











# Compofil®

### **HIGH PERFORMANCE**



### **Company Profile**

Jushi Group Co., Ltd is located in Tongxiang Economic Development Zone in the center of the Yangtze River Delta Economic Zone. The geographical advantages provide the company with opportunities for rapid growth.

Jushi Group specializes in the production of fiberglass. The company has attained the leadership position in the global fiberglass industry in terms of Output, Technology, R&D, Quality and Market share. Jushi Group is a Chinese national, key high technology enterprise, operating a national technology center and a distinguished Post-Doctoral program.

Jushi Group always adheres to its fundamental Management principles:

- "Apply science and technology for development,
- Build the brand name to expand market share,
- Emphasize management to improve efficiency,
- Employ talented people to enable future growth".

The company owns proprietary, world-class core technologies for large E-glass fiber furnaces, C-glass fiber furnaces and waste fiber recycling furnaces. The company has established a global marketing network and achieved certifications to ISO9001, ISO14001, ISO18001, ISO12001 and ISO17025. Its testing center has been certified by both China National Accreditation Board for Laboratories (CNAS) and Germanischer Lloyd (GL). The trademark "JUSHI" has been recognized as "China Famous Trademark". The principal products of Jushi Group have been approved by Lloyd's Register and Germanischer Lloyd (GL), DET NORSKE VERITAS (DNV), China Classification Society (CCS) and FDA.

Jushi Group produces E-glass and C-glass fiberglass products including rovings, chopped strands, chopped strand mats, woven rovings, Composil and electrical yarns and fabrics in over 20 product categories and 500 specifications. The products are sold in all provinces in China and exported to over 70 countries. The key regions include North America, Middle East, Europe, Southeast Asia and Africa with export accounting for 50% of the total sales volume.

Jushi people adhere to our core values of "Behavior, Innovation, Responsibility, Learning, Enthusiasm" to build the company into an international group with leading manufacturing scale, advanced technology, talented team, excellent management, powerful execution, great achievements and fast growth. Jushi Group strives to lead the modernization of China's fiberglass industry and maintain the leadership position in the global fiberglass industry through endless pursuit of innovation and excellence.





# ompofil® HIGH PERFORMANCE

# BENEFITS of Compofil®

Compared with traditional composite prepreg, Composit<sup>®</sup> offer the following unique benefits

Stable thermoplastic prepreg with excellent self-impregnation

Excellent permeation of fiber glass in the thermoplastics

Short processing cycle and high productivity Low production cost, high competitiveness

Excellent mechanical properties

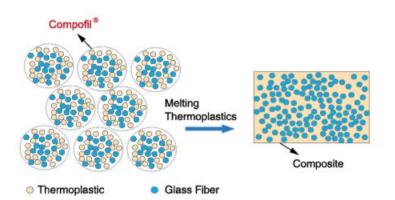
High glass content, specifically designed for structural applications

Environment-friendly production • • • process and recyclability

Recyclable and environment friendly

## INTRODUCTION of Compofil®

Composil® is thermoplastic prepreg made from continuous fiberglass coated with thermoplastics. It is specially designed to manufacture high performance composite components directly with no need for extra resin. It is suitable for various composite processes including compression molding, vacuum molding, filament winding, pultrusion, etc., widely applied in aerospace, automotive, construction, sports, new energy industries and so on.



