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Application Note

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SENKO Flex Angle Boots for Optical Connectivity

OCTOBER 2024
Rev. 01

Issued by:
Engineering Department

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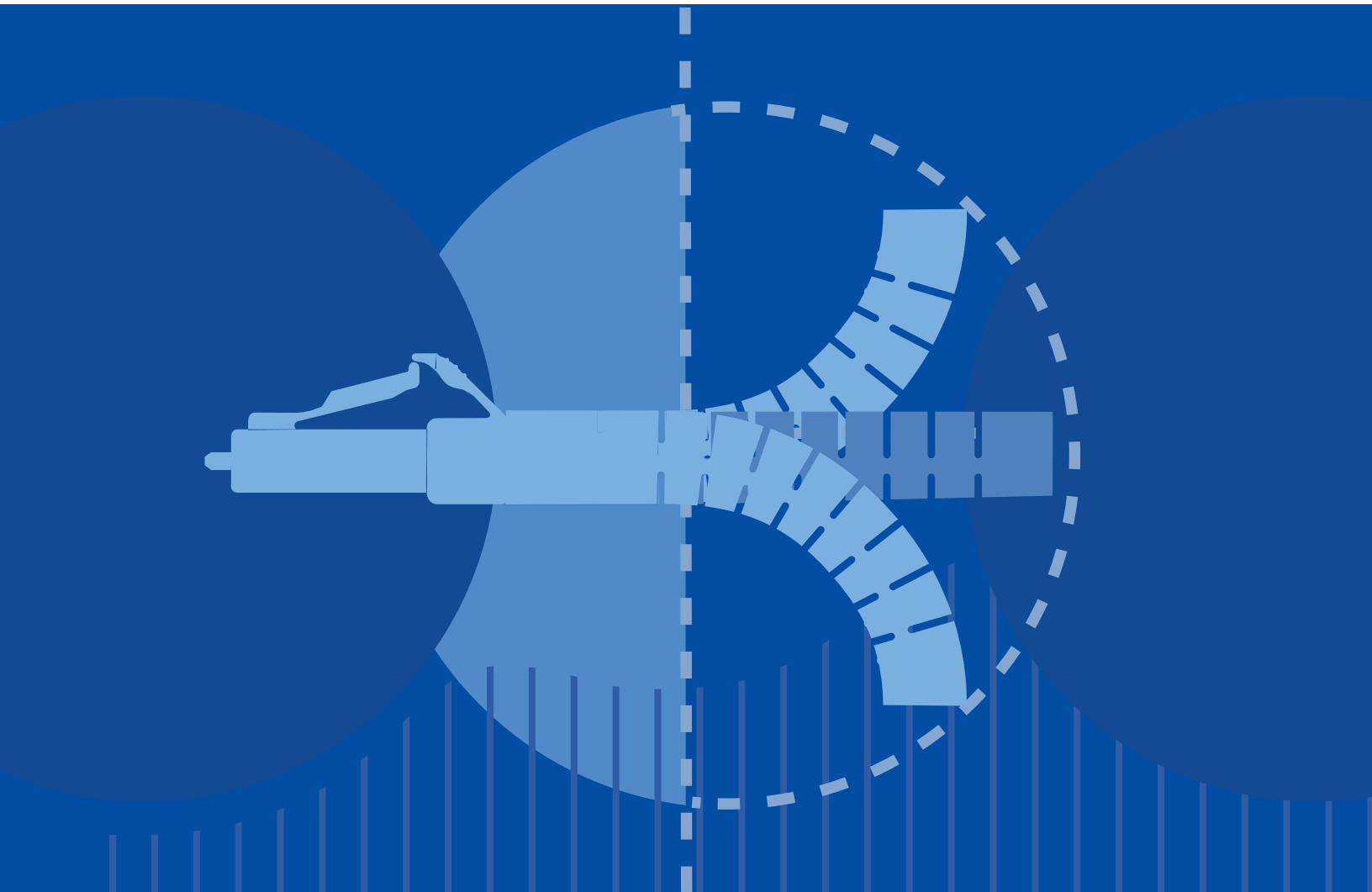

