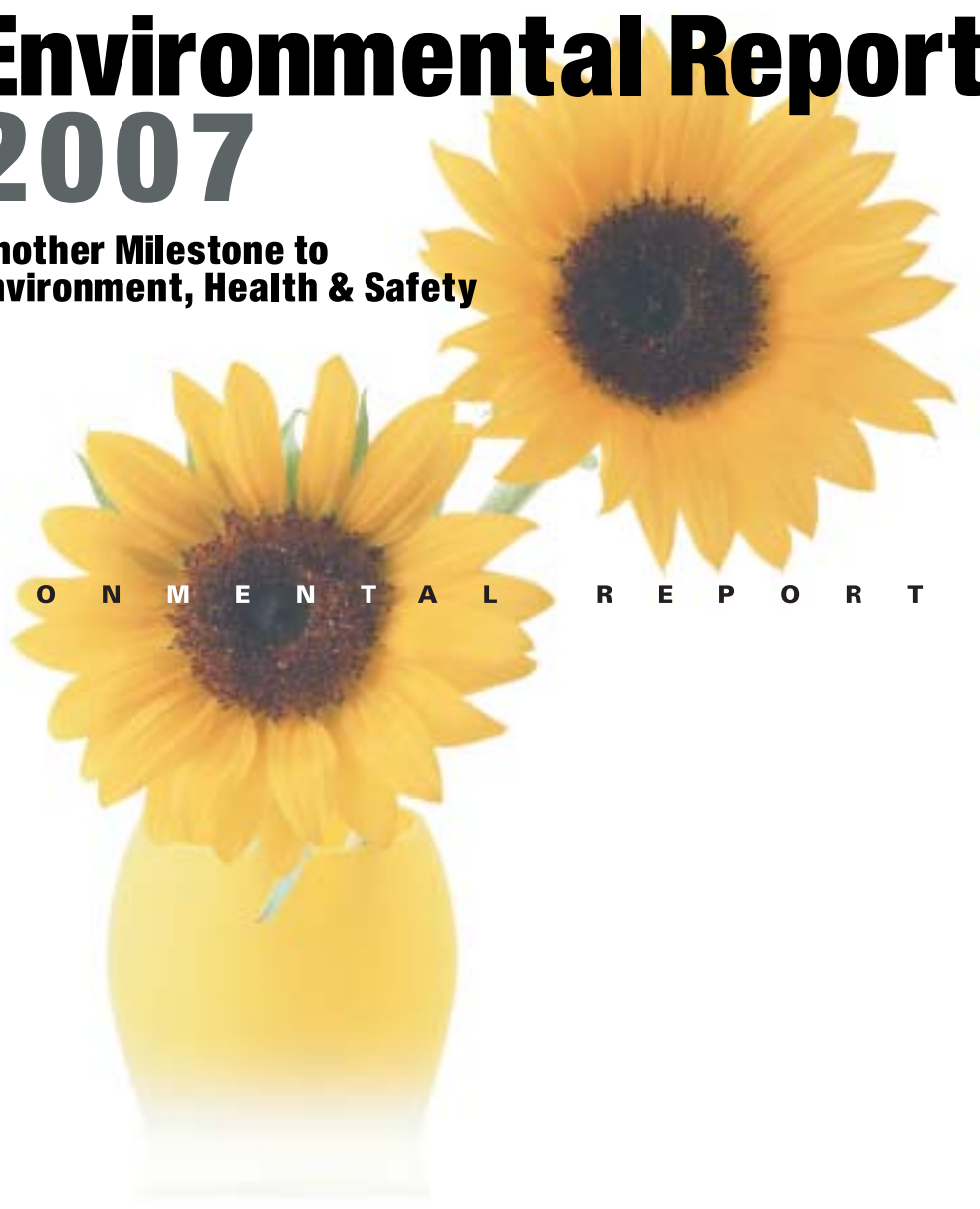




Environmental Report 2007

**Another Milestone to
Environment, Health & Safety**



E N V I R O N M E N T A L R E P O R T 2 0 0 7



CHUGOKU MARINE PAINTS, LTD.



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President
Tetsuo Yamazumi

Greetings

It is our pleasure to announce the publishing of "Environmental Report 2007" and address our environmental policy and report accomplishments we had last one year.

As often reported by media these days, after Kyoto Protocol, proposing criteria complied by each country to slow down global warming, had become effective, campaigns to curb carbon dioxide emission were accelerated remarkably and Amended Energy Conservation Law also started. Further as counter measures to reduce "sick-house syndrome" or restricted use of hazardous substance including volatile organic compounds (VOC) containment already kicked in, proactive dealing with environmental issues has become already the most important, yet unavoidable challenge for corporations and individuals alike in the world.

We, CMP, established "Action Criteria for Officers of CMP Group Companies" in February 1998 and it will be revised sequentially (revised in April 2007 most recently). All of the officers of CMP group companies reconfirmed the code of ethics at CMP and compliance to applicable laws. Further we positioned energy conservation as benchmark of our action criteria and took it a very important challenge for us among environmental issue we care about. In the field of marine paints, we preceded in sales of tin free anti fouling paints for ship bottoms. Recently we developed marine paints that is free of anti fouling agent to preserve the seawater environment and, to the same end, we terminated our production and sales of tar paints in April 2006, preceding to industry-wide actions.

On the other, we developed eco-friendly products such as solvent free UV curing coatings, lead free or chromium free paints one after another, and brought those products to market.

Also we have been actively engaged in environmental management by acquiring International Standard, ISO 14001 Certification and by announcing implementation of a self-imposed control on environment, safety and health problems, "Coatings Care" advocated by the paint industry. In response to increasing social responsibility to protect environment, undertaking Coatings Care by corporations ensures protection of environment, safety and health through the entire stages of product life cycle from development stage through manufacturing, transportation and application to waste disposals. We pledge continuing our best effort in conserving limited resource of the earth and building a resource recycling society to lessen the burden on earth's environment.

We wish this Environmental Report 2007 can help you understand our environmental policy and its activity and look forward to having your comments and suggestions soon.



Company Profile

A leading company developing to harmonize man with nature

Corporate Data

Since its foundation, Chugoku Marine Paints, Ltd. has been taking a unique approach in the industry to develop core products for marine paints and also paints for industrial applications. Our consistent and sincere attitude in areas of both software and hardware, towards developing better products has been highly appreciated and praised by customers not only locally but also internationally. With the help of strong customer confidence in our products and services and our never-ending quest to meet customers' expectations, we keep developing. As we are a supplier to key industries such as shipping, ship building, electric power, steel, construction and woodworking industries, our role and contribution can be vital to the growth of the industrial world in many aspects. Also, our efforts should be based in the ideal of maintaining harmony between man and nature. Chugoku Marine Paints, Ltd. is an industrial leader that seeks to promote industrial growth while protecting the global environment, and continues its efforts into the future with a creative and innovative approach towards meeting customers' needs.

Company Name

CHUGOKU MARINE PAINTS,LTD.

Head Offices

Tokyo Office

Tokyo Club Building, 2-6, Kasumigaseki 3-chome,
Chiyoda-ku, Tokyo, 100-0013 Japan
Phone: +81-3-3506-3951 Fax: +81-3-5511-8541

Hiroshima Office

1-7, Meiji-Shinkai, Otake-Shi, Hiroshima-Ken 739-0652, Japan
Phone: +81-827-57-8555 Fax: +81-827-59-0017

Company President

Mr. Tetsuo Yamazumi

Date of Establishment

May 1917

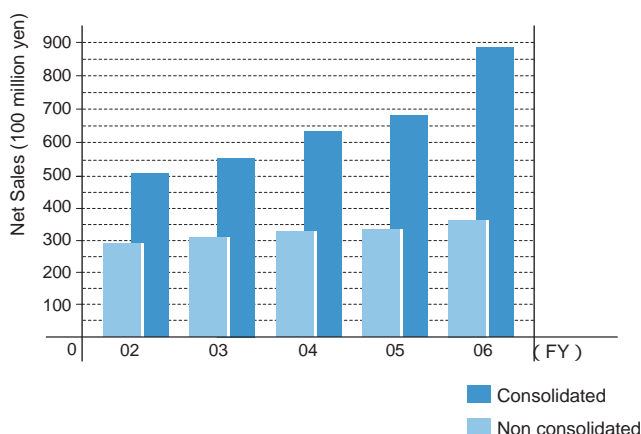
Capital

11,600 million yen as of end of March 2007

Net Sales

88,196 million yen in 2006 (Consolidated),
36,041 million yen in 2006 (Non-consolidated)

Trend of Annual Net Sales



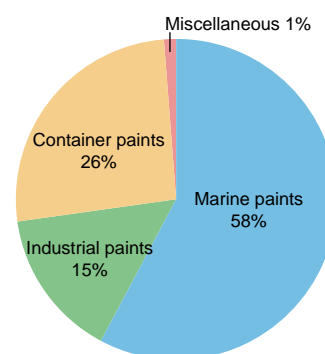
Number of Employees

2,327 as of end of March 2007 (Consolidated)
363 as of end of March 2007 (Non-consolidated)

Business to cover

1. Manufacturing and sales of marine paints, industrial paints and container paints.
2. Sales of painting related equipments.
3. Management and contract work for coating
4. Others

