PROFILE

CHUGOKU MARINE PAINTS,LTD.

CMP CHUGOKU

CMP, a leading company aiming to harmonize human activity with nature.

President ***Kenshi Date***

Since the establishment in 1917, Chugoku Marine Paints, Ltd. engage in various industries such as shipbuilding, ship repair, power generation, steel structure, woodwork, container and other niche business, through our world wide network. By gaining customer's satisfaction and trust in our technology, we are able to expand in both domestic and global markets. Our users are engaged in core industry, such as shipbuilding, shipping, power generation, steel, wood, and general construction.

Our responsibility is to support those industries through our innovation. Our commitment as a "leading company", our aim is to harmonize human activities with nature.

Looking to the future with cutting-edge technology from three perspectives

CMP contributes to social developments through high quality products, focusing on "INNOVATION", "QUALITY" and "ECOLOGY".

Innovation

Innovative technology to lead the world

Our innovation is not only limited to coating technology, but we also focus to develop world leading technology to provide solutions to the society.

Quality

High functional and high quality product

Anticipating various future needs, we develop new and high quality functional coating to provide solution.

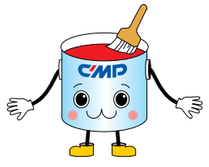
Ecology

Harmonization with the environment

We are committed to protect the nature environment.

Corporate Data

Company Name
CHUGOKU MARINE PAINTS,LTD.
Head Offices
Tokyo Office
Tokyo Club Building, 2-6, Kasumigaseki 3-chome, Chiyoda-ku, Tokyo, 100-0013 Japan
Hiroshima Office
1-7, Meiji-Shinkai, Otake-shi, Hiroshima-ken 739-0652, Japan
Date of Establishment: May 1917
Capital: 11,626 million yen



Company mascot "PENTARO"
(Registration No. 5813014)

SUSTAINABLE DEVELOPMENT GOALS

coatings care®

CMP conducts "Coatings Care (program for the environment, safety, and health)" promoted by the Japan Paint Manufacturers Association. Coatings Care is voluntary management activities for the purpose of ensuring environmental preservation, safety, and health in all processes of the paint industry from the development, manufacturing, logistics, use, to the disposal of paint products, mainly promoted by the International Paint & Printing Ink Council (IPPIC).

PRODUCTS

Our new technology and innovation supports various industries worldwide

The coating colours the cityscape and living environment and protects various assets from corrosion and deterioration. In the history of over a century, CMP has been studying and evolving to protect the ship's hull from fouling and corrosion in the ocean environments. Our innovative technologies such as dedicated coatings for pleasure boats, underwater curable coatings and the first UV curable coatings for woods in Japan are creating new needs and supporting the development of industry.

Marine Coatings

For large vessels

CMP provides full range of coatings for marine use such as Antifouling coatings, tank coatings, etc.

- World wide service ships
- Coastal ships

For fishing boats and fish nets

Based on the technology accumulated from the marine field, we provide full product line up for this segment.

- Fishing boats
- Fishnets

For pleasure boats and yacht

“Seajet“ brand specialized for pleasure boat and yacht is now well known in the market.

- Pleasure boats
- Yachts

Container Coatings

Container coatings

Global logistics and economy is supported by container. Our container coatings are supplied all over the world.

- Marine containers
- Railway containers

Industrial coatings

Protective coatings

Protecting assets from corrosion and deterioration. With our unique ideas, we have been continuously developing the protective coating technology for many years.

- Bridges
- Power equipment
- Plants
- Various constructions

Offshore coatings

We are contributing to the renewable energy industry with our unique technology.

- Oil platform
- Offshore power facility
- Various floating constructions

Building material coatings

CMP has been making great strides in the building materials and interior industry with high-level environmentally friendly coatings required in the field of housing materials that come into direct contact with people.

- Flooring
- Interior and exterior furnishing materials
- Furniture
- Bathroom (refurbishing)

Plastic coatings

Coatings can provide various added values to the plastic materials which make our daily life more comfortable.

- Films
- Molded articles

Lining materials

Lining materials with excellent durability support our safety in our daily life.

