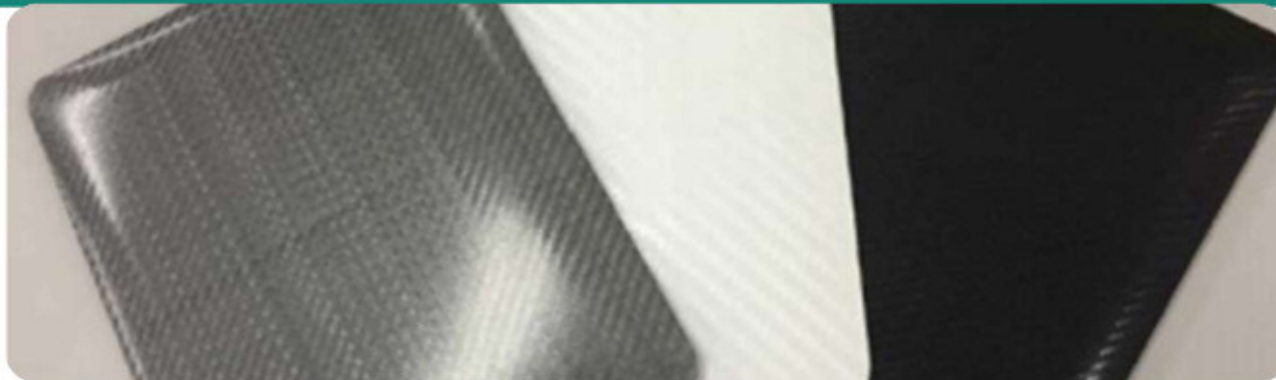




New Self-Reinforced Composite Materials

**"SIMTEX™ Conjugated Filaments"**

*for Lighter, Stronger and Recyclable parts*



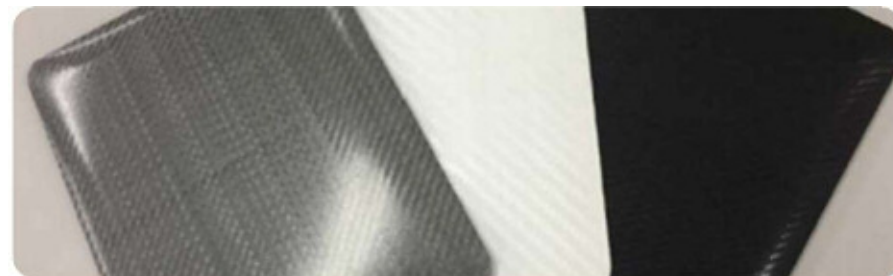
# Exceed today's limitation

When it comes to designing an object or a part the challenge relies in **finding the right material** with a minimum of compromise.

## COMBINE THE BEST OF THERMOPLASTICS AND COMPOSITES

A new world of possibilities is now open with an innovative composite material that is thermoformable, impact resistant, lighter than carbon fiber, stronger than most plastics and enabling short production cycle at lower temperature. This composite material, called **SIMTEX™ conjugated filaments**, has been developed by UBE Exsymo.

...oh and we almost forget. It is not only durable, it is also aesthetic and 100% recyclable.



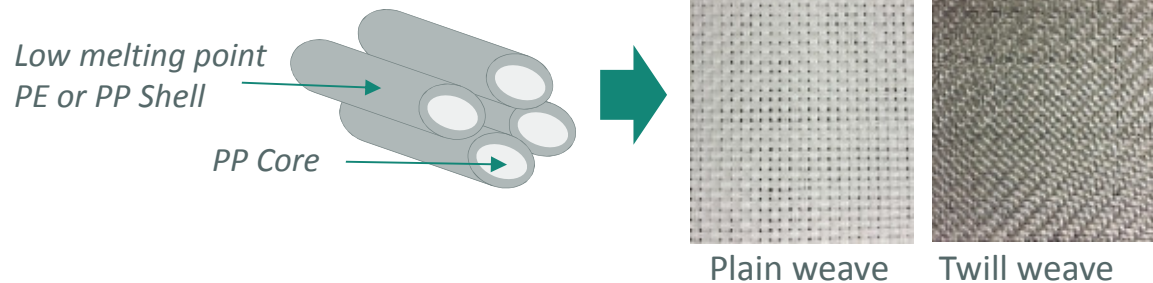
Lighter  
Stronger  
Finer  
Faster



Lighter  
Stronger  
Finer  
Faster

## Unique structure

Highly oriented, high strength and high modulus **PP core fiber “SIMTEX™ conjugated filaments”** enclosed in a **specially formulated PE or PP shell** surface for welding the filaments together in hot compaction process



100% Recyclable compared to standard glass or carbon reinforced matrix, due to high-performance thermoplastic fibers set in a matrix of the same material.



