Forest-In Office

Amada Green Action 2010

English Edition





Editing policy

This booklet is comprised of Amada's environmental activities, and is edited based on the "Environmental Reporting Guideline 2007" by the Ministry of Environment.

The targeted readers of the 2009 version (first edition) were the students who were thinking about joining Amada, but this year's version is made for various stakeholders, and this booklet summarizes Amada's environmental activities and social contributions.

Reference

"Environmental Reporting Guideline 2007" by the Ministry of Environment

ISO 14001 certification

Isehara Works	Dec. 1998
Fujinomiya Works	Sep. 2002
Ono Plant	Dec. 2008

Area of coverage

- Dates: Apr. 2009 Mar. 2010 Organizations: Amada - Isehara Works 200, Ishida, Isehara-shi, Kanagawa
 - Fujinomiya Works
 - 7020, Kitayama , Fujinomiya-shi, Shizuoka Ono Plant
 - EG Hata aba Ona al
 - 56, Hata-cho, Ono-shi, Hyogo

(includes some affiliated companies) *This article describes our environmental action in Japan only.

■ About the name "Forest-In Office"

"Forest-in" is a term made by Amada. It's does not mean an office inside a forest, but Amada would like to become the forest itself – it's used as "an office of the forest" that promotes activities that protects the natural environment.





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Amada Isehara Works, the headquarter building

Top Message Greetings



Amada Co., Ltd. President, Mitsuo Okamoto

Mitud Hamo

The global economic society has contributed to a flourishing life rich in culture for everyone around the world, but at the same time, is it not true that it created the unequal society, and speeded up the environmental destruction? In considering this fact, I must say that environmental conservation activities are requested of manufacturers for every field of business activities.

In April 2010, the Amada Group have developed the "Amada Group Environmental Declaration"- our policy for environmental engagements. With this, we have declared to become a business enterprise that connects with our customers, society, and the world through eco-conscious manufacturing.

We have also established a long-term environmental target (AMADA GREEN ACTION) in order to promote environmental conservation activities until 2020.

First of all, we will reduce the CO_2 emission of all our products by 25% by 2020.

Amada Group's products are industrial goods. Looking at the products' life cycle, most of the CO_2 is emitted during customer use. Therefore, as a manufacturer of machines, it is most important to develop machines with good environmental performance in the customer use stage. In the future, we will focus our efforts in developing environmental technology such as improved energy efficiency and resource conservation, and reduce the CO_2 emission of all of our products.

Second, we will reduce the CO_2 emission of business facilities and factories by 25% in unit consumption by 2020.

We believe the eco products with great environmental performance are manufactured at energy & resource-saving plants with high production efficiency and eco-friendly offices by eco-conscious employees. Therefore, we will promote streamlining of business processes, and energy & resource saving at all of our business establishments. We will also thoroughly train our employees so that each one of them will change their awareness and behavioral patterns.



Third, we will focus our efforts in preserving and regenerating biodiversity, in order to pass on our soil, rich in natural blessings, to future generations.

Fujinomiya Works, our main factory, is located in a vast area of woodland, and Amada is promoting to create "Amada Forest", a woodland close to natural forest where insects and small animals live, with water retention capabilities. Also, it's been a while since the Isehara Works where our headquarter is located, has started working on rooftop gardens and in-room greening, especially the difficult empirical research on growing Japanese trees indoors.

We will continue our challenges in creating forests in urban areas.

Our Management Philosophy

1. Grow with our customers

Our company has been sharing this philosophy as a starting point for all of our business activities since its formation. We believe that the creation and provision of new values based on customers' perspectives will strengthen the relationship of mutual trust between our customers and the Amada Group, and become a source of mutual development.

2. Contribute to the international community through our business

Our company recognizes that contributing to "manufacturing" conducted by our customers throughout the world leads to the development not only of local communities, but also the international community as a whole, and we conduct our business activities with the aim of providing the highest quality of solutions in each market around the world by optimally distributing our group's management resources.

3. Develop human resources who pursue creative and challenging activities

Rather than being content with the present situation, we are constantly in search of new and better ideas to put into action in order to improve and enhance our business activities. This is the Amada Group's basic philosophy of human resource development, and we believe that Amada's unique corporate culture will be further developed by continuing to practice this philosophy.

