

### Sports

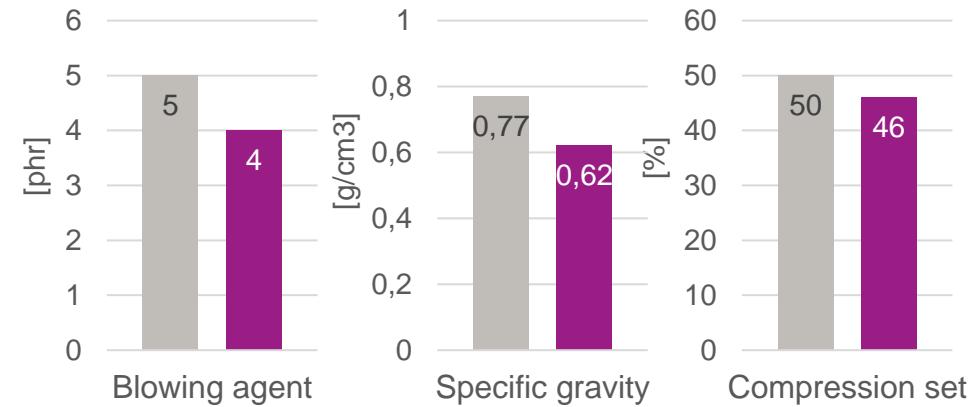
#### Shoe soles



#### Key benefits

VESTENAMER's properties help to meet manufacturing challenges of modern sports shoes. The low melting point and dispersing ability improves the rubber foaming process, resulting in materials of less weight. Improved abrasion is a further benefit for shoe sole assemblies to extend product quality and lifetime. The well-known benefits of VESTENAMER in recycling rubbers can also be applied in shoe soles to enable the use of production scrap or recycling rubber powders for more economic and sustainable production. The shape memory or phase change properties of VESTENAMER (in science: TOR, PCO) open up exciting new concepts in shoe design.

- Improved rubber foaming
- Lower density, less weight
- Less use of blowing agent
- Engineering of damping
- Higher abrasion resistance
- Efficient use of recycled rubber materials
- Shape memory and phase change properties



Sponge rubber NR x SBR	A	B
NR (Sheets SMR 5)	30	10
SBR (Buna EM 1551)	70	70
<b>VESTENAMER 8012</b>	-	<b>20</b>
Carbon black	40	40
Faktis DK10	25	25
Naphthenic oil	25	30
Sulfur	1.5	1.3
ZnO	5	5
Stearic Acid	3	3
Antioxidant (BPH)	1	1
Blowing agent (BDSH)	5	4
Peptidizer (Renacit 7)	1	1
Accelerators*	2.9	2.4

\*MBTS, MBT, TMTD