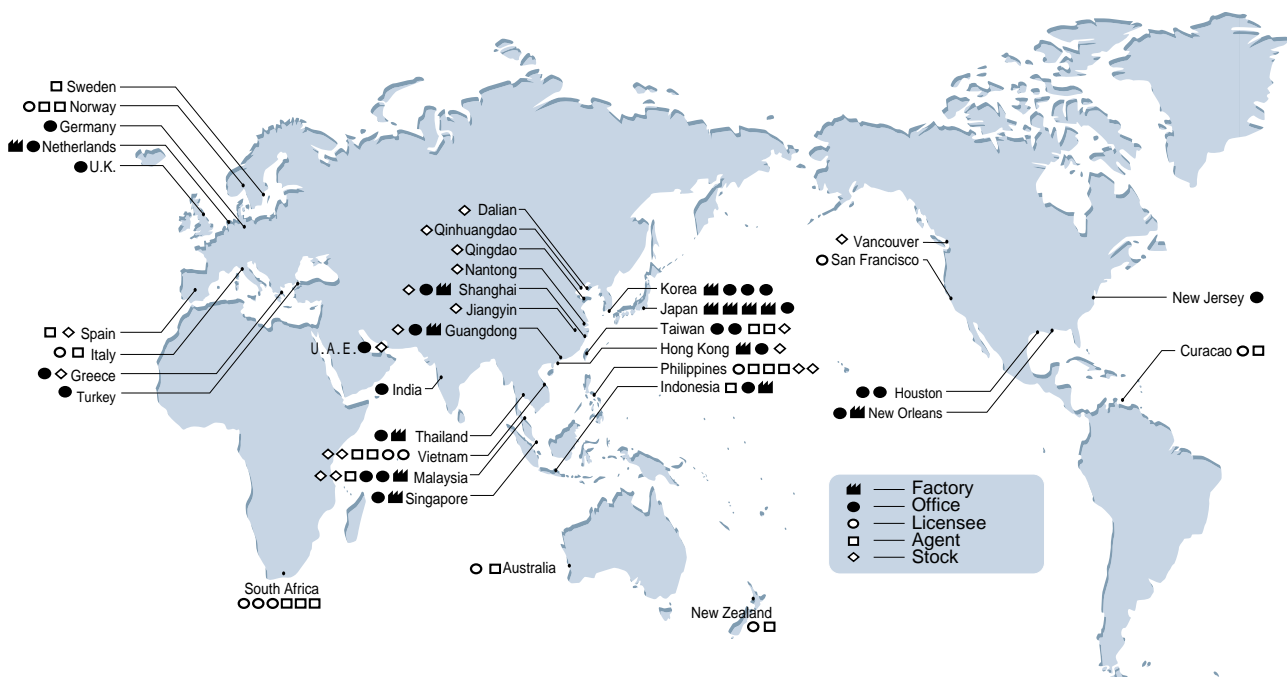
Consolidated Sales Breakdown by Products, in 2006.



Major Domestic & Overseas Subsidiaries and Affiliates.

KOBE PAINTS, LTD.	Japan
OHTAKE-MEISHIN CHEMICAL CO., LTD.	
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
P.T. CHUGOKU PAINTS INDONESIA	Indonesia
CHUGOKU SAMHWA PAINTS, LTD.	Korea
CHUGOKU PAINTS (MALAYSIA) SDN. BHD.	Malaysia
CHUGOKU MARINE PAINTS (SINGAPORE) PTE. LTD.	Singapore
Dubai Branch	U.A.E.
Mumbai Office	India
TOA-CHUGOKU PAINTS CO., LTD.	Thailand
CHUGOKU PAINTS (GERMANY) G.m.b.H.	Germany
CHUGOKU MARINE PAINTS (HELLAS), S.A.	Greece
CHUGOKU PAINTS B.V.	Netherlands
Turkish Office	Turkey
CAMREX CHUGOKU LTD.	U.K.
CMP COATINGS, INC.	U.S.A.

CMP Network



Kyushu(Japan)



Shiga (Japan)



Otake Lab. (Japan)



Kobe Paints, Ltd.



Otake-Meishin Chemical Co.,Ltd.



Shanghai



Guangdong



Indonesia



Korea



Malaysia



Singapore



Thailand



Netherlands



U.S.A.



Paints & Environment

Close relationship between paints to environment

Role of Paints

Dressing up & beautification by painting

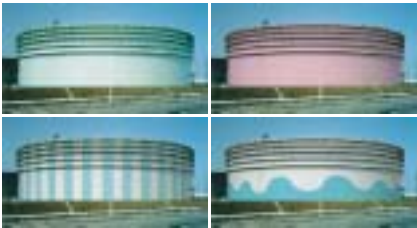
Painting can maintain scenic views and create aesthetic value for many things around us.



Our unique paint technology for cable protective pipe of Cable-Stayed Bridge maintains it from rusting and its scenic beauty for long time.

Importance of color design

In an age that sensibility is required, role of color design becomes important and paints as a tool serves also important factor to create appearance of attractive towns and cities and comfortable environment for residents.



Example of color simulation by computer graphics

Protection of substrates by painting

Painting protects steel, concrete and wood panels from rusting and degradation.



Painting the surface of steel structures prevents it from rusting.

Assessment of resource conservation by painting and merit of anti-rusting

In 1997 total monetary loss in Japan caused by rusting reached 3.9 trillion yen and resource conservation realized by painting was found to reach as much as 2.3 trillion yen, contributing almost 60% of total loss. Consequently anti-rusting by painting contributes to substantial resource and energy conservation.

Special functions added by painting

Special functions include antifouling, anti-heat reflective, electric conductivity and absorbing electromagnetic wave.



Anti fouling paint prevents marine algae and sea shells from adhering to ship bottoms.

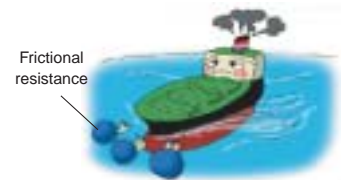
Assessment of resource conservation by painting and lower fuel consumption

Painting ship bottoms a new anti fouling type with small coefficient of friction against sea water reduces more than a few percent of fuel cost by comparison with old type (Unbelievably substantial fuel can be saved if compared to the one used for unpainted ship bottoms)

Annual fuel saving by latest anti fouling paint has reached approx.

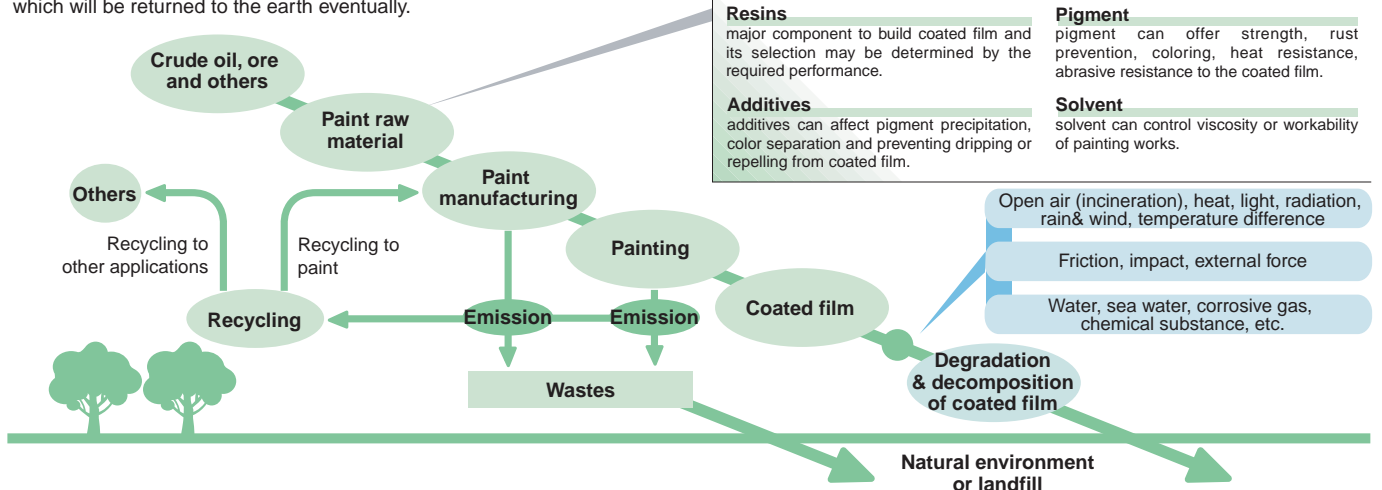
300 tons per year

(in case of 30,000 tons freighter, operational time 2 years, operational ratio 60%, main engine output: 8,000 hp)



Life cycle of paint

Diagram here shows schematically raw materials extracted from the earth are transformed into paint and coated film by consuming a lot of energy, which will be returned to the earth eventually.



Coatings Care

Self-imposed control to protect environment, safety and health

Announcing to promote Coatings Care

In response to the current worldwide demand to harmonize with environment of earth, CMP has been proactively engaged in protecting environment, safety and health as prioritized management issue. On 18th July 2001, CMP declared promoting Coatings Care (program to protect environment, safety and health) proposed and advocated by the Paint Industry.



Basic policies to secure environmental protection and ensure human safety and health

- 1 To conduct business activities reducing the loading on the environment and maintaining harmony with it, as well as considering safety and health.
- 2 To comply with the law and regulations regarding the environment, safety and health. We promote our business activities through all the steps from the development of our products to their disposal, not only keeping in mind the environment, safety and health, but also resource conservation.
- 3 To develop and improve the products and technologies that are eco-friendly and safe to the global environment.
- 4 To consider the environment, safety and health of our employees and local residents through our business process of production, operation and distribution, as well as to promote the reduction of the environmental loading and waste products, resource conservation and recycling.
- 5 To shift to eco-friendly products and provide information and give advice to customers regarding the safe use and handling of our products in respect of the environment, safety and health in product markets.
- 6 To widely disclose information to the government and the local community regarding our products and operations.