4. Conduct sound corporate activities based on high ethics and fairness

We promote transparency and we comply with regulations in the Amada Group's management and in all aspects of its business activities, and strive to further enhance its corporate value while conducting sound activities.

5. Take good care of people and the earth's environment

By treating the Amada Group's stakeholders (such as shareholders, customers, business partners, employees and local residents) and the global environment with respect, we strive to continue to be a good company for both people and the earth. The Amada Group offers not only machines, but a "total solution" that includes peripheral equipments, tooling, and software. We differentiate ourselves by offering solutions from broad perspectives- from the customers' order receiving to shipment.

We will continue providing total eco-system that only Amada can provide, assisting the customers in creating an eco-manufacturing environment.

Amada will help to build a bright and prosperous future for people around the world by optimally utilizing the engineering capabilities we have cultivated, and by providing environmentally-friendly, energy-saving products as a comprehensive manufacturer of metalworking machinery.

Amada Group environmental policy

Amada Group's environmental principles Amada Group thinks that preservation of the earth, a small allocation preservation of the earth, a small

planet in macrocosmos, for the next generation is the biggest theme for human being. Based on this idea, Amada Group positions environmental preservation as one of the important management issues, and is committed to contribute to a prosperous future of the people around the world through ecological manufacturing, to pass down this beautiful earth to our descendant.

Amada Group's environmental policies

1. Provision of products and services for preservation of environment

Evaluate environmental load throughout the product life cycle, provide energy-saving and resource-saving products and services which eliminate hazardous substances, and contribute to environmental preservation and economy.

2. Reduction of environmental load in business activities In every process of business activities, thoroughly pursue reduction of environmental load by promoting energy efficiency improvement, energy saving, resource saving and recycling. Also, aggressively promote green procurement and try to eliminate the use of hazardous substances.

3. Biodiversity activities

Grasp effects of business activities on natural environment and contribute to building a biodiversity nurturing society in concert with stakeholders.

- 4.Compliance with environment-related laws Comply with environment-related laws and other agreements concluded with interested parties.
- 5.Continuous improvement of environment management system

Build environment management system and make continuous improvement of it. Grasp effects of business activities, products and services on environment. Set environmental goals and targets and reduce environmental load as well as prevent contamination.

6.Enhancement of education about environment

Provide education aimed at environment preservation to improve sense of responsibility as a member of company and also boost awareness of environment preservation.

> Established in April, 2010 Mitsuo Okamoto President of Amada Co., Ltd.



Introduction

Outline of Amada

Amada is a comprehensive manufacturer of metalworking machinery, a "total solution" company that contributes to the manufacturing of global customers.

This is Amada

The Amada Group consists of approximately 80 subsidiaries and affiliated companies, and its main business is manufacturing, sales, lease, repair, maintenance, inspection, and test of metalworking machines and equipments.

It handles metalworking machines mainly for the four business fields of sheet metal processing, metal cutting & structural steel machine processing, stamping press processing, and machine tool business. It also provides total solution business including software for controlling the machines, peripheral equipments, tools, and maintenance.

Amada contributes to the development of manufacturing by continuously exploring what our

customers need from their perspective, as a comprehensive manufacturer of metal working machinery.

Let us introduce our



business facilities. Isehara Works

Isehara Works and Mt. Oyama

Located in Isehara-shi, approximately at the center of Kanagawa Prefecture, we can view the grand Tanzawa-Oyama mountains, which are well known for the "Oyama-moude" (a visit to the shrine), from anywhere in our premises. The Isehara Works houses the Amada headquarters and the Amada Solution Center.

The Amada Solution center is a place for providing "improvement suggestions" to our customers for solving their manufacturing issues. It has the functions of an "Exhibition Hall" where people can get acquainted with our products, and "verification processing" where we discover the customers' issues and suggest their solutions. Our manufacturing suggestions can be tried out here with our equipment as well.



Solution Cente

Fujinomiya Works

Fujinomiya Works (Fujinomiya-shi, Shizuoka Prefecture) is located at the southeastern foot of Mt. Fuji on 188 acres of land, and it bears both development and production for Amada. It is our base for innovation.

Third factory (laser-machine-dedicated factory), which is one of the world's biggest factories, produces up to its production capacity, 140 units/month of laser machines with the latest booth-stand production system. There, designs are made concurrently in collaboration with the Development Center and thus the front-loading development/manufacturing is enabled.

