

## Graphite Tube For Degassing

### Application:

Machinery, continuous casting and other foundry industries Dimensions: Available per your requirements Size & Shape: Custom- manufactured according to customer drawings Material: We support custom production even if your required technical specifications are not listed above. Should you be uncertain about material grade selection, our extensive graphite application experience enables us to recommend suitable grades based on your actual working conditions.

Our graphite tubes are manufactured from high- purity graphite. The base graphite material greatly determines tube service life.

Graphite ranks among superior high- temperature- resistant materials, featuring a melting point of  $3850^{\circ}\text{C} \pm 50^{\circ}\text{C}$  and a boiling point of  $4250^{\circ}\text{C}$ .

### Advantages

1. High density with fine grain structure
2. High purity and high mechanical strength
3. Low specific resistance
4. Good mechanical performance for easy precision machining
5. Outstanding thermal- shock resistance
6. Excellent high- temperature resistance, oxidation resistance and corrosion- resistant physicochemical properties

### Product Application

Graphite heating tubes in various types and diameters are widely adopted for thermal fields inside vacuum heating furnaces, leveraging graphite' s outstanding high- temperature performance.

### Technical index:

Isostatic graphite technical data

| Index                        | Units                       | FSDK-4 | FSDK-6<br>S | FSDK-7 | FSDK-8 | FSDK-9 | FSDW-7 | FSDW-8 |
|------------------------------|-----------------------------|--------|-------------|--------|--------|--------|--------|--------|
| Bulk density                 | $\geq \text{g/cm}^3$        | 1.72   | 1.86        | 1.83   | 1.86   | 1.9    | 1.85   | 1.91   |
| Electric resistivity         | $\mu \Omega \cdot \text{m}$ | 10-13  | 10-13       | 11-14  | 10-14  | 10-14  | 11-13  | 11-13  |
| Compressive strength         | Mpa                         | 65     | 100         | 110    | 120    | 125    | 115    | 135    |
| Flexural strength            | Mpa                         | 30     | 48          | 50     | 55     | 60     | 51     | 60     |
| Shore hardness               |                             | 40     | 65          | 67     | 72     | 75     | 65     | 70     |
| Ash content/<br>purification | ppm                         | 500/50 | 500/50      | 500/50 | 500/50 | 500/50 | 500/50 | 500/50 |
| Average granularity          | $\mu \text{m}$              | 25     | 12          | 8      | 6      | 2-4    | 8-10   | 8-10   |

|                                  |                                   |                               |                                                             |      |                                |                                |                       |                       |
|----------------------------------|-----------------------------------|-------------------------------|-------------------------------------------------------------|------|--------------------------------|--------------------------------|-----------------------|-----------------------|
| Coefficient of thermal expansion | $\times 10^{-6}/^{\circ}\text{C}$ | 5                             | 4.2                                                         | 3.8  | 4                              | 3.9                            | 5.6                   | 5.85                  |
| Young's modulus                  | Gpa                               | 9.2                           | 11                                                          | 11   | 12                             | 12                             | 11                    | 12                    |
| Applications                     |                                   | >Vacuum furnace<br>>Sintering | >Photo voltaic<br>>Vacuum furnace<br>>Melting gold crucible | >EDM | >EDM<br>>Melting gold crucible | >EDM<br>>Melting gold crucible | >EDM<br>>Photovoltaic | >EDM<br>>Photovoltaic |