SENKO Flex Angle Boots for Optical Connectivity

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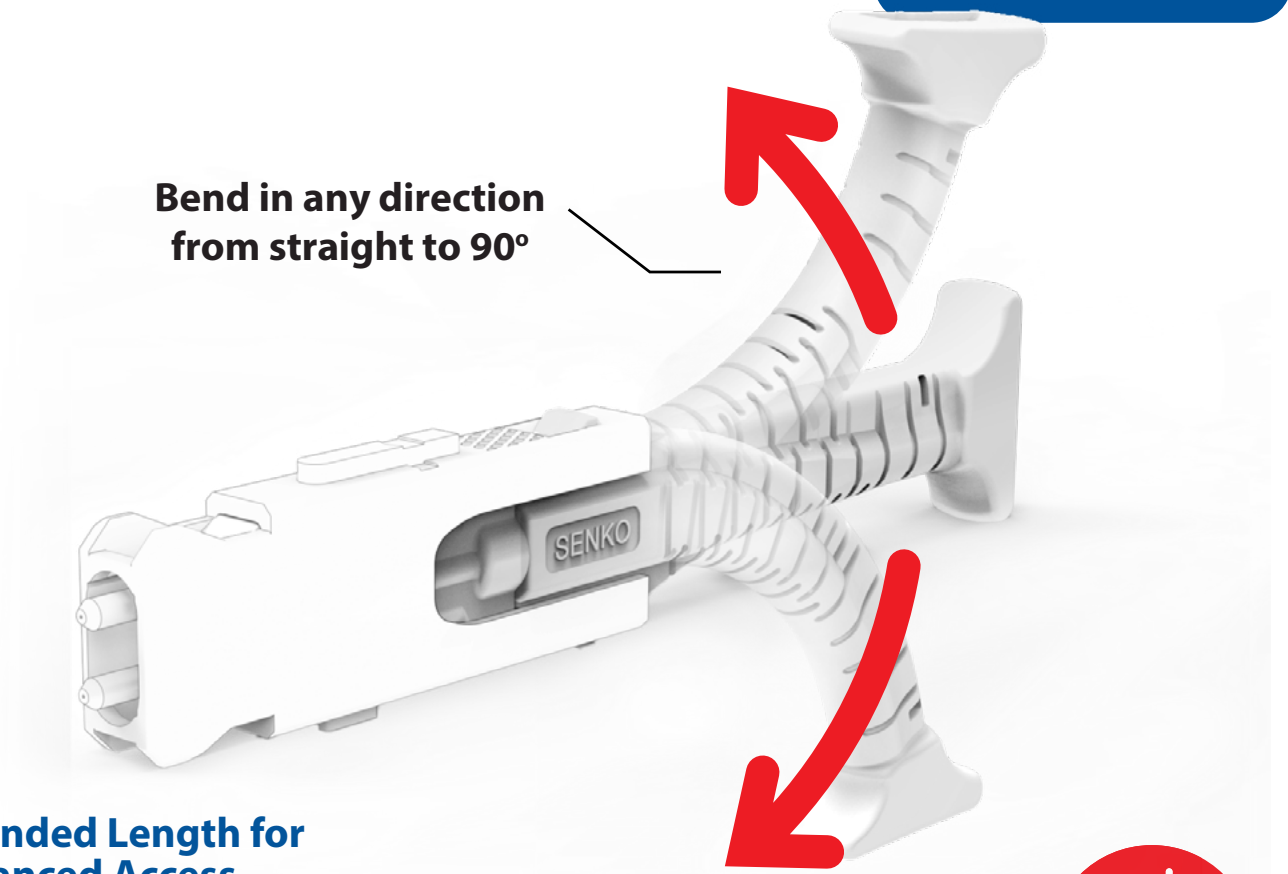
Background

As network environments evolve and become more complex, the demand for higher-density cabling systems and efficient connectivity solutions has grown significantly. In data centers, telecommunications, and enterprise networks, space constraints and the need for reliable fiber optic performance are at an all-time high. Network operators and technicians face the challenge of managing fiber cables in increasingly confined spaces, such as between switch faceplates and rack doors, or within densely packed patch panels. These spaces, if not carefully managed, can lead to fiber damage, signal degradation, and network downtime.

