

# FOOTWEAR SOLUTIONS

TSRC Corporation is a global leader in elastomers, providing innovative solutions for the footwear industry. We offer a diverse range of advanced technologies and services, including insoles, outsoles, midsoles, and heel counters, aimed at revolutionizing the manufacturing process. Our commitment to sustainability ensures that our high-performance products exceed industry standards. By partnering with TSRC, you can embrace the future of footwear and elevate your products while contributing to a more efficient and sustainable industry. Together, let's shape a remarkable footwear landscape.

# VISION: A GLOBAL FOOTWEAR SOLUTION PROVIDER



- 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



- 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)



- 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/Compression Molding)
- SCF (Supercritical Foaming by Autoclave/Injection)

### OUTSOLE

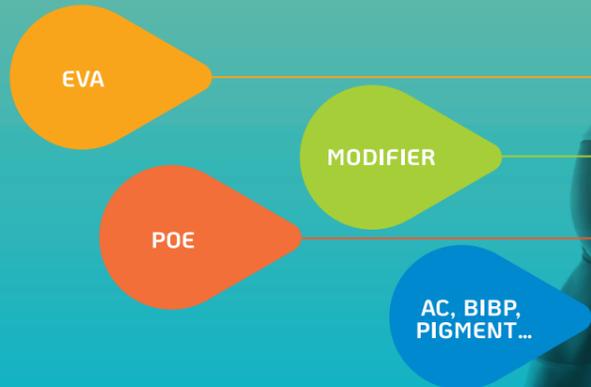
- Compression Molding
- Injection Molding

### HEEL COUNTER

- 2K Injection Molding
- Injection Molding

### COMPOUNDING TECHNOLOGY

- One Step Compounder
- Kneader
- Roller Mill
- Pelletizer



# MODIFIER

**CUSTOMIZED SOFTNESS, REBOUND, LOW SHRINKAGE, SPLIT TEAR, LOW COMPRESSION SET, LIGHT WEIGHT**

## FEATURES

- Enhance specific function like low shrinkage, high rebound or soften the hardness
- Could be employed in injection or mold-pression process.
- Covering a range of hardness levels from Shore 35A to 80A

## ADVANTAGE

- Could be process in Kneader
- Value add specific function according to customer's need
- Cost saving (Lower usage of POE)



PROPERTY IMPROVEMENT	SOFTNESS				
GRADE	4000-35T	4000-40N	4000-40T	4001-45N	TG410-45
HARDNESS (A)	35	43	40	47	45
DENSITY	0.88	1.05	0.88	1.09	1.06
MELT FLOW (G/10 MIN) 5KG AT 180°C	50-100	2-10	5-15 (190°C, 2.16kg)	2-10	2-10

PROPERTY IMPROVEMENT	REBOUND				REBOUND & SPLIT TEAR	
GRADE	4014-55N	4011-55N	2800-60N	4002-75T	4011-80N	4002-85T
HARDNESS (A)	52	58	63	74	80	85
DENSITY	0.92	0.94	0.9	0.88	0.95	0.88
MELT FLOW (G/10 MIN) 5KG AT 180°C	1-5	0.5-5	5-15	2-10	<5	<5

# MIDSOLE- CCF

## CROSSLINKED-COMPRESSION MOLDING

### FEATURES

- Boasting a strong ability to create customized formulations
- Design to deliver outstanding bounce, lightweight properties and minimized compression set
- 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 40C to 55C

## CROSSLINKED-INJECTION

### FEATURES

- Design to deliver outstanding bounce, lightweight properties and minimized compression set
- High flow for injection process
- Our range of foam products meets requirement of renowned international footwear brand
- Covering a range of hardness from 35C to 50C

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

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

GRADE	CXI-001	CXI-002	CXI-003	CXI-004
HARDNESS (SHORE C)	45	43	35	45
SPECIFIC GRAVITY	0.163	0.185	0.165	0.197
REBOUND (%)	58	58	65	61
COMPRESSION SET (50°C/6HRS) OR (*RT/6HR)	42	49	49	39

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 40C to 55C

**MIDSOLE**  
Non-crosslinked





GRADE	SNS-002-1	SNR-004-1	SNW-004
FEATURES	Low Compression Set	Soft & High Rebound	Light Weight
HARDNESS (SHORE C)	48	30	45
SPECIFIC GRAVITY	0.19	0.2	0.17
REBOUND (%)	63	62	50
COMPRESSION SET (50°C/6HRS)	30	90	90

