

# Progress in Mass Production of Hollow-Core Optical Fiber



## Overview

This paper reviews the development of hollow-core fibers, outlines their applications based on superior performance, and discusses prospects for the technology. Keywords: Hollow-core fiber; Hollow-core anti-resonant fiber; Hollow-core photonic. Increasing the production capacity of hollow-core optical fiber is the key to determining whether it can become the next generation of mainstream communication optical fiber. At the ongoing European Conference on Optical Communications (ECOC) 2025, LingFiber Technology (Nantong) Co. and Jinan. Advances in DNAN (Nested Anti-Resonant Nodeless) HCF production, enabling longer reach (100km, with potential for 200km). This reflects the growing maturity of HCF manufacturing processes. Progress after 2023 in several fields is significant. The media could not be loaded, either because the server. Recent Progress in Hollow-Core Fibers Recent Progress in Hollow-Core Fibers Wei Gao, Weizhen Zhu, Xiaokang Ma, Qiujun Ruan, Zhijun Luo, Yabin Pi, Zhenggang Lian\* Yangtze Optical Electronic Co.



## Article Content

Nov 25, 2025

Relativity Networks strikes hollow core fiber production partnership ...

Relativity Networks has announced a partnership with Prysmian for the mass production of hollow-core optical fiber (HCF) and cabling. The cabling will be produced to support the demands ...

Jan 30, 2026

Hollow-core breakthrough

For more than four decades, global communications have relied on silica-based, solid-core, single-mode fibres capable of impressively low losses of about 0.14 dB/km at 1,550 nm (ref. 3). ...

May 20, 2026

Hollow-core optical fibers: current state and ...

Recent advances in reducing optical losses and the prospects for telecommunication applications of hollow-core fibers, issues of transporting high ...

Jan 31, 2026

Recent Progress in Hollow-Core Fibers

This paper reviews the development of HCF and summarizes recent advancements in their applications, including high-power laser delivery and fiber-optic gyroscopes. Finally, we provide an outlook on ...

Apr 24, 2026

Recent progress of hollow core fibers

In this paper, we describe the fundamentals of hollow-core fibers, the current state of the technology, and prospects for their social implementation.

Jul 26, 2025

Recent Progress in Development of Hollow-Core Fibers for ...

This is a follow-on review of progress in development and applications of hollow core optical fibers (HCFs) after publication of earlier review in 2023 , to be read together with it. ...

Nov 28, 2025

Major Breakthrough: Hollow-Core Fiber Shatters ...

However, due to challenges such as mass-production process upgrades and the absence of industry standards, hollow-core fiber products ...

Mar 16, 2026

Hollow-core optical fibers: current state and development prospects

Recent advances in reducing optical losses and the prospects for telecommunication applications of hollow-core fibers, issues of transporting high-intensity optical radiation, and results...

Apr 18, 2026

Advancements in Hollow-Core Fibers: Progress and Challenges

In this webinar, you'll gain practical insights and firsthand perspectives on the latest advancements in hollow-core fiber development—directly from one of the leading experts actively ...

Jul 11, 2026

Hollow-core optical fiber achieves new structural breakthrough, and ...

This is not only a significant academic milestone, but also marks the beginning of the road to mass production of hollow-core optical fibers. With this breakthrough in mass production, hollow ...

Jul 16, 2026

2 □Are we Ready for Hollow Core Fiber Networks?

Ultra-Low Loss Fiber Development: Ongoing research to achieve sub-0.1dB attenuation, enhancing transmission distances. Advanced Connector Design: Development of connectors ...

May 09, 2026

Major Breakthrough: Hollow-Core Fiber Shatters Physical Limits

However, due to challenges such as mass-production process upgrades and the absence of industry standards, hollow-core fiber products remain some distance from large-scale ...

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