



Environmental report 2012



KOMAIHALTEC Inc.



人が森を助ける。
森が人を助ける。



未来が変わる。
日本が変わる。





PRESIDENT MESSAGE

Preface

We are continuously contributing to infrastructure development by manufacturing and constructing bridges, steel frames, and wind turbines.

In order to reduce the load for the global environment, we are active in the reduction of industrial waste and energy.

And also, wind power and solar power are expected as a renewable energy.

We are promoting the power generation business by the wind turbine KWT300 which was developed by ourselves.

In addition, we could add a new development product which could reduce environmental impact at this fiscal year. And we, all employees, are contributing to society by energy conservation activities.

Here, we have completed the “Environmental Report” as our 2012` s environmental efforts.








By performing these activities, all employees aim to reduce the environmental impact.

KOMAIHALTEC Inc.

President-director Susumu Tanaka



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Action for environment

Our main businesses are designing, manufacturing and constructing of steel bridges and steel frames of structures which compose the social basic part for our comfortable life.

And, there is something to improve our works for contributing the reduction of environmental impact.

For example, these are to reduce the energy consumption when we manufacture, to improve the durability of a structure, and to evaluate countermeasure for environmental impact before manufacture and construction.

We always work considering about environment and improving environmental circumstance by using our major techniques that we have developed up to now.

Our Basic concept

We will contribute to maintain the social capital through the production such as bridges, steel frames, and wind turbines. And we will achieve social responsibility as a company by reducing energy and industrial waste when we manufacture and construct.

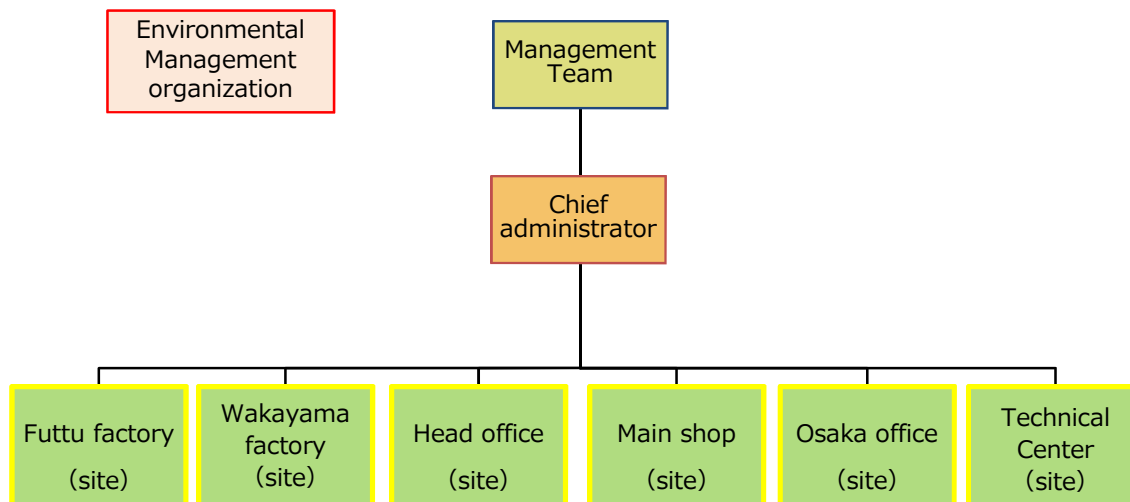
Policies

- ① All employees attend our environmental and management systems and improve the effectiveness of management systems.
 - An annual target is setted at each department and improve the effectiveness of the management systems by reviewing the annual target.
- ② We try to supply the product with which customers satisfy and to create more service.
 - We try to complete our quality management on products.
 - We declare no accident and no disaster.
- ③ We promote our business activity for the reduction of environmental impact.
 - We improve designing, manufacturing and construction method continuously considering environmental impact.
 - We try to save energy and resource by improving the productivity.
 - We promote 3R.(namely reduce, reuse and recycle)
- ④ We try to improve our compliance system and our internal control system , and promote responsible company activities.
 - We promote our business activities based on the total management of the specialized know-how, technique, and experience.
 - We will complete our social responsibility by keeping the action canon such as the legal requirement, the regulation, and the morals of a company.



