



SONGSTOMER™

TPU innovative solutions for the wire and cable industry

SONGWON is a leading specialist in products and technologies for the wire and cable industry.

Our broad portfolio of SONGSTOMER™ polyether-based engineering materials enables us to design customized solutions for numerous wire and cable applications.

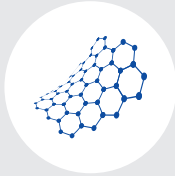
Thanks to their excellent physical and technical attributes, SONGSTOMER™ TPU polymers are widely used by wire and cable manufacturers to produce high-quality cable jackets. SONGSTOMER™ TPU grades combine a variety of properties that help to extend the service life of valuable cable systems.

It's all about **the chemistry™**



SONGWON – Long lasting expertise for the wire and cable industry

Wide range of TPU polymers



Suitable for flame-retardant, transparent and highly heat-resistant applications

Cutting-edge quality and EHS standards

Comprehensive technical expertise



Dedicated TPU testing laboratory in South Korea

Ability to develop and supply customized TPU solutions

Proven reliability



More than 35 years' manufacturing experience in South Korea

Backward integration into the production of polyester polyols

Global sales organization and distribution channels in Asia, Europe and North America

Strong commitment



Significant investments to increase TPU production capacity

Continuous innovation to meet new industry standards

SONGSTOMER™ TPU polymers are suitable for the manufacture of robust and reliable cable jackets and generate significant value for cable manufacturers...

... Their excellent flow characteristics allow the design of complex shapes and the production of dimensionally stable components, thus minimizing waste.

... Their outstanding resistance at low temperatures helps to maintain high productivity because jackets do not become brittle and retain their flexibility.

... Their high resistance to abrasion, oil and weathering helps to prolong the life of the end product and reduce maintenance requirements.

Outstanding properties



High tensile strength

Wear resistance

Toughness

Good resistance to low temperatures

Weather and oil resistance

Excellent resistance to hydrolysis

Demanding applications



Power/sensor cables for industrial robots

Robotic arm cables

Control cables for windmills and turbines

Solar panel cables

Power cables for mining and off-shore applications

Cables for transportation systems

SONGSTOMER™ TPU polymers recommended for cable applications

| Properties | Test Method | Units | P-3280A10 | P-3285A10 | P-3290A10 | P-3295A10 | P-3254D10 |
|--------------------------------|-------------|---------------------|-----------|-----------|-----------|-----------|-----------|
| Characteristics | | | Polyether | Polyether | Polyether | Polyether | Polyether |
| Hardness | ASTM D2240 | Shore | 82 ± 2 A | 87 ± 2 A | 92 ± 2 A | 95 ± 2 A | 58 ± 2 D |
| Specific Gravity | ASTM D792 | g/cm ³ | 1.11 | 1.12 | 1.13 | 1.14 | 1.16 |
| Tensile Strength | ASTM D412 | kgf/cm ² | 280 | 420 | 450 | 500 | 520 |
| | | MPa | 27 | 41 | 44 | 49 | 51 |
| Tensile Stress at 100% Modulus | ASTM D412 | kgf/cm ² | 50 | 70 | 100 | 120 | 160 |
| | | MPa | 5 | 7 | 10 | 12 | 16 |
| Tensile Stress at 300% Modulus | ASTM D412 | kgf/cm ² | 95 | 120 | 150 | 220 | 240 |
| | | MPa | 9 | 12 | 15 | 22 | 24 |
| Ultimate Elongation | ASTM D412 | % | 450 | 450 | 450 | 450 | 450 |
| Tear Strength | ASTM D624 | kgf/cm | 80 | 100 | 110 | 120 | 150 |
| | | N/mm | 78 | 98 | 108 | 118 | 147 |

The above are typical values and should not be used as specifications.

| Extrusion Conditions | Zone 1 | °C | P-3280A10 | P-3285A10 | P-3290A10 | P-3295A10 | P-3254D10 |
|----------------------|--------|-----|-----------|-----------|-----------|-----------|-----------|
| | Zone 2 | | 185 | 190 | 195 | 195 | 205 |
| Zone 3 | 190 | 195 | 200 | 200 | 210 | | |
| Adapter | 195 | 200 | 205 | 205 | 215 | | |
| Die | 200 | 205 | 210 | 210 | 220 | | |
| | 195 | 200 | 205 | 205 | 215 | | |

Extruder parameters: L/D: 26-30, Compression ratio: 2.5 – 3.5

Drying conditions



SONGSTOMER™ TPU products must be dried before processing.

Recommended drying conditions:
70-80°C for 3-4 hours in dehumidifying dryer.

The moisture content should not exceed 0.05%.

Avoid unnecessarily prolonged drying periods to prevent any TPU discoloration.

Storage conditions



SONGSTOMER™ TPU products are supplied in pellet form.

The materials are packed in 25kg aluminum-polyethylene bags.

The materials must be stored in a cool and dark place.

Once open, reseal the bags to protect the contents.





For further information, please go to:

www.songwon.com

tpp@songwon.com

SONGWON provides customers with warranties and representations as to the chemical or technical specifications, compositions and/or the suitability for use for any particular purpose exclusively in individual written agreements.

The facts and figures contained herein have been carefully compiled to the best of SONGWON's knowledge but are essentially intended for informational purposes only.

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