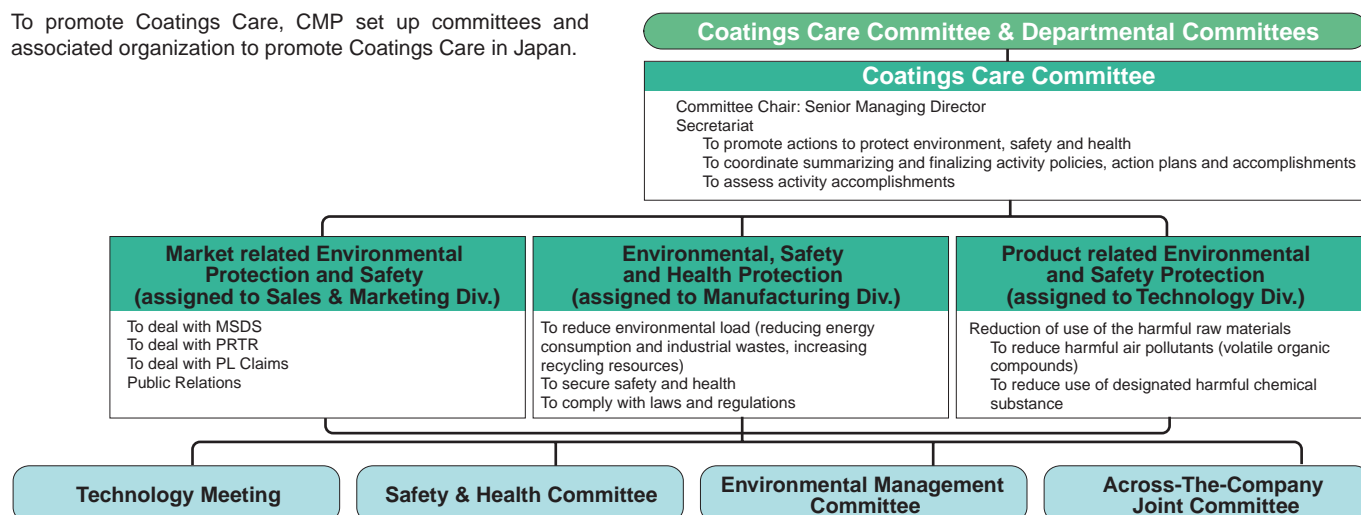
What is the Coatings Care?

Coatings Care is the self-imposed voluntary initiative proposed and advocated by the International Paint & Printing Ink Industry Council (IPPIC) and The Japan Paint Manufacturers Association to protect the environment, safety, and health at all stages of chemical processing, from their development right through to manufacturing, transportation usage and their disposal. Also its basic policy is expressed in the same way as the one described in "Responsible Care" advocated by The International Council of Chemical Associations and promoted internationally.



Organizational Chart to promote Coatings Care

To promote Coatings Care, CMP set up committees and associated organization to promote Coatings Care in Japan.



Plans to deal with Environmental, Safety and Health Issues

Basic Policy

In compliance to the Coating Care Action Guideline proposed by the Paint Manufacturers Association, CMP started systemizing wherever it is possible and promotes integrated management of reports, records and data generated in many places as much as possible. Each committee sets action targets, periodically checks progress status, announce and moves on to next actions. Important issues ought to be prioritized.

Management of Manufacturing Area

Areas for action	Major actions
1 Employees' Safety & Health	<p>To manage rigorously to prevent occupational accident at work</p> <p>To collect data about accidents at work and health problems, analysis, company-wide announcement and suggesting to improve equipment or operational manuals</p> <p>To promote measuring workplace environment (organic solvent density, noise, lighting and ventilation)</p> <p>To enhance awareness level and rigorous implementation to protect safety and health by contractors in the company premise</p> <p>To conduct health management and education thoroughly</p>
2 Work Place Operational Procedure (Occupational Safety)	<p>To reassess, prepare and implement operational manuals to ensure safe operation</p> <p>To beef up educating operators MSDS to handle raw materials</p> <p>To document and optimize documents to respond emergency situation</p> <p>To enhance operational equipment inspection, complement, renew equipment operational manuals, and train operators to follow through</p>
3 Environmental Management (Pollution Prevention & Wastes Management)	<p>To manage storage and disposal of harmful substance and control through the final stage of wastes disposal followed by more frequent site inspections</p> <p>Reduction of energy consumption (Basic Unit for Energy) 3% reduction compared to 2004 data 23.6L/tons --> 22.9 L/tons *crude oil equivalent consumption</p> <p>Reduction of industrial wastes disposal 10% reduction compared to 2004 data 66.6 L/month --> 60.0tons/month By promoting the utilization of IBC, tank-car and Flecon Pack</p> <p>To prevent releasing harmful substance in the air over the surrounding communities (solvent vapor/odor)</p> <p>To prevent releasing harmful raw materials to the surrounding communities (Storage tanks, etc.)</p>

Management of Transportation & Distribution

1 Training	<p>To understand laws and rules for transportation and distribution, instruct and train employees or contractors proper handling, packaging, storage, labeling, transportation and distribution</p> <p>To document emergency manuals to handle accidents during transportation and set up emergency response teams</p>
2 Disaster Control	<p>To secure safety on site of transportation accidents</p> <p>To check potential hazard and assess associated risks to the surrounding community & environment</p>
3 Management of Transportation System	<p>To check availability of qualifying certificates and licenses, inspect maintenance of carriers, availability of insurance certificates and confirm its maximum coverage</p>
4 Carriers	<p>To review availability of product information during transportation and emergency response team</p>
5 Emergency Response	<p>To Implement oversight and educate carriers</p> <p>To document, review and refine emergency manuals and procedure to set up emergency response team</p>

Lifecycle Management of Products

1 New product development	<p>To render full consideration to regulatory compliance, resource and energy conservation, safety during manufacturing and of products (including coated film), and lessening environmental load from stages of product designing, development to improvement</p> <p>To add additional check items to the check sheet</p>
2 Education & disclosure of information about health, safety and environment	<p>To exchange information about safety, health and environment between sales staff and customers</p>
3 Product safety (safe use of products)	<p>To check status of timely sending out MSDS to customers, its availability at customers, accumulation of products safety data and review product safety</p> <p>To collect information about potential risk of products, and write in product application manual instruction and labels pre-announcement about circumventing or preempting potential risk or potential troubles in advance in large letter size</p> <p>To switch to products imposing lower environmental load</p> <p>To reduce use of harmful substance (ratio per total sales volume)</p> <p>For example in Japan</p> <p>TX [Target: 19%], (Toluene & Xylene)</p> <p>Lead & Chromium [Target: 0.07%]</p> <p>Endocrine disrupting chemicals (PRTR), [Target: 0.030%]</p> <p>Tar [We discontinued it completely from April, 2006. (0%)]</p>

Regional Social Responsibility

1 Emergency action plan	<p>To document and review emergency response plans prepared for factories and offices</p> <p>To review emergency communication network and emergency evacuation plans</p>
2 Training and education of employees	<p>To train employees for emergency response, and review training record and training practice to find useful lessons</p> <p>To announce all employees the company-wide promotion of Coating Care, explain its contents and instruct its implementation</p>
3 Communication with regional communities	<p>To clarify role and organization of customer service room, disaster control center, the office to receive PL claims</p> <p>To document or review manuals and standards dealing with information and communication to the communities (fire fighting, governmental office and residents) in case of emergency</p> <p>To distribute Environmental Report and have proper presentation (supervisory governmental office, neighboring residents)</p>



Environmental Management System ISO 14001

Activity to reduce environmental load in compliance with international standards

Status report to acquire ISO certifications

In January 2000 Industrial Paint Div. was audited, acquired ISO 14001 certification and has been active until today. End of 2004, three years after the certification, CMP was audited again for renewal.

Now by participating in "Support Program toward ISO Certification" promoted by the Japan Environment Management Association for Industry, joined by the Japan Paint Manufacturers Association, Marine Paint Div. is in the process of application and expected to be certified by June, 2007. CMP as a group will continue to take proactive approaches to deal with environmental problems.



Status Report of ISO Registration

ISO 9001 Registration

- Chugoku Marine Paints, Ltd., Marine Paints Division Japan
- Chugoku Marine Paints, Ltd., Industrial Paints Division Japan
- Chugoku Samhwa Paints, Ltd. Korea
- Toa-Chugoku Paints, Co., Ltd. Thailand
- Ohtake-Meishin Chemical Co., Ltd. Japan
- Chugoku Paints, B.V. Holland
- Chugoku Marine Paints (Shanghai), Ltd. China
- Chugoku Paints (Malaysia) SDN. BHD. Malaysia
- Chugoku Marine Paints (Singapore) PTE. Ltd. Singapore

ISO 14001 Registration

- Chugoku Marine Paints, Ltd., Industrial Coatings Div. Japan
- Chugoku Samhwa Paints, Ltd. Korea
- Chugoku Marine Paints, Ltd., Marine Coatings Div. Japan
(Schedule of acquiring:2007)