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

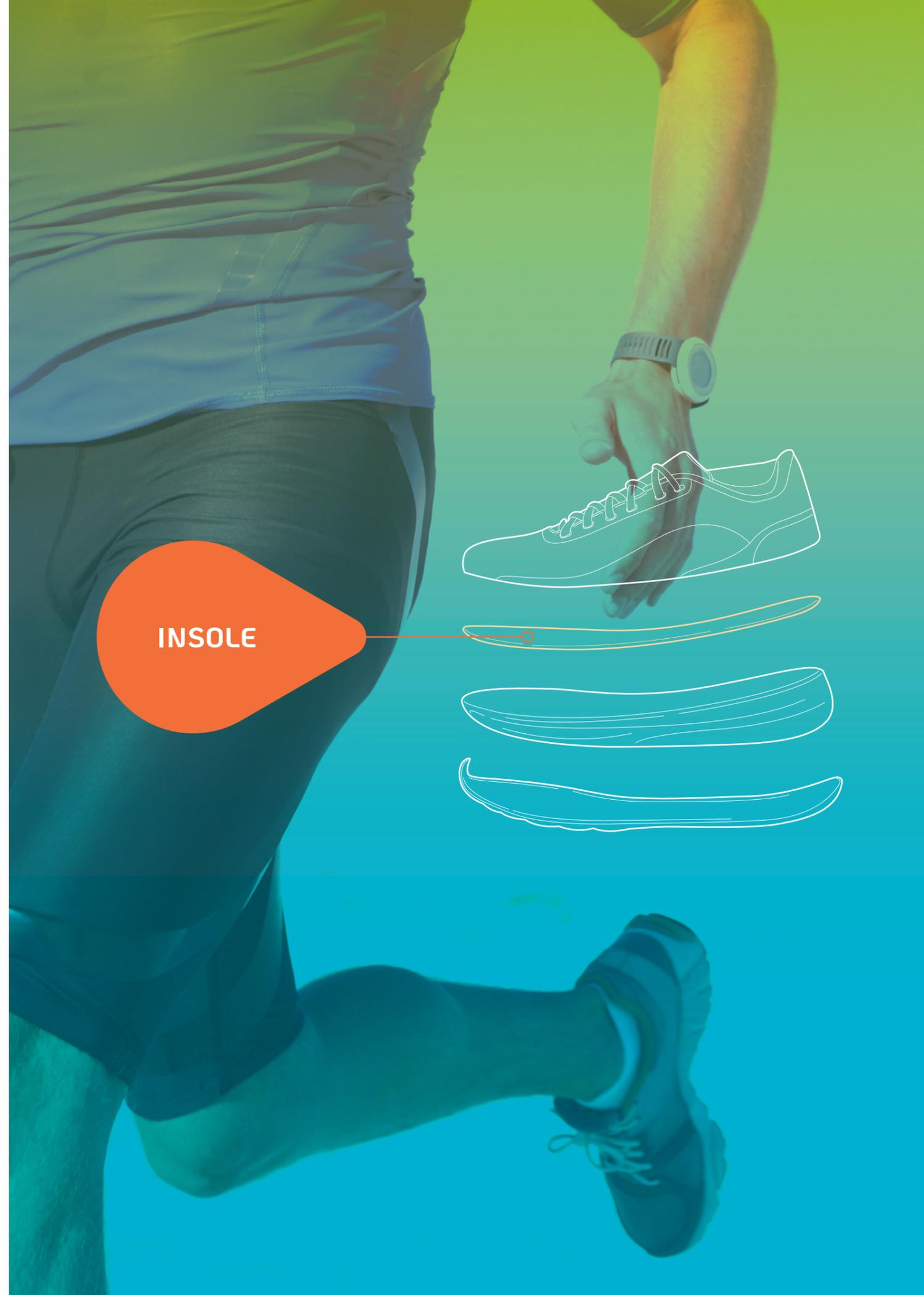
**FEATURES**

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



PROPERTY	PLANTAR INSOLE (COMMERCIALY AVAILABLE)	SXW-003
	-	Light Weight
HARDNESS (00)	62	65
SPECIFIC GRAVITY	0.23	0.12
REBOUND (%)	58	60
COMPRESSION SET (23°C/6HRS)	15	15