- Railway tracks
- Fixing equipment
- Cable-stayed bridge cables

TECHNOLOGY

Antifouling Technology

High technological capabilities evolved through more than a century of study

Antifouling technology prevents marine organisms from settling to the hull and supports the smooth operation of ships and marine structures and the conservation of the fish farm environment.

As a pioneer in this field, CMP is working on the reduction of environmental impact as well as the improvement of antifouling performance.

- Vessels (Bottom, Propeller)
  - Worldwide service ships
  - Coastal ships
  - Pleasure boats
  - Fishing boats
- Small ships (Bottom, Propeller)
- Fishnets
- Offshore constructions
  - Bridges
  - Plants
  - Power equipments
  - Oil platforms etc.

What is antifouling coating

What does antifouling coating do?

Antifouling coating is a functional coating which prevents marine organisms such as barnacle, shellfish and algae from settling on the surface, and is applied to various facilities such as ship's hull and water intake pipe of power plant.

Left: Steel plate WITHOUT antifoulings
Right: Steel plate WITH antifoulings

Antifouling coating development

CMP's antifouling coatings are designed based on its own know-how and experiences. Only the products which satisfied strict criteria will be launched.

Coating Film Testing at Shipyards

Rafts for immersion test

Dynamic antifouling performance test equipment

Antifouling performance test on actual vessels

Main antifouling types

Self-polishing antifouling

This type of antifouling coating provides its performance with active ingredients which are eluted out from coating via chemical reaction with coating surface and sea water.
We are developing the mechanism for more effective elution of active ingredients and also researching active ingredients with less environmental impact.

Application of antifouling coating (large vessel)

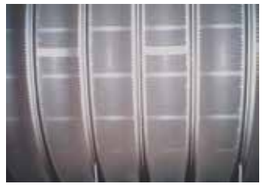
Antifoulings for Pleasure boats

Silicone based antifouling

Silicon based foul release coating is utilizing the elasticity and hydrophobic characteristic of Silicone. These coatings has been used for ship and various offshore constructions.

Vessels

Propeller



Power equipment

Offshore constructions

Antifoulings for Propeller (Pleasure boats, Fishing boats)

Antifoulant for fishnets

When shellfish and algae attach substantially to fish farming nets, the inside of the nets becomes a closed environment that is shielded from ocean currents, which would be harmful to the health of fish. It can be prevented by dyeing the net with an antifoulant and keep good condition of fish farming environment.

Application of antifouling coating (large vessel)

TECHNOLOGY

Anti-corrosive Technology

Protection of materials and resources in harsh environments

Anti-corrosive coating protects irons or concretes from corrosion /deterioration. In addition, it can protect the materials more effectively by overcoating with desired resistance for each area such as water, acid, weather, etc.

With the technology and experience cultivated over many years, CMP have built up a track record in various fields such as vessels, bridges, containers, power plants, etc.

- Vessels
  - Hulls
  - Water ballast tanks
  - Cargo holds
  - Accommodation spaces
  - Decks
  - Radars
- Constructions/structures
  - Bridges
  - Plants
  - Power equipments
  - Offshore constructions
  - Others
- Containers

Main anti-corrosive coatings

For vessels


Universal primer


Water ballast tank coatings


Abrasion resistance coating for Cargo Hold


Waterborne coatings for internal area

Various constructions, containers


Ultra-long durability inorganic coatings


Glass flake coatings


Anti-corrosive coatings for concrete


Coatings for containers

High added value coatings

We have been developing high added value protective coatings with our unique ideas and technology. Thermal reflection, Radio wave absorption, Antifouling, and Under water applicable coatings.

Under water applicable coating

Our underwater applicable coatings are widely used for maintaining offshore constructions and bridges.

Application to wet surface (Preventing concrete exfoliation)

Our preventing concrete exfoliation method on wet surface.


Ultra long durability coating (Fluororesin coating)

Due to its ultra long durability, Fluororesin coatings are widely used for exposed constructions. (Photo: Nhat Tan Bridge, Vietnam)

Titanium foil and Fluororesin coating

This method can renew a deteriorated coating on an old steel structure into a fresh and tough coating.

