



INNOGREEN

Eco-Friendly **S**ign media



WONPOONG

Features

- Phthalate-free and 100% recyclable
- Remarkable resistance to weather and chemicals
- Wide compatibility with various digital printers
- Highly durable and elastic
- 30% lighter than PVC
- Both indoor and outdoor signage solutions
- Alternative welding options : Hot air welding, ultrasonic welding

Options

- FR treatment
- UV treatment
- Lacquering treatment
- Anti-wicking treatment
- Anti-mildew treatment



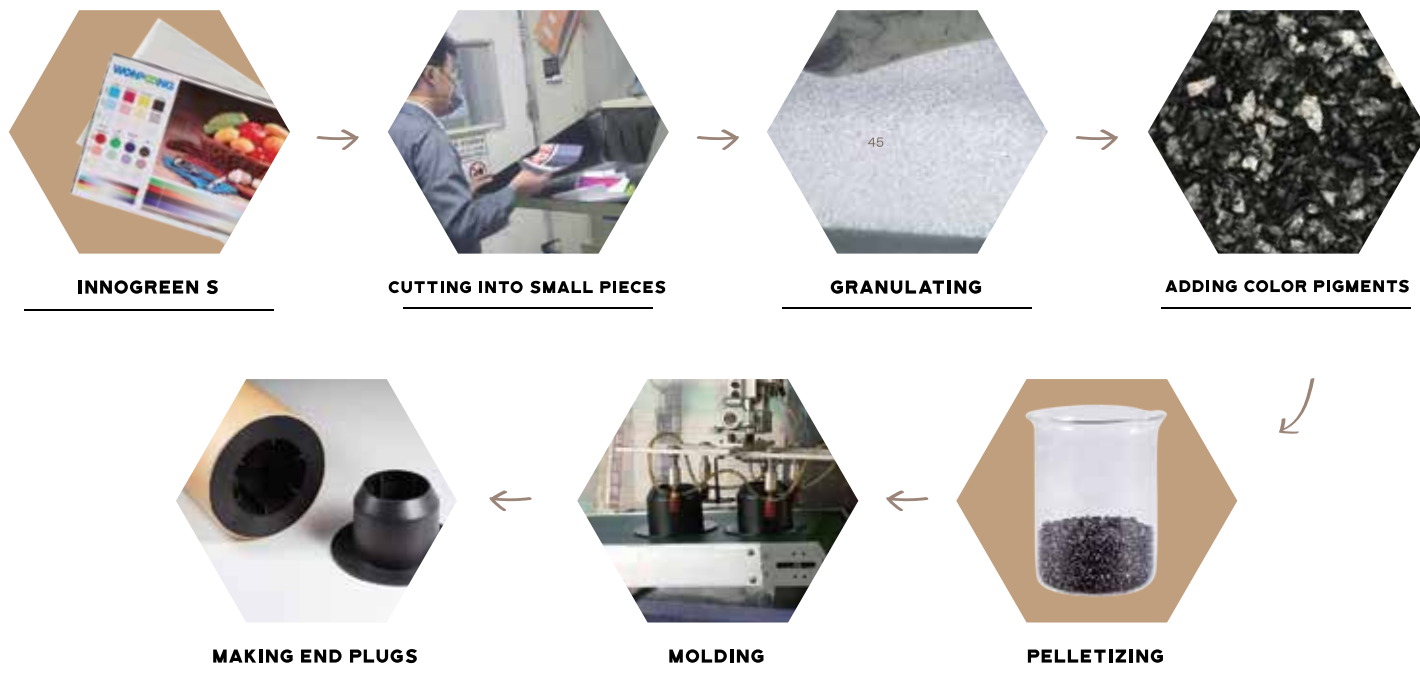
*anySign!®
anyFlex!*



Wonpoong maintains the highest standards by continually looking for ways to improve our products and provide high-quality solutions. Especially to find a wider range of green and sustainable solutions, we always welcome change and challenges.

