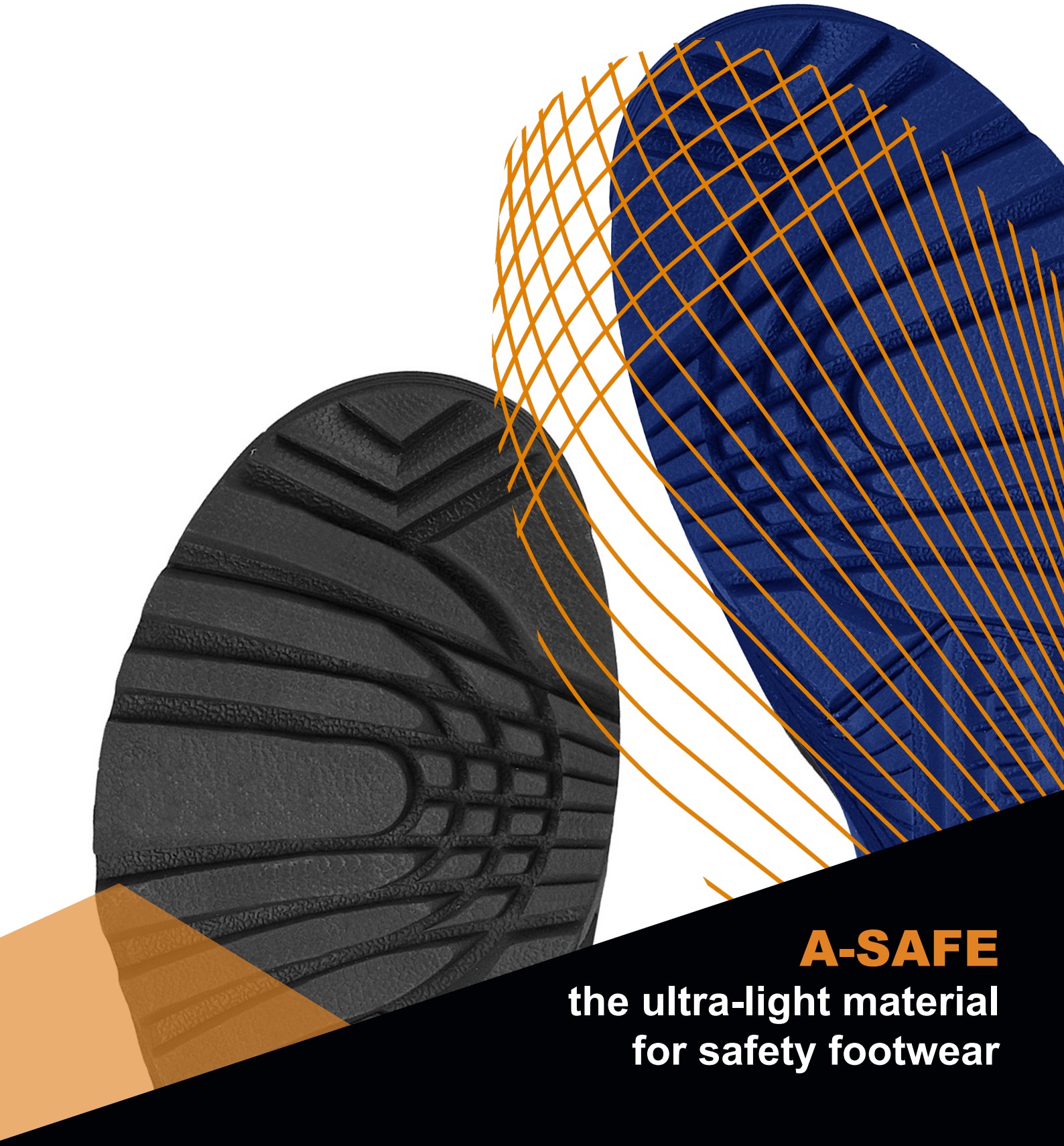
Asafe



A-SAFE

the ultra-light material for safety footwear

a-SAFE

The new for footwear & safety soles.

a-SAFE offers the best properties of NBR rubber and the lightweight characteristics of a foamed material.