Heat reflecting coating

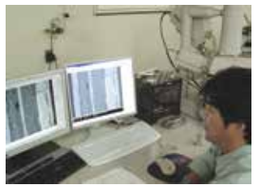
Heat reflecting coating can contribute to energy saving. These coatings are used on roofs, walls and ship decks. It is also available in water born type.

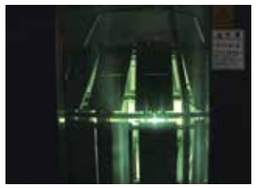
Radio wave absorption coating

Our radio wave absorption coating is used on steel tower and ship's radar. By applying this coating radio disturbance can be improved.

Development of anti-corrosion coatings

Only the products which satisfy all the strict standards are launched.


Analysis of coating films


Accelerated weathering test


Environmental tests


Outdoor exposure


Coal scratch test


Cargo holds

We conduct various tests to check impact and abrasion resistance to develop suitable coating for cargo holds of bulk carriers carrying high hardness cargo such as coal and iron ore.

Unique ideas and reliable technologies support our life and safety

UV Technology

Ultra Violet (UV) curable coating which we introduced in 1981 brought substantial rationalization to wood flooring coating production from its rapid curing characteristic. Now the same technology has been introduced to plastic coating and used in variety of industrial products.

- House building materials
  - Flooring materials
  - Interior furnishing materials
- Plastics
  - Films
  - molded products

Lining Technology

CMP's resin lining is used for the installations of rail tracks, vessel's engine beds and variety of heavy machineries because of its moderate elasticity to defuse vibrations and impacts.

- Railway track
- Machinery bed use

UV curable coatings

House building materials

In the field of coatings used for wooden materials of house building which is closely related to our life, CMP is developing the products with less VOC and formaldehyde which are the cause of allergic symptoms such as sick building syndrome.

Flooring materials

Interior furnishing materials

We have many achievements in on-site construction type coatings for woodworking, exterior building material, and bathroom renovation.

Plastic coatings

Applying on the surface of film or plastic, this coating can add various functions such as anti-fingerprint and anti-fog, etc. Raising the quality and functions of various industrial products such as electronic devices, home appliances, automobile headlights, etc. enriches the quality of our life.

Film use

Material body use

We also develop tailor made coating to match the production line of individual factory.

Main Lining products

Railway track

Our lining material for railway tracks is widely used for shinkansen (bullet train), Taiwan high speed rail, conventional lines, and subways with the plenty lineup that matches the various structure of tracks, and plays a part in the safety of railway transportation.

Lining material for railway tracks

Widely used in all kinds of railway tracks

Machinery bed use

An epoch-making two-component solvent-free epoxy resin lining that can be easily filled in the gap is widely used for fixing various equipment not only on vessels but also onshore machinery beds.

Solvent-free two component epoxy resin lining materials

Application

TECHNOLOGY

Environmental Technology

Reduction of environmental impacts and harmonization of nature with people

Coating has the role of protecting materials such as iron, concrete and wood from deterioration. CMP is improving the durability of coatings with the aim of further resource saving and reduction of material loss.

We also focus to further improve the efficiency of ecological products such as low friction antifouling and heat reflection coatings to reduce the CO_2 emission.

- Resource saving
- Global warming prevention
  - Fuel-saving antifoulings
  - High sunlight reflecting coatings
- Reducing marine pollution
  - Silicone foul release coatings
  - Environmental-Friendly Antifouling Agents
- Reducing air pollution
  - waterborne coatings
  - Solvent free coatings
  - weak solvent-based coatings
- Human-friendly
- Supporting the safety

Global warming prevention

Antifouling coatings not only prevent the hull from fouling, can also reduce friction with sea water to reduce the fuel consumption of the vessel.

Test application of our new antifouling coating. The test has been carried out in high fouling area, however it has dramatically reduced the fouling and at the same time we have reduced the biocide content compared to current product.

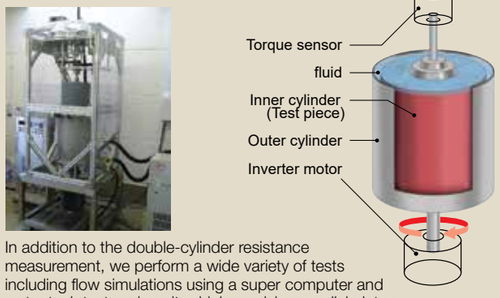
Furthermore, in recent years, it has become an important issue not only to improve antifouling performance, but also to reduce frictional resistance with seawater by smoothing the surface of the coating film and improve the fuel efficiency of vessels.