We are dedicated to developing products that reduce or eliminate the generation of hazardous substances. We do not merely focus on finding replacements for toxic chemicals that are currently in use, we also concentrate on promoting sustainable chemistry that will lead us to significant benefits for our environment and future.

RECYCLING PROCESS



The drawbacks we overcame as we invented **INNOREEN®** pertain to the use of :

Drawback of PVC

Due to the emission of endocrine-disrupting chemicals, reinforced PVC cannot be recycled in the mechanical waste stream.



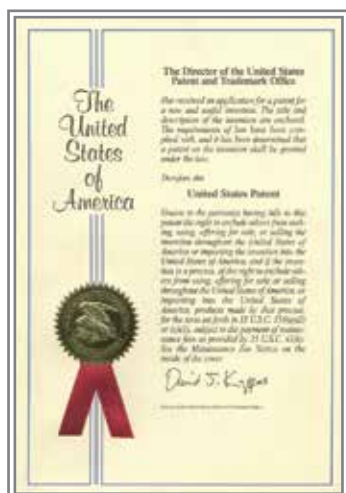
Drawback of TPO

These polyolefin-based composite materials generally have nonpolar surfaces, so it is impossible to paint them, coat them, or print on them.



INNOREEN

Eco-Friendly Signmedia



Since Wonpoong has focuses on green technology, we have invented and patented **INNOREEN®**, the 100% recyclable and phthalate-free sign medium.

We obtained a Korean patent for **INNOREEN S**, the polyolefin-based composite printable sign materials in 2008. We also obtained patents for "Polyolefin Tarpaulin Composition and Preparing Method Thereof" in the United States in 2011, in China in 2012, and in Europe and Taiwan in 2013.



BACKLIT

SB 480 -UV

Total Weight	oz (gsm)	14 (480)
Thickness	mil (mm)	21 (0.53)
Max. Width	inch (m)	126 (3,2)
Tensile Strength	lbf/inch (N/5cm)	160/140 (1400/1225)
Tear Strength	lbf (N)	86/74 (980/330)
Elongation	%	34/35
Adhesion	lbf/inch (N/5cm)	26/25 (220/220)
Light Transmission	%	14 ~15
Anti-Wicking	inch (mm)	1/8 (3)



SB 480 -SV

Total Weight	oz (gsm)	14 (480)
Thickness	mil (mm)	21 (0.53)
Max. Width	inch (m)	90 (2,28)
Tensile Strength	lbf/inch (N/5cm)	160/140 (1400/1225)
Tear Strength	lbf (N)	86/74 (980/330)
Elongation	%	34/35
Adhesion	lbf/inch (N/5cm)	26/25 (220/220)
Light Transmission	%	14 ~15
Anti-Wicking	inch (mm)	1/8 (3)



SF 440-UV

Total Weight	oz (gsm)	13 (440)
Thickness	mil (mm)	16 (0,42)
Max. Width	inch (m)	126 (3,2)
Tensile Strength	lbf/inch (N/5cm)	126/106 (1121/944)
Tear Strength	lbf (N)	24/15 (214/134)
Elongation	%	27/33
Adhesion	lbf/inch (N/5cm)	18/16 (160/142)



SF 440 -SV

Total Weight	oz (gsm)	13 (440)
Thickness	mil (mm)	16 (0,42)
Max. Width	inch (m)	90 (2,28)
Tensile Strength	lbf/inch (N/5cm)	126/106 (1121/944)
Tear Strength	lbf (N)	24/15 (214/134)
Elongation	%	27/33
Adhesion	lbf/inch (N/5cm)	18/16 (160/142)



FRONTLIT

SF 250

Total Weight	oz (gsm)	7 (250)
Thickness	mil (mm)	14 (0,35)
Max. Width	inch (m)	146 (3,7)
Tensile Strength	lbf/inch (N/5cm)	95/110 (830/960)
Tear Strength	lbf (N)	28/23 (124/100)
Elongation	%	22/23
Adhesion	lbf/inch (N/5cm)	11/8 (95/70)