## PRODUCT REFERENCE of Compofil®

## Roving Compofil®- PP-60- R-1870N

PP — Polypropylene resin, PET and HDPE are also available;

60 — Fiberglass content (wt%)

R - Roving

1870 Linear density (tex)

N —— Natural color (B: Black color)

#### Fabric

#### Compofil®- PP-60-P-750-2800N

PP — Polypropylene resin, PET and HDPE

are also available

60 — Fiberglass content (wt%)

P — Plain fabric, Twill, Unidirectional and

Satin are also available

750 — Area weight (g/m²)

2800 --- Width (mm)

N —— Natural color (B: Black color)

#### Building







#### Sports





#### New energy

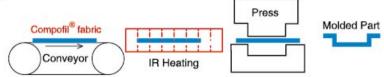




## PROCESS of Compofil®

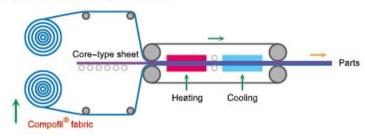
#### 1. Mold Pressing

Sheets of fabric as designed unidirectional, plain, twill and satin are placed, then heated to reactivate itself and pressed rapidly in the mold, to form the composite parts.



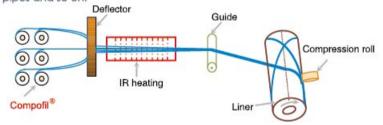
#### 2. Laminate Molding

Sheets of fabric as designed are placed on the mold according to design requirements, then put into the laminate machine to reactivate itself; The end parts are got by the cooling process; The molding process is continous with high productivity suitable for mass production.



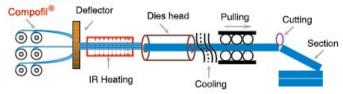
#### 3. Filament Winding

Filament winding is an automated open molding process that uses a rotation mandrel and a compression roll as the mold. Compofil® are drawn through a deflector and pulled by the force of a rotating mandrel. After Compofil is heated to reactivate, the roving is wound around the mold, forming the composite parts. Filament winding is used to deliver high strength, specifically important for various applications, such as gas tanks, pipes and so on.



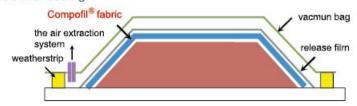
#### 4. Pultrusion

The Compofil<sup>®</sup> is pulled by the traction device, through the guide roller, IR heating device and the mold forming, and then finally cooled, cut to form the final products. The process is suitable for high-strength applications such as door frames, fiber reinforced core, and so on.



#### 5. Vacuum-Assisted Molding

**Composil** <sup>®</sup> fabric is spread onto the mold with mold release film, then covered with the release film and a vacuum bag in order, consisting the air extraction system and getting a negative pressure; then the mold is heated and finally the final product is obtained after cooling.











#### Offer Best Technical Support

Jushi Group possesses world class core technologies and advanced testing and analysis capabilities for glass, organic chemistry, fiberglass and composites. We have established a global network of marketing and technical service professionals to help customers solve problems in materials development and process optimization. We collaborate closely with customers to address market challenges and promote the growth of the composites industry.





## Compofil®-PP

Compofil PPP is a kind of thermoplastic prepreg made from continuous fiberglass coated with PP resin. It is specially designed to manufacture high performance PP composite components directly with no need for extra resin. It is suitable for various composite processes including compression molding, vacuum molding, filament winding, pultrusion, etc., widely applied in aerospace, automotive, construction, sports, new energy industries and so on.

#### **Product Features**

- O Stable thermoplastic prepreg with excellent self-impregnation
- O High productivity and short processing cycle
- © Environment-friendly production process and recyclability
- O Excellent mechanical properties

#### **Product Reference**

Compofil® PP-60-R-1870N

PP: Polypropylene resin

60: Fiberglass content (wt%) R: Roving

1870: Linear density (tex)

N: Natural color (B: Black color)

#### **Product Availability**

- Compofil®- PP-60-R-1870N
- © Compofil®- PP-60-R-1870B
- O Compofil®- PP-60-R-800N
- © Compofil®- PP-80-R-750N
- O Compofil®- PP-82-R-1400N



#### Mechanical Properties

Environmental Temperature: 23°C, Humidity: 50%, Compression molding

Property	Unit	Standard	
Resin	/	/	PP
Glass content	%	GB/T2577	60
Tensile strength	MPa	ISO527-4	620
Tensile modulus	GPa	ISO527-4	43
Flexural stength	MPa	ISO178	590
Flexural modulus	GPa	ISO178	41
Nothched impact	kJ/m²	ISO179	400

#### **Packaging**

The product can be packed on pallet or in small cardboard boxes.

