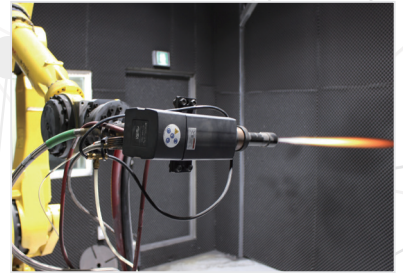


MI MYEONG IN IND. Inc.

MYEONGIN INDUSTRY



Carbide Welding • Thermal Spray • Ceramic Coating
Technology Development Company

REETING | ORGANIZATION CHART



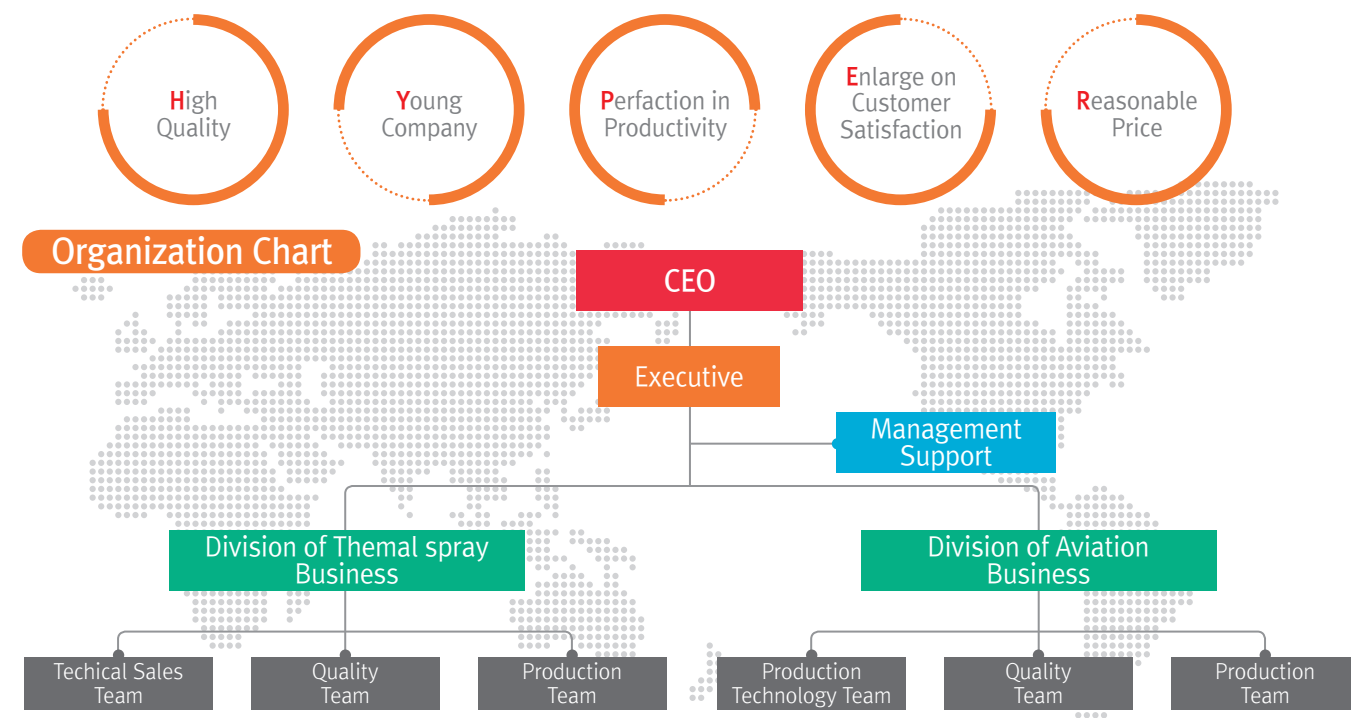
Greeting

MYEONGIN IND. Inc. is a hard facing professional performer that makes various alloy layers by coating special powders on metal surfaces to improve the wear, corrosion resistance, and heat resistance of mechanical equipment parts used in each industry.

The Thermal Spraying Division utilizes a variety of thermal spraying equipment to provide coatings on various metal and non-ferrous metal surfaces with the characteristics required by customers.