Friction research between sea water and vessel outer hull.

We have invested in research of how antifouling coating can contribute to vessel' s fuel consumption and through the research, we have identified the mechanism of how the roughness is affecting the vessels friction between the seawater. This knowledge is now implemented in our FIR theory. By using this method we can now evaluate the expected fuel consumption which was not able to analyse. We are also actively carrying out joint research with shipping and ship building industries for future technology to reduce GHG emission

Taking hull surface data and analysis

Double-cylinder resistance measuring equipment
(joint development with the Tokyo University of Science)



In addition to the double-cylinder resistance measurement, we perform a wide variety of tests including flow simulations using a super computer and water tank tests using ultra-high precision parallel plates.

Reducing marine pollution

Silicone foul release coating

We have a full product line up for silicone foul release coating.

The antifouling performance, made available via high water repellency of silicone coating, prevents the adhesion of aquatic organisms, and its smooth surface contributes to the reduction of fuel consumption.

Silicone antifouling coating, which is effective for antifouling of the underwater equipment of power plants, has been highly evaluated for its excellent antifouling performance and consideration for the environment.

For example, "Moses Project" uses CMP's coating to protect Venice from high tide damage.

Low environmental impact Antifouling agents

Antifouling coatings contain biocide components that prevent marine organisms from settling on ship' s hull. CMP has developed a high-performance antifouling agent which has less environmental impact to marine nature. This technology is implemented in our products.

Latest low friction antifouling coating with new and low environmental impact antifouling agent which prevents especially barnacle from settling.
Our products with the latest hydrolysis technology and the antifouling agent brought from the field of pharmacology are highly regarded worldwide.

Reducing air pollution

Low VOC products

Volatile organic compounds (VOCs) released into the air is one of the main cause of air pollution. CMP is continuously developing low-VOC products to reduce toluene, xylene and ethyl benzene in our products.

High solid
Universal Primer

Toluene- and xylene-free
Paint for Flooring

Complete changeover to waterborne products (container coatings)

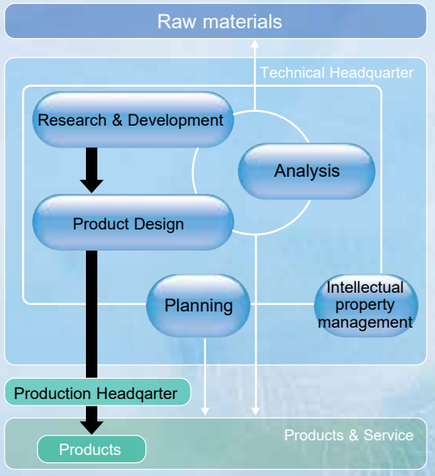
A majority of container boxes are produced in China. China has recently enhanced their environmental protection policies to reduce the environmental impact. We have completed to change all of our container coating product to waterborne type coating which has lower VOC component than solvent type to reduce the air pollution.

R&D

Pursuing innovation

“Technology builds trust“, our concept toward research and development is achieved by team work of Basic research division, Product development division, Analysis department, Intellectual property management department, and Planning and marketing department. We have developed products which will contribute to Environmental conservation and construction process rationalization. These technologies have been highly appreciated by the market. We also actively collaborate with variety of third party research and development organization to develop ideal products.

"Creating reliable products" is CMP's abiding spirit

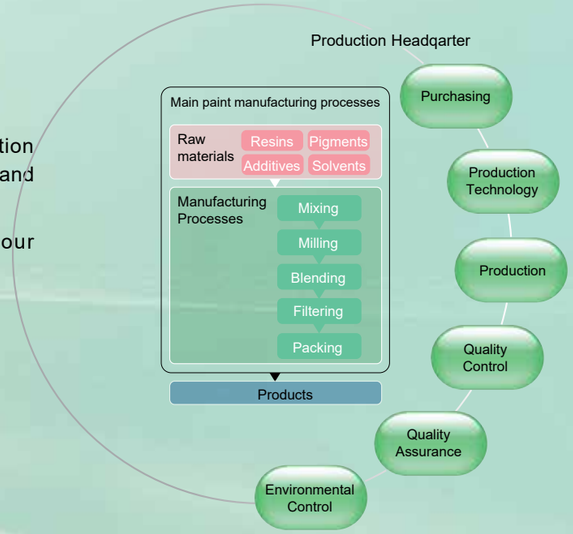


PRODUCTION

Pursuing high quality products

CMP continue stable production with streamlined production equipment that combines advanced production technology and unique know-how to pursue reliability and quality.

