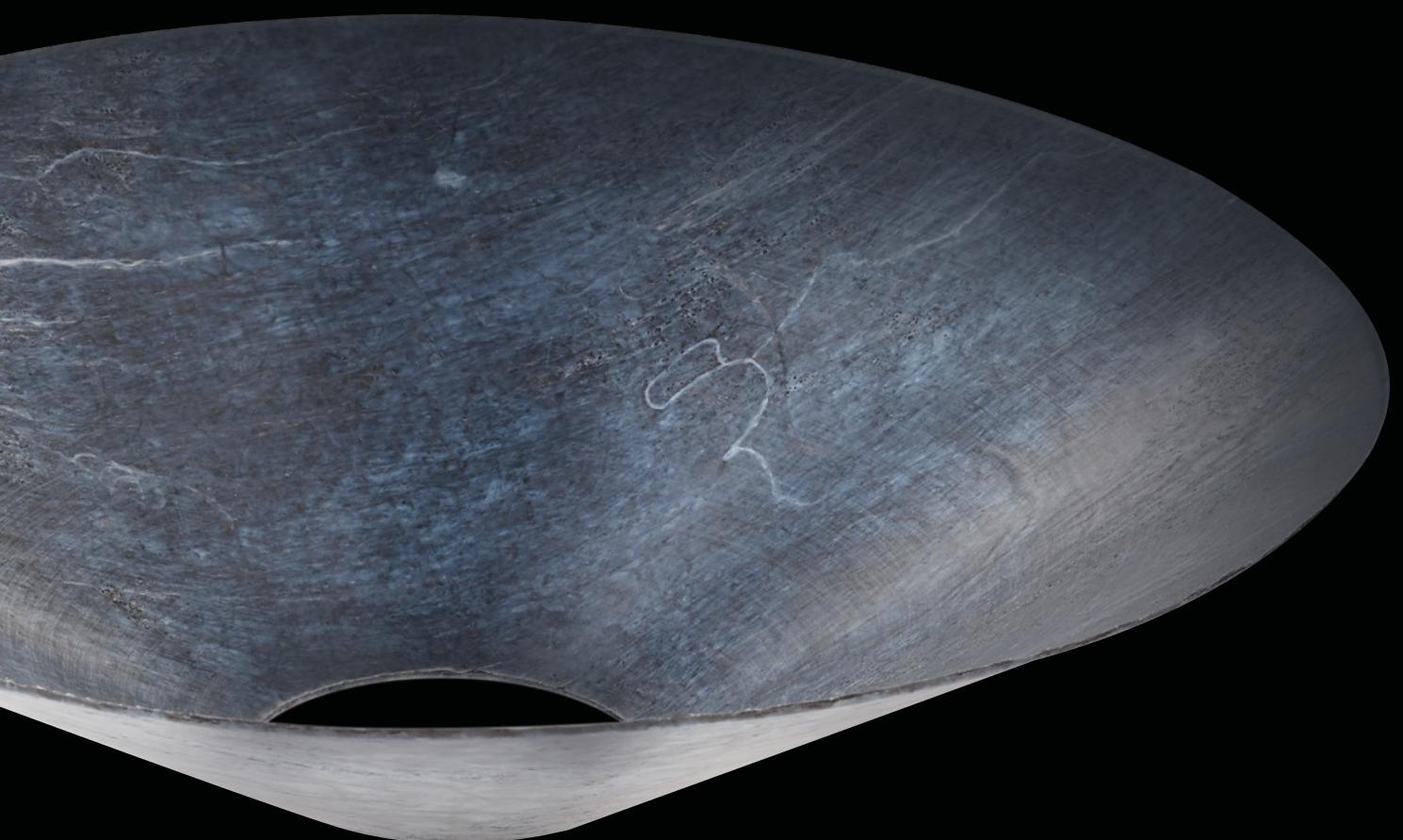


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SLATE FIBER CONE  
WHITEPAPER

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MADE IN  
FRANCE



 **FOCAL**<sup>®</sup>  
LISTEN BEYOND

For over 40 years, Focal has been pushing the boundaries of research on speaker drivers, materials and processes. Our goal? To achieve constant improvements in sound reproduction. Acoustic quality is our mission, from musical creation with Focal Professional to sound reproduction with our Home, High-Fidelity Headphones or Car Audio collections.

At the heart of what we do is the speaker driver. And at the heart of the speaker driver is its key component, the cone. That's why we focus our innovation primarily on researching materials for our cones.

#### CONE TECHNOLOGIES

Over the years, our research has given rise to a long line of cone technologies, some of which have become global benchmarks. In 1986 came the K2 Power, followed by the Polyglass cone in 1988, the 'W' sandwich cone in 1995, the 'Flax' sandwich in 2013 and of course the 'M' cone in 2018.

Aramid fibre, paper, glass fibre and flax are some of the materials we have worked with to achieve cones that perfectly combine the three criteria necessary to create an outstanding speaker driver: rigidity, lightness and damping.

The story of Focal's composite cones goes back more than twenty years. We noticed that using composite materials - i.e. blending at least two different complementary components - allows us to achieve excellent performance. The new material produced is heterogeneous and therefore has properties that the original components lack on their own. Creating ideal combinations of materials and achieving the desired performance demands true expertise, and herein lies the secret to the authenticity of our innovations.

#### THE SLATEFIBER CONE, EXCEPTIONAL QUALITY IN ITS PRICE CATEGORY

After four years of research and development, in 2019 we present a new exclusive technology: Slatefiber. This is a composite cone combining **non-woven recycled carbon fibres** - a world first in the Audio sector- with **thermoplastic polymer**.