1. Environmental management setup

- The particulars of our acquiring ISO 14000 certification.
Tokyo head office, Osaka work place, Matsudo technical center, and Futtsu factory acquired ISO 14000 in January, 2012, as our first step.
And Osaka main office and Wakayama factory acquired in January, 2012, as our next step, and then we had completed our registrations for all offices at that time.



•Management for laws regulations.

We review the revisions of the environmental law, the regional law and requirement once a year.

We revise the table of related law and obey these laws.

•PDCA

We continuously develop our recognition for environmental problems by carrying out the internal judgment, the external judgment, and the management review on our business activities.

And we positively operate the system for reducing the environmental load which is produced from our productive activities as our businesses.

•Environmental annual aims.

Environmental detailed aims and specific measures are defined every year based on the annual aims at each site. The level of attainment of the aims is reported at the Environmental and quality management committee in our company.

We always keep in mind to manage our attainments for the Environmental impacts.

•2012's Environmental year aims

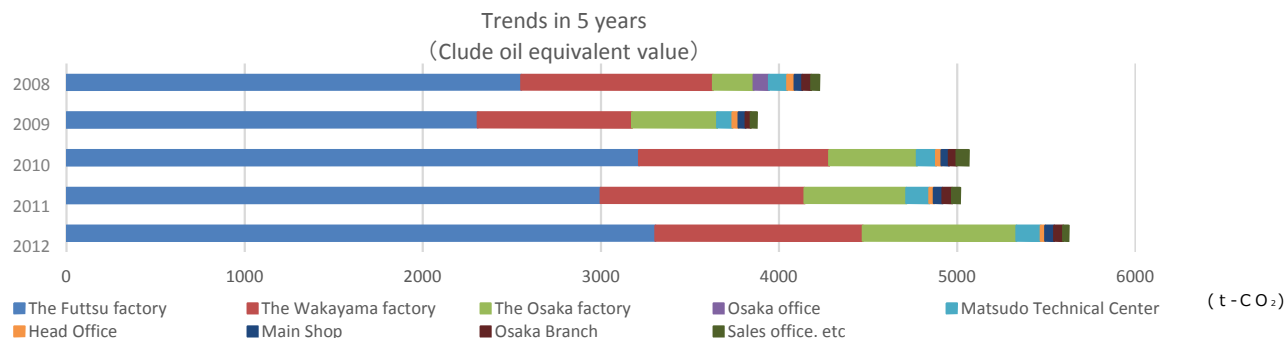
- ① Establishment and bottom-up of environmental management system at all sites in our company.
- ② Elevation of the way of thinking which all employees hold in common for the environmental system.
- ③ Extraction of negative aspects that have to be improving and positive aspects, and promotion of our activity to reduce the environmental load concretely.
- ④ Continuation of formulating a medium-term plan according to The Law Conserving Rational Use of Energy.



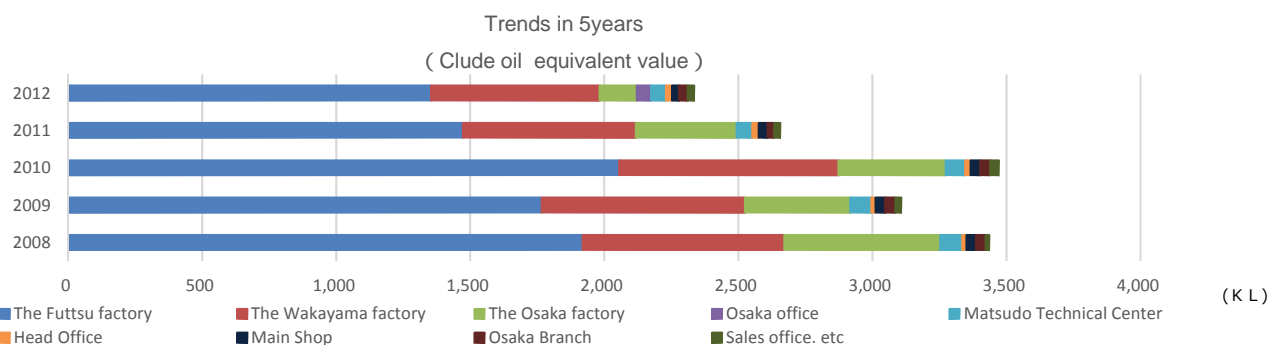
Prevention of global warming

For reducing CO₂ emissions, we are actively involved in energy conservation activities. In the manufacturing process, for example, to suppress the peak power, it much more efficient improvements in a variety of ways. The introduction of new equipment, it is to reduce CO₂ emissions by using the power saving specifications.