To provide the best solution to the various needs of our customers, we aim to further enhance the logistics network.

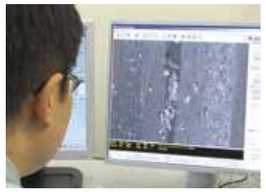


Research


Technical Headquarter (Hiroshima)


Technical Headquarter (Shiga)


Cean painting room


Analysis of coating films

Basic research

Core raw material research and basic design of next generation’ s product is conducted in our Basic research department. We have full facility of testing and examination at our laboratory and these facility are supporting our mid to long term prospective research. Results of the basic research enables us to create new values and pioneer new market.


Instrumental analysis laboratory


Coating machines


Polymer synthesis experiment


Outdoor exposure

Production

Our production line layout is optimized for smooth production from emplacement of raw material to shipment of completed product. Production is carried out under strict quality control based on ISO 14000 standard.


Control panel (Singapore factory)


Mixing tank (Shanghai factory)


Quality control (Indonesia factory)


Product warehouse (Thailand)


Dispersion mill (Netherlands factory)

Reduction of environmental impacts

At each and every CMP factories, chemical emissions are well managed during manufacturing processes. CMP continuously update its reduction targets for hazardous substances and VOC emission. We also work on recycling, reusing waste and keeping the factory clean and organized.


Ventilation equipment (Shiga factory)


Effluent treatment facility (Shiga factory)


Deodorizing equipment (Kyushu factory)


Beautification of factories (Kyushu factory)

Bulk container supply

In order to reduce the amount of waste for factories, we have developed bulk container supply and automatic mixing system (IBC system) to optimize the production process and achieve to reduce the industrial waste at the same time.


IBC（Intermediate Bulk Container）

NETWORK

Commitment to provide high quality products

We have established worldwide network to provide same service anywhere in the world. Our worldwide network includes Production, Supply warehouse, Sales, Technical services at 35 countries, 100 bases. We are continuously expanding our network to provide better services to the market.

Technical Headquater & Factories in Japan

Otake (Japan) ISO 9001
Technical Headquarter

Shiga (Japan) ISO 9001 ISO 14001
Technical Headquarter & Factory

Kyushu Factory (Japan) ISO 9001 ISO 14001

Kobe Paints, Ltd. (Japan) ISO 9001

Ohtake-Meishin Chemical Co.,Ltd. (Japan) ISO 9001

Overseas factories

Shanghai (China) ISO 9001
Relocated from the former Shanghai Factory site for its expansion in November, 2006.

Shanghai No.2 (China) ISO 9001
Completed in March, 2010.