Targets & means to achieve environmental protection

	Targets of action plans (from 2006 through 2008)	Accomplishments during last three years	Targets of Action Plan for 2006	Means to measures
1	To reduce energy consumption 1% reduction of electric power and kerosene from the one in 2003 per production volume	Electric power: 2.0% reduction Kerosene: 30.5% reduction	Reduction of electric power, kerosene and gasoline Electric power: no additional increase Kerosene: 6% reduction	<ul style="list-style-type: none"> • To install on-demand alarming equipment • To reuse wasted kerosene • To lower viscosity by adding monomers • To place insulation materials under roof • To install 1 set of eco-ice cooler
2	Reduction of industrial wastes disposal 3% reduction of total disposal expense from 2003	Industrial wastes disposal: approx. 30.8% reduction	<ul style="list-style-type: none"> • Industrial wastes 1% reduction of industrial waste disposal (especially wasted paints) 	<ul style="list-style-type: none"> • To dispose waste paints less than 5 times per two months • To convert waste soft plastics and pigment bags to RPF (refuse plastic & paper fuel) • To clean waste drums free of charge • To promote utilization of IBC System, tank car and flexible packages
3	Development of paints with lower environmental load 1. 5% reduction of product VOC 2. 25% reduction of raw material containing lead or chromium	Use of solvent: 6.3% reduction	<ul style="list-style-type: none"> • Usage of solvents: 2% reduction • Usage of lead and chromium: 10% reduction 	<ul style="list-style-type: none"> • To take actions to follow through items listed in the product development & improvement instruction
4	Reduction of VOC emissions to air (Response to the anti-air pollution law)	---	<ul style="list-style-type: none"> • Environmental Load: 2% reduction • To promote VOC containment plan (including processing equipment) • To survey laws and rules • To prepare engineering drawings of VOC processing equipment 	<ul style="list-style-type: none"> • To Record purchasing volume versus air emission volume • To measure volume of solvent emission from each manufacturing factories • To measure volume of solvent emission from each manufacturing equipment • To make survey and study of the equipment and facility to be incorporate



Actions to decrease environmental load

Target and plan

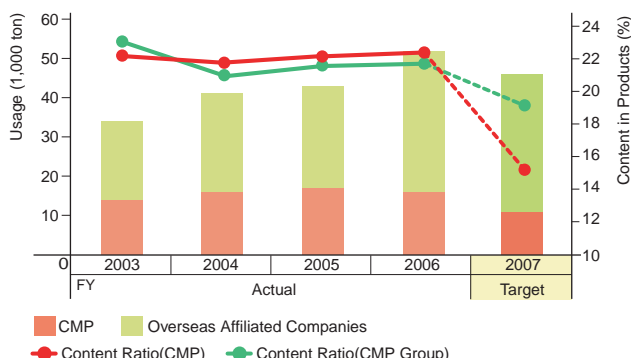
Reduction target of harmful substance

CMP sets reduction target to use PRTR harmful substance and promotes its reduction plan. Further CMP promotes pro-active actions to reduce all kind of VOC in response to the anti-air pollution law. In 2005 our sales was increasing by 6% and product mix to meet customers' request resulted in missing targets for some products. For tar-contained paints, however, CMP decided to pull it off the list and stopped its sales in April 2006.

In compliance to PRTR & other regulations, and responding to the suggestions by the Japan Paint Manufacturers Association, CMP administers control of selected chemical substance as next environmental load reduction target.

1 Toluene, Xylene and Ethyl Benzene contained in the products sold

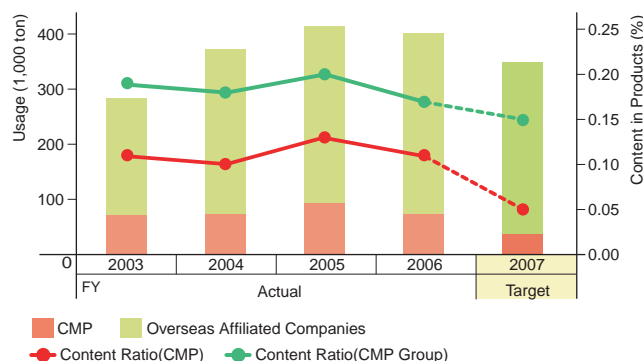
Slight increase of the total contents was caused by the increase of volume of products sold. Ratio of their contents in products sold has been maintained virtually constant since 2004. While we keep promoting the plan to reduce VOC emissions, we continue our effort to reduce them, especially by developing toluene-free product.



3 Lead & Chrome Compound contained in the products sold

Total content in the products was reduced by approx. 14 metric tons if compared to the one in 2005 and its content ratio was also reduced by approx. 0.03 %.

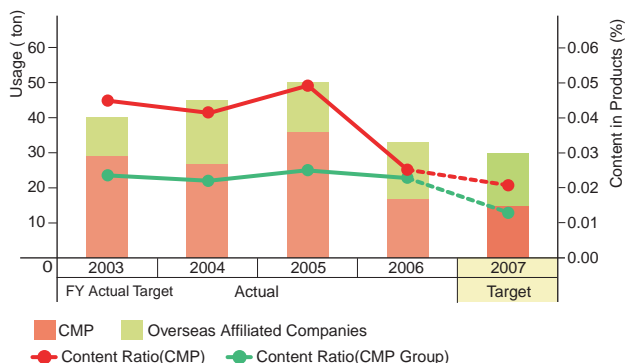
*) Chemical compound containing either Lead or Chrome.



2 Environmental Hormones (Endocrine Disrupter) contained in the products sold

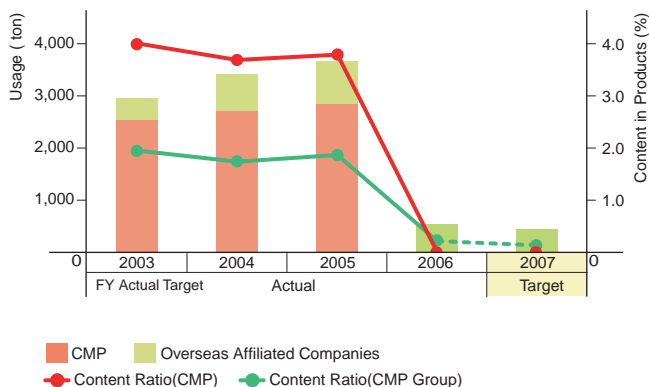
Total content in the products was decreased by approx. 17 metric tons if compared to the one in 2005. Reduction of the total content in the domestic industrial paints was progressed by the enforcement of ISO 14000. We continue replacing with substitute chemical compounds.

*) Following chemical compounds contained in our products are considered as environmental hormones: Benzophenone, Nonylphenol, Bis(2-ethylhexyl) phthalate, Dibutylphthalate, Dioctylphthalate, Bisphenol A



4 Tar contained in the products sold

In the overseas market, we will replace stepwise with substitute products.



Environmental Load generated by Manufacturing Factories

PRTR Law

Registered emission volume of PRTR chemicals

Among government-regulated substances, 19 substances were found to require registrations. Xylene, Ethyl-Benzene and Toluene were three major components, actually 99.8%, of emissions released in the air out of our factories. These emissions, however, were greatly reduced by taking such measures as encapsulating manufacturing equipment. Releasing of these chemicals into ground water or soil was not reported in 2007, same as in the previous year.

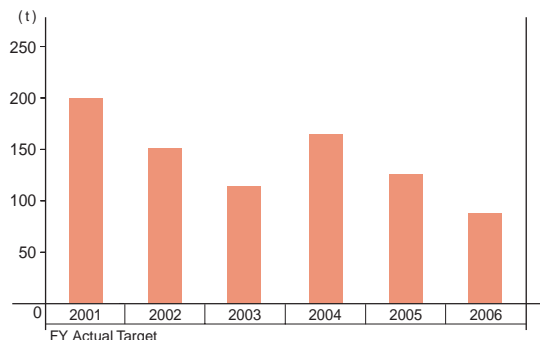


Waste water treatment facility

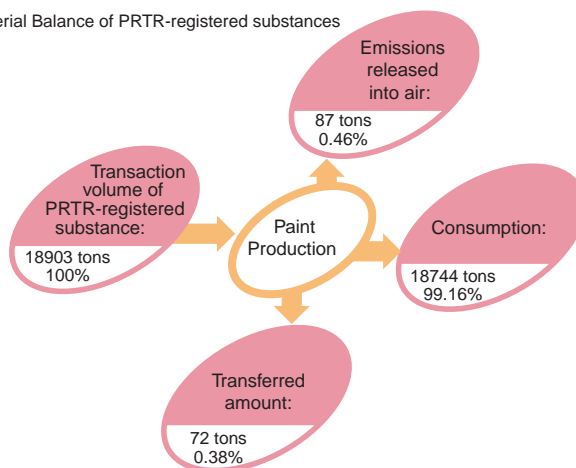


Dust collector (before) and air intake & exhaust equipment (behind)

Transition of emissions discharged into air



Material Balance of PRTR-registered substances



PRTR (Pollutant Release and Transfer Register)

PRTR is a kind of mechanism to require chemical manufacturers to locate source of harmful chemical substance, measure its emission in the environment, its disposal outside manufacturing factory contained in industrial wastes, collect data, summarize and announce its report. Business owners who manufacture or use PRTR chemicals are required to measure and report volume of emissions into the environment and volume transferred as industrial wastes out of the premise to administrative offices once a year. Administrative offices sort, summarize and publish the collected data.

By acting on the PRTR, we are able to learn kind of chemicals, source of origins and volume of emissions. Mandating PRTR is in progress in various foreign countries and in Japan new law to require measuring emission volume of designated chemicals into the air and management improvement, so called "PRTR law" became effective in 1999.

