

The background of the image is a close-up photograph of green grass blades. Some of the blades have small, clear water droplets on their tips, reflecting the light. The background is slightly out of focus, creating a soft, natural feel.

SEREFON

基 于 想 象 物 于 美 好



Serefon™- Perfect combination of Biobased and PU



Serefon™—A new biobased brand established by Huafon Group, committed to becoming a pioneer and leader in the biobased PU industry

Brand Philosophy

Originating from nature, Embrace better future

Core Value

Sustainable, Environmentally friendly, Biobased, Green Future

Brand Vision

Become a world-class biobased PU material supplier



R&D History



2 years of R&D exploration

80 million capital investment

15 Engineers in R&D Team

More than **65%** of masters

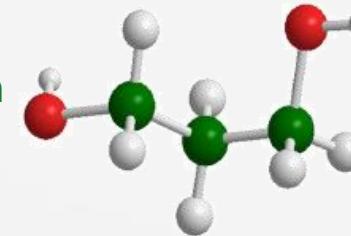


Biobased Chain



Industrial Corn

Fermentation



Biobased PDO

Polymerization



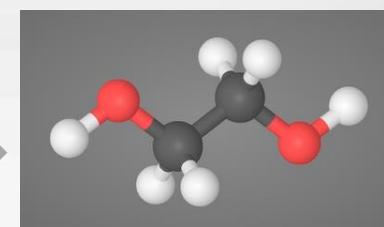
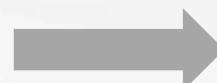
Biobased Polyols



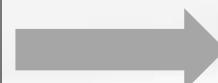
Replace



Petroleum



Chemicals



Polyols



Biobased Sole



Industrial Chain

On June 1, 2022, Huafon Group officially acquired the bio-based product-related business and technology spun off by DuPont, and established **Covation Biomaterials**. Including Susterra® and Zemea® Production Sites (PDO) in Tennessee, USA and Sorona® Production Site (PTT) in North Carolina, USA.





Serefon™ Technology Advantages



Reactive Addition

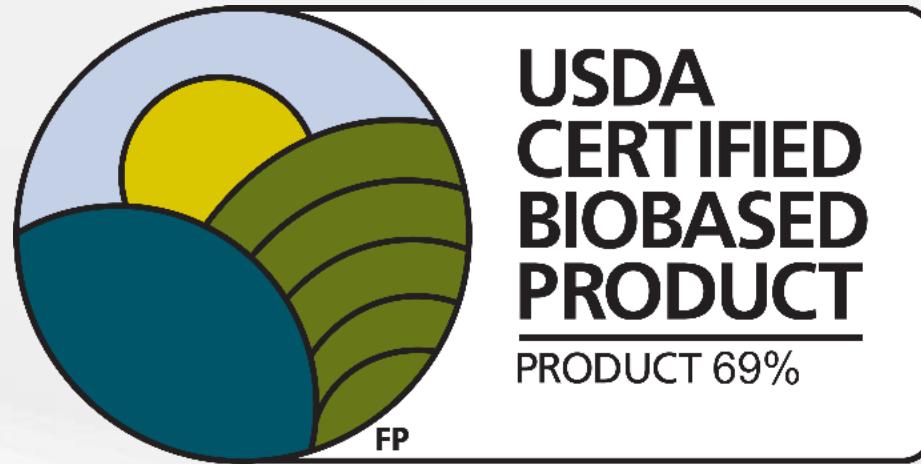
- Biobased materials produce PU chemical bonds through polymer chemical reactions, and the product performance is more stable.

Leading Technology

- Using the world's leading Susterra® biobased technology
- Sufficient R&D technology reserves

High Quality Assurance

- Mature Serefon™ product system
- Stable raw material supply chain guarantee



USDA BioPreferred Program certificated

Serefon™ currently has **9** bio-based products with a biobased content $\geq 22\%$ that have been certified by the USDA BioPreferred Program. **11** biobased products have been tested by the BETA laboratory and meet the product description.



Biobased Content

11%/25%/50%/65%

High Rebound

Resilience is more than 30% better than traditional insoles

Better Physical Properties

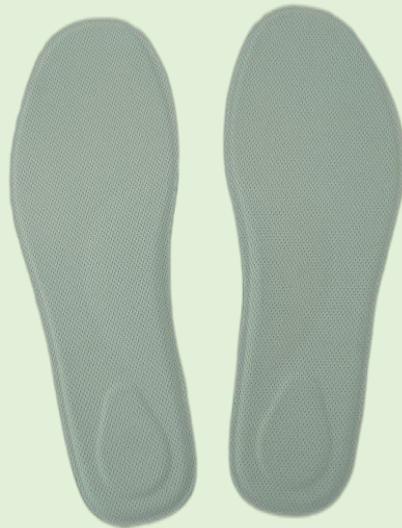
Tear strength is more than 30% better than traditional insoles