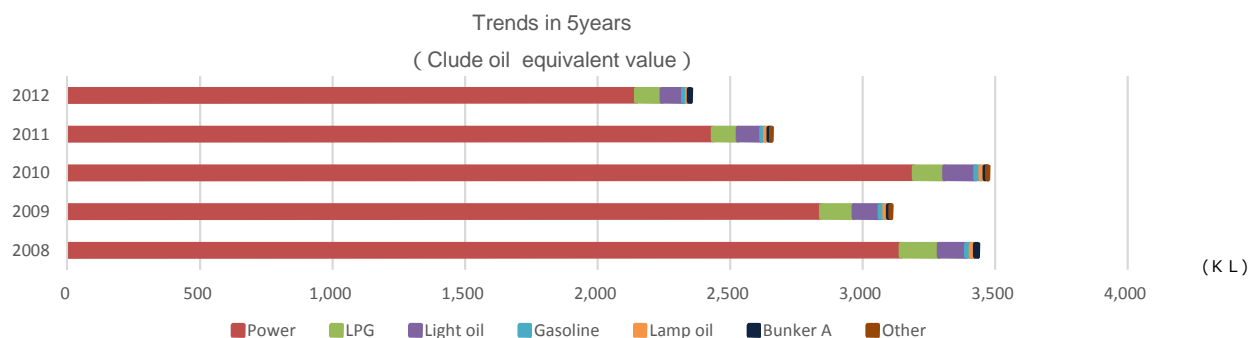
•CO₂ emissions



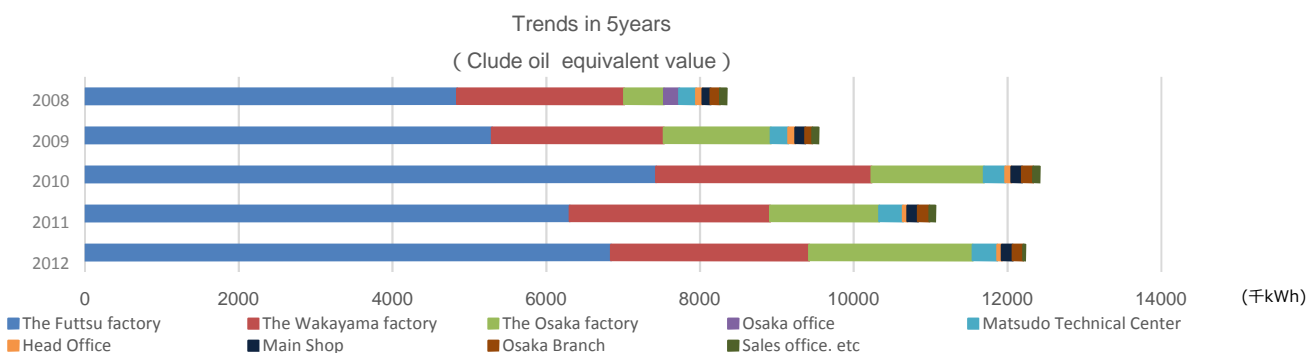
•Energy usage



•Type of energy



•Power usage





Efforts on Environment at our bridge construction sites (Bridge erection site)

We started the environmental patrols at our bridge construction sites from 2012.

And we have carried out the environmental patrols for 7 sites in 2012.

Our construction sites are located at the places where we have to coexist with natural environment at a city-center, an urban area, a place deep in mountain, river sides, and coastal area etc.

We have to pay the maximum attention for environmental protection.

In addition, in order to ensure our environment activity, we have been carrying out the patrols with the person in charge of management of each construction site.

We have aimed at the working circumstance, namely noise emission, vibration, water pollution, industrial waste, etc.

1. Noise emission and vibration prevention activities



In order to reduce and prevent noise emission and vibration, we are selecting the heavy equipments and the devices of low noise and low vibration, and we are also using sound proof sheets and sound proof panels.