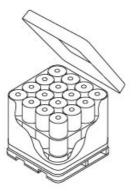
Package height mm (in)	260 (10)
Package inside diameter mm (in)	160 (6.3)
Package outside diameter mm (in)	275 (10.8)
Package weight kg (lb)	10 (22)

Number of layers	3	4
Number of doffs per layer	16	
Number of doffs per pallet	48	64
Net weight per pallet kg (lb)	480 (1056)	640 (1408)

#### Storage

Unless otherwise specified, the fiberglass products should be stored in a dry, cool and moisture-proof area. The room temperature and humidity should be always maintained at 15 °C~35°C and 35% ~ 65%. It is best if the product is used within 12 months after production date. The fiberglass products should remain in their original packaging until just prior to user. To ensure safety and avoid damage to the product, the pallets should not be stacked more than three layers high. When the pallets are stacked in 2 or 3 layers, special care should be taken to correctly and smoothly move the top pallet.





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## Compofil®-PET

Compofil - PET is a kind of thermoplastic prepreg made from continuous fiberglass coated with PET resin. It is specially designed to manufacture high performance PET composite components directly with no need for extra resin. It is suitable for various composite processes including compression molding, vacuum molding, filament winding, pultrusion, etc., widely applied in aerospace, automotive, construction, sports, new energy industries and so on.

#### **Product Features**

- O Stable thermoplastic prepreg with excellent self-impregnation
- High productivity and short processing cycle
- Environment-friendly production process and recyclability
- Excellent mechanical properties

#### **Product Reference**

#### **Product Availability**

70: Fiberglass content (wt%)

R: Roving

1345: Linear density (tex)

N: Natural color



#### Mechanical Properties

Environmental Temperature: 23°C, Humidity: 50%, Compression molding

Property	Unit	Standard	
Resin	/	/	PET
Glass content	%	GB/T2577	70
Tensile strength	MPa	ISO527-4	689
Tensile modulus	GPa	ISO527-4	56
Flexural stength	MPa	ISO178	1117
Flexural modulus	GPa	ISO178	52
Notched impact	kJ/m²	ISO179	390

#### **Packaging**

The product can be packed on pallet or in small cardboard boxes.

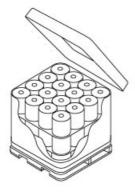
Package height mm (in)	260 (10)
Package inside diamete rmm (in)	160 (6.3)
Package outside diameter mm (in)	275 (10.8)
Package weight kg (lb)	10 (22)

Number of layers	3	4
Number of doffs per layer	16	
Number of doffs per pallet	48	64
Net weight per pallet kg (lb)	480 (1056)	640 (1408)

#### Storage

Unless otherwise specified, the fiberglass products should be stored in a dry, cooland moisture-proof area. The room temperature and humidity should be always maintained at 15 ℃~35℃ and 35% ~ 65%. It is best if the product is used within 12 months after production date. The fiberglass products should remain in their original packaging until just prior to user . To ensure safety and avoid damage to the product, the pallets should not be stacked more than three layers high. When the pallets are stacked in 2 or 3 layers, special care should be taken to correctly and smoothly move the top pallet.





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Domestic Sales: Tel: +86-573-88181016 Fax:+86-573-88136222 Http://www.jushi.com E-mail: info@jushi.com



## Compofil®-HDPE

Compofil - HDPE is a kind of thermoplastic prepreg made from continuous fiberglass coated with HDPE resin. It is specially designed to manufacture high performance HDPE composite components directly with no need for extra resin. It is suitable for various composite processes including filament winding, compression molding, vacuum molding, pultrusion, etc, widely applied in high performance pipe, automotive, construction, new energy industries and so on.

