



<https://mwi-inc.com>



MWI

Carbon & Graphite Solutions

HIGH TEMPERATURE CARBON & GRAPHITE SOLUTIONS

No matter where you are
in the manufacturing process,
MWI will exceed your expectation,
one custom solution at a time.



Contact Locations

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WE ARE MWI

No matter where you are in the manufacturing process, MWI will exceed your expectation, one custom solution at a time.

ABOUT US

For over 50 years, MWI has earned a reputation for industry leading graphite and machining solutions. We've done this by forging long-term relationships with our customers and providing them with outstanding experiences.

OUR PROMISE TO YOU

MWI will continue to earn your respect for the quality and integrity of our employees, products, and processes. Through a focus on continual improvement, supported by effective management and operational excellence, we will provide high-quality products that exceed your expectations, create continual economic growth and have a positive impact on our local community.

CAPABILITIES

Our capabilities were developed around the need to provide an outstanding customer experience. No matter where you are in the manufacturing process, we can offer a custom solution that's right for you.

Whether you need material selection and part design, or final machined and treated products, MWI will exceed your expectations. After more than fifty years serving the carbon and graphite industry, we guarantee it.



Engineered Carbon & Graphite Solutions

MWI's unique structure assigns an experienced, primary engineer to our customer applications via our Customer Experience Team. Primary engineers will have or gain intimate knowledge of customers processes and leverage our extensive resources and laboratories to assist in lowering total cost of ownership. We will provide engineered carbon and graphite solutions that are tailored to meet your business needs.

Carbon & Graphite Coatings & Impregnations

At MWI we specialize in advanced carbon coatings, graphite coatings, and impregnations, essential for high-performance applications in various industries. Our commitment to using high-quality materials ensures superior products used in the production of semiconductors, LEDs, and photovoltaics, as well as continuous casting processes.

Carbon & Graphite Coatings & Impregnations Solutions

- Tantalum Carbide (TaC) Coating
- Silicon Carbide (SiC) Coating
- Glassy Carbon Coating Processing
- Anti-Oxidation Impregnation
- Pyrolytic Coating
- Ultrasonic Cleaning



Carbon & Graphite Purification

Graphite purification is commonly required across a broad range of semiconductor applications. Metallic impurities are inherent in today's graphite and carbon products. MWI has spent decades on proprietary purification processes that remove these undesirable elements down to verifiable limits.

Utilizing High Temperature and Halogen Purification methods, MWI achieves impurity levels of <2 parts per million (PPM). To ensure the effectiveness of the purification process, MWI collaborates with leading independent laboratories for comprehensive periodic purity analysis and verification. Additionally, internal ASH analysis is conducted.



Precision Carbon & Graphite Machining

MWI offers a complete range of high temperature graphite materials. We utilize our four search and development laboratories devoted to carbon and graphite to develop and manufacture materials specific to unique applications. Whether you have already developed physical property specifications, are working on continuous improvement, or need assistance in custom specifications, we have your graphite solution.



Unlock Advanced Solutions with MWI

MWI's carbon coatings, graphite coatings, and impregnations are pivotal in advancing technology across various industries. Our commitment to quality and innovation makes them indispensable.

HIGH TEMPERATURE MANUFACTURING MATERIALS

MWI, Inc. offers a complete range of high temperature graphite materials.

We utilize our four research and development laboratories devoted to carbon and graphite to develop and manufacture materials specific to unique applications. Whether you have already developed physical property specifications, are working on continuous improvement, or need assistance in establishing custom specifications, we have your graphite solution.

Isotropic Graphite

Isotropic graphite is a high-density graphite that is more durable than the conventional graphite.

Extruded Graphite

Extruded graphite is produced in an extrusion process. In contrast to isostatic graphite, extruded graphite has a coarser grain size and a lower strength but higher thermal and electrical conductivity.



Molded Graphite

Molded graphite is a form of synthetic graphite shaped through compression molding techniques, resulting in a dense and customizable material with specific properties for various industrial applications.

