



# HIGH-MODULUS GLASS DESIGNED TO POWER LIGHTER, LONGER BLADES

Owens Corning® high-modulus glass family was co-created with blade designers and makers since day one – with a performance increase proven by the most reliable testing protocols<sup>1</sup> and an industry-leading specific modulus<sup>2</sup>, it is here to enable longer, lighter, stronger blades cost-effectively.

**MORE MODULUS. RELIABLE PERFORMANCE.**



**H-GLASS**  
**87 – 89 GPa**  
Sonic Modulus

WINDSTRAND® 3000<sup>3</sup>  
<sup>3</sup>H-glass performance vary (87-89 GPa) dependent upon source.



**H<sup>2</sup> GLASS**  
**91 GPa**  
Sonic Modulus

WINDSTRAND® 4000  
<sup>2</sup>Industry-leading specific modulus



New  
**H<sup>3</sup> GLASS**  
**95 GPa**  
Sonic Modulus

WINDSTRAND® 5000  
<sup>2</sup>Industry-leading specific modulus

## ULTRASPARG™

pultruded planks for spar caps

**60 GPa+**

Laminate modulus at 70% FVF

## ULTRASPARG™ 2

pultruded planks for spar caps

**63 GPa**

Laminate modulus at 70% FVF

## ULTRASPARG™ 3

pultruded planks for spar caps

**66 GPa+**

Laminate modulus at 70% FVF

## ULTRABLADE®

glass fabrics

**48 GPa**

Laminate modulus at 55% FVF

## ULTRABLADE® 2

glass fabrics

**51 GPa**

Laminate modulus at 55% FVF

## ULTRABLADE® 3

glass fabrics

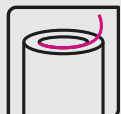
**54 GPa<sup>4</sup>**

Laminate modulus at 55% FVF

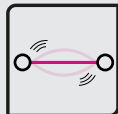
<sup>4</sup>theoretical performance

### <sup>1</sup>Meet the Science behind Sonic Modulus

Sonic Modulus is a unique method that puts a single glass fiber into test, enabling the generation of performance data based on the glass fiber physics alone – this is the most reliable, accurate existing glass fiber modulus testing protocols:



A single glass fiber is produced



The glass fiber physics alone is put into test



Several data samples are collected and compared

Other testing protocols, such as ITS and Bulk Modulus, either add resin to the fiber before testing it, or measures a bulk glass (not glass fiber) elasticity modulus instead.

## Certifications



Product performance verified by Owens Corning a DNV certified laboratories.



Product manufactured under the APQP4Wind protocols.



Owens Corning scored an A for CDP Climate Change in 2021 and is included in the CDP "A List" for Water Security.



Owens Corning was ranked among the top 1% of all companies rated by EcoVadis with a Platinum Certificate.

## Availability

Owens Corning® High-modulus glass are globally available in a WINDSTRAND® single-end roving form factor. Please contact your Owens Corning representative for information on TEX (yield) ranges, and resin systems compatibility in your region.



**HOW WE  
POWER NOW™**

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