2. Water Pollution Control

In order to prevent the water pollution of water zones which are rivers, canals, and the sea, we are carrying out daily inspection and maintenance of heavy equipments, and paying the attention not to leak the oil on those. And we are always preparing oil absorption mat in case of an emergency. We are forwarding these countermeasure plans. The drainage which is arises at a concrete placement work is filtered or be brought back by ready-mixed concrete factory.



3. Classification of industrial waste



We are completely classifying industrial waste at the construction sites. We have prepared boxes for each kind waste, and we are making the efforts to decrease the waste and promoting recycle use.

4. Countermeasure for dust.

We are spraying a dust prevent liquid as our countermeasure for dust.

5. Periodic clean-up activity at our construction site.

We are contributing to the clean-up around each site by picking up dusts and clearing weeds. We are notifying the clean-up plan to the persons who work at the construction site exhaustively.

6. Reduction of CO₂ emission

We are choosing the highbred vehicles, heavy equipments, and large-sized cars which have high energy efficiency.

We are instructing drivers to operate idling stop and eco-driving.

And when we move to neighbor place, we are keeping in mind to choose public traffic facilities or bicycle instead of using a car.



Efforts on Environment at our bridge construction sites (Bridge erection site)

7. Characteristic environmental aspect at a site

The construction in Gunma prefecture had started at February 2013.

There was a small pond near the site.

A kind of associate endangered species “Tokyo Daruma frog” is living in the pond.

We usually use sand-bags to protect from oil leakage.

We had added new device “Sunomu” to make more safety against oil leakage.



“Sunomu”.

“Sunomu” is a microorganism and made from one kind of legume, and decompose and digest oil, it looks like saw dust and the appearance is powdered.

This material is used as packing between the gaps of sand bags. This is high-performance and nature-friendly product.

“Sunomu” is a material shedding water well, and composed of special capsule structure, Only oil is absorbed in the capsule, and does not leak again from the capsule.

ACC(United States approved institutions) had approved the “Sunomu” as a safety Bacteria material. The total quantity of the material return to nature.



“Tokyo Daruma frog”

Family: Ranidae, Associate endangered species

Habitat: Sendai plain to Kanto plain,
Nagano, Niigata

Characteristic:

It is similar to a kind of water frog.

It is characterized by isolated black spots on the back.

Their habitat is decreased by the reason of land developments, water pollution, and decreasing of rice field. The number of individuals is decreased.



Contributions to the community (Factory, Osaka office, Matsudo TC)

- Cleaning activities in Futtsu factory

We held a volunteer clean-up activities of Futtsu around the factory.



- Cleaning activities in Wakayama factory

In spring and autumn, We had a volunteer cleanup along the coast.



- Osaka office

Participated in the "Light Down Campaign", we reduce power usage.



- Matsudo TC

We have continued AAA for "Matsudo CO₂ reduction declaration office"





Contributions to the community (Bridge construction site)

- Tour to the construction sites

In order to be understood and appreciated by the neighborhood near to the construction site of “Keno highway”

A tour to the construction site had been held for the elementary school children in Shiraoka city. The sponsor of the tour was the OMIYA office of the Ministry of Land, Infrastructure and Transportation.

This time, the pupils of Oyama Elementary School in Shiraoka city were invited to the site of “Komaihaltec”’s construction site.

The pupils put their messages on the road. And they rode on the cranes and vehicles to know the construction work how these work.

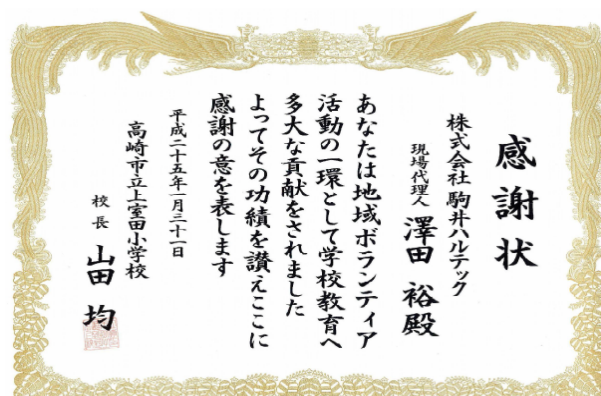


- Learning by experience at a construction site

The construction site tour of Haruna River Bridge for Kamimuroda elementary school pupils was held at November 2012.