High Temperature Carbon Materials

- Carbon Carbon Composite
- Rigid Carbon Insulation
- Glassy Carbon Materials
- Solid Silicon Carbide (SiC)

INDUSTRIES SERVED

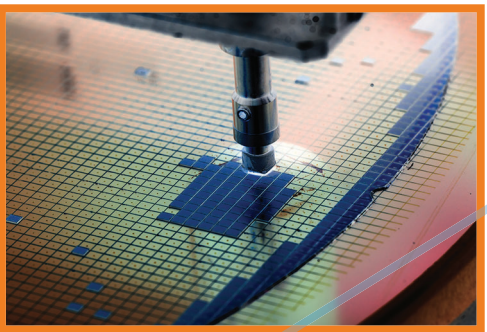
Helping the global climate through green technology in the industries we serve.

We're proud to serve a wide variety of industries. The most common ones are listed below, but the list isn't inclusive. So, if you don't see your industry, we can develop a custom solution that's right for you.

APPLICATIONS

Carbon & Graphite Machining for Semiconductors

From crystal pulling hot zones to metal deposition, MWI machines purifies & coats carbon and graphite materials that exceed the stringent demands of the semiconductor industry.



Product Examples

- Graphite Crucible
- Graphite Heater
- Graphite Susceptor
- Czochralski "CZ" Hot Zone Components
- Ion Implant Consumables
- Rigid Insulation
- Carbon Carbon Fasteners

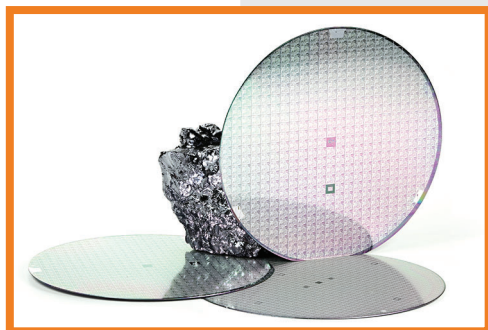
APPLICATIONS

Carbon & Graphite Machining for Polysilicon

MWI supports all phases of the silicon value chain starting with the feedstock.

Product Examples

- Graphite Seed Chucks
- Graphite Heaters
- Graphite Electrodes
- Graphite Crucibles
- Carbon Carbon Composite Screws
- Carbon Carbon Composite Bolts



Photovoltaic (PV)

MWI is proud to support companies that are investing in innovative solutions for a cleaner and more sustainable environment. Through our range of engineered carbon and graphite solutions, we actively contribute to the advancement of tomorrow's energy solutions.

Product Examples

- Graphite Crucible
- Graphite Heater
- Graphite Susceptor
- Rigid Insulation
- Carbon Carbon Composite Trays
- Carbon Carbon Composite Fasteners
- Czochralski "CZ" Hot Zone Components



Light Emitting Diode (LED)

MWI is proud to collaborate with industry leading LED manufacturers and research facilities to continually advance this environmentally-sound technology.

MWI machining, purification and coatings of carbon and graphite products are well received throughout the LED supply chain.



Product Examples

- MOCVD Susceptor
- Graphite Satellite
- Graphite Susceptor
- Graphite Platter

Abrasive Tooling

From PDC drill bits to concrete blades, MWI engineers and fabricates a variety of graphite components required to manufacture diamond abrasives and other complex matrix materials.



Product Examples

- Graphite Displacement Nozzles & Plugs
- Graphite Mold Shells & Funnels
- Graphite Punches
- Graphite Electrodes
- Oil & Gas Field Service Supplies
- Graphite Diamond Segment Production Molds & Rams

APPLICATIONS

Electrical Discharge Machining (EDM)

At MWI, we are fully prepared to be your dedicated EDM consumables supplier. We are proud to offer a comprehensive range of EDM supplies, from graphite electrodes and machined electrodes to EDM wire and EDM accessories.

Product Examples

- Tapping Electrodes
- Graphite T-Slots
- Brass & Copper Tubes
- EDM Metallics
- Telco (Tellerium Copper)
- EDM Wire
- EDM Accessories



Advanced Ceramics

Advanced ceramics and graphite are connected through their applications in high-temperature and high-pressure processing and thermal management applications.