Mold graphite technical data

| Index                            | Units                             | FSM-1      | FSM-2     | FSMK-3  | FSMK-5  | FSMK-5S | FSMW-4  | FSMW-5  |
|----------------------------------|-----------------------------------|------------|-----------|---------|---------|---------|---------|---------|
| Bulk density                     | $\geq \text{g/cm}^3$              | 1.6        | 1.7       | 1.68    | 1.8     | 1.85    | 1.75    | 1.85    |
| Electric resistivity             | $\mu \Omega \cdot \text{m}$       | 8          | 7.5       | 9-13    | 8-10    | 8-10    | 8.5     | 8.5     |
| Compressive strength             | Mpa                               | 28         | 36        | 45      | 70      | 80      | 65      | 85      |
| Flexural strength                | Mpa                               | 14         | 18        | 20      | 35      | 40      | 38      | 46      |
| Shore hardness                   |                                   | 25         | 30        | 35      | 48      | 55      | 42      | 48      |
| Ash content/purification         | ppm                               | 2000/-     | 2000/-    | 1000/50 | 1000/50 | 1000/50 | 1000/50 | 1000/50 |
| Average granularity              | $\mu \text{m}$                    | 2000, 4000 | 800, 2000 | 15-45   | 15-45   | 15-45   | 14-45   | 14-45   |
| Coefficient of thermal expansion | $\times 10^{-6}/^{\circ}\text{C}$ | 5.8        | 5.7       | 5.7     | 4.9     | 4.8     | 5.46    | 4.75    |
| Young's modulus                  | Gpa                               | 7          | 8         | 8       | 9.5     | 10      | 9       | 11.8    |

| Product Name                     | Industry   | Application                                                                      |
|----------------------------------|------------|----------------------------------------------------------------------------------|
| Crucible, Boat, Dish, etc.       | Metallurgy | Melting, refining and analysis                                                   |
| Dies, Molds, Ingot Chassis, etc. |            | EDM graphite electrodes, semiconductor manufacturing, iron, steel and nonferrous |

|                                   |             |                                                                                                    |
|-----------------------------------|-------------|----------------------------------------------------------------------------------------------------|
|                                   |             | metal making, continuous casting, metallurgy pressing machine                                      |
| Graphite Roller, etc.             |             | Heat treatment of steel plate in furnace                                                           |
| Conduit, Skateboard, etc.         |             | Aluminum molding                                                                                   |
| Graphite Pipe                     |             | Guard pipe for measuring temperature, blowpipe, etc                                                |
| Graphite Block                    |             | Masonry furnace and other heat resistance material                                                 |
| Chemical Equipment                |             | Heat exchanger, reaction tower, distillation columns, absorption equipment, centrifugal pumps, etc |
| Electrolytic Plate                | Chemistry   | Salt solution and baking molten salt electrolyte                                                   |
| Electrolytic Mercury              |             | NaCl electrolyte                                                                                   |
| Grounded Anode                    |             | Electrical anticorrosion                                                                           |
| Motor Brush                       |             | Commutator, slipping ring                                                                          |
| Current Collector                 | Electricity | Skate, slide, trolley                                                                              |
| Contact                           |             | Switches, relays                                                                                   |
| Mercury Ferry And Electronic Pipe | Electronics | Anode, grid pole, repeller pole, ignition pole of the Mercury rectifier and anode, grid electrode  |
| Graphite Bearing                  |             | High temperature resistance sliding bearing                                                        |
| Sealing Element                   | Machinery   | Sealing ring, stuffing box seal, packing seal                                                      |
| Product Element                   |             | Braking in plane and vehicle                                                                       |

## FAQ

- 1) **When can I get the price?** We normally provide quotations within 24 hours upon receipt of your detailed requirements, such as size, quantity and other specifications. For urgent inquiries, you may contact us directly by phone.
- 2) **Do you provide samples?** Yes, samples are available for quality testing. Sample lead time is approximately 7- 10 days.
- 3) **What is the lead time for mass production?** Production lead time depends on order quantity, generally ranging from 7 to 12 days. For graphite products requiring a Dual- use Items License, the licensing procedure will take around 45 working days.

- 4) **What are your delivery terms?** We accept FOB, CFR, CIF, EXW and other Incoterms. You may select the most suitable shipping solution. Air freight and express delivery services are also available.
- 5) **What about product packaging?** Products are packed in custom wooden cases. Custom packaging solutions per your requirements are also acceptable.

Looking forward to cooperating with you. Thank you!