

# Coats® Synergex™

Coats Coats Synergex™ enables you to create advanced, high-performance thermoplastic products that are lightweight yet extremely strong.

Developed in our state-of-the-art carbon facilities, this range of carbon composite fibres is intended for the wind, automotive, aerospace and sporting industries.

Synergex™ can be customised with a range of coatings and windings, as well as through different commingling and twisting processes. We can also mould it into the shape and size you need to reduce waste. Using Synergex™ can eliminate the need for resin, autoclaving, and can speed up your manufacturing process.

COATS  
synergex



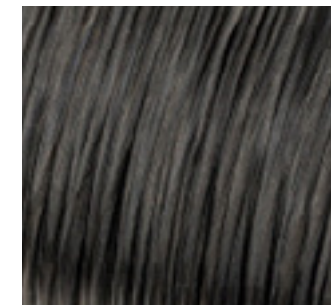
CARBON  
COMPOSITE  
FIBRES

## WHY CHOOSE SYNERGEX?

- Developed in our state-of-the-art carbon facilities
- Can be customised with a range of coatings and windings, as well as through different commingling and twisting processes
- Using Synergex™ can eliminate the need for resin, autoclaving, and can speed up manufacturing processes
- From initial design to final product, we provide world class service for unique fibre technology

## MAIN USES

- Aerospace
- Automotive
- Construction
- Oil and Gas
- RTP (Reinforced Thermoplastic Pipes)
- Sporting goods
- Wind energy



# Coats Synergex

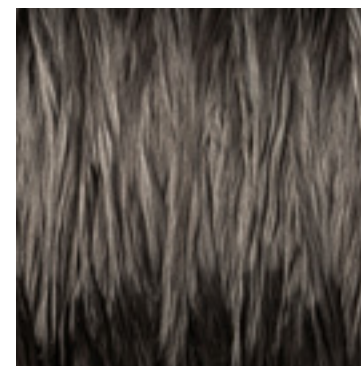
## PRODUCT RANGE

### Commingling

Coats proprietary technology intimately commingles reinforcement fibres, like carbon and fibreglass, with thermoplastic yarns to produce a single mixed roving of uniform dispersion across its cross section. This unique technique minimises filamentation of the reinforcement fibre and ensures parallel alignment of the fibre mix as well as a homogenous distribution resulting in an excellent consolidation.

Reinforcement Fibre	Tow Size
Carbon	3K
	6K
	12K
	24K
	50K
Reinforcement Fibre	TEX
Para-aramid	164
Fibreglass	600

Matrix Polymer	Tg Temperature		Melting Point	
	Fahrenheit	Celsius	Fahrenheit	Celsius
UHWPE	-180	-120	270	132
PP	15	-9	340	171
Nylon 12	105	40	360	182
Nylon 6	140	60	425	218
PET	155	68	475	246
PPS	185	85	535	279
PEEK	290	143	650	343



Since conditions and applications vary considerably in the use of a product, the customer and/or user should assure themselves that the product meets end customer requirements and is suitable for the intended end use. Coats accepts no liability for unsuitable or improper use or application of products. Information provided is based on current averages and should be taken only as indicative. Coats accepts no liability for the preciseness and correctness of the information provided. Product information sheets are updated for time to time, please be sure you are referring to the most recent publication. Coats supports customers with advice on individual applications on request; if you have any questions or concerns, please contact us. © Copyright reserved 2019



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## Twisting

Reinforcement fibres can be customised to meet end use application demands by twisting one or more fibre types together. Coats proprietary technology can twist 1-5 ply constructions making a stronger, more controllable composite fibre which can be used to create fabrics containing unique hybrid properties.

Fibreglass	TEX	Construction
Carbon	100 - 4800	1-5 ply
Para-aramid	75 - 4000	1-5 ply
Fiberglass	150 - 7000	1-5 ply

## Coatings

Coatings can be applied to the composite fibres to improve their abrasion resistance, adhesion levels and durability. Coats offers a range of coatings that are all friendly to the environment.

Coatings include:

- Adhesion Promoters
- Lubricants
- Sizing
- Anti-wick
- Anti-stat

## Winding Services

Manufacturing processes can be optimised through Coats converting services. A great way to eliminate scrap, Coats can wind put-ups to customer specifications easily and quickly.

## EXPERT REAL WORLD SUPPORT

The final cost of any product also includes hidden costs, fuelled by the methods and tools applied to it. Our experts know exactly how to reduce those costs, save time and increase productivity.



### One to One Visits

There's no need to come to us, our experts will travel to your site. In person, online or via the phone, our trained consultants deal with the kind of issues any busy factory may face, providing a solution for today and a blueprint for future efficiency.



### Training and Presentations

From product selection to stitch formation, the use of colour to solutions for common production issues, we take the learning gathered through years of hands on experience and present it in the form of high impact seminars, workshops and presentations.



### Innovation Hub

Collaborate directly with expert R&D technologists at our Innovation Hub to create pioneering and tailored solutions for products ranging from Performance Materials to Apparel and Footwear. Equipped with state-of-the-art technology, we quickly turn ideas into prototype designs ready for manufacturing.

To drive your hidden costs down, talk to Coats. From product audits in pre-production to the latest technical bulletins, we'll provide support that achieves measurable results.

For more information, talk to your Coats representative today or visit [coats.com/synergex](https://coats.com/synergex)



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