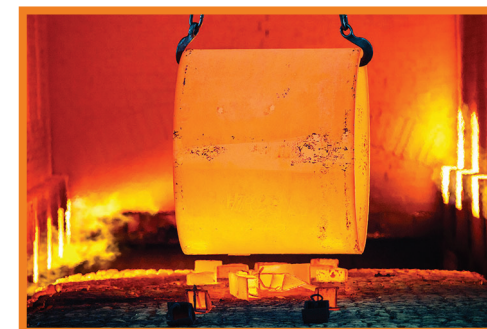
Product Examples

- Graphite Hot Press Dies & Punches
- Graphite Die Liners
- Graphite Containment Ring
- Graphite Mandrels
- Graphite Sintering Plates
- Carbon Carbon Composite Dies & Punches



Heat Treatment

With internal high-temperature capability, MWI's engineering teams are experts in high-temperature thermal management. From carbon and graphite material selection to design and modeling, we can offer a wide range of high-temperature solutions.



Product Examples

- Vacuum Furnace Hot Zones
- Induction Furnace Components
- Chemical Vapor Deposition Furnace Components
- Graphite Furnace Fixtures
- Graphite Loading Hardware
- Graphite & Mandrels Muffle Zones
- Carbon Carbon Composite Furnace Fixture
- Carbon Carbon Composite Tooling
- Thermal Insulation

Aerospace

MWI continues to improve leading-edge machined carbon and graphite technologies to service the aerospace industry. From detailed EDM electrodes to the larger complex geometries of composite tooling, MWI services all carbon and graphite requirements within the aerospace industry.



Product Examples

- Airfoil Electrodes
- Graphite Braze Fixtures
- EDM Vane Electrodes
- Nozzles and Nozzle Inserts
- Composite Lay-up Tooling

APPLICATIONS

Fuel Cell

MWI has extensive experience machining carbon-based fuel cells. We cater to both large-scale and small-scale production needs and research and development requirements. In addition, we have dedicated process engineers to fuel cell machining process capability. Our entire team is grateful to be a part of an environmental solution.

Product Examples

- Carbon Based Cathodes
- Carbon Based Anodes
- Separator Plates
- Prototype Machining



Metallurgical

MWI's graphite machine shop was established with the sole purpose of serving the continuous casting industry. Over fifty years later, metallurgical products remain one of our core competencies. Our engineering team specializes in selecting the correct carbon and graphite material for specific alloys and continuous casting parameters.

Product Examples

- Graphite Continuous Casting Dies
- Graphite Molds
- Graphite Crucibles
- Graphite Boats
- Graphite Pour Boxes
- Impellers-Rotors-Shafts
- Sintering Trays and Plates

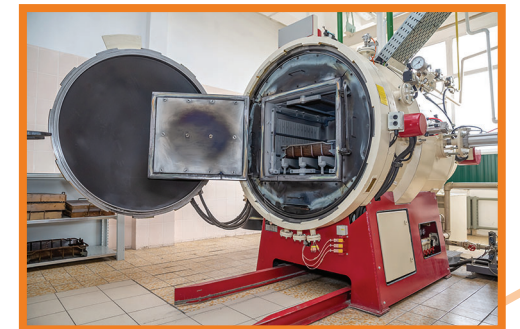


High Temp Furnaces

From sintering to CVD, MWI supplies custom carbon and graphite components that perform in challenging environments. We also provide engineered solutions for the most demanding high temperature applications.

Product Examples

- Heating Elements
- Muffle Boxes
- Graphite Retorts
- Power Feeds
- Graphite Hardware
- Insulation Materials



Partner With MWI - Leading the Carbon & Graphite Industry

MWI can be your partner in engineered carbon solutions. We are committed to exceeding your expectations by being more than just a supplier. By deeply understanding your processes, MWI is able to deliver solutions that seamlessly fit into your daily operations. Our approach is what truly sets us apart from competitors and drives success for our clients' business.