SF 180

Total Weight	oz (gsm)	5 (180)
Thickness	mil (mm)	11 (0,27)
Max. Width	inch (m)	146 (3,7)
Tensile Strength	lbf/inch (N/5cm)	107/91 (940/800)
Tear Strength	lbf (N)	19/12 (85/55)
Elongation	%	28/26
Adhesion	lbf/inch (N/5cm)	20/15 (175/130)



THE WOLRD'S FIRST

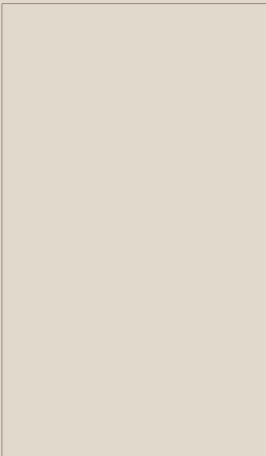
TPO BACKLIT



FRONTLIT-LITE

SL 140

Total Weight	oz (gsm)	4 (140)
Thickness	mil (mm)	6 (0,16)
Max. Width	inch (m)	146 (3,7)
Tensile Strength	lbf/inch (N/5cm)	11/13 (110/100)
Tear Strength	lbf (N)	7/7 (30/32)
Elongation	%	18/19
Adhesion	lbf/inch (N/5cm)	-

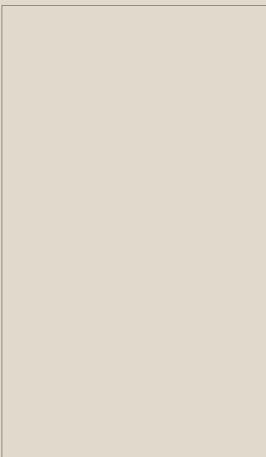


* The above mentioned data is a general technical product information only and is not a legal warranty. Properties specifications are developed based on the customer's requirements.



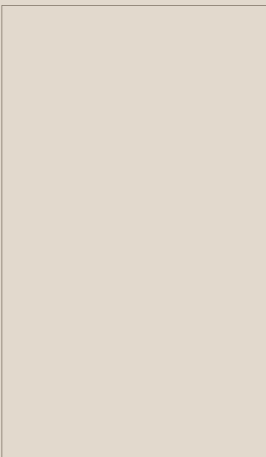
SL 90

Total Weight	oz (gsm)	2,6 (90)
Thickness	mil (mm)	4 (0,10)
Max. Width	inch (m)	146 (3,7)
Tensile Strength	lbf/inch (N/5cm)	9/8 (75/70)
Tear Strength	lbf (N)	5/5 (24/24)
Elongation	%	18/18
Adhesion	lbf/inch (N/5cm)	-



SL 70

Total Weight	oz (gsm)	2 (70)
Thickness	mil (mm)	4 (0,10)
Max. Width	inch (m)	146 (3,7)
Tensile Strength	lbf/inch (N/5cm)	7/7 (60/60)
Tear Strength	lbf (N)	5/5 (23/25)
Elongation	%	18/20
Adhesion	lbf/inch (N/5cm)	-



KEY QUALITY CHARACTERISTICS

◆ Lightweight

As seen pictures below, in the same thickness **INNOGREEN S** is 30% less heavy than regular PVC.