#### **Product Features**

- Stable thermoplastic prepreg with excellent self-impregnation
- High productivity and short processing cycle
- Environment-friendly production process and recyclability
- Excellent mechanical properties

#### **Product Reference**

Compofil® HDPE-60-R-1870B

HDPE: High density polyethylene 60: Fiberglass content (wt%)

R: Rovina

1870: Linear density (tex) B: Black color (N: Natural color)

#### **Product Availability**

- © Compofil \* HDPE-60-R-1870N © Compofil \* HDPE-70-R-1715B



#### Mechanical Properties

Environmental Temperature: 23°C, Humidity: 50%

Compression molding

Property	Unit	Standard		
Resin	1	/	HDPE	
Glass content	%	GB/T2577	60	
Tensile strength	MPa	ISO527-4	384	
Tensile modulus	GPa	ISO527-4	30	
Flexural stength	MPa	ISO178	276	
Flexural modulus	GPa	ISO178	28	
Notched impact	kJ/m²	ISO179	204	

#### **Packaging**

The product can be packed on pallet or in small cardboard boxes.

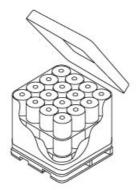
Package height mm (in)	275(10.8)
Package inside diameter mm (in)	160 (6.3)
Package outside diameter mm (in)	275 (10.8)
Package weight kg (lb)	10 (22)

Number of layers	3	4
Number of doffs per layer	16	
Number of doffs per pallet	48	64
Net weight per pallet kg (lb)	480 (1056)	640 (1408)

#### Storage

Unless otherwise specified, the fiberglass products should be stored in a dry, cool and moisture-proof area. The room temperature and humidity should be always maintained at 15 ℃~35℃ and 35% ~ 65%. It is best if the product is used within 12 months after production date. The fiberglass products should remain in their original packaging until just prior to user. To ensure safety and avoid damage to the product, the pallets should not be stacked more than three layers high. When the pallets are stacked in 2 or 3 layers, special care should be taken to correctly and smoothly move the top pallet.





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## Compofil<sup>®</sup>-fabric

Compofil farbic is a reinforcement woven from Compofil.

The product is suitable for mold pressing, roller pressing, vacuum molding and more .The applications of this product include aerospace, automotive, construction, sports, new energy industries and so on.

#### **Product Features**

- © Fibers arrayed symmetrically, resulting in dimensional stability
- Fast impregnation in resin
- © Excellent mechanical properties with impact resistance and weight saving
- O No VOC emission and recyclability

#### **Product Reference**

Compofil - PP-60-P-750-2800N

PP: Polypropylene resin 750: Area weight (g/m²) 60: Fiberglass content (wt%) 2800: Width (mm)

P: Plain fabric N: Natural color (B: Black color)



#### **Product Specifications**

Product specification	Area Weight (g/m²)	Width (mm)	Fabric	Fabric Color
Compofil-PP-60-P-500-2800N	500	2800	Plain	Natural color
Compofil-PP-60-P-750-2800N	750	2800	Plain	Natural color
Compofil-PP-60-T-980-2800N	980	2800	Twill	Natural color
Compofil-PP-60-T-1500-2800N	1500	2800	Twill	Natural color

<sup>\*</sup> Other Compofil® fabrics structure is available.

#### **Packaging**

Wound onto a paper tube which has an inside diameter of 89mm, and the roll has a diameter of 260-1000mm. The roll is wrapped up with plastic film, and then packed in a cardboard box or wrapped up with kraft paper. The rolls are to be horizontally placed. For transportation the rolls can be loaded into a container directly or on pallets.

#### Storage

Unless otherwise specified, the fiberglass products should be stored in a dry, cool and moisture-proof area. The room temperature and humidity should be always maintained at  $15^{\circ}$  and  $35^{\circ}$  and  $35^{\circ}$  and  $35^{\circ}$ .

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