To address these challenges, SENKO has developed the Flex Angle Boot—a specialized solution that combines flexibility, durability, and ease of use. Designed to protect fibers from excessive bending while ensuring optimal strain relief, Flex Angle Boots offer network operators the ability to safely route and manage fiber cables, even in the most space-constrained and high-density environments. This product is not only critical for maintaining signal integrity but also for improving the overall efficiency and reliability of network installations.

Overview

SENKO's Flex Angle Boots provide an innovative solution for managing fiber optic connections in high-density environments and tight spaces. Designed with an integrated steel rod, these boots can be bent into any position—up to a 90-degree angle—while maintaining their shape, offering strain relief and bend protection to the optical fiber. This unique feature ensures flexibility without compromising the integrity of the fiber or optical performance.



Extended Length for Enhanced Access

SENKO Flex Angle Boots are generally longer than conventional boots. This additional length allows for a continuous, safe bend of the fiber, preventing any potential kinking points after the boot has been formed. Moreover, the longer boot improves access for users working in dense environments where space and finger accessibility are limited. In high-density applications, users can move adjacent connector boots out of the way, significantly improving access to the specific connector they need. Conventional boots do not provide this level of flexibility and often hinder access by obscuring connectors and making it difficult for technicians to reach them.

90° Flex

Key Features

Integrated Steel Rod
Enables precise positioning and holds its shape, allowing users to manipulate the boot for optimal routing.

Bend Protection
Safeguards against macro-bending and micro-bending, ensuring the correct bend-radius to maintain proper optical transmission.

Space Optimization
Particularly useful in dense environments where space between switch faceplates, patch panels, or rack doors is limited.

Reliable Strain Relief
The extended boot design provides additional support to protect the cable and connection point from damage due to tension or sharp bends.

Variety of Sizes
Available in both 2 mm and 3 mm versions to suit different cable sizes and types.

Connector Compatibility

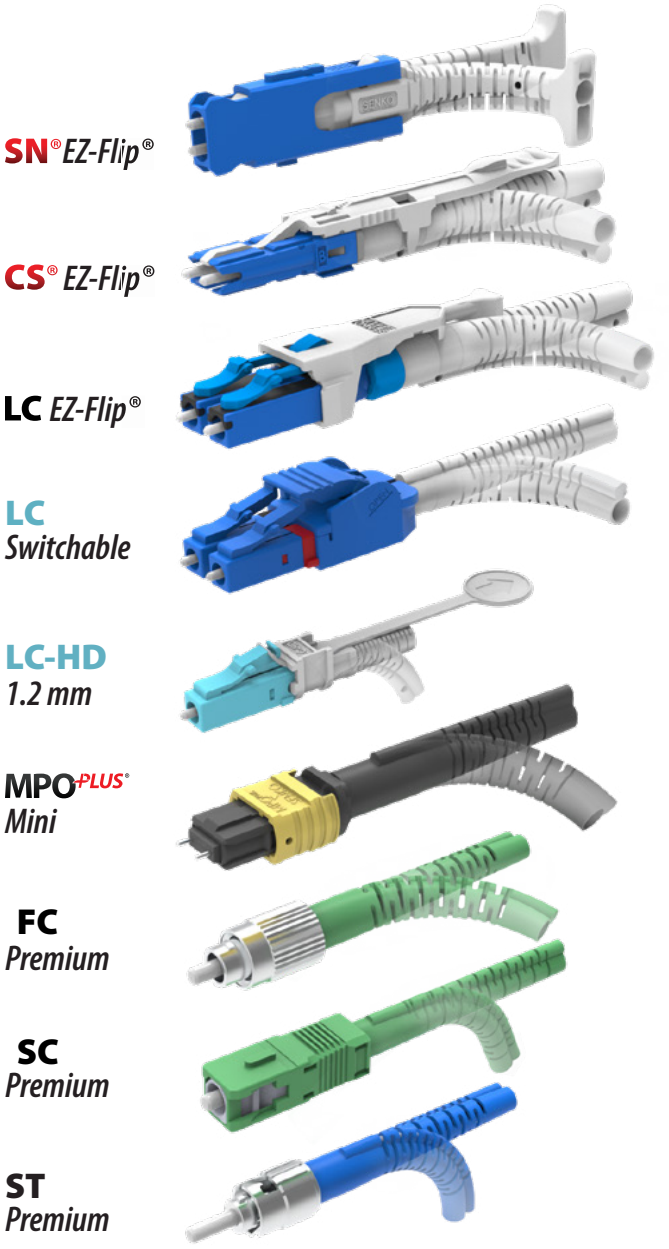
SENKO Flex Angle Boots are compatible with numerous connector families, ensuring broad application across fiber optic networks:

LC Widely used for high-density patching and transceiver applications.

CS Ideal for next-generation data center and telecommunications applications, offering higher density than LC.

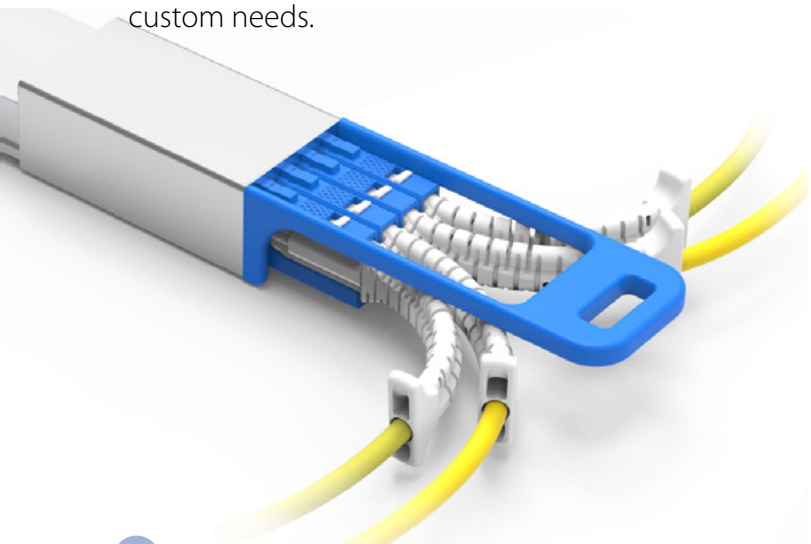
SC A robust and reliable connector, commonly deployed in enterprise networks.

MPO High-performance multi-fiber connectors used in data centers for backbone and high-speed interconnects.



Color Options and Customization

SENKO Flex Angle Boots are available in standard colors such as black and white. However, for unique applications or specific project requirements, custom configurations and color options can be provided upon request. Please contact us to discuss your custom needs.



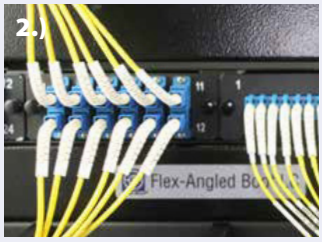
Bend-Radius and Mechanical Stress

Maintaining the correct bend-radius is essential for ensuring the integrity of fiber optic transmission. While some fiber types are bend-insensitive, it is not always obvious which fibers can tolerate greater bends and which cannot. Excessive bending or impact on the fiber can lead to mechanical stress and long-term damage, potentially causing breakage over time. SENKO's Flex Angle Boots help mitigate these risks by offering the flexibility to position cables safely, reducing the chance of stress and preserving optimal optical performance.