At the Development Center, 200 development staff members are resident for theme-based design and development. There are four "Innovation Rooms" where the latest design systems and video equipment are installed, so customers and Amada's development staff can use the rooms as creation space for developing the

cutting-edge metalworking machines. Since modular designs created on 3D CAD allows them to verify the manufacturing from the design stage, high-quality modules have now become available.



Fujinomiya Works and Mt. Fuji

Ono Plant

Ono Plant is located in Ono-shi, Hyogo Prefecture, at the center of Higashi-harima region, and this area is known for its metal industry from the old days as the manufacturer of blades.

Founded as "Takumi Gijutu Research Institute" in 1962, it merged with Amada in 1964 and was renamed Ono Plant. Since then, it served the functions of development and manufacturing of band saw blades as the backbone factory of the Amada Group's consumable business.

It has affiliated factories in Austria and China, and the three factories in Japan, Europe and China work together to incorporate the needs of global customers and the latest technologies.

Also, by utilizing our unique technology, the "QCD" + "Innovation" is upgraded daily, maintaining the number 1 spot in the global market share of band saw blades.



* Front loading development : an effective development method where relevant divisions gather from the planning stage to study the products from multiple angles concurrently, and reduce the problems during the latter half of development.







Amada products

Here is our product lineup - machines, software, peripheral equipments, and consumables for sheet metal processing, and also products for cutting and stamping press processing.



Punching machines

Machines to perform punching operations, such as opening and cutting round, square and variously shaped holes in thin sheets of metal (sheet metal).

Punching machines can punch out almost any shape from sheet metal by using various punching tools. It can also create 3D shapes using forming tools, or drill/ thread holes.

Laser machine/ combination machine

Machines to open holes and cut thin sheets of metal (sheet metal) using a laser beam.

Laser machine have the capacity of cutting complex lines since it cuts the material with laser beams. The LC-F1NT series have 3-axis linear drive, with the new technology that was developed with front-loading development.

A combination machine is a machine with the functions of both punching and laser machines in one to promote process integration.

Peripheral equipments

The peripheral equipments such as the feeding units and unloading units are mounted to punching, laser, and combination machines to constitute an advanced automated sheet-metal fabrication system.

Bending machine/ automated bending system

Machines for bending thin sheets of metal (sheet metal) between an upper and lower tooling. Also referred to as press brakes.

The sheet-metal piece in a flat layout cut out with punching or laser machines are then bent with bending machines to create a 3D shape.

For automated bending processes, an automated bending system is also available where robots load the material onto machines for bending.



Stamping press machine

Machines for processing thin metal plates with toolings.

Stamping is a process where various 3D shapes are created from thin sheet metal. Typically, tooling for certain shapes are attached to the stamping press machine, and hold the sheet metal material in between to apply pressure to create 3D shapes.

Band saw machines

Machines with band or circular saw blade for cutting steel and structural steel.

In addition to the sheet metal machines, Amada also offers band saw machines used for cutting structural steels such as H structural steel and round bars. We have also developed models with long band saw blade life and high speed cutting capacity with the method called pulse cutting.

Welding machines

One of the methods for bonding the sheet metal parts bent with bending machines is welding. Amada offers YAG laser welding machines, spot welding machines, and stud bolt welding machines.

Tooling

Punching tools are used with punching machines, and bending tools are used with bending machines for metal processing. These toolings are also offered by Amada.

Software

CAD/ CAM software for sheet metal parts and sheet metal machines.

In order to process the sheet metal parts the way you like, we must give a series of commands to the machine. The automated programming system and other software products make this possible.

Products around us made with Amada machines

Amada machines are used for manufacturing various products we see every day.

The products around us will not exist if it weren't for our machines.





Feature article : the LC-C1NT SERIES

The concept of the series is "process integration, built-in, and compact". It's the third generation blanking innovation next to punching and laser, that realizes space-saving and high-efficiency fabrication.

By embedding necessary technology to the machine, it has realized speedy start-up and frees workers from time-consuming setups. It also utilizes a limited workspace with its compact design.

By smoothly and speedily switching between laser and punching, it realizes "process integration" as well as high-efficiency and highgrade finish



5 new technologies

◆1. Multi-Purpose turret

Turret with no-setup and high-speed fabrication of versatile fabrication

The Multi-Purpose turret with "special station for certain purpose", "free station for certain purpose", and "free station" in one, it realized process integration by integrating the tools for fabrication, tapping, punch piercing, bottom hole tapping. It realized no- tool setups and highspeed processing.