Guangdong (China) ISO 9001
Incorporated in October, 1997

Korea ISO 14001 ISO 9001
Factory built in September, 2002

Singapore ISO 9001
Incorporated in April, 1980

Malaysia ISO 9001
Incorporated in July, 1990

Thailand ISO 14001 ISO 9001
Incorporated in October, 1989

Myammar
Completed in August, 2020

Indonesia ISO 14001 ISO 9001
Incorporated in October, 1988

Netherlands ISO 9001
Consolidated subsidiary since January, 1988

U.S.A.
Incorporated in October, 1990

Overseas Subsidiaries

CHUGOKU MARINE PAINTS (SHANGHAI), LTD.	China
CHUGOKU MARINE PAINTS (GUANGDONG), LTD.	
CHUGOKU MARINE PAINTS (HONG KONG), LTD.	Hong Kong
CHUGOKU MARINE PAINTS (TAIWAN), LTD.	Taiwan
CHUGOKU SAMHWA PAINTS, LTD.	Korea
CHUGOKU MARINE PAINTS (SINGAPORE) PTE. LTD.	Singapore
Dubai Branch	U.A.E.
CHUGOKU PAINTS (MALAYSIA) SDN. BHD.	Malaysia
TOA-CHUGOKU PAINTS CO., LTD.	Thailand
CHUGOKU-TOA PAINTS (MYANMAR), LTD.	Myammar
PT. CHUGOKU PAINTS INDONESIA	Indonesia
CHUGOKU PAINTS (INDIA) PRIVATE LIMITED	India
CHUGOKU PAINTS B.V.	Netherlands
Norway Office	Norway
Turkey Office	Turkey
Cyprus Office	Cyprus
CHUGOKU PAINTS (UK) LIMITED	U.K.
CHUGOKU PAINTS (GERMANY) G.m.b.H.	Germany
CHUGOKU MARINE PAINTS (HELLAS), S.A.	Greece
CHUGOKU-BOAT ITALY S.P.A.	Italy
CMP COATINGS, INC.	U.S.A.

HISTORY

Innovations to protect the world with colors

In 1917, CMP was founded as a manufacturer of antifouling coating. Since then, CMP' s products have been applied for variety of goods to add values. “Providing the excellent paint to the market” was the spirit of the establishment, still continues for more than a century

We will continue to provide the best solution to the market.

1917 In May, Chugoku Chemical Industry Limited Partnership (capital:50,000 yen) established in Kakomachi, Hiroshima

The company was established with the aim of domestic production of antifouling bottom paints. The very first product of the company was patented in July 1917.

Founder
Iwao Suzukawa

Antifouling No.1, No.2

1923 Reorganized to Chugoku Marine Paints, Ltd.,

1929 The Ministry of Commerce and Industry designated CMP's antifouling bottom paint as an excellent.

1935 Production of urea resin

1936 Production of oxygen generating agent

Hiroshima Head Office in 1924

1951 WASH PRIMER

Wash primer designed for long-term exposure
EVABOND

This is the product that can be called “a revolution in naval construction processes.”

1954

Highly durable antifouling
AF SEAFLO

The precursor of eco-friendly self-polishing antifouling.

1977

1950 Aminoalkyd resin paints
MARBLAC AL

This product became the footnote for CMP's advance into the woodwork paint field.

1974 Filling material for railways
CUS

As it has evolved alongside track building technologies, “CUS” has been widely adopted in all Shinkansen tracks in Japan and overseas.

Paint for pleasure boats
Seajet

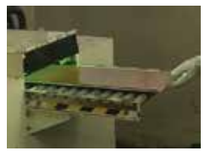
Available with a variety of lineups meeting various needs

Seajet when it first went on sale

1988

1981 UV curable paint
AULEX

One of the products indispensable for line coating of woodworking materials.



Tin-free antifouling
MARINE STAR

Antifouling that promptly responded to the restrictions on tin compounds.

1990 Multi-purpose primer
BANNOH 200

1992 Hydrolysis-type antifouling
SEA GRANDPRIX

1995

1983 Pollution-free antifouling
BIOCLEAN

The antifouling mechanism, which is different from conventional methods, has demonstrated its effectiveness in power plants.

Painting system
CIS

This is a system that rationalizes the processes of marine construction coating. A more evolved version system, “CIT-21,” was developed subsequently.

1997

1986 Underwater coating
PERMASTAR

Coating material that can be applied even underwater. "CONTECT WE" was developed subsequently for use on concrete.

Silicone-based antifouling
CMP BIOCLEAN

The antifouling technology of “BIOCLEAN,” which had already shown its potential in power plants, was expanded to ship bottom application.

2004

1991 Waterborne paints for containers
EKOMATE

A call for the emergence of full waterborne coating system which occurred a quarter century later, started from here.

Fuel-saving antifouling
SEAFLO NEO

Its high antifouling performance and smooth coating surface has successfully reduced ship fuel costs.

2010

2010 High functional coating for plastics
PHOLUCID

The UV technologies cultivated through woodworking applications have been utilized into applications in plastics.

1917 1920 1930 1940 1950 1960 1970 1980 1990 2000 2010 2020

CMP CHUGOKU

Issue date October, 2021