Designated chemical names	Serial number of chemical substance	Emission volume		Transfer volume		Total volume		(Unit: kg)
		Emission into the air		Transfer to outside the premise				
		2006	2005	2006	2005	2006	2005	
Adipic acid bis(2-ethyl hexyl)	9	0	0	26	18	26	18	
Antimony and its compounds	25	0	0	15	40	15	40	
Bis phenol-A epoxy resin	30	0	0	4,300	4,600	4,300	4,600	
Ethyl Benzene	40	30,020	4,000	23,010	21,000	53,030	25,000	
Xylene	63	46,210	65,000	37,700	32,000	83,910	97,000	
Chromium & Trivalent-Chromium compounds	68	0	0	15	13	15	13	
Hexavalent Chromium compounds	69	0	0	17	49	17	49	
3,3'-Dichloro-4,4' diamino diphenyl methane	120	0	0	65	76	65	76	
Diuron	129	0	0	9	17	9	17	
Styrene	177	84	60	240	740	324	1,200	
1,3,5-Trisglycidil-isocyanuric acid	218	0	0	16	0	16	0	
1,3,5-Trimethyl-Benzene	224	98	110	86	77	184	187	
Toluene	227	11,000	20,000	6,100	6,500	17,100	26,500	
Lead and its compounds	230	0	0	123	400	123	400	
Polycarbamate	250	0	0	140	250	140	250	
Phenylloxirane	261	0	0	30	25	30	25	
Phenol	266	0	0	61	48	61	48	
Di-n-butyl phthalate	270	0	0	40	42	40	42	
Bis(2-ethylhexyl) phthalate	272	0	0	58	240	58	240	



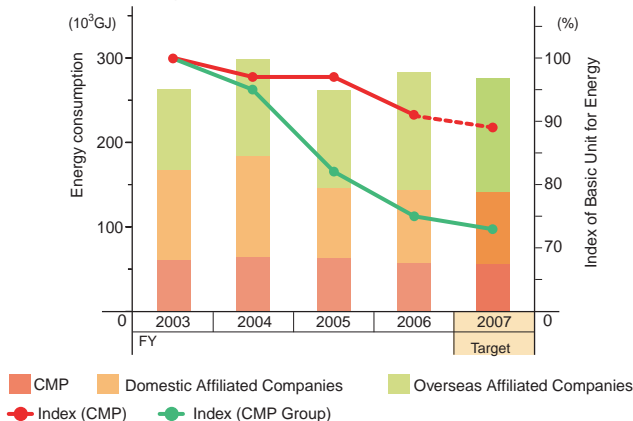
Reduction of Energy Consumption & Industrial Wastes

Target and Action plan

Reduction of energy consumption

Our company is promoting various activities targeting the reduction of energy consumption, including reviewing manufacturing processes, scheduled renewal of equipments and facilities. Since 2003, we have started measuring energy use in our overseas manufacturing. As a result, the index of Basic Unit for Energy declined during consecutive past three years. In 2006, the index of Basic Unit for Energy by CMP, itself, and by CMP group as a whole were reduced to 91% and 75% of the ones in 2003 respectively. It is our mission to continue our effort in reducing energy consumption to the future.

Transition of Energy Consumption

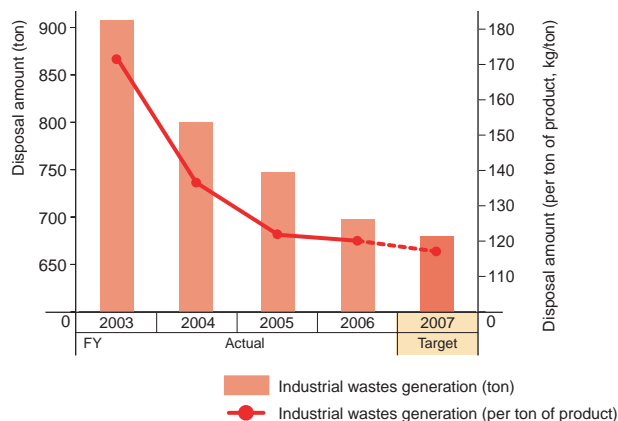


- CMP sets following targets and promotes various actions.
- To run compressors of energy saving model
 - To lower contracted power use (peak load power consumption)
 - To stop idling during lunch time
 - To control power demand and monitor (lowering maximum power consumption)
 - To control temperature adjustment and running time of air-conditioners
 - To shorten the running time of boilers
 - To exchange air-conditioners for energy saving model
 - To stop wasteful idling of agitators
 - To repair steam pipes, insulation material and control valves
 - To shorten the manufacturing process
 - To use high performance machines more often
 - To switch gasoline forklift to the battery driven model
 - To maintain optimum steam consumption levels to lower LPG and power consumption
 - To repair leaks of air driven equipments to contain power consumption of compressors
 - To reevaluate merit of the roof insulation material

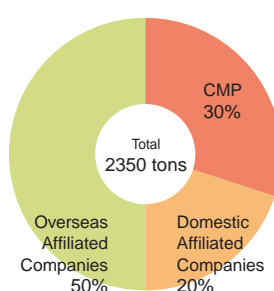
Reduction of industrial wastes disposal

To build recycling-based sustainable society, we target to achieve industrial wastes zero-emission. Volume of industrial wastes (contract wastes disposal by intermediate & final landfill) decreased by 7% compared to that in 2005 and by 12% compared to that in 2004. Thereby it has already achieved the target (10% reduction) and we continue steady progress toward zero emission. Our recycling rate of resources in 2006 was 41%. Our domestic and overseas affiliated companies will continue the reduction of industrial wastes by promoting recycling and reuse of industrial wastes by-produced.

Total energy consumption by the manufacturing sites and the technology centers



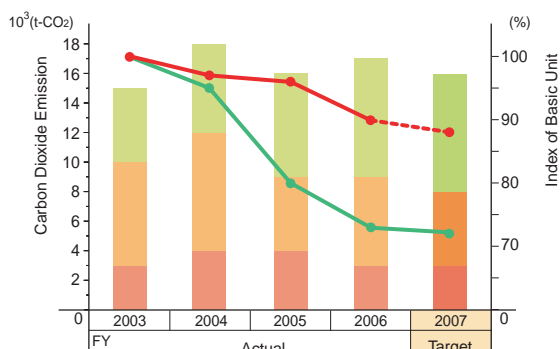
Industrial Wastes Discharged



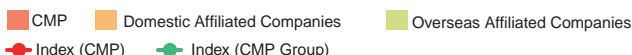
- CMP sets the following action targets and follows through.
- To promote recycling paint containers and raw material drums by means of IBC system
 - To reuse cleaning solvents
 - To reduce wastes oil disposal (targeting lower unit wastes generation than last year)
 - To sort recycled paper
 - To fractionate solvents and increase recycling ratio
 - To reuse chlorinated cleaning solvent
 - To solidify waste UV paints
 - To compact waste plastic
 - To promote zero emission (zero industrial wastes disposal)
 - To promote recycling resources utilizing flexible container package in stead of paper bags
 - To reuse waste pallets or waste drums on toll basis

Reduction of Carbon Dioxide Emission

Transition of CO2 Emission (including purchased electric power)



CO2 can be basically produced by consuming energy such as electric power. Our domestic affiliated companies stopped using heavy oil to run in-house power plants in 2005 to reduce CO2 emission.





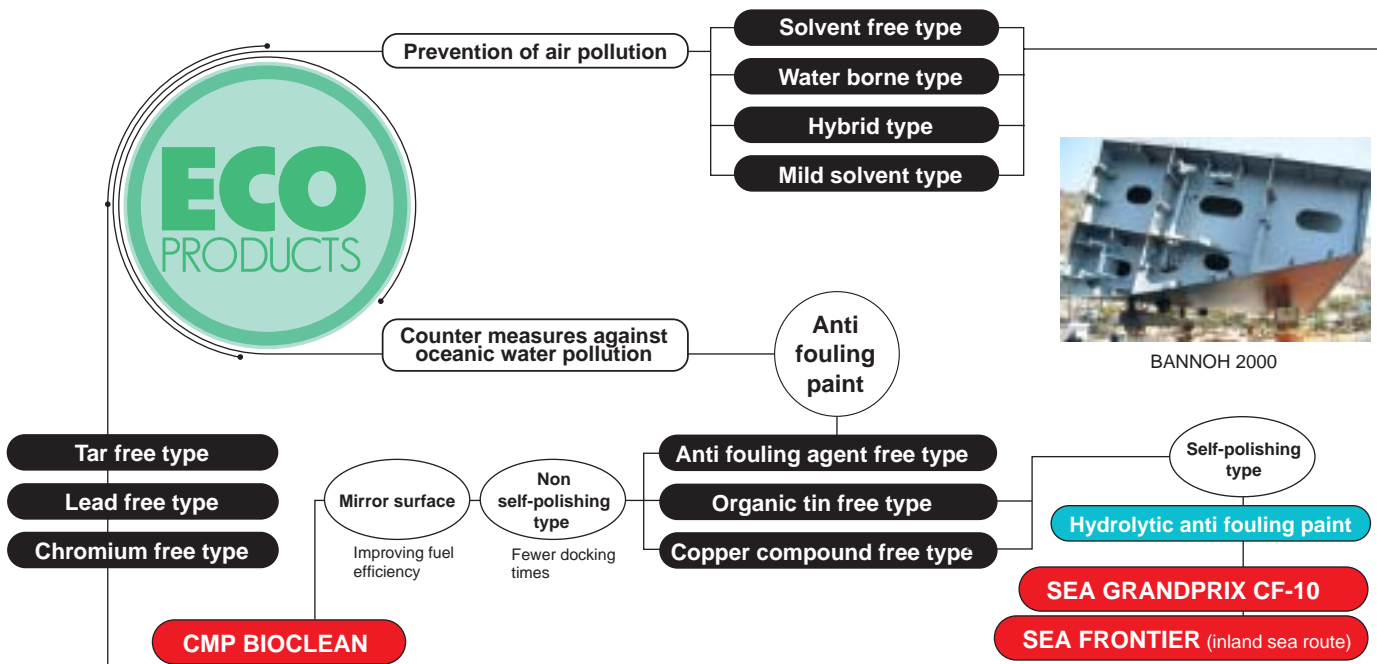
Technical Development of Eco-Friendly Products

Marine Paints

Schematic diagram of eco-friendly marine paints

CMP promotes environmental protection in the field of marine paints by targeting to, 1. protect oceanic environment, 2. reduce VOC, 3. develop Tar free products, and 4. convert to lead and/or chromium free product as a top runner in the Paint Industry and completed transition to tar free products in April 2006.