The Aviation Division has obtained KS Q 9100:2018 (equivalent to ISO9001:2015) and Korea Special Process Certification (KSPC) certifications, and produces aerospace parts through TIG welding and fluorescent penetrant testing processes.

All of our management and employees will strive to achieve the best quality and reasonable price based on continuous research and development of the quality desired by customers and the best hard facing technology.



HISTORY



R&D Center



Head Office

History

- 2008** Establishment of MYEONGIN IND. Inc.
- 2010** Development of coating technology for imported roll (Switzerland)
- 2011** Development of coating technology for imported screen (Germany)
- 2013** MVC(Myeongin vacuum coating) Coating Development
- 2014** Development of coating technology for imported mixer tank
- 2015** Development of coating technology for imported valve (Germany)
- 2017** ISO9001 certificate obtained
- 2020** Established a department dedicated to R&D
Registered as a venture company
Development of coating technology for imported screw (MVC coating application)
- 2021** Completion and relocation of new factory (Busan)
- 2022** KS Q 9100(Equivalent to ISO9001) certificate obtained
KSPC(Korea Special Process Certification) certificate obtained

CUSTOMER | CERTIFICATION

Major customers

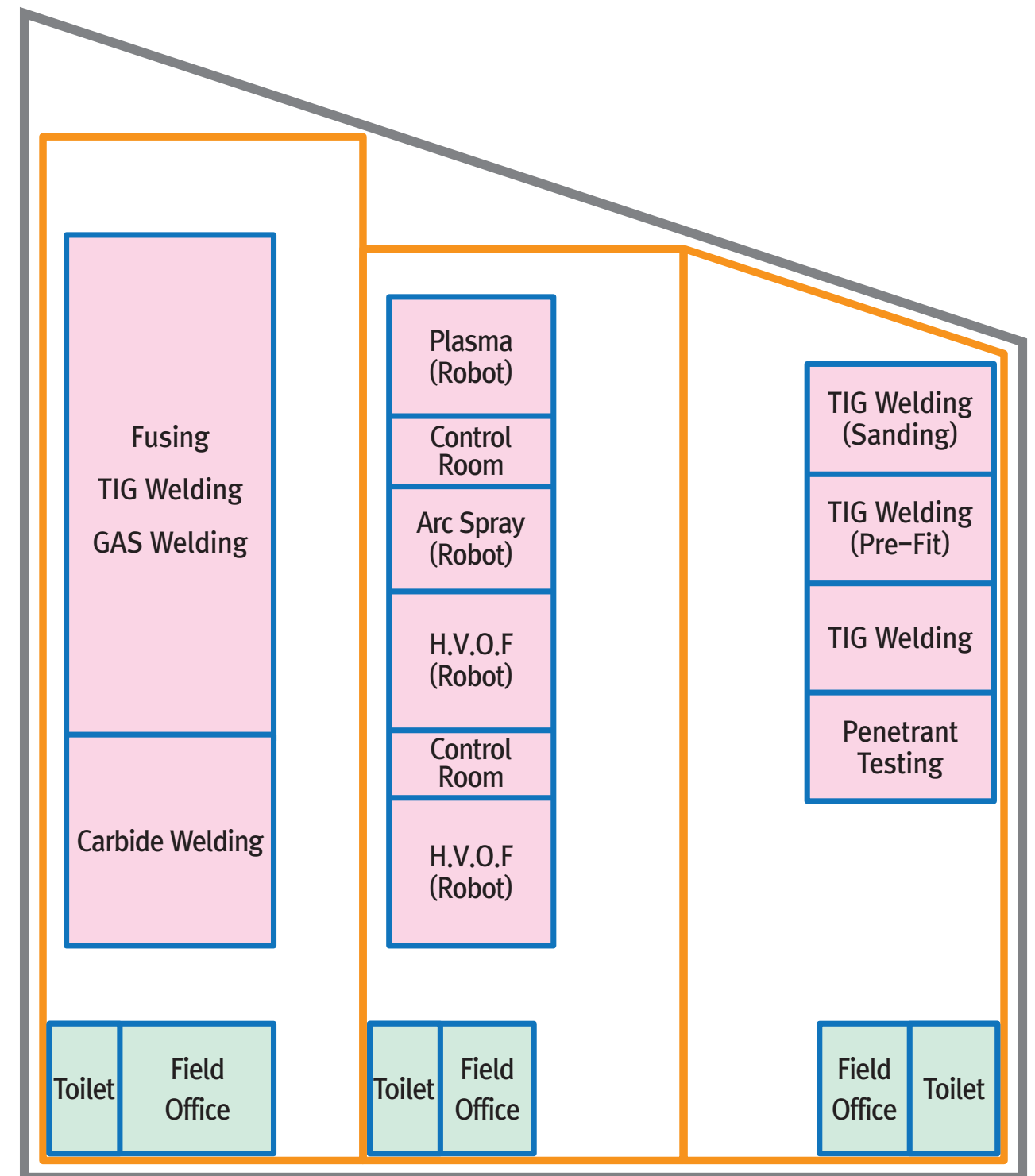


Certification



PLANT | PROCESS

Head Office

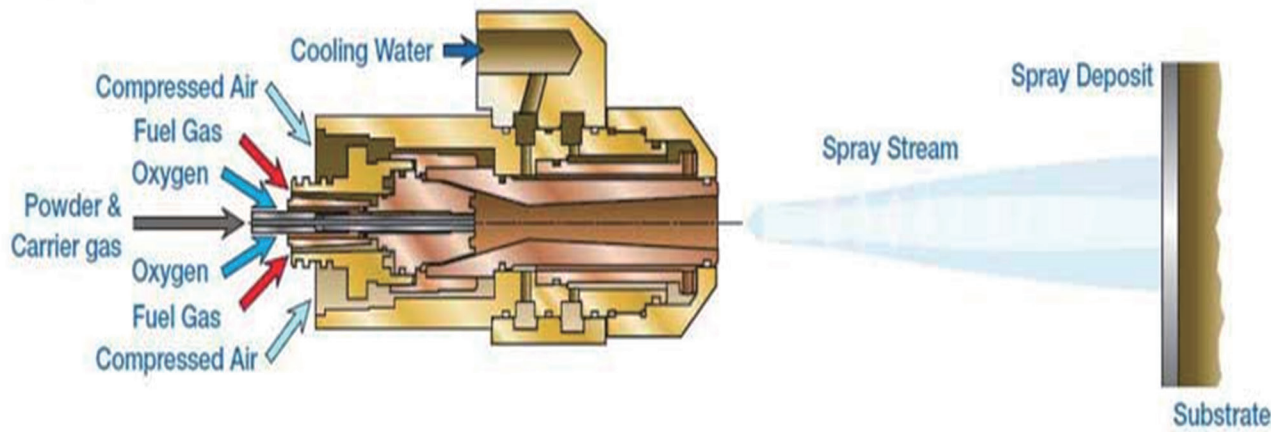


Thermal Spray

H.V.O.F Coating