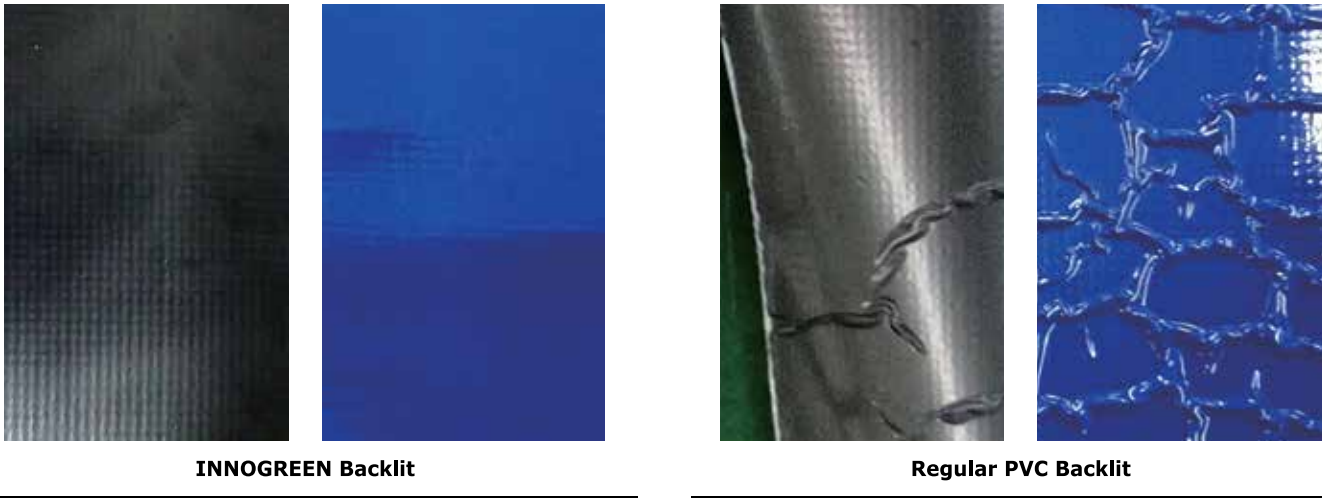


◆ Highly Durable

Jungle (Worming) Test

We have conducted jungle test (worming test) to compare durability and weatherability of **INNOGREEN S** TPO banner and regular PVC banner. We devised an accelerated high-temperature, high-humidity corrosion test to exaggerate the environmental conditions. To build a very severe condition, two products have been continuously exposed to 176°F temperatures and 90 percent relative humidity during testing hours, while black and blue marking films are adhered to the surfaces.

As shown in pictures below, the result is remarkable. The performance of **INNOGREEN S** maintained its appearance and protected its properties, while marking films on regular PVC backlit are all shrunk and “wormed”.



Weatherability Tests

Xenon-arc test chamber	Initial	300 hr	600 hr	900 hr	1200 hr	1500 hr	1800 hr	2100hr
INNOGREEN S Backlit Wonpoong Solution								
Regular PVC Backlit Other Low-end Solution								

Test Condition : ASTM D 6878, Cycle-1 : Light (11hr 30min). Cycle-2 : Light+Spray (30min)



Since it was founded in 1973, Wonpoong has continually evolved and expanded its highly diversified portfolio of solutions. While improving our product spectrum, we have created measurable and meaningful value for our customers, employees and shareholders. Our core values are customer orientation, integrity, accountability, environmental protection, and innovation.

By listening and responding to market demands, Wonpoong has combined its long-standing industry knowledge and commitment to sustainability to develop some of the most innovative product solutions. Armed with a state-of-the-art R&D Center and the ISO:9001 and ISO:14001 certified manufacturing facilities, we have strived to remain at the forefront of the industry.

Wonpoong is comprised of 6 divisions: Digital Print Media (Any Sign Any Flex), Industrial Fabrics (SuperTarp), Tensile Structure Fabrics (Tentation), Marine Fabrics (AquaFloat), Geosynthetic Materials (Geoloy), and Environmentally Friendly Materials (Innogreen).

Digital Print Media

anySign!
anyFlex!

Industrial Fabrics

SuperTarp

Tensile Structure Fabrics

tentation

Marine Fabrics

AQUAFLOAT

Geosynthetic Materials

Geoloy

Eco-Friendly Materials

INNOGREEN



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