High Formula Tolerance

Both traditional production line and PP board line can be produced



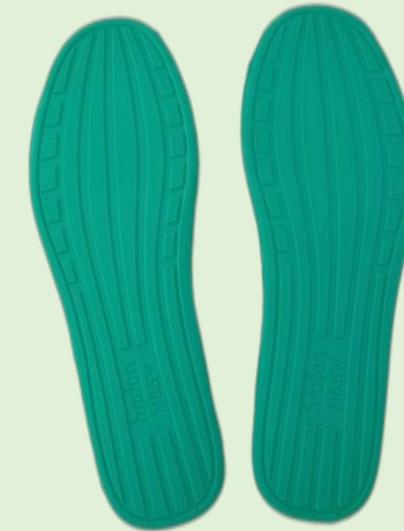
Serefon™-11% Biobased Content



JF-P-586-11/JF-I-696

Polyester based

- Density: 0.30-0.35 g/cm³
- Hardness: Shore C 25-30
- Good operability
- Compression Set: $\leq 5\%$
- Resilience: $\geq 35\%$



JF-P-596-11/JF-I-696-50

Polyether based

- Density: 0.27-0.30 g/cm³
- Hardness: Shore C 25-30
- Lower Density, Better Rebound
- Compression Set: $\leq 5\%$
- Resilience: $\geq 40\%$



Serefon™-25% Biobased Content



JF-P-586-25/JF-I-696

Polyester based

- Density: 0.30-0.35 g/cm³
- Hardness: Shore C 25-30
- Good Physical Properties
- Compression Set: ≤5 %
- Resilience: ≥45%



JF-P-596-28/JF-I-696

Polyether based

- Density: 0.27-0.30 g/cm³
- Hardness: Shore C 18-22
- Brand preferred
- Compression Set: ≤5 %
- Resilience: ≥40 %



Serefon™-50% Biobased Content



JF-P-596-50/JF-I-696-50 Polyether based

- Density: 0.25-0.30 g/cm³
- Hardness: Shore C 25-30
- Compression Set: $\leq 5\%$
- Rebound: $\geq 50\%$
- High value-added



Serefon™-65% Biobased Content



JF-P-596-65/JF-I-696-50
Polyether based

- Density: 0.26-0.30 g/cm³
- Hardness: Shore C 25-30
- Compression Set: \leq 10 %
- Rebound: \geq 50 %
- High Biobased Content



Serefon™- Open Cell Foam



Biobased Content

11%/25%

Low Deformation

Compared with traditional products, the compression deformation is increased by 50%

High Toughness

Tensile strength and tear strength is more than 20% better than traditional products

Good Rebound

Resilience is more than 20% better than traditional products



Serefon™-11% Biobased Content



JF-P-716-10/JF-I-632+JF-I-635
Polyether based

- Density: 0.11-0.15 g/cm³
- Hardness: Shore C 25-30
- Compression Set: $\leq 5\%$
- Rebound: $\geq 30\%$
- Light and Breathable



Serefon™-25% Biobased Content



JF-P-716-25/JF-I-632+JF-I-635
Polyether based

- Density: 0.11-0.15 g/cm³
- Hardness: Shore C 17-35
- Compression Set: ≤ 5 %
- Rebound: ≥ 30 %
- Soft and skin-friendly



Serefon™-Midsole



Biobased Content

22%/25%/50%/70%

High Rebound

Resilience $\geq 50\%$

Low VOCs

Lower VOCs than other midsoles

Mature Formula

TPU Vacuuming Film

Spraying

Serefon



Serefon™-22% Biobased Content



JF-P-586-25/JF-I-9020

Polyester based

- Density: 0.35-0.50 g/cm³
- Hardness: Shore C 45-60
- Tensile Strength: \geq 2.3 MPa
- Elongation: \geq 400 %
- Angle Tear Strength: \geq 9.2 kN/m
- Split Tear Strength: \geq 1.4 kN/m
- Rebound: \geq 40 %
- Good operability



Serefon™-25%/50%70% Biobased Content

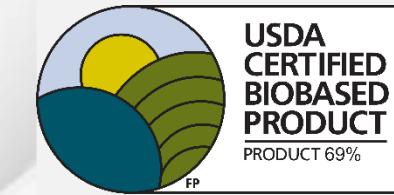
JF-P-760-25/JF-I-860
25%/Polyether based