Lighter  
Stronger  
Finer  
Faster

# Features

1

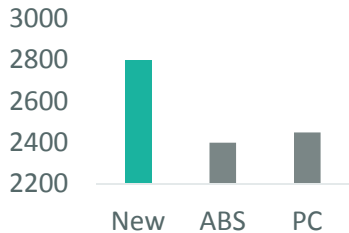
## LIGHTWEIGHT

Weight	Density
200 – 250g /m <sup>2</sup>	0.78 g/cm <sup>3</sup>

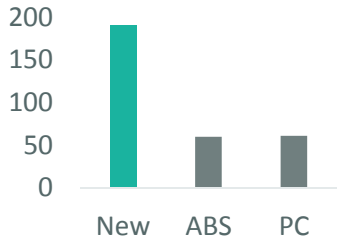
2

## STRONG, IMPACT RESISTANT AND DURABLE

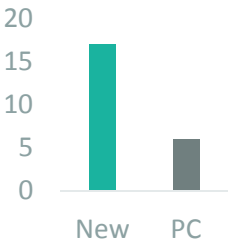
Tensile Modulus N/mm<sup>2</sup>



Yield strength N/mm<sup>2</sup>



Strain to Failure %

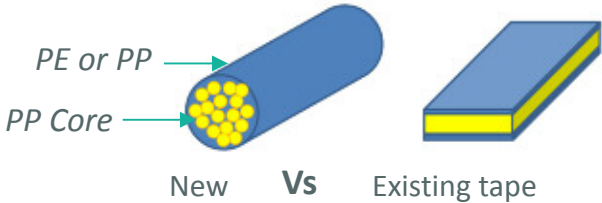




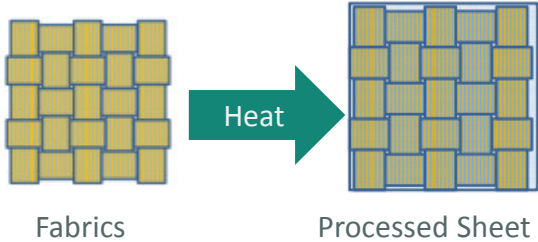
Lighter  
Stronger  
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Faster

# Aesthetics

Large or Small parts. Gloss or Mat. Colored or Natural.  
Twill or Plane pattern (100% regular).



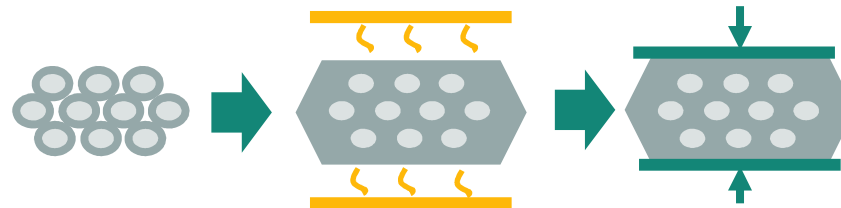
Fine and regular drawing aspect compared to existing self reinforced tape using ABA process



Fine texture without any disturbance of the weave pattern

# Processing

The fabric can undergo various processes including hot and cold press, injection over-molding (120/140°C).



**Shorter cycles** and important **energy savings** can be achieved by processing under 120°C press at 1-2MPa allowing rapid cooling.

Lighter  
Stronger  
Finer  
Faster

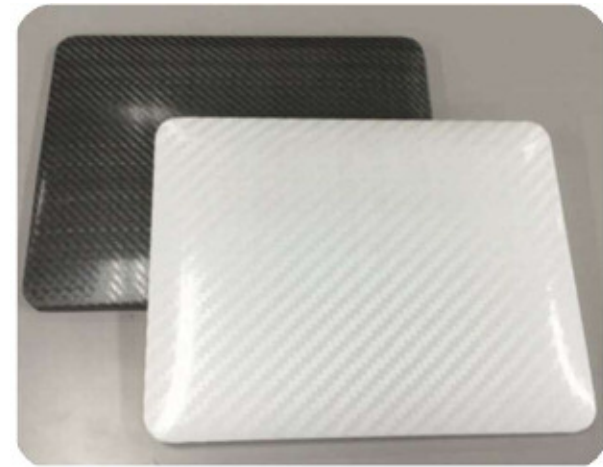


# Versatile aspects

Mat and textured



Gloss and smooth



Easily paintable



Lighter  
Stronger  
Finer  
Faster

# And much more...



## 100% RECYCLABLE

Made of high-performance thermoplastic fibers set in a matrix of the same material, it is 100% and easily recyclable compared to standard glass or carbon reinforced matrix



## LOW TEMPERATURE / LOW PRESSURE PROCESS

Thermoformed sheet can be processed under 120°C pressure at 1-2MPa allowing rapid cooling. It means **shorter cycles** and important **energy savings**.

It also means access to new applications and parts, formerly only feasible with high temperature

Lighter  
Stronger  
Finer  
Faster





# What is your challenge?

## AUTOMOTIVE



- Under body shields
- Interior panels
- Scuff plates
- Impact panels for minivans
- Wall panels trailers

## SPORTS AND LEISURE



- Sportsgear
- Shoes
- Hockey rollers
- Guards
- Materials (Kayak / boards)

## LUGGAGES AND BAGS



- Briefcase
- Backpack
- luggage

## SAFETY EQUIPMENT



- Safety vests
- Shin guard
- "Protectors"
- Helmets
- Toe-cap safety shoes

## BUILDING & CONSTRUCTION



- Carpet backing
- sandwich panel
- Architectural Panels

## ELECTRONIC GOODS



- Cell & Laptop housing
- Audio
- Enclosure



- Orthopedic & medical aids

# And much more to discover...