H.V.O.F(High Velocity Oxygen Fuel) Coating is a process in which fuel gas and oxygen are burned at high pressure, and the powder is injected into the generated high-speed jet and spray into the base metal. A coating with low porosity and high adhesion is created on the base metal, which greatly improves wear resistance and corrosion resistance.

▶ Process : Inspection(Base Metal) → Surface Activation→ H.V.O.F Coating → Inspection → Polishing



● H.V.O.F system



● Industrial Robot

Applications	<ul style="list-style-type: none">Improved chemical resistance of equipment exposed to chemical environmentsImproved corrosion resistance of equipment exposed to sea(salt)water environmentsImproved wear resistance of mixing quipment such as screw
Coating Materials	<ul style="list-style-type: none">Tungsten Carbide : Effective for applications requiring high density, high adhesion and wear resistance.Tungsten Carbide – Nickel – Chrome : Effective for equipment exposed to sea(salt)water environment requiring high corrosion resistanceChromium Carbide : Effective for applications requiring wear resistance and frictional resistance, because high hardness and non-brittleness
Process Condition	<ul style="list-style-type: none">Types of heat sources : Oxygen + FuelTemperature of heat source : High (4800 ~ 5600°F)Jet Velocity : Very high (More than 2000m/sec)Adhesion : Very high (More than 10000psi)Temperature of base metal during coating : Less than 400°F
Process Characteristics	<ul style="list-style-type: none">Coating material is sprayed at very high speed to create a fine and uniform coating (Material Loss ↓ , Adhesion ↑ , Low porosity, High density)Higher coating thickness compared to other coating processesAlmost no thermal deformation of the base metalSignificant improvements in corrosion and wear resistance