Applications

Active Equipment Connections

Flex Angle Boots are commonly used at the front of switches, routers, or other active equipment. With transceivers often protruding beyond the faceplate, these boots ensure that fiber cables are routed away from potential impact points, such as rack doors, preventing cable damage, signal failure, or fiber breakage. The boots help maintain the correct bend-radius to avoid macro-bending and micro-bending issues, which could otherwise degrade optical transmission.



High-Density Patch Panels

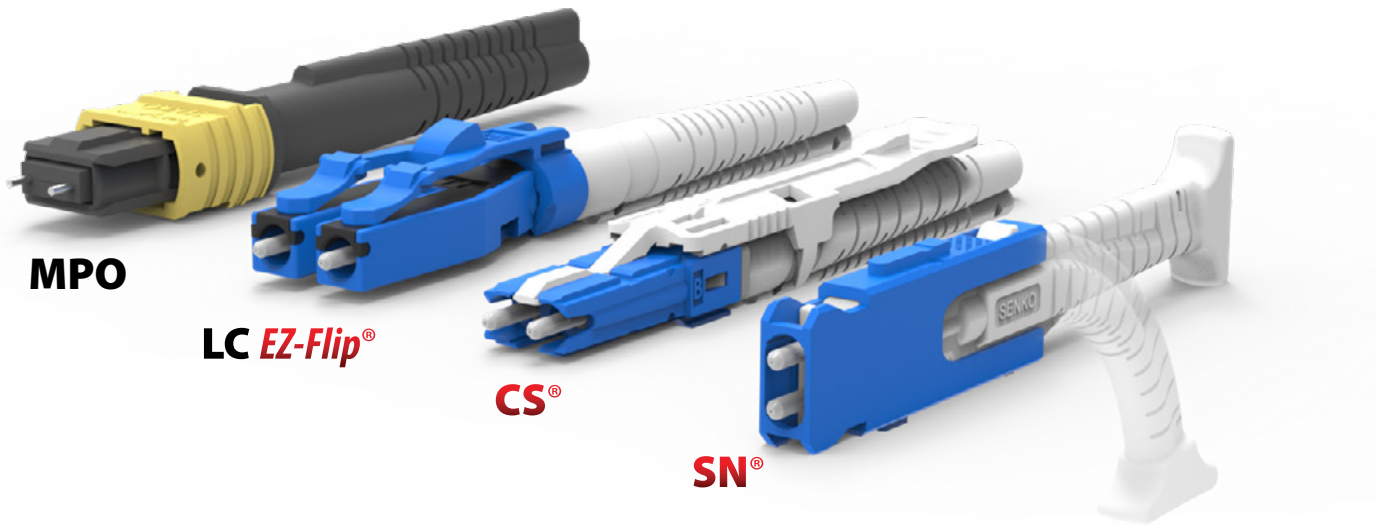
In environments with high-density patching, Flex Angle Boots allow organized and safe routing of fibers. For instance, when patch cords need to be directed 50% to the left and 50% to the right, the boots help achieve this precision without placing undue strain on the fibers.

Core Networks

SENKO Flex Angle Boots are particularly useful in Core Networks where the integrity of the transmission signal is critical. These networks require a higher degree of protection to prevent potential network downtime or outages. Flex Angle Boots offer enhanced bend protection and strain relief, ensuring that fibers are routed in a way that avoids mechanical stress, maintaining continuous and reliable data transmission.

Conclusion

SENKO Flex Angle Boots are ideal for network operators, installers, and technicians who require flexibility, durability, and space-saving solutions. Whether dealing with limited space near active equipment, high-density patching scenarios, or the critical requirements of Core Networks, these boots provide a reliable, performance-assured solution to modern connectivity challenges. The combination of the Flex Angle Boot and EZ-Way functionality also ensures that users can enjoy both ease of handling and efficient cable management.



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