It was a little bit rainy day, but the pupils were actively taking part in the tour after hearing the introduction of the content of work; the pupils could have experiences of a scaffold assembly by using construction machinery and measurement devices.

Later on, we had received letters of thanks from Kamimuroda elementary school. They said that the learning by experience of this time had been contributing to their education.





「KYODO NO MORI」

～Kochi exchange program of revive woods activity in Tosa town～

At the weekend of mid-October, the season that we feel comfortable by an autumn wind, 34 persons of employees and their families visited Tosa town. It was the third visitation based on the agreement of the program.

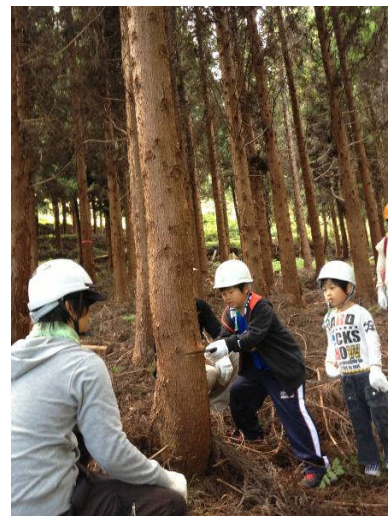
This time, we carried out the thinning work as our major work. We could have the experience of rice harvest and apple picking. We could spend a good time during two days one night in a forest in Tosa town.

【Day 1: Local Government building tour - Thinning experience - Exchanging party】

The meeting place of this time was a new building of New Tosa town government building.

The building is made of woods which are almost local made material. Local made woods was used for columns, walls, and floor. The pair of several decades old woods is used at the entrance hall. These woods are used as the symbol for their forest.

The thinning was carried out at the mountain behind the government building.



Most of participants were the repeaters who participated in the activity of last year. And they were getting into the forest with a will.

They cut down the trees of about 20 cm diameters as watching the derision for falling down.

They cried every time “Hurrah.” when the trees fell down.

They could get the knowledge of the forest about which is good the bright thinning forest and the un-thinning dark forest.

And the joint dinner party was held at the night.

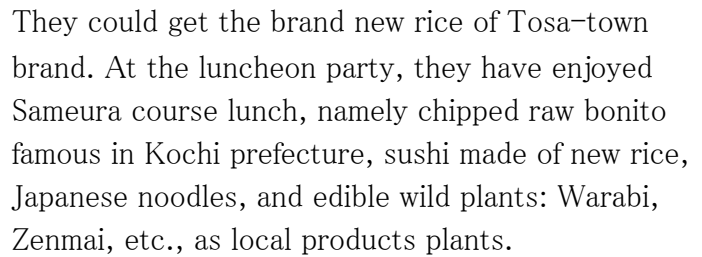
The deputy mayor declared the party open with a toast.

They had been eating the Tosa red-bull meats enough.

【Second day : Sameura Dam tour → Rice harvest → Sameura luncheon → Apple picking 】

At the second day's tour, they visited Sameura Dam and had experience of rice harvesting.

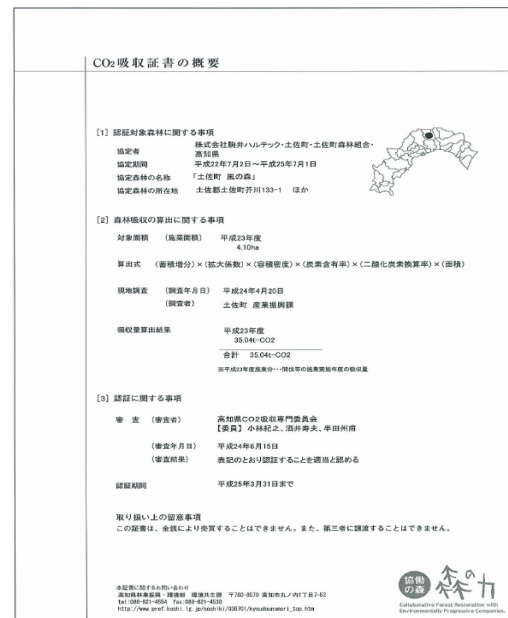
They cut and bound up rice plants, and the bound rice plants was hung on the rod in the sun. They could smoothly carry out and finished the work.