CMP will continue its effort to lower environmental load.



Complete transition to tar free products
Concerning the potential risk of tar to impact safety and health, CMP continued its effort to pull tar-contained products off the list and decided termination of manufacturing and sales of entire tar-contained product line in March 2006, preceding to the actions by the Paint Industry.

Challenge to switch to lead and chromium free products.
CMP has continued its effort to eliminate lead or chromium free pigments from entire top coatings and anti-rusting paints. CMP will continue its effort until the complete elimination by end of March 2007.

Protection of Oceanic Environment

Living organisms such as shells and algae growing and adhering to bottom of ships tend to lower the speed, lower the fuel efficiency and eventually increase generation of CO₂. To prevent such living organisms adhering to the ship bottoms, anti-fouling paints are being applied. In having the lower negative impact to environment by anti-fouling paints, we tried to introduce new anti-fouling agents with high decomposition rate in sea water and low environmental load, and marketed tin-free antifouling paints. Also, we, as a front runner, developed ÔBIOCLEARÓ, a product without anti-fouling agent and achieved many satisfactory results to apply for use such as sea water pipes of electric power plants or propeller of ships. Two years ago as a perfected product, we were successful in introducing harmless anti-fouling ship bottom paint, ÔCMP BIOCLEARÓ, a dream product with effective five years anti-fouling performance, and actively promoted its applications to such as large container ships or small ships for inland sea waters, eventually contributing to improve the marine environment.

CMP BIOCLEAR
---Anti fouling agent free, long-lasting anti fouling paint
By maintaining the painted surface at low free surface energy, anti fouling effect can extend for five years. Also owing to its superior smooth surface, fuel can be saved considerably.

SEA GRANDPRIX CF-10, SEA FRONTIER (inland-sea route)
---Copper free hydrolytic anti fouling paint
Uninterrupted hydrolytic mechanism can extend anti fouling effect to five years without using cuprous oxide.



CMP BIOCLEAR



SEA GRANDPRIX CF-10

Reduction of VOC

In general marine paints contain many kind of organic solvents (major component of VOC) to provide good workability. Organic solvents, on the other, does not contribute much to the performance of coated film, rather becomes the source to pollute air. Thus reduction of organic solvents has been a major challenge to overcome for marine industry for a long time. Now CMP is successful in lining up the following low VOC products and will continue its effort in reduction of VOC.

BANNOH 2000

Lower VOC type of BANNOH-500, epoxy with all-purpose anti-rusting properties, that can contribute to rationalization of ship building.

NOVA 2000

Modified epoxy paint for ballast tanks to replace tar-epoxy paint. Lower VOC type of NOVA 1000. Switching from tar-epoxy paints are almost complete.

NOVA 5000

Solvent free type epoxy paint for ballast tanks. Its VOC content is almost nil. Attention is required during painting works.

CLEAN KEEP 5000

Solvent free type odorless paint for drinking water, very popular in the market

SWAN

Water-borne paint for interior areas



What is VOC?

VOC (Volatile Organic Compounds) is a generic name of volatile organic compounds. VOC, if released into the open sky, becomes to cause oxidant smog, known for its adverse effect to eco-systems. Inside buildings, it is often released from building materials such as plywood, wallpaper or from glues used during construction of new houses, and causes in many cases allergic reactions called "sick house syndrome".

Eco-Friendly Marine Paints

Please see the comparison product list of conventional and eco-friendly paints here.

Painting area		Conventional Product Grade	ECO-Friendly Grade	Eco-Friendly type
Ship Bottom	Primer	BANNOH500	BANNOH 2000	VOC reduction type
	Anti fouling	Various (types of) Anti fouling paints	SEA GRADNPRIX CF-10	Tin free type, Copper free type
			SEA GRANDPRIX 1000	Tin free type
			SEA FRONTIER	Tin free type, Copper free type
			CMP BIOCLEAN	Anti-rusting agent free type, VOC reduction type
General area	Primer	Various (types of) Anti-rusting paints	BANNOH 2000	VOC reduction type
	Top coating	Various (types of) Top coatings	Heavy metal free top coatings	Heavy metal free type for entire color range
Ballast tank		BISCON HB (Tar Epoxy Type)	NOVA 2000	Tar free type
			NOVA 5000	Tar free type, Solvent free type
Drinking water tank		EPICON T-500	CLEAN KEEP 5000	Solvent free type
Hold		BANNOH 500	BANNOH 2000	VOC reduction type
		Standard Grades		
Interior areas		Oil Types	SWAN	Water-borne paint

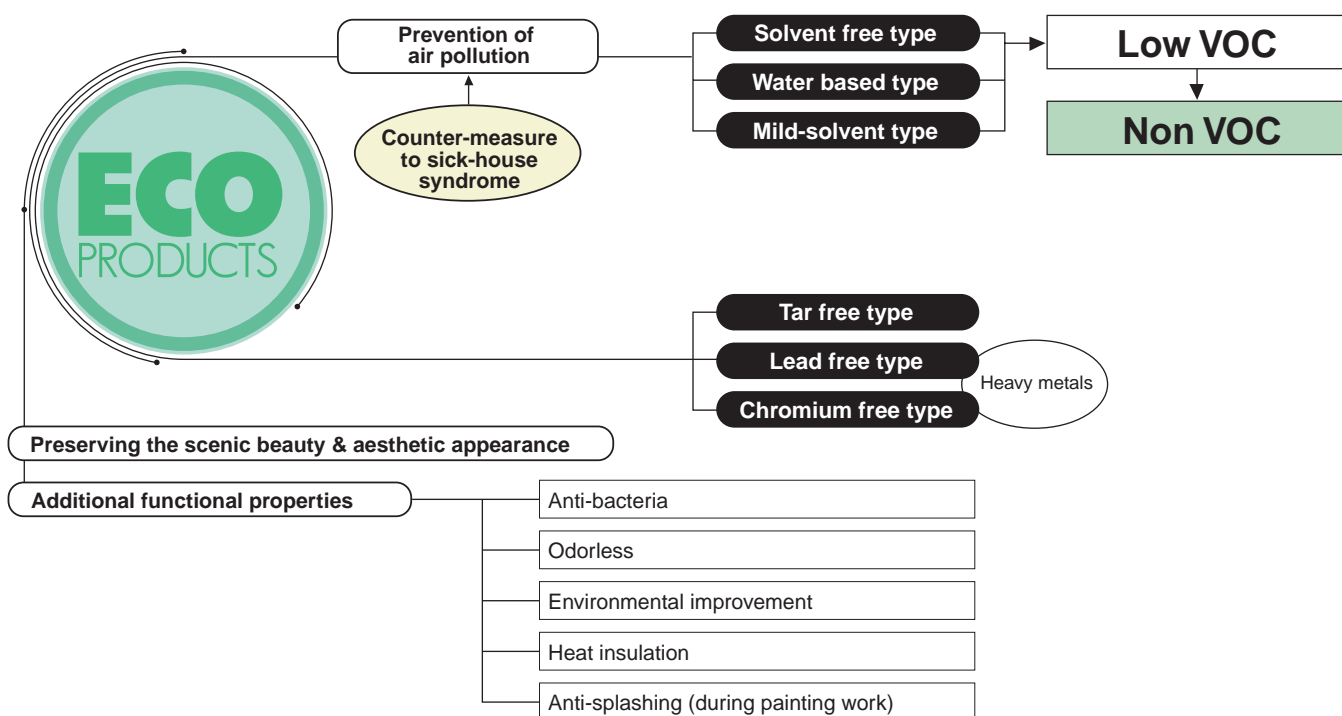
To minimize disposal of waste paint drums, CMP helps customers (ship yards) contribute environmental protection by switching to the delivery paints in reusable IBC (approx. 1,000 lit. container) for bulk shipment of shop primers or epoxy paints.

Technical Development of Eco-Friendly Products

Industrial Paints

Schematic diagram of eco-friendly industrial paints

Counter measures to solve environmental problems in the industrial field are listed here. CMP has been successful in developments of heavy metal free and low VOC paints to counter measure various environmental problems such as sick-house syndrome, polluting soils, air pollutions or to follow up PRTR. CMP will continue development Eco-Friendly products.



Heavy duty paints

Every paint has its unique role and characteristics. Heavy duty paints are designed to give 100% coating efficiency by selecting product grade per required performance specifications, formulating matching them (example: multiple coatings of high performance, high build resin paints) or by the system integration. Practically multiple coatings of water-, salt water-, oil-, alkali-, weather-and heat-resistant paints can protect iron and concrete from rusting.



Heavy duty coating



Wood coating

Paint for wood & building materials

Paints for building materials are used for the interior and exterior decoration of houses and buildings, and require the maximum aesthetic appearance to the highest degree. Design trends in this industrial field are influenced by the fashion or personal preference. CMP, the first manufacturer in Japan, developed, commercially produced and now deliver wide range of product of amino-alkyd resin paints in the market by matching new technology such as UV (ultra violet ray) curing coatings with help of accumulated technical expertise and achievements.

The primary objective of wood coating is first to protect the wood by forming a coating film on its surface, to prevent warping by drying and protect from corrosion or damage. Further by adding color and gloss, it enhances the aesthetic value or market value and also it increases comfort in living space or can offer additional characteristics or properties which we cannot find in the original materials of wood.

Eco-friendly industrial paints

Please see the comparison product list of conventional and eco-friendly paints here.