Thermal Spray

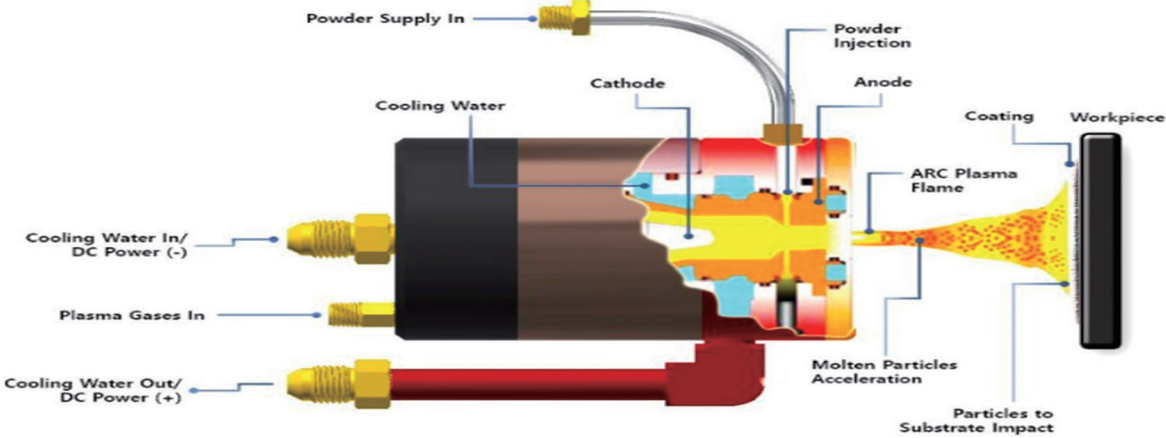
Plasma coating

Plasma coating is a process in which inert gases(H, Ar, He) are ionized at using high-frequency electric arc to form plasma and powder is injected into the **high-temp. plasma jet** generated during recombination, and spray into the base metal. A smooth coating with **high density**, **high adhesion** is created on the base metal, which greatly improves **wear resistance**, **corrosion resistance** and **thermal resistance**.

► Process : Inspection(Base Metal) → Surface Activation→ Plasma Coating → Inspection → Polishing