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



# INJECTION OUTSOLE

**BENEFITS**

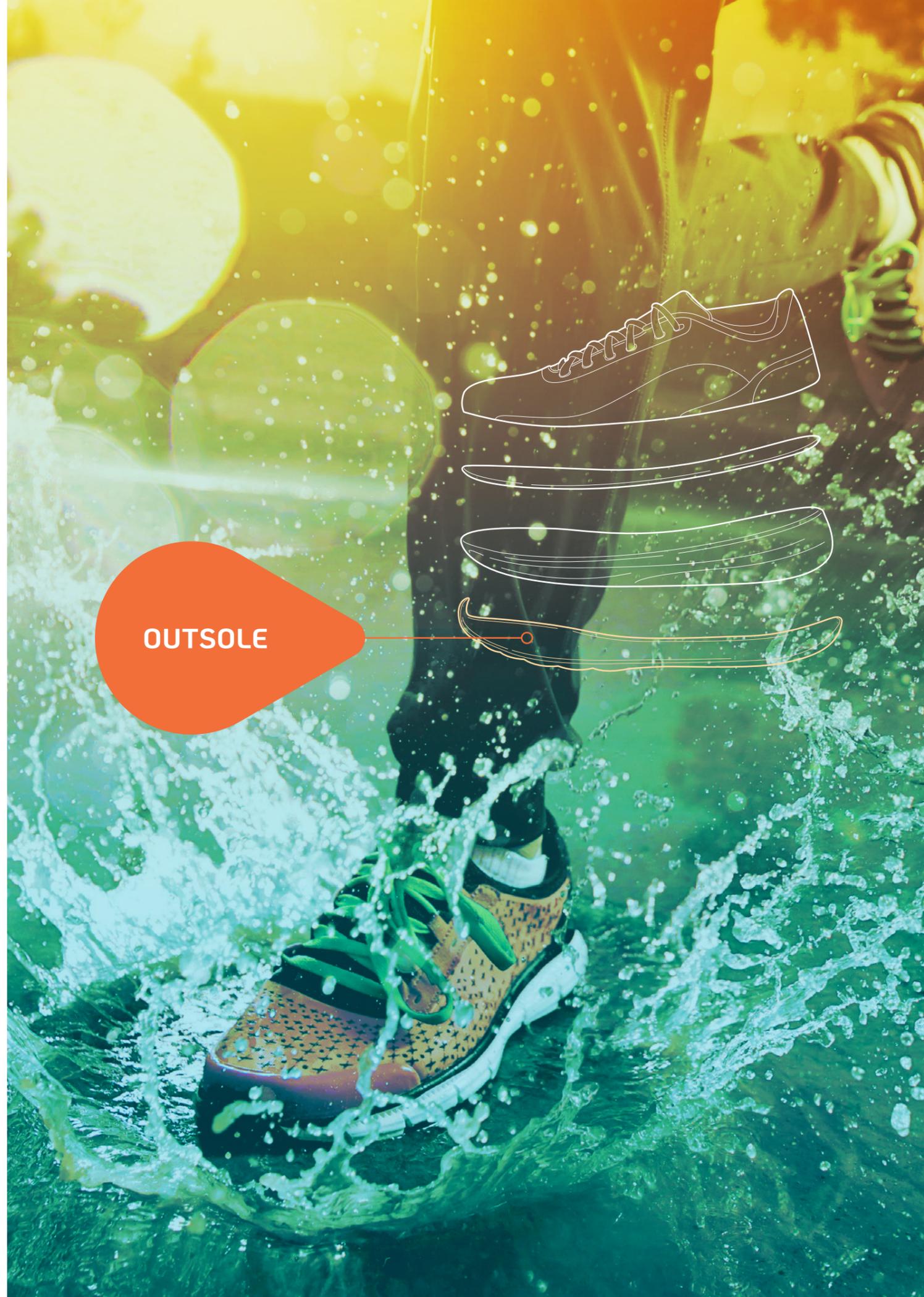
- Non-blooming
- Anti-yellowing

**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

INJECTION OUTSOLE

PROPERTY	VULCANIZED RUBBER	PC-18019	GA-2025040	GA-2025039
INJECTION TEMPERATURE	-	180	180	210
HARDNESS, SHORE A	65+3	65+3	69+3	66+3
DENSITY	1.1	0.94	0.9	0.89
ANTI-SLIP (DRY)	1.0	1.07	1.0	1.0
ANTI-SLIP (WET)	0.7	0.75	0.75	0.75
DIN ABRASION (MM <sup>3</sup> @10N, 25°C)	<70	70	96	65
DIN ABRASION (MM <sup>3</sup> @10N, 80°C)	-	-	103	142



# HEEL COUNTER

## SBCS COMPOUNDS

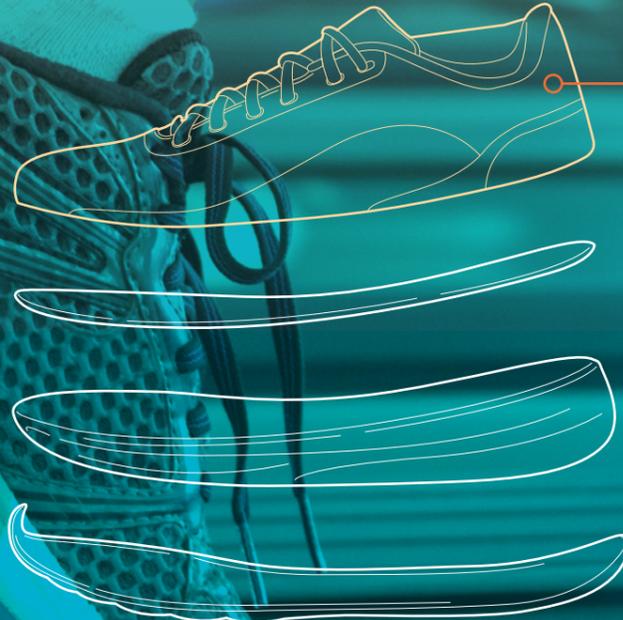
### BENEFITS

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

### FEATURES

- Immediate rebound
- Maintains shape after compression
- 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/CM <sup>3</sup>	1.008	1.235	0.891	0.895
BENDING RESISTANCE TEST (PUNCHING HOLE)	CYCLES	<1500	>30000	>30000	>30000
UV IRRADIATION TEST	GRAY SCALE	4-5	3-4	4-5	4-5



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