Painting area	Conventional paints	Eco-friendly paints	Eco-Friendly type		
Heavy duty paints	Primer coatings	Anti-rusting paints	Alkyd type	ECOMATE 100	Heavy metal free (alkyd type)
				EVAMARINE W primer	Water based paint (alkyd type)
			Epoxy type	EPICON primer NP	Heavy metal free (epoxy type)
			EPICON primer CL		
			UNIVAN NT		
				UNIVAN MS	Low content of PRTR chemicals (mild-solvent)
				ECOMAX HB	Tar free (epoxy type)
				UNIVAN NT-NS	Solvent free type (epoxy type)
				EPICON W primer	Water based paints (epoxy type)
	Under coatings	Under coatings		Undercoating LCF type	Heavy metal free
				UNDERCOATING MS type	Low content of PRTR chemicals (mild-solvent)
				EPICON W undercoating	Water based paints(urethane type)
	Top coatings	Top coatings		Top coating LCF type	Heavy metal free
				Top coating MS type	Low content of PRTR chemicals (mild-solvent)
				UNYMARINE W top coating	Water based paints(urethane type)
Building material paints	Coloring	Stain-C group	Stain W group	Water based paints(Special resin type)	
		Primer coatings	AULEX group	AULEX No. 820 group	Solvent free type (UV curing type)
			AULEX No. 890 group		
			AULEX No. 1670F group	Water based UV curing paint	
	Under coatings	AULEX group		AULEX No. 670 group	Solvent free type (UV curing type)
				AULEX No. 1680B group	Water based UV curing paint
	Top coatings	AULEX group		AULEX No. 811 group	Solvent free type (UV curing type)
				AULEX No. 840 group	Water based UV curing paint
				AULEX No. 1600FC group	
			POLYULAC group	ECOLO-CHAMPION	Water based (urethane type)
			(On-site painting work) F☆☆☆☆	ECOLO-ACE No. 100	
			POLYULAC ELEVEN FTX group		
	POLYULAC No.200 group	POLYULAC 200QD FTX group	Toluene & Xylene free type		

To minimize disposal of waste paint drums, CMP helps customers contribute environmental protection by switching to the delivery paints in reusable IBC (approx. 1,000 lit. container) for bulk shipment of sealers (primer coatings) for inline coating.

1 Development of tar free paints.

For the area to apply heavy duty paintings, tar-epoxy resin paints were choice of products in the past. In response to the demand of tar free paints, however, CMP developed and sells the primer of heavy duty epoxy paints with equivalent quality and performance.

ECOMAX HB, S-HB



EKOMAX, without tar, can be painted in bright colors. It is a multi-purpose primer applicable, under any kind of environmental conditions, to the manufacturing plants, power stations, underwater steel structures, oceanic platforms and concrete surfaces.

2 Development of heavy metal free paints

CMP started switching paints containing heavy metals such as lead and chromium to complete by the end of 2004, yet due to customers' strong request we are still the process of complete. CMP, however, will discontinue sale of JIS specified oil anti-rusting paints in the same timing when JIS specification is terminated.

EKOMATE 100

Under coat LCF series

Top coat LCF series

3 VOC reduction

For the painting of building material, CMP developed Toluene & Xylene free paints to deal with sick house syndrome, solvent free or water-borne paints to reduce VOC and acquired F☆☆☆☆ to qualify the rating to certify lower Formaldehyde releasing. For the painting of heavy duty paint, CMP developed solvent free and water based paints to reduce VOC and mild solvent paints to reduce Toluene or Xylene.

■ Mild solvent paint

CMP replaced solvent of PRTR aromatic compounds such as Toluene and Xylene with hydrocarbons such as mineral spirits.

UNIVAN MS

UNYMARINE MS series

■ Solvent free

Promotion of solvent free paints are focused around UV curing paints for wood flooring material and epoxy paints for painted floor material.

AULEX No. 820F, 890F, 670, 811 and 840 group

HIFLOOR 100 group

■ Water-borne

For building materials, CMP switched coloring agent from solvent to water based types and developed all Water based UV curing paints for all stages from primer to top coating. For heavy duty painting, CMP lined up alkyd-, epoxy- and urethane-type paints.

STAIN W series

AULEX No. 1600 series

EVAMARINE W series

EPICON W series

UNYMARINE W series

HIFLOOR 500 group



4 Procurement of Green Products

Designated Procurement Items-Heavy duty primer paints (lead & chromium free paints).

ECOMAX HB	EPICON PRIMER NP
MULTIX PRIMER	EPICON PRIMER CL
ECOLOGUARD 100	UNIVAN NT
ECOLOGUARD SL	ECOLOGUARD 100SL
UNIVAN HS	UNIVAN HS PRIMER
ECOLOGUARD NP	UNIVAN HS fast-drying type
GALBON S-HB	EPICON ZINC HB-2
ECOMATE 100	EPICON F

5 Preserving scenic view & aesthetic appearance

- To decompose stains with help of light activated catalyst (titanium dioxide) and by forming hydrophilic film to repel oils.

■ Paint for exterior buildings

SOLSION Anti-smut paint for the exterior walls of building by decomposing Nox and Sox chemicals.

- Effective hydrophilic property and dense coated film structure

■ Top coatings of steel structures

SILICALAC No. 500	Acryl silicon resin paints
FLUOLEX No. 500	Fluoro resin paints
KEYSOL No. 100	Inorganic resin paints
UNYMARINE No. 500	Polyurethane resin paints

- Non-sticking properties

■ Painting steel structure and concrete surface

POSLESS	Post-no-bills paints
KEYSOL No. 300	Post-no-bills & No-graffiti paints

6 Functional Paint

- Fouling prevention for ocean facilities

■ Sea water injection pipe

BIOCLEAN Prevention of fouling organism to adhere (with no antifouling agent)

- Anti-bacteria property against MRSA and O-157

■ Hospitals and food processing plants

KEYSOL No. 1000K Inorganic paints

- Toluene & Xylene free, interior paints to improve the environment in residential rooms

■ Interior wood floor paints for on-site painting work

POLYULAC ELEVEN Compliance to the VOC limits inside rooms directed by the Ministry of Health, Labor & Safety

VENUS SERIES

Water based paints having VOC absorption, decomposition, anti-bacterial and odorless property



- Intercepting heat conduction from painted surface

■ Primer & top coating of steel structure

THERMOSHADAN Heat reflection & conduction blocking paint

- Splash control during on-site painting work

■ Pylons

UNIGUARD TOWER Single component epoxy resin paint
KEYSOL G Inorganic primer and top dual purpose coatings (anti-splashing type)

- Safe Land and Sea Traffic

■ Road sign, fishing boat and air plane

ICERUN Anti-freezing

- Reducing radio wave blanketing

■ Broadcasting steel tower

EVATRON 2000 Absorbing electromagnetic wave





IBC Recycle System

Contributing to major reductions of waste drums disposal

What is the IBC Recycle System?



It is a system to combine IBC (Intermediate Bulk Container) and automatic paint blending equipment. Traditionally 20 lit. cans were mainly used for the package of paints and partially 200 lit. drums are in use. Most of them, however, were one-way packages and disposed as industrial wastes.

These days many corporations are paying more attentions to resource conservation and zero-emission (of industrial wastes).

To contribute anyway in solving such problems and come close to the target of zero-emission, CMP has continued to offer customers IBC system since eleven years ago. Paints are delivered to customers in 1,000 lit. container and recycled after use, washed and then used again for delivery of paints. During the past five years, switching to IBC System by major customers was gradually increasing and finally disposal of waste cans were reduced substantially last year.

Conversion to IBC System was, of course, driven by team works of CMP and its customers. Benefit of this IBC System can include not only reduction of waste cans but also reduction of waste paint, improved mechanical washing efficiency and better working environment. Thus CMP enjoys favorable reaction by customers. Please see the Flow sheet of IBC System here.

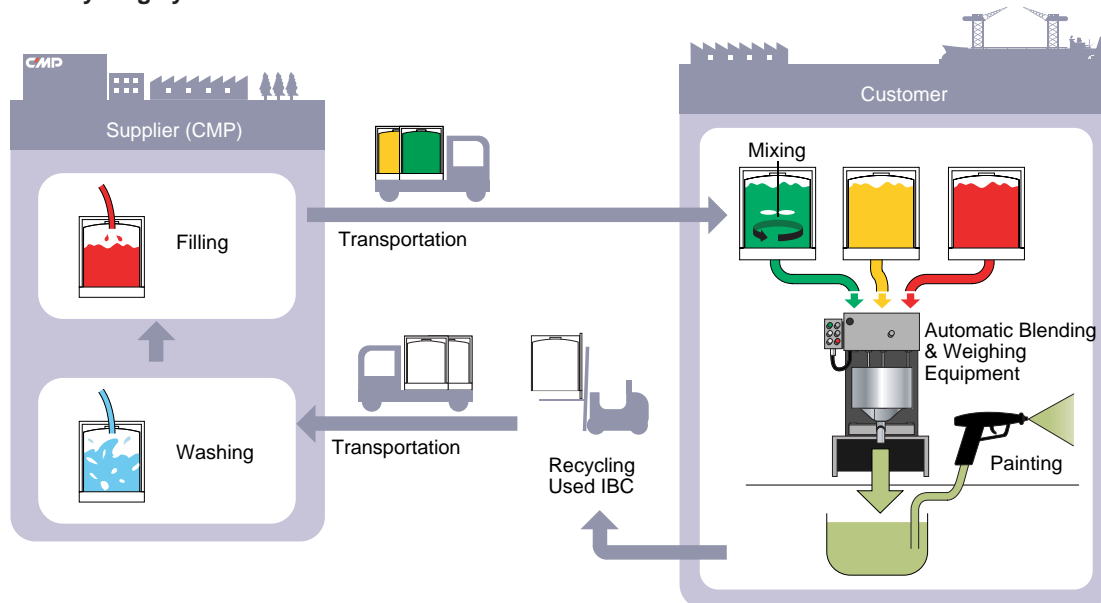


IBC(Intermediate Bulk Container)