Plasma coating

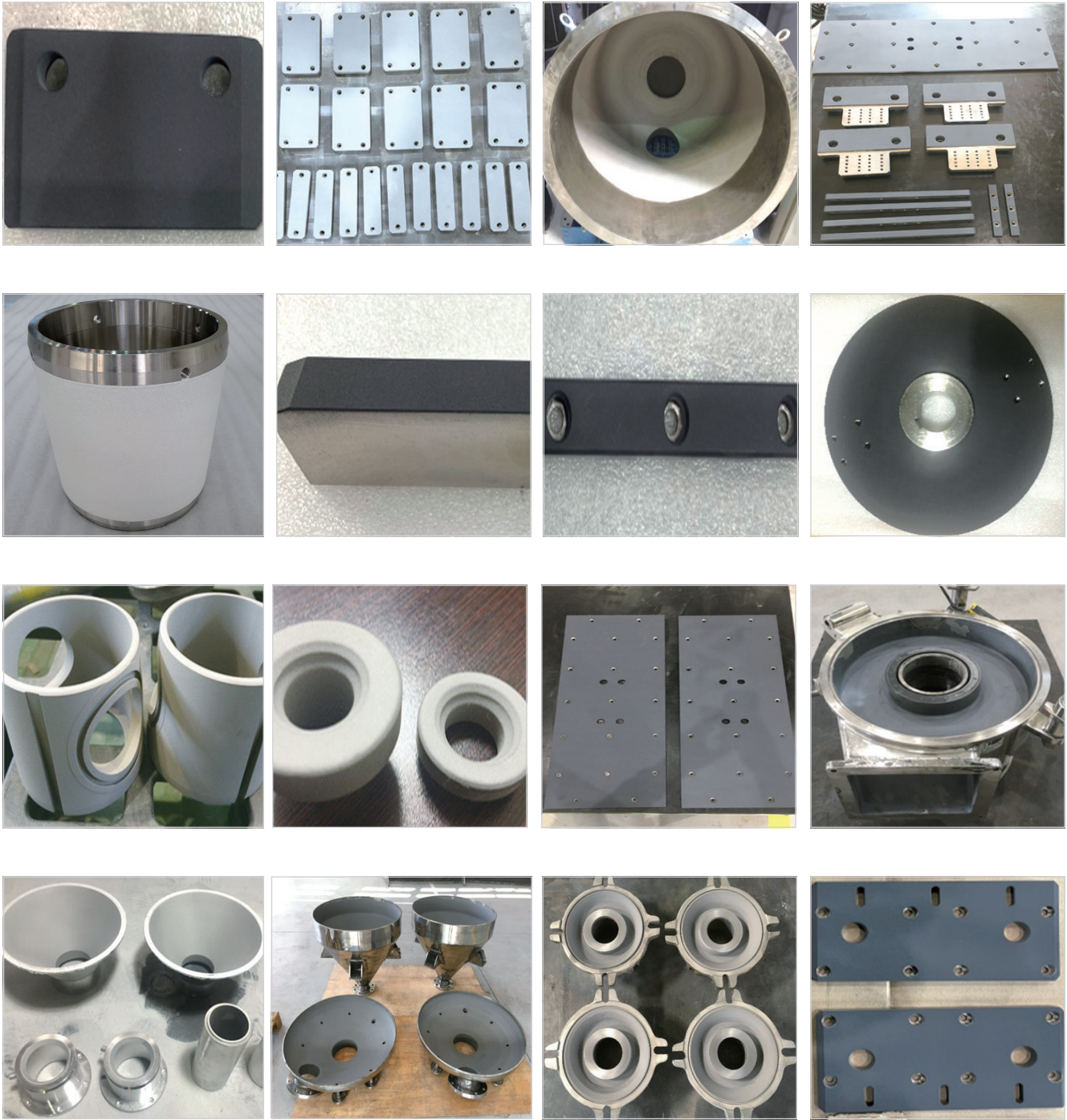


● Ceramic spray system



● Industrial Robot

Applications	<ul style="list-style-type: none">Improved insulation of equipment for semiconductor IndustryImproved heat resistance of part for Aircraft Industry such as TurbinesImproved hardness of part for Space Industry requiring high hardness such as rocket nozzles
Coating Materials	<ul style="list-style-type: none">Tungsten Carbide : Effective for applications requiring high density, high adhesion and wear resistanceAlumina – Titania : Effective for equipment exposed to sea(salt)water environment requiring high corrosion resistanceZirconia : Effective for applications requiring low heat conductivity and best strength at room temperature
Process Condition	<ul style="list-style-type: none">Types of heat sources : Inert GasTemperature of heat source : Very high (18000 ~ 30000°F)Jet Velocity : High (More than 400m/sec)Adhesion : Very high (More than 10000psi)Temperature of base metal during coating : Less than 400°F
Process Characteristics	<ul style="list-style-type: none">Due to the very high temp. of the heat source, it can be coated with materials used at high temperatures, such as ceramicsDue to the coating material is completely melted, the coating is particularly dense and smoothAlmost no thermal deformation of the base metalSignificant improvements in corrosion and wear resistance, thermal and oxidation resistance