They had been closing the apples that were red colored and look delicious. And they picked and bite their picked apples.



Komaihaltec have promoted several developments of Environmental products which will reduce the environmental impacts.





Development of environmental product

Komaihaltec have promoted several developments of Environmental products which will reduce the environmental impacts.

【Wind Turbine System】

Environmental products such as global warming have been becoming serious issue. In such situation, wind energy has been attended as a kind of green energy which is quite low environmental impact. But the popularization of the wind energy has delayed in Japan comparing to Europe because of the severe weather conditions and severe geographical conditions.

Komaihaltec have been proposing the new wind turbine KWT300. KWT300 is unique in its concept of easy transportation, installation and high resistance to wind turbulence.

We have made efforts to contribute to the population of the wind energy.

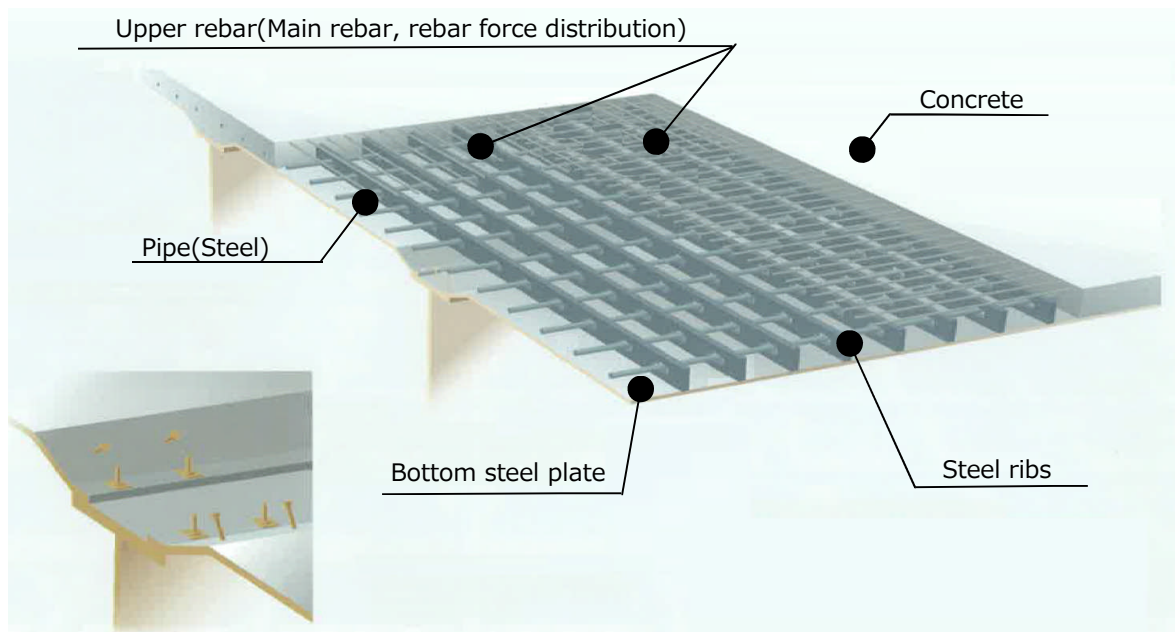
KWT300 prototype had installed in Futtsu factory. At there, the produced electricity is used for the production of bridges and steel frames. The surplus electricity is sent to Tokyo Power Company's grid.

We continue to product and improve the wind turbine in our own factory.



【The steel -concrete composite slab(Pipe slab)】

The composite slab is a product based on the concept of dowels between a girder and a slab, safety of a construction and the reducing cost and period of a construction work. Our composite slab "Pipe slab" had developed by Komaihaltec, Katayama-struteck, and IHI infra-system as a joint development.



Pipe slab was jointly developed by the three companies Komai Harutekku, Katayama stole Tech co.,Ltd.,IHI Corporation of infrastructure systems.



Development of environmental product

【RAKU-RAKU bracket】(Bridge falling prevention device)

We used the bracket at the construction sites of Yamanashi and Hyogo prefecture. The quantity of energy reduction was 4.71kl, and the amount of CO₂ reduction was 12.6t-CO₂. This value is equivalent to 1year CO₂ discharge quantity of 24 houses in japan.