Automatic paint blending equipment

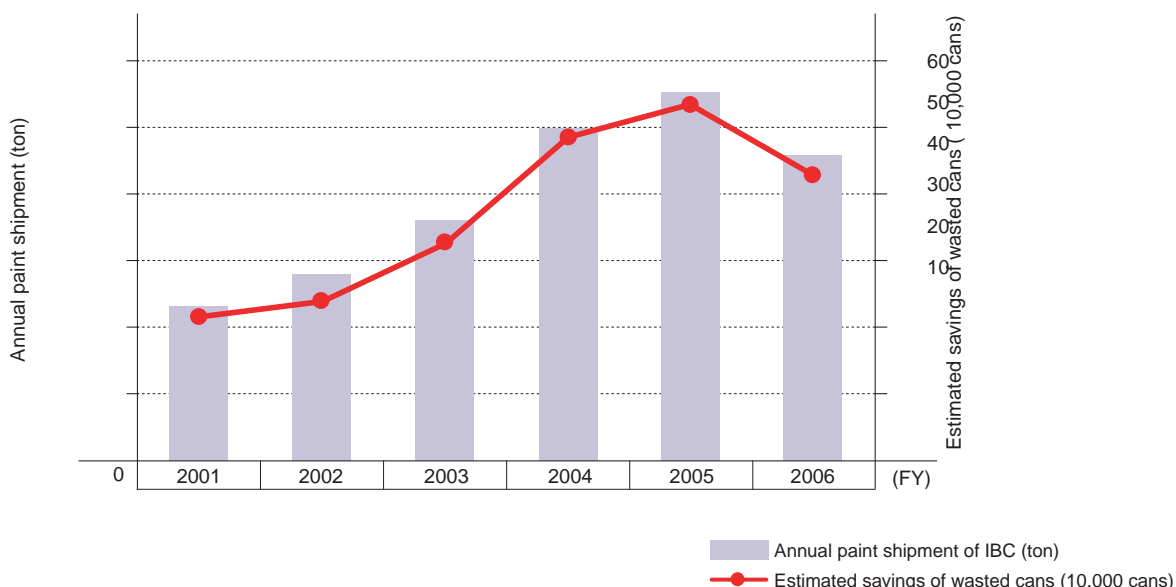
Schematic IBS recycling system



Paints delivery in IBC & declining waste can disposals

Transition of paints shipped in IBC and declining waste can disposals

In 2006 we discontinued toxic tar-contained epoxy resin paints, therefore total amount of paints shipped in IBC decreased than that in previous year.



Approx. 2 million waste cans reduced in 5 years Significant contribution to less industrial wastes.

IBC System contributed to the reduction of waste cans (18 lit. oil can, etc.) by approx. 530 thousand in 2005 and approx. 420 thousand in 2006, thus successful in curtailing ever increasing industrial wastes. Also, IBC System, in addition to the reduction of waste cans, offers the merits indicated in the following:

Merits of IBC System,

- To eliminate can opening operation
- To mix paints by one time
- To reduce paint loss
- To improve quality of paints



By switching to IBC, premise of the shipyards were much better put in order



Safety

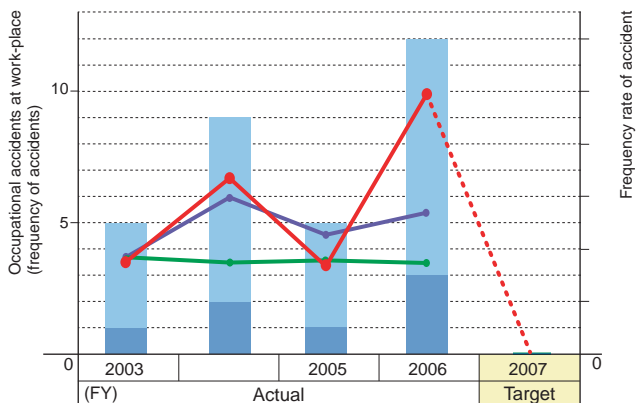
Safety of Employees

We are promoting and managing employees' safety & sanitation in compliance to the Industrial Safety and Health Act. Especially beautification of the working places in plants is considered as a starting point and every one at our factories has been involved in pursuing 5S activity. Also as indicators of environmental cleanliness, we measure concentration of organic solvent in air, work place ventilation, illuminance, noise and room temperature periodically. Our Ohtake Technical Center has been awarded as the best performer.

Occupational Accidents at Workplace

We value and respect employees' life the most as our guiding policy and calls for company-wide attentions to the safety on daily basis, aiming zero occupational accidents at work-places. Practically in compliance to the Coatings Care Guideline, we review, instruct and exercise operational procedures considering the safety and health of employees, customers and residents in neighboring communities and environmental protections, and try to establish systems for its checking. Unfortunately occupational accidents at our workplaces increased in 2006. We, however, will continue our best efforts to further enforce our safety management to achieve our target of zero occupational accidents at workplaces.

Occupational accidents at work-place (frequency of accidents) and frequency rate of accident



$$\text{Frequency rate of accident} = \frac{\text{Number of deaths by occupational accident}}{\text{Total number of working}} \times 1,000,000$$

- Number of accidents without lost working time
- Number of accidents with lost working time
- Frequency rate of accident
- Frequency rate of accident/chemical industry average (calendar year)
- Frequency rate of accident/paint industry average (calendar year)

Improving Operational Condition at Work-Place

To maintain safe working condition at unit working places where Ordinance on Prevention of Organic Solvent Poisoning or Ordinance on Prevention of Hazards Due to Dust are applied, measuring in compliance to the Working Environment Measurements Law is conducted every year. Regarding noise in unit work places classified as controlling class-2, ear plugging is mandated to maintain lower noise load on individuals.



Health Care

Safety & Health Committee is periodically taking place, Health Administrator is allocated and we work on employees' health following advices of industrial physician. To encourage employees' attention to the mental healthcare, we introduce outside services such as "Telephone Health Counseling" or "Mental Healthcare Counseling". At factories, education of health control is conducted by inviting lecturers or by videos. This year we had video showing titled "Emergency Care to Elders" in Kyusyu Factory, and seminars of life-style related disease, "Metabolic Syndrome" in Ohtake Technical Center.

Prevention of Accidents and Disasters

To prevent accidents or disasters to happen, we carry out periodical maintenance work of facilities, establishes "Emergency Action Plan" to prevent polluting environments by accidents. At each factory, emergency drills are exercised periodically.

Emergency drills conducted:

Kyushu Factory
Earthquake Response Drills (August 2006), Comprehensive Fire Drills (November 2006)

Shiga Factory
Comprehensive Emergency Drills (September 2006), Fire Fighting Drills (November 2006)

Ohtake Factory
Fire Fighting & Evacuation Drills (November 2006)

Safety Transportation of Products

We instruct carriers to keep safety rules diligently such as labeling "Hazard Mark", carrying extinguishers and taking appropriate measures preventing falls. Also we visit carriers occasionally and replace them if we are concerned about their safety control. In order to respond to emergency accidents properly happening during transportation, we distribute manuals to instruct appropriate actions to take. Sand bags, etc. are also being prepared to prevent further damages.



Manual (A4, 32 pages) for the safety on-site inspection of painting work

It covers entire safety instructions for inspection works at site of painting. It is also used as a textbook for the training for safety operations.



Manual (Japanese & English & Chinese version, 165(H)90(W)mm, 64pages) for the repair painting

Repair painting manual to instruct the basics of safe & proper handlings of CMP products simply together with illustrations.



Communication to the Society

Opening of Shanghai New Factory

State-of Art Core Factory for the Future of our Group

A new factory of Chugoku Marine Paints (Shanghai), Ltd. in Jiading District, Shanghai, our consolidated subsidiary, started its operation in Shanghai on 28th November 2006. This factory was built to respond to ever increasing market in China and intended to be our core factory with state-of-art equipment and facilities to realize high productivity as well as 100,000 tons of annual production capacity, the largest one in our group, being capable in meeting increasing shipping volume. Our comprehensive quality control can satisfy customers needs and our most advanced deodorizer and dust collectors will benefit environmental protection. Technical Department, located in the same factory site, installed the latest laboratory equipments and conducts innovative research works from the point of worldwide perspective and developing products to fit in Chinese market.



Factory Outline

Completion: November 2006
 Total site area: 55,400m²
 Total floor area: 30,150m²
 Capacity: 100,000 tons/year
 Production Items: Marine paint, Container paint, and Industrial paint for bridges, plants, steel structures, wood / building materials, etc



State-of-Art manufacturing equipments are producing high quality products efficiently.



This is the Research Center of Technical Department where latest laboratory equipments are installed to carry out advanced research works.

Communication to the community

CMP attends the meetings of the Local Safety Associations and meetings of the fire fighting activity in the community to secure safe operations at CMP by maintaining good communication with the community.

CMP participates in various events held by the local police office, fire stations, the industrial association and the chamber of commerce & industry.

CMP volunteers to paint buildings of local schools to maintain its fresh appearance.

CMP distributes the neighboring community its Environmental Report and explains CMP's policy and pro-active approaches to protect environment.

CMP participates actively in various environmental groups and their activities in each local community.



Fire-fighting water tank (Kyushu Factory)



Fire-fighting water tank (Ohtake Research Center)

CMP continues greening and beautification in the premise of factories and research centers every year.



Shiga Factory



Ohtake Research Center

Environmental Report 2007



CMP
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