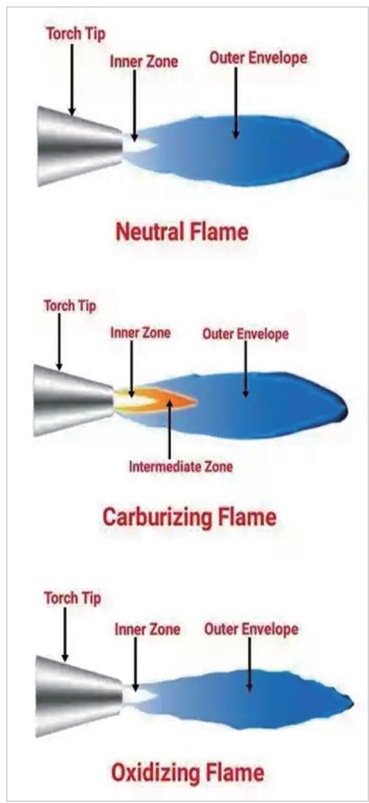
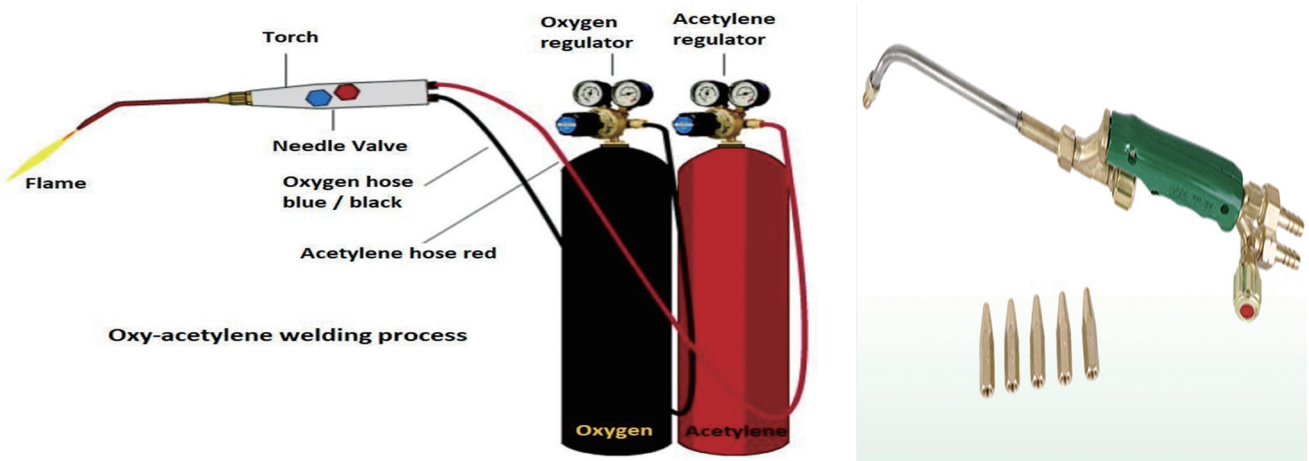


Welding

Carbide Welding

Carbide Welding is a process in wich oxygen and acetylene are burned in a certain ratio and the filler metal is melted and bonded to the metal surface by a high-temperature heat source generated. The bonded filler metal is created on the base metal, which greatly improves wear resistance and corrosion resistance.

▶ Process : Inspection(Base Metal) → Surface Activation→ Carbide Welding → Inspection → Polishing



● GAS Welding System

Applications	<ul style="list-style-type: none">Improved wear resistance of equipment for the Mechniry IndustryImproved chemical resistance of equipment for the Steel IndustryImproved wear resistance of mixing equipment such as screw
Coating Materials	<ul style="list-style-type: none">Tungsten Carbide : Applicable to all metals and provides the highest grade wear resistant, heat resistant and corrosion resistant surfaces.Stellite : Effective for applications requiring high wear resistance because stellite filler metal has the property that hardness is not
Process Condition	<ul style="list-style-type: none">Types of heat sources : Oxygen + FuelTemperature of heat source : High (5800 ~ 6400°F)Jet Velocity : NormalTemperature of base metal during coating : More than 900°F
Process Characteristics	<ul style="list-style-type: none">Filler metal perfectly bonded to the base metal provides excellent wear resistance in cutting and mixing processesSignificant improvements in extended life by forming a coating thickness higher than the thermal spray coatingCommonly used for surface hardening of steel and cast iron



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