Construction in Yamanashi Prefecture



Construction in Hyogo Prefecture

【Aron bull-coat】(An ultra-soft, thick-film acrylic rubber coating material)

This coat doesn't generate carcinogens and volatile organic compounds (VOC). This coat prevents deterioration and spalling of concrete.



Construction in Nagano Prefecture



Construction in Miyagi Prefecture



【ASHIBASYA KUN development】(A scaffold for railway, movable and easy assemble)

When workers repair a railway tunnel, they have to work at the time from the last train to the first train. They must set up and assemble a scaffold, after the last train. And disassemble the scaffold before the first train. They have to do such preparation and clearing every day. If we can simplify the using method of scaffold, it would reduce the cost and the construction period.

“ASHIBASYA KUN” is a joint development of Komaihaltec and NISSO SANGYO they are the company of scaffold manufacturing. Our basic concept is “deliver small, assemble large”

Three characteristics

1. Lightweight aluminum is used. And it is possible to assemble and disassemble by man-power.
 - The scaffold is composed from 3 units.
 - The each weight of deices is one third compared with a standard scaffold of steel structure.
2. Range of adjustment
 - Height 1,942mm-4,302mm
 - Floor width 1,800mm×1,920mm~3,000mm
3. Adjustability of cross section inclination
 - There are jacks for each lay of the carriage.
 - The floor of the scaffold is able to keep level by using the jacks.



How to use

1. Set the truck on the rail and adjust at level with jacks.
 2. Set the expandable unit on the truck and fix on the truck by the stopper in the truck.
 3. Set the working floor and hand rail on the expandable unit.
 4. Lift up the floor to the working level by the winch in the expandable unit.
 5. after the work, at a position stopper in the truck.
 6. Jack-down the truck or lower the expandable unit if the case of rather large inclination.
 7. Move to the next position.
And repeat the items 1, 2 for each position.
- ※ We have developed this scaffold to operate the devices by manual.
This is because if there is some machine failure or troubles, we lose a lot of time in case of the night working.

When we used “ASHIBASYA KUN”

We carried out a simulation of the period of the construction between using “ASHIBASYA KUN” and not-using. We could calculate 5 months when we are using, and 6 months when we are not using. We could predict more than 1 month shorter period for the work.

As a result the amount of energy reduction is 1.3KL and CO₂ reduction is 3.5t- CO₂. This CO₂ reduction is equivalent to 7 houses of 1 year CO₂ emission.



PROFILE

Corporate Profile

Trade name	KOMAIHALTEC Inc.
Capital	6.6 billion 1,994 ten thousand yen
Stock exchange listing	Tokyo Stock Exchange and Osaka Stock Exchange, First Section
Construction licenses	(Special -23) No. 142, the Minister of Land, Infrastructure and Transport perm, (General -23) No. 142, the Minister of Land, Infrastructure and Transport permit
Business	Bridges, Steel frame, and design , fabrication, construction, diagnosis, repair of the other steel structures Design and contracting of civil engineering and construction works Electric power sales business that utilizes wind power generator
Certification	ISO9001,ISO14001
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Chugoku office	〒730-0036 Hiroshima Naka-ku, Fukuromachi 5-38 TEL 082(247)4838
Kyusyu office	〒812-0013 Fukuoka Hakata-ku, Hakataekihigashi 2-4-17 TEL 092(441)3665
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Wakayama factory	〒649-1122 Wakayama Prefecture Hidaka-gun Yura-cho Kamiya 805-2 TEL 0738(65)1234
Osaka office	〒555-0041 Osaka Yodogawa-ku, Nakajima 2-5-1 TEL 06(6475)2111
Technical Center	〒270-2214 Chiba Prefecture Matsudo Matsuhidai 404-1 TEL 047(387)0170

※Contact for "RAKURAKU BRACKET", "Aron Bullcoat", and "ASHIBASYA KUN" is following..
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EDITOR'S NOTE

This report is intended to tell in good faith environmental activities of our company.

Period covered by the report :2012(2012.April~2013.March)

※Includes description of the 2013 part.

Issue :September 2013(The next issue is scheduled for September 2014)

Department issuing : Environmental Quality Assurance