JF-P-760-50/JF-I-860
50%/Polyether based



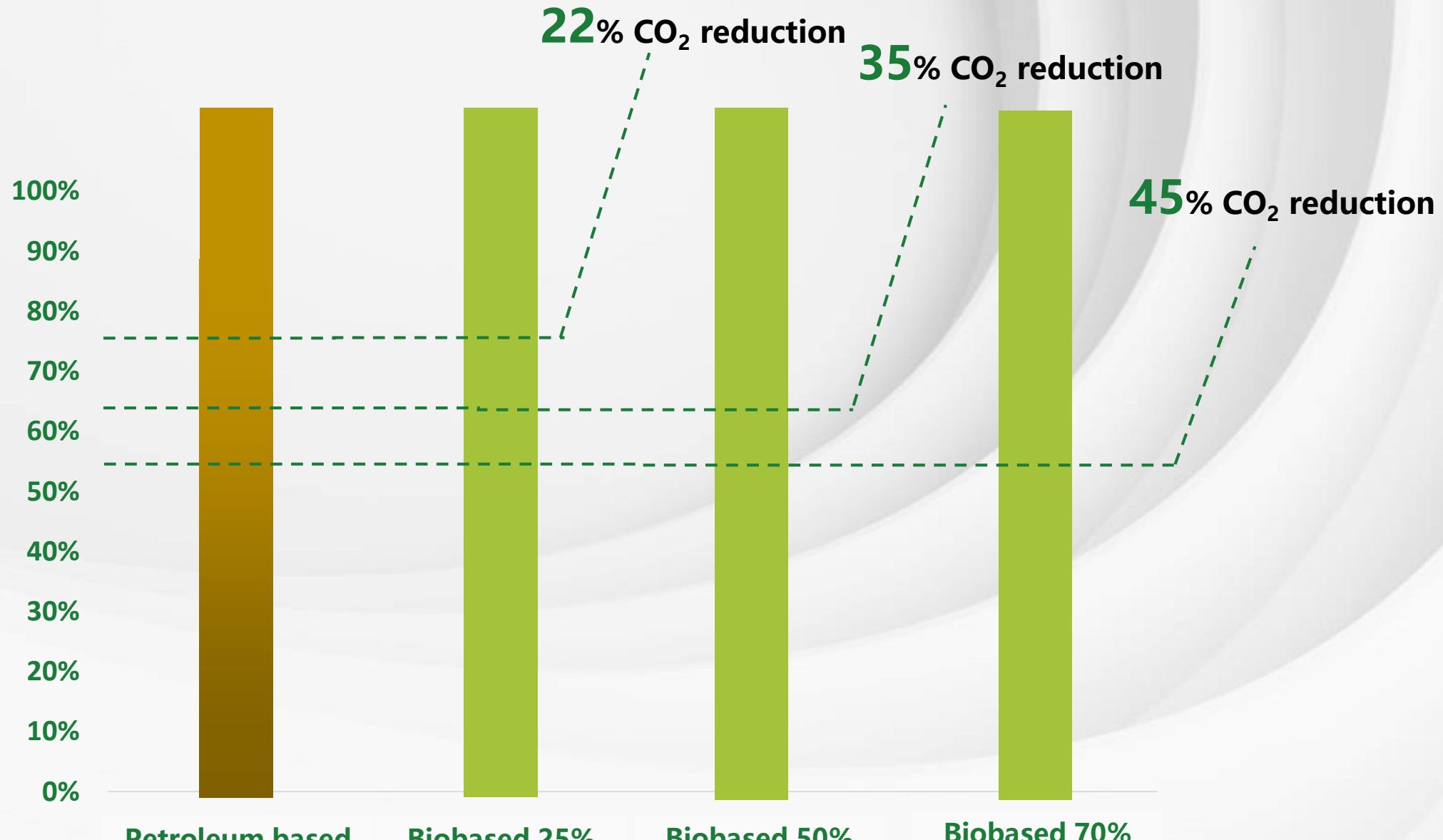
JF-P-760-70/JF-I-860
70%/Polyether based



- Density: 0.30-0.40 g/cm³
- Hardness: Shore C 50-60
- Rebound: ≥50 %
- Compression Set: ≤5.0%
- High Rebound



CO₂ Emission Comparison

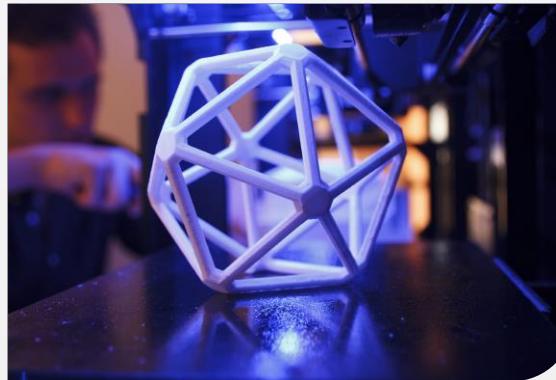




Future Outlook

3D Printing

Healthcare
Model



Clothing

Underwear
Swimsuit



Automobile

Seat
Pipe



Spraying

Fully covered without
air holes



huafon 华峰

— New Materials New Life —