♦3. Flexible table Less scratches on the bottom, and less material setup

With the brush table for laser + urethane roller, brush-type cutting plate, and high-speed floating brush table, the machine realized less scratches on the product bottom, and prevents the downward forming parts to get caught. Also, the material is automatically set by placing it on the table.



4. High-precision

multiple drive axis

Complex processing accuracy

located on the turret side.

The number of strokes is minimal

since the laser processing head is

restricting the fluctuation during

speeding/ slowing down when

moving in the Y axis. Also, the

processing time is reduced with the

It realized stable precision/ quality by

♦2. Laser axis / punching axis synchronized control Improved laser processing speed and quality



With the adoption of single servo/ press drive, the laser processing head is now located on the turret side. You can now control both punch Y axis and laser Y axis as one, and you can switch between laser and punching at high-speed.



♦5. Parts remover The new product pick-up/ Unloader



By utilizing the space above the front table, it now requires less space. As soon as the final cut is finished, the parts are lifted out of the sheet using vacuum pads and sorted on the sorting table. It will then be unloaded to the next process without delay. You can choose whether to unload to the carriage side or the turret side.

 $* \pm 0.07$ mm: based on the Amada master sample



high-speed Z axis.

Highly efficient and space-saving

The LC-C1NT series was developed with the emphasis on providing customers various advantages on a product level. The brush table that adopted the newly developed high-heat resistance brush prevents scratches on the bottom surface of parts when the material is moved. The built-in parts remover allows the removal of finished joint-less parts without any scratches. We have also realized high-precision processing with the highly rigid frame and optimum axis movement.

Of course, the productivity has also improved significantly from our previous model. The fabrication time has been reduced significantly with the "quick switch" between laser axis/ punch axis through synchronized control, less setup and high-speed machining of various forming with versatile turret. These enhancements resulted in less power consumption and lower CO_2 emissions compared to our conventional models.

Furthermore, the use of high function CAM for C1 improved the material yield, contributing to energy

saving. Also, the control panel and laser oscillator are built inside the machine's floor space, realizing a compact, environmentally friendly combination machine.



Peripheral equipment MP-C1

Our initiatives toward regulated chemical substances

The LC-C1NT series also promotes the non-use of RoHS regulated chemical substances, and these chemicals are not used where our customers' products come in contact. For instance, the trivalent chromate which has a small environmental load is being used for the clamping section of the C1 table. The parts/ materials that are handled by the operators during daily maintenance are also made with non-regulated materials, responding to the severe environmental needs by our customers.

Peripheral equipment MP-C1

The peripheral equipment MP-C1 has been environment-conscious from the design phase. By fixing the cover to the shipping jig, we eliminated the packaging of individual parts, and it also solved the problem of scratches caused during shipping. By fixing each part onto the frame, we have also eliminated packaging of parts. For overseas exports, we can now ship the peripheral equipment in containers without wood skids.

Machine Design Award

The LC-C1NT series won the highest award and the Minister of Economy, Trade and Industry Award at the 39th Machine Design Award sponsored by The Nikkan Kogyo Shimbun.



President Okamoto accepting the award



President Okamoto and the awarded members

Voice ①

With priority on the functions and operations, the environmental aspects and design were not neglected!

Second Product Engineering Group, General Manager Mr. Yukio Uchino

The LC-C1NT series realized "process integration" and "highgrade fabrication" as the synergistic effect of the 5 new technologies.

We needed to overcome many issues before the functions were ready for release, and although it was very difficult, we succeeded in co-existing the technologies without diminishing the operation, within the machine's limited space.

The letter C in "C1" stands for "compact", but also "combination" and "clean" as well. "How can our customers manufacture high-grade products in a clean environment?"- this is the question we started out with. We also needed to select materials that were not on the ROHS list of regulated materials on places where the customers' products came in contact, and places touched at daily maintenance, so selecting the machine components was difficult.

On the design side, our image was a new "process integration machine" different from our existing NCT or punch/ laser machine. We worked especially hard on the part so that the machine image does not change when the PR-C1 (parts remover) is attached to the machine.

