID/OUT-SOLES

MIDSOLE BY SCF INJECTION

- Lightweight
- High rebound
- High split tear
- Excellent touch feel

OUTSOLE BY INJECTION

- Lightweight
- Excellent anti-slip(dry & wet) abrasion resistance



GRADE	 SNS-001SNS-002SNS-003			 SNR-001SNR-003		 SNR-004	 SNW-001
	SNS-001	SNS-002	SNS-003	SNR-001	SNR-003	SNR-004	SNW-001
FEATURES	Low Compression Set	Low Compression Set	Low Compression Set	High Rebound	High Rebound	High Rebound	Light Weight
HARDNESS (SHORE C)	53	48	61	42	56	30	45
SPECIFIC GRAVITY	0.23	0.22	0.46	0.22	0.26	0.20	0.17
REBOUND(%)	50	66	38	61	54	62	50
COMPRESSION SET (50°C/6HRS)	55	20	19	98	85	98	68

Note: The data shown is foam properties and not to be construed as specifications.

INSOLE

BENEFITS

- Lightweight
- Minimal compression tendencies
- Gentle tactile sensation
- Environmentally conscious approach

FEATURES

- Free from latex
- Non-harmful, hypoallergenic, and gentle on the skin
- Enjoying unrestricted comfort

PROPERTY	PLANTAR INSOLE (COMMERCIALLY AVAILABLE)	SXW-003	SXS-003
	-	Light Weight	Low Compression Set
HARDNESS (00)	62	65	73
SPECIFIC GRAVITY	0.23	0.12	0.24
REBOUND (%)	58	60	57
COMPRESSION SET (23°C/6HRS)	15	15	8

Note: The data shown is foam properties and not to be construed as specifications.



OUTSOLE

BENEFITS

- Outstanding slip resistance
- Reduced abrasion
- Simplified processing

FEATURES

- Superior anti-slip and abrasion-resistant TPE injection molding compounds.
- Direct bonding (PC-18009) on textile saves time and cost.
- Eco-friendly: energy-efficient and recyclable

PHYSICALS	TRADITIONAL VULCANIZED RUBBER	INJECTION MOLDING		
		PC-18009	PA-17005	PC-18019
SLIP RESISTANCE, DRY	0.6	0.9	0.9	1.1
SLIP RESISTANCE, WET	0.3	0.4	0.4	0.75
ABRASION LOSS (MM ³ @10N)	100	100	100	70

OUTSOLE

HEEL COUNTER

SBCS COMPOUNDS

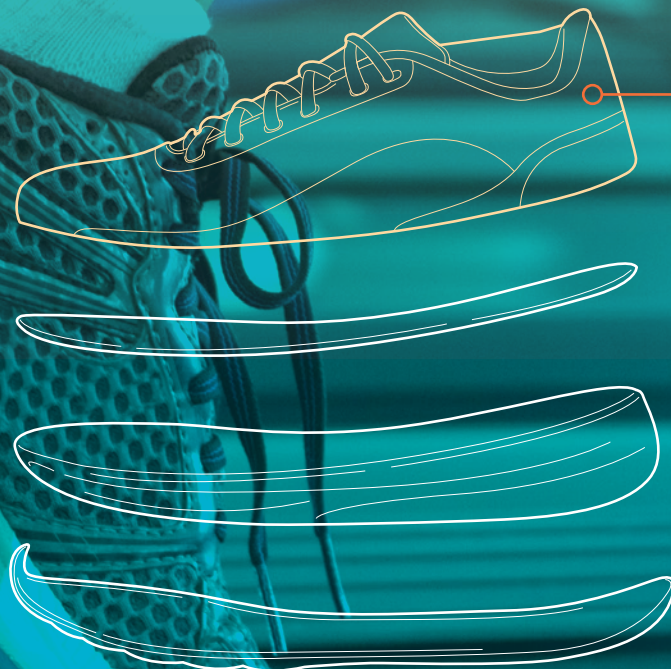
BENEFITS

- Light-weight
- Exceptional resistance to bending
- Remarkable color stability

FEATURES

- Immediate rebound
- Maintains shape after compression
- Product validation
- 28% weight reduction compared to TPU
- Hardness range from 26 to 40 Shore D (equivalent to 80-95 Shore A)

HEEL COUNTER



GRADE		PA12	TPU	PC-21001	PC-21002
MATERIAL PROPERTIES		Need pre-dry		W/O pre-dry	
SPECIFIC GRAVITY	G/CM3	1.008	1.235	0.891	0.895
BENDING RESISTANCE TEST	CYCLES	<1500	>30000	>30000	>30000
UV IRRADIATION TEST	GRAY SCALE	4-5	3-4	4-5	4-5



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