Inspired by the automotive and aviation sectors which use these materials, we noticed that by combining carbon fibres and thermoplastic polymer, excellent acoustic performance could be achieved in terms of sound velocity as well as rigidity and damping.

The new Slatefiber cone offers outstanding results for its range level, as well as boasting a unique **slate effect/colour**. A unique feature that has also become a stand-out aesthetic feature.



*Photo caption: bowl of the cone*



## Rigidity

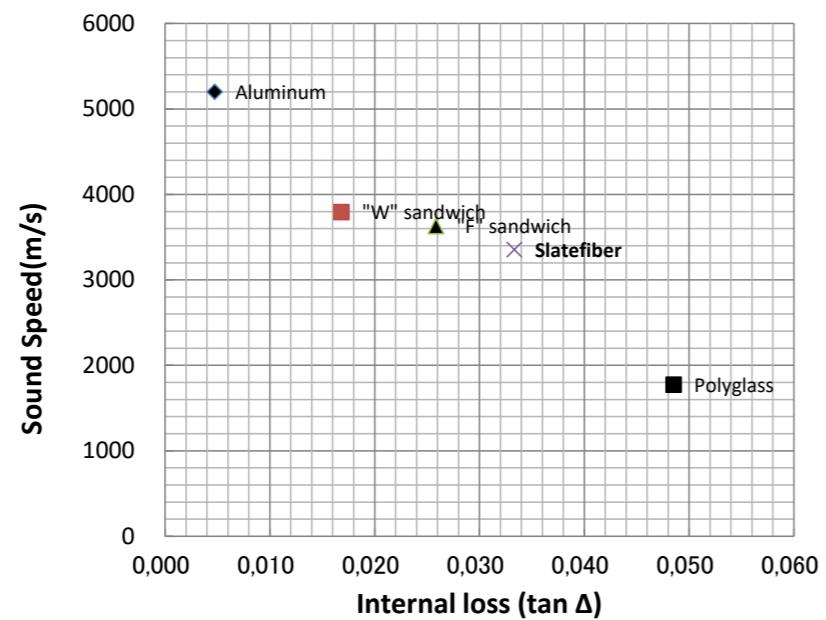
The carbon fibres alone provide an extraordinary rigidity. What's more, as they all aligned in the same direction, they further increase the speaker driver's rigidity, enabling more bass to be achieved. The resulting rigidity is close to that achieved with the Flax sandwich, one of the brand's flagship cones.

## Damping

The alignment of the non-woven carbon fibres also ensures better damping.

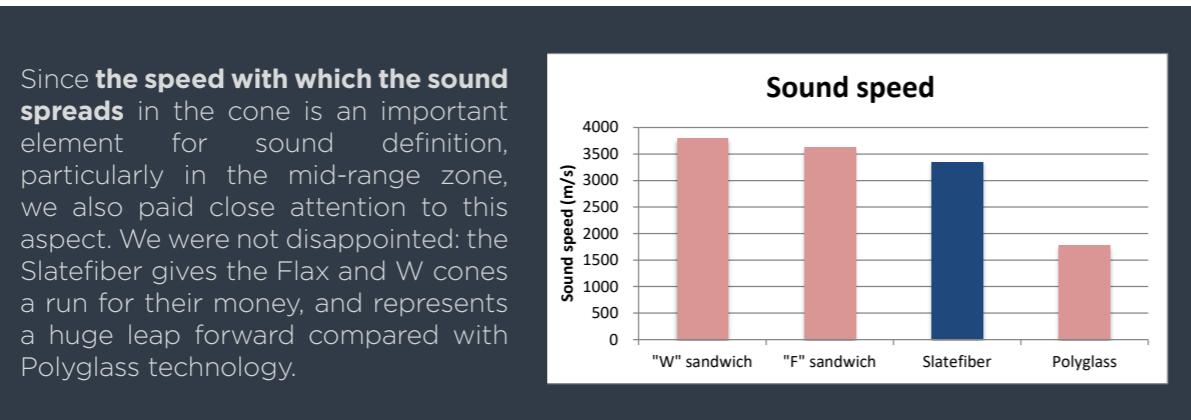
Meanwhile, the thermoplastic polymer inside the fibres links them together to increase damping.

Damping is another area in which Slatefiber excels, with results akin to those delivered by the 'W' and Flax cones found in Focal's top-of-the-range products.



## Lightness

During the development phase, special attention was also paid to the weight of the cones to optimise sensitivity: the carbon fibres are very light. In addition to rigidity and damping criteria, this cone also meets the speaker driver's lightness requirement.



## French productivity and manufacturing

**Designed, developed and manufactured in our workshops in France**, the Slatefiber cone demonstrates how highly we value our expertise and mastery of the entire production process, to offer the world unique, high-quality products. It also represents our constant quest for progress, since Slatefiber succeeds Polyglass in delivering improved, reworked performance, while offering outstanding value for money.

We've made investments in engineering but also in industry: a new semi-automated machine was developed specifically for the Slatefiber cone to combine productivity and manufacturing that is 100% French.



## CHORA

Launched to the general public in September 2019, Chora is a new line of loudspeakers for the home. **It is the first line of loudspeakers from Focal to incorporate the Slatefiber technology.**

Following the success of the Chorus line, equipped with Polyglass, Chora and the Slatefiber technology are taking over and repositioning Focal's 'entry level' products as unrivalled value for money.

Other products are due to be equipped with this exclusive cone.





Focal-JMlab<sup>\*</sup> - BP 374 - 108, rue de l'Avenir - 42353 La Talaudière cedex - France - [www.focal.com](http://www.focal.com)  
Tel. (+33) 04 77 43 57 00 - Fax (+33) 04 77 43 57 04 - SCAA-190924/1