



# Polyacrylonitrile Fiber (PIF-12)

## Product Description

Fiberego's PIF-12 is a 12mm long polyacrylonitrile (PAN) fiber designed to enhance the performance of concrete. Known for its excellent mechanical properties, this fiber improves the durability, crack resistance, and overall strength of concrete. It is ideal for use in a variety of concrete applications, offering superior reinforcement with reduced environmental impact compared to traditional materials.

## Technical Specifications

Composition	100% polyacrylonitrile
Shape	Bundled monofilament
Alkali&Acid Resistance	Super High
Heat resistance	It will not melt under the condition of 200°C.
Tensile Strength	≥600Mpa
Equivalent Diameter	15±2μm
Length	12mm
Elastic Modulus	≥5.0Gpa

## Product Advantages

- **Enhanced Durability:** Increases the lifespan of concrete by improving its resistance to cracking and wear.
- **Corrosion-Resistant:** Unlike steel fibers, PAN fibers do not corrode, making them ideal for use in harsh environments or structures exposed to moisture.
- **Improved Fatigue Resistance:** Increases the concrete's ability to resist cyclic loading, making it suitable for high-traffic areas.
- **Superior Impact Resistance:** Enhances the concrete's toughness and ability to withstand impact forces, improving performance in heavy-duty applications.
- **Non-Corrosive:** PAN fibers provide better long-term performance, especially in concrete exposed to aggressive chemicals or high alkalinity.
- **Efficient Integration:** Easily mixed into concrete for uniform distribution, enhancing the consistency of the finished product.
- **Cost-Effective:** Offers a cost-efficient solution for improving concrete's performance compared to other reinforcement options.

## Applications

1. Industrial slabs
2. Bridge decks
3. Pavements
4. Tunnels
5. Airport runways
6. Precast concrete elements
7. Concrete overlays
8. Marine structures
9. Water treatment plants
10. Seismic retrofitting
11. Blast-resistant concrete
12. Thin-walled concrete structures
13. Decorative concrete
14. Fire-resistant applications
15. Concrete in aggressive environments

## Packaging

- **Inner Packaging:** Each pack contains 0.2-4 kg, sealed in standard plastic bags for quality preservation.
- **Outer Packaging:** Packs are placed in woven bags or cardboard boxes, each weighing 10-20 kg, tailored to customer specifications.
- **Customized Options:** Available in water-soluble film, water-soluble paper, or regular paper bags for diverse needs.
- **Compression Packaging:** Reduces volume for efficient storage and transport, enhancing cost-effectiveness and sustainability.

## Storage and Transportation

### ► Storage Requirements:

- Store in a dry, cool, ventilated area.
- Avoid direct sunlight to prevent degradation from UV exposure.
- Keep away from humid environments to maintain fiber performance.
- Avoid heavy pressure and high stacking to prevent packaging damage.

### ► Transportation Precautions:

- Handle carefully during loading and unloading to prevent damage.
- Ensure the transport vehicle is dry and clean to avoid moisture.
- Protect from sharp objects and prevent heavy items from crushing the packaging.

## FAQs

### Q1: What is the main benefit of using PIF-12 in concrete?

A1: PIF-12 improves concrete's crack resistance, durability, and impact resistance, making it ideal for high-performance applications where strength and longevity are crucial.

### Q2: How does PIF-12 compare to traditional steel fibers?

A2: Unlike steel fibers, PIF-12 is non-corrosive, making it a more sustainable and long-lasting option for reinforcing concrete, particularly in moisture-rich environments.

### Q3: Can PIF-12 be used for high-traffic areas?

A3: Yes, PIF-12 increases fatigue resistance and impact strength, making it perfect for concrete in high-traffic areas such as pavements, bridge decks, and industrial slabs.

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FibeRego is a global manufacturer of fibers, specializing in a variety of fibers for the concrete industry.



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