

— TECHNICAL DATA SHEET

Pitch-Based Carbon Fiber & Powder

PITCH-BASED CARBON FIBER & POWDER



Overview PRODUCT OVERVIEW

AOYIDA FiberElite® series pitch-based carbon fibers and powders are produced from ethylene tar precursor via melt spinning, pre-oxidation, carbonization, and optional graphitization. With a **filament diameter of $\approx 13.5 \mu\text{m}$** — roughly twice that of PAN-based fibers — the product disperses exceptionally well in liquids, resins, and rubber matrices, and substantially improves the host composite's **mechanical strength, electrical conductivity (anti-static), thermal stability, corrosion resistance, and wear resistance**. The portfolio is split into **Chopped Fiber (C-Series • mm scale)** and **Milled Fiber / Carbon Fiber Powder (P-Series • μm scale)**, each offered in carbonized and graphitized grades — covering the full spectrum from industrial filler to semiconductor-grade applications.

Applications USE CASES

- PTFE Sealing SEALING Anti-Static PPO / PPE IC TRAYS Aerospace / Semiconductor AEROSPACE
- Advanced Friction Pads FRICTION Asbestos-Free Gaskets ASBESTOS-FREE

Modulus of elasticity GPa	Carbon content wt %	Resistivity m Ω ·cm	Tensile strength MPa	Density g/cm ³
CARBONIZED > 40	CARBONIZED > 99	CARBONIZED 3 – 6	CARBONIZED > 500	CARBONIZED > 1.55
GRAPHITIZED > 40	GRAPHITIZED > 99.9	GRAPHITIZED 1 – 3	GRAPHITIZED > 500	GRAPHITIZED > 1.55

01 Product Specifications

FIBER SPECIFICATIONS / C-SERIES

FiberElite® Pitch-Based Carbon Fiber • C-Series

Grade	Typical length	Unit	Length range (D10–D90)	Typical applications
Chopped Fiber • mm-scale				
C-6	6	mm	5 – 13	Injection molding • conductive concrete • general reinforcement
C-12	12	mm	8 – 20	Brake-pad friction material • clutch facings
C-25	25	mm	20 – 30	Insulation-felt precursor (needle-punched non-woven)
Milled Fiber • μm-scale				
C-100	100	μm	80 – 150	PTFE seals • coatings • conductive inks
C-200T	150	μm	100 – 200	Composite coatings • fine dispersion
C-200	200	μm	130 – 260	PTFE seals • rubber reinforcement
C-400H	350	μm	250 – 450	IC-tray anti-static plastic
C-400	400	μm	280 – 500	IC trays • anti-static engineering plastics
C-600	600	μm	450 – 750	Structural reinforcement filler • friction materials
C-800	800	μm	700 – 950	Structural reinforcement filler
C-1200	1200	μm	Custom	Large-particle structural reinforcement (custom)
C-3200	3200	μm	Custom	Ultra-long particle reinforcement (custom)

Length values are typical means; ranges are D10–D90 distribution bands. Certificate of Analysis (COA) supplied with every lot.

All C-Series grades are offered in **carbonized** and **graphitized** purity levels; graphitized variants carry the **CG-** prefix (e.g. CG-12).

C-Series is available custom-cut from 100 – 1200 mm continuous filament (needle-punched insulation felt) and 10 – 50 μm ultra-fine powder (high-end coatings & inks).



02 Carbon Fiber Powder

P-SERIES · CARBON FIBER POWDER

FiberElite® Pitch-Based Carbon Fiber Powder • graded by ash content

Grade	Fiber length	Fiber diameter	Ash content
Carbonized • ash 500 ppm			
P-200	200 μm	13.5 μm	500 ppm
P-100	100 μm	13.5 μm	500 ppm
P-50	50 μm	13.5 μm	500 ppm
P-10	10 μm	13.5 μm	500 ppm
Graphitized • ash 200 ppm (semiconductor grade)			
PG-200	200 μm	13.5 μm	200 ppm
PG-100	100 μm	13.5 μm	200 ppm
PG-50	50 μm	13.5 μm	200 ppm
PG-10	10 μm	13.5 μm	200 ppm

Values shown are typical means. P-Series ash content can be further customized to < 20 ppm (deep-purified) for applications highly sensitive to metal-ion contamination — crystal-growth hot zones, diffusion furnaces, and similar.



Unchopped Pitch Based Carbon Fiber

03 • Packaging SHIPPING UNITS

Container	Dimensions (mm)	Net weight
Carton	360 × 360 × 280 H	25 kg
Carton	550 × 550 × 290 H	10 kg
Fiber drum	φ 360 × 400 H	25 kg
Carton (honeycomb)	1120 × 1120 × 1120 H	Custom

04 • Precautions HANDLING

- 01** Above **300 °C**, the product must be used in an inert atmosphere or under vacuum.
- 02** During transport, storage, and use, avoid **heavy compression and moisture exposure**.
- 03** This is an **electrically conductive material**; keep clear of energized electrical equipment, or apply reliable protective measures during handling.
- 04** The product is environmentally friendly and **non-irritating to skin**.

CONTACT · GET IN TOUCH

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Data herein is believed to be reliable but is not warranted for any particular end-use. Products should be used under AOYIDA technical guidance.

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