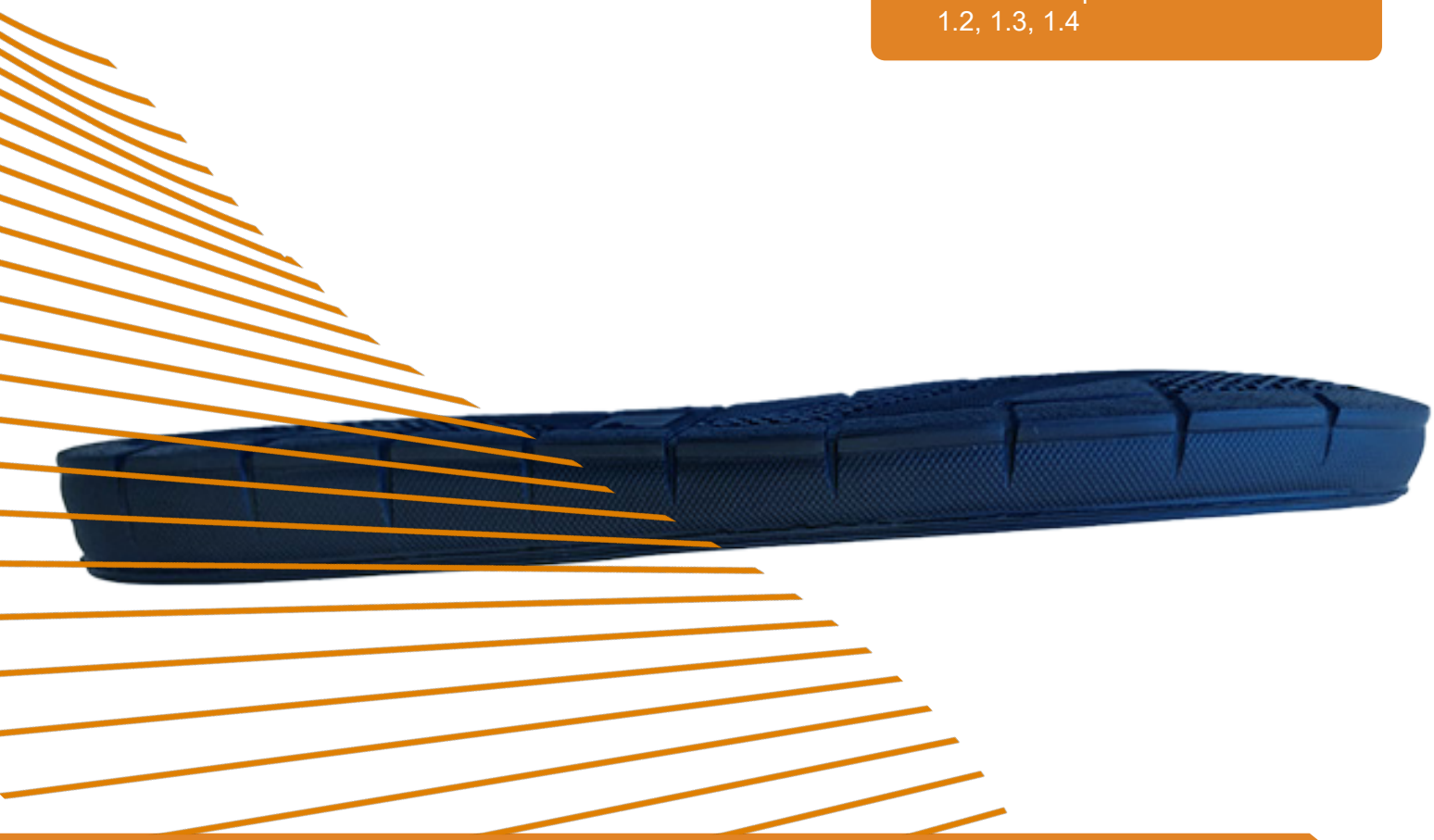
It consists of an injectable material that is very lightweight, flexible, easy to work with, versatile, comfortable, and has a soft touch. This allows for the production of soles with up to three times less weight than a rubber or TPU safety sole, while maintaining the same performance as a rubber (NBR) sole.

The use of top-grade polymers along with the best properties of blends of 2D and 3D carbonaceous structures allows for the creation of a material that facilitates the production of soles with unique properties, combining everything you might need in a single product.

Properties

- Densities 0,36 - 0,55 g/cm3
- Abrasion <150 mm3 (ISO 20345)
- Resistant to the hydrocarbon test (< 12 %) (ISO 20344)
- Antistatic ESD (Adjustable)

  between 10^7 - 10^9 Ω) (ISO 20344)
- Contact heat resistant.
- Flexural strength > 150.000 cycles. (ISO 20344)
- Does not undergo hydrolysis.
- Colorable.
- Standard expansion coefficient: 1.2, 1.3, 1.4



Processing characteristics.

The material injection process must be adjusted for each type of machine. As a reference, the material should be injected at a temperature of 165 -170°C.

Depending on the pressure and process temperature, the shrinkage after injection may vary, but after two weeks, the material is stable, similar to the other expansed injection system.

The best of a-SAFE

Maximum security

Good abrasion & heat resistance

Colorable

Any design is possible

Maximum comfort

Max. cushioning
+ Max.anti-slip

ESD

Antistatic

a-SAFE = 10^{7} - 10^{9} Ω

Greater lightness

a-SAFE = 0,36 - 0,55 g/cm3

Injection parameters.

Mold temperature	Curing time
165 - 170 ºC	8 - 9 min

Process.

The material is intended to be processed through injection molding.

Material properties.

The technical specifications provided by the table are derived from laboratory tests on expanded and perforated sheets (expansion 1.2, 1.3, 1.4) using **a-SAFE** material. These specifications are considered indicative and may vary slightly depending on the injection process and parameters.

Expansion	Density	Abrasion	Hydrocarbons		Antistatic effect	
1.2	0,55 g/cm3	125-175 mm3	H	pass < 12%	ESD	0,1-100 mohms
1.3	0,46 g/cm3	150-175 mm3			ST	100-1000 mohms
1.4	0,36 g/cm3	225-250 mm3	-	> 12%	IS	aislante

avanzare

inventing the future

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We provide high-performance solutions based on nanotechnology, 2D materials, and emerging materials, committed to the goal of producing disruptive changes in the industry.

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