(* a member of Blanking Development Group at the time of development)



Mr. Yukio Uchino

Mr. Tadashi Yokoyama

This machine was born by the collection of Amada's know-how to respond to the voices of our customers!

Product Planning division, General Manager Mr. Tadashi Yokoyama

"Japanese manufacturing" with global cost competitiveness – the two elements required for that were "capability for high quality fabrication" and "space-saving machine for urban factories". We worked hardest on satisfying the function/ performance requirements that can win in the global markets, while satisfying the above two requirements.

We listened to the voices of our customers, and by breaking free from ready-made ideas, and by gathering Amada's knowhow, we were able to successfully develop the world's smallest multi-function "process integration machine" with both laser and punching functions.



Environmental Management

Amada Group Environmental Declaration

Amada Group aggressively promotes environmental activities to its management in order to realize sustainable development of its business and society.

Amada will help to build a bright and prosperous future for people around the world by optimally utilizing the engineering capabilities we have cultivated, and by providing environmentally-friendly, energy-saving products as a general manufacturer of metalworking machinery.



 Creating eco-friendly environment at customers' plants Amada Group contributes to the creation of eco-friendly environments at customers' plants by utilizing its accumulated environmental know-how.



Important Tasks

① We are contributing to preventing global warming by reducing discharges of CO₂ through the life cycles of our products.

Manufacturing industrial goods, Amada Group thinks it particularly important to reduce discharges of CO₂ through the life cycles of goods when customers use them at their plants.

With its collective efforts, Amada Group will promote the development of environmental technology aimed at improving energy efficiency, saving energy and resources, and attempt to reduce discharges of CO₂ in the production of all our products. We will continue to steadily develop future generations of metalworking products that excel in environmental performance.

2 We drive energy and resource savings into our business processes to reduce discharge of CO₂. Amada Group's eco-friendly products are manufactured at energy- and resource-saving plants and eco-friendly offices by ecoconscious employees.

We will promote the further streamlining of business processes as well as energy and resource savings at all our business establishments and reduce discharges of CO2.

③ We contribute to the recycling society by promoting effective use of limited natural resources.

We will achieve zero-emissions by promoting activities aimed at eliminating release, disposal of entering, and creation of waste at all our plants.

We will introduce MFCA (Material Flow Cost Accounting) to make waste visible and to promote effective use of resources.

(4) We are enhancing our efforts against regulated chemicals.

In order to ensure that customers can use our products safely, Amada Group has been striving to reduce use of regulated chemicals. Our efforts include voluntary observation of the RoHS directive, which is not applicable to our products. By appropriately managing information about chemicals, we will continue our efforts to totally abolish the use of regulated chemicals. Also in the manufacturing process, we will continuously try to reduce amounts of such chemicals in waste products.

(5) We are promoting the growing of "Amada's Forest" that contributes to preserving biodiversity.

A large area of forest and state-of-the-art plant coexist at Fujinomiya Works, where our main plant is located. We have called it "Amada's Forest". Based on the concept of "preserving and harnessing the forest", we will try to enhance its natural attributes and create a large forest where diverse plants and animals can live.

At Isehara Works, where our head office is located, we will strive to grow a forest in the city in accordance with the concept "Harmony of water, greenery and buildings".

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Long-term environmental plan

Amada Group developed a long-term environmental plan (AMADA GREEN ACTION) up to fiscal 2020 to further promote environmental preservation activities.

We will work to develop environment-conscious products, save energy and resources by improving business activity efficiency and reduce wastes.

Three goals of "AMADA GREEN ACTION"

Products

By 2020, we will reduce CO_2 emission of all products by 25% in average.

Manufacturing

By 2020, we will reduce CO₂ emission from our establishments and factories by 25% in basic unit.

Biodiversity

We will focus our efforts in preserving and regenerating biodiversity to pass down this country, rich in natural blessings, in a good form to future generations.

First-stage mid-term environment plan "AMADA GREEN ACTION PLAN 2010"

Amada has set specific mid-term goals based on the Long-term environmental plan (AMADA GREEN ACTION). The performance is periodically self-assessed, and its results are incorporated into our next environmental activities.

Themes of activities		Mid-term goals (fiscal 2012)	Goals for fiscal 2010	
Prevention of global warming	[Product development] Reduce CO ₂ emission*1 throughout the product life cycle to contribute to prevention of global warming.	Sequentially release products which emits 25% less CO_2 in average than current models.	Reduce CO ₂ emission by releasing ecological products.	
[Business activities] Promote energy saving and resource saving in business processes to reduce CO ₂ emission.		Prevention of global warming by promoting energy saving "Minus 7.5% compared to base year *2(2.5% × 3 years)"	Reduce $\rm CO_2$ emission at major domestic bases by 2.5% compared to base year.	
Effective utilization of resources	Promote effective use of limited resources and contribute to creating a	 Activities toward clean factories Visualize waste by introducing "material flow cost accounting system*3 and promote effective use of resources. 	Introduce material flow cost accounting system at major bases and start simulation.	
tilization urces	recycling society.	 (2) Realize and maintain zero emission factory. Landfill waste: 1% or less / year (weight compared with total emission from factory) 	 Maintain zero emission at three major bases. Internal countermeasures (establishing recycling routes and separation system) 	
c	Strengthen activities related to control of regulated chemicals.	(1) Develop products through green procurement (abolish totally the use of substances regulated by RoHS*4 directive).	Activities for abolishing substances regulated by RoHS directive.	
Chemicals control		(2) Reduce the use of regulated chemicals. "Appropriately control chemicals in manufacturing processes and reduce the use of chemicals." (PRTR'5, VOC*6)	 Strengthen environmental risk management. Strengthen measurement and monitoring of hazardous materials such as through storage management. Strengthen compliance such as through compliance evaluation. 	
		(FRIR 5, VOC 0)	 Reduce substances regulated by the PRTR law. Promote activities aimed at reducing VOC. 	
Biodivers ity	Preserve and regenerate biodiversity to pass down this country, rich in natural blessings, in a good form to future generations.	Promote the growing of "Amada's Forest" that contributes to preserving biodiversity.	 Establish a development plan of Amada's Forest. Biodiversity guideline (draft). 	
Enviror		(1) Strengthen Group's environmental administration and promote activities to fulfill CSR.	Promote group-wide activities by making environmental declaration and establishing an Environmental Ecology Promotion Committee.	
nment	Respond faithfully to voices of	(2) ISO 14001 group certification.	ISO 14001 group certification (three major bases).	
il mana	stakeholders including customers to fulfill social responsibility as a company.	(3) Issue environmental reports.	Issue an environmental report "Forest-In Office 2010."	
Environmental management		(4) Promote environmental communication.	 Promote risk communication. Arrange ecological factory tours. Actively participate in local beautification campaign. 	

*1 CO2 emission is calculated based on a calculation manual in the "Act on Promotion of Global Warming

 2 Base year: Fiscal 2007
 *3 Material flow cost accounting system: An environmental accounting method which focuses on losses caused in production processes. One of the great environmental management methods that can simultaneously realize both waste reduction and productivity improvement. *4 RoHS : Stands for Restriction of Hazardous Substances. A directive that specifies hazardous substances contained in electrical equipment and electronics prohibits their use. *5 PRTR : Stands for Pollutant Release and Transfer Register, in which release and transfer of environmental pollutant are registered. A system of collecting and announcing the amount of

emission and the transfer distance of hazardous chemicals.

6 VOC: Stands for Volatile Organic Compounds, which is a generic name of volatile organic compounds. Regarded as a cause of chemical sensitivity syndrome and sick-building syndrome.



Life cycle management

The foundation of Amada's environmental management is to create and provide ecoconscious products that reduce the environmental load throughout the product life cycle.

Our initiatives that serve as the driving force of our environmental management is our environmental activities based on the product life cycle. Various activities are implemented to reduce the environment load of the entire product life cycle ("from cradle to grave"); from product planning, development, procurement, manufacturing, sales, delivery, use, and disposal.

Developed	We have a system for eco-products planned and developed through environmentally conformed design
Manufactured	manufactured in a zero-waste clean factory, using green-procured materials
Manufactured	shipped by eco-logistics
Used	used by customers as energy-saving machine
Disposed	and recycled at the time of disposal

At Amada, we deploy life cycle management to create a life of eco-products like the above.



Product life cycle	Our engagements	Listed page
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Packaging /	Improved packaging of peripheral equipments	15
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	Spring bag for waste	17
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Planning & Development / Procurement

During the planning & development stages of Amada Eco Products, we set clear targets for the product's environmental-friendliness to produce products with the industry's top-class environmental performance, by assessing them at each phase of development.

Planning Development Procurement

Environmental assessment of products

Amada products are industrial goods. The energysaving performance during product-use will directly impact the energy-saving/ CO_2 emission of customers' factory. This is why we believe the energy-saving performance during product-use is the most important factor in the product's environmental performance.

When developing a new product, Design Reviews are implemented from the planning phase as a part of Front-Loading Development, and the target for environmental performance is set as the "product environmental assessment". The "product environmental assessment" includes 25 assessment items from 8 categories such as energy consumed during product-use (CO_2 emission) and the non-use of regulated chemicals.

The "product environmental assessment" is conducted at the design review of each development step. The product can move to the next development step as an "environment-conscious product" if the results meet a certain standard.

Amada has been applying this assessment for all newly developed machines since Sept. 1998.

Amada ECO PRODUCTS

Higher standard for eco-product conformance is determined for products that passed the "product environmental assessment". The products that satisfied these standards are certified as Amada ECO PRODUCTS, and they are delivered to customers with "ECO PRODUCTS Marks" on the machine.

The certification system was established and implemented since Oct. 2001. Some of our ECO PRODUCTS are shown on the right.

<u>eco products</u>

This mark, based on green for environmental protection, uses the two letters "E" and "P" of Eco Products to visually represent the seed leaves that will produce fresh green in the future.



Registration of

trade mark

<Resource-Saving Machine> This mark indicates a machine is a "resource-saving machine" that uses less oil than conventional models.

<Low-Noise Machine> This mark indicates a "low-noise machine" that produces less noise than conventional models.

<Energy-Saving Machine> This mark indicates an "energy-saving machine" that uses less energy than conventional models.

EM-NT series

The EM-NT series is an electric punching machine. With the adoption of AC servo direct twin drive mechanism, the hydraulic drive was abolished to realize

non-oil operation. Also, the consumed electricity is cut by more than 60% compared to our conventional models, with the power-leveling energysaving circuit and a regenerative mechanism.



AC-255NT

AC-255NT is a compact, ecological, and intelligent punching machine. With the AC servo single drive mechanism, it has the advantages of an electric machine that only activates when needed, and with the adoption

of regenerative method that returns the energy to power when the motor is decelerating, the machine saves energy significantly over conventional hydraulic machines.



HDS-NT series

The HDS-NT series is an energy-saving down-stroking

bending machine. With the adoption of the hybrid drive system that combines highly efficient piston pump + AC servo motor, it reduced the power consumption by over 50% compared to our previous models.



SDE series

The SDE series is the digital electric servo press machine. With the special servo motor for press on

board, the clutch brake is now unnecessary by directly controlling the slide motion, and with powerleveling energy-saving circuit and regenerative mechanism, it saves energy that were not possible with the flywheel type previous machines.



* Design Review: In order to develop products that satisfies our customers, all the relevant business divisions assess the design plan created by the design team from various perspectives, exchange views, and request improvements when necessary.



Eco Information Mark



Amada has started the Eco Information Mark system from Aug. 2007. We understand the importance of providing information, and this is a way for us to provide information on environmental matters

#5188839

pertaining to Amada products more broadly and specifically. The information is provided with the mark, and we can easily communicate the details of our environmental efforts.



LC-FINT is the first laser m by the RoHS Directive*, to hine that took into ce



Green Procurement

Amada position "green procurement", procuring materials with small environmental load, as one of our important environment conservation activities for providing environmentally friendly products to our customers.

The "Amada Group Green Procurement Guideline" was established in Apr. 2004, and we request our suppliers for chemical substance analysis and information of materials being used in parts.

Our products, the sheet metal machines and others, are not applicable for the RoHS directive enforced since Jul. 2006, but we promote the non-use of RoHS regulated substances due to the fact that the regulated substances may come in contact with our customers' parts that are made with Amada machines.

Furthermore, the Development Department has built a system for sharing the information on "regulated substances in commercial goods" by registering them in our database.

Here are some examples of the activities by our suppliers for reducing the use of regulated substances.

Lead-free solder circuit board

Lead-free solder circuit boards are developed as the electric circuit board used in the control section of Amada machines. These are used in our ECO PRODUCTS EM-NT series etc.



We are currently changing from the hexavalent chromium that has a large environmental load to environmentally-friendly trivalent chromium for the surface treatment of Amada designed mechanical parts.

Paint

We have a list of Green Procurement-compliant paint in order to reduce/ control the use of regulated chemical substances. We use this paint unless the customers specify a certain paint.









Fastening parts of press brake

RoHS regulated materials are not used where your products come in contact

RoHS regulated materials are not used in parts you use/ discard during daily maintenance



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* RoHS directive: a European derived initiative in which the elimination of certain hazardous substances in electrical and electronic equipment is the key objective.

Manufacturing / Sales

During the manufacturing phase, Amada promotes to realize a clean factory through the accomplishment of zero-emission factory. During the sales phase, in addition to selling ECO PRODUCTS, we also direct our attention to the environmental aspect of exhibitions.

Manufacturing Sales

Zero-emission Factory in Isehara and Fujinomiya

Zero-emission is "a philosophy that aims for a society without waste, by recycling the waste discharged from a certain industry" (advocated by the United Nations University in 1994), and each company applies it with its own standards. Amada's zero-emission standards are "the wastes that eventually go to landfill must be under 1% of the total waste, and this must continue for over one year period".

Our specific activities are the "exit control" of "producing no waste", building recycling routes for waste. For the "entrance control", we are promoting the use of returnable packaging materials and waste reduction.

As a result, the Fujinomiya Works has accomplished the target in May 2008, and Isehara Works in March 2009, to become zero-emission factories.

Clean Factory

Clean Factory is an environmentally-friendly factory that reduces the environmental load generated by production. It includes zero-emission (reduction of waste) as well as energy-saving efforts to prevent global warming, reduction of CO_2 emission, and reduction of VOC used in factories. The Third Factory at Fujinomiya Works is the world's largest assembly plant for laser machines, and it is fit to be called a Clean Factory.

This factory fully adopts the Yatai booth production method, where each Yatai booth is a mini factory. The parts necessary for assembly are provided in a kit, and with all the necessary tools within the reach of the operators, they can continue working without interruption.

Furthermore, dust can cause trouble in laser machine assembly, so the production line has come up with creative ideas to change "air cleaning" to vacuum, and changed the rotor of air compressors to ceramics, to use water instead of oil.

Eco engagements at public exhibitions

Amada participates in various public exhibits in both Japan and overseas in order to introduce our products to customers, and offer manufacturing suggestions. Different from our own full-time exhibition halls, the public exhibits require much decoration materials to assemble booths. The booths are gorgeous, but it generated two truck loads of waste at the end of the show.

The pillars (pillar signs with Amada logo) and company logo plates have been re-used from the past, but the wood materials used for the pillar and walls (mostly veneer board) were discarded after one-time use. At the Steel Structural Technology show in July 2009, we invented system parts that combine the boards and frames for repeat use. It's easy to assemble, and doesn't get in the way of machine adjustments, so it was well received, and was also used at MF-Tokyo Press/ Sheetmetal Forming Show sponsored by Japan Forming Machinery Association in October.

These environmental efforts are very small, and don't catch the attention of people, but we will continue to use them for all of our future exhibitions both in Japan and overseas.

We hope you will take a look at our booth materials when visiting our booth.



Amada booth at MF-Tokyo Press/ Sheet-metal Forming Show in October 2009. The booth was assembled with system parts, so it was demounted easily, with no discarded waste. The system parts were collected to be used at next exhibition site.

d: a production method that realized clean and digital manufacturing through the use of IT production control system. The parts are supplied to the booth JIT. One booth is approximately 80 square meters, and each booth is equipped with gas, air, water, and power, which are centrally controlled. The dusts are also controlled to maintain clean environment.



Packaging / Shipping

Amada is currently reviewing our product packaging from "wastereduction" and "resource-saving" angles. We are also working on improving the transportation efficiency from the design phase of product development.



Large volume of packaging waste

Many of Amada products are high-precision and heavy, so we have been carefully packaging our products from quality assurance reasons, generating a large volume of packaging waste. It also required much man-power to dispose of these wastes, meaning extra work for our customers. We are currently working to reduce this packaging material waste from the perspective of "resource-saving".

Improved packaging for tooling

At the tooling factory in Isehara, when delivering a large volume of tools to a customer, we used to pack the tools with oil paper and cardboard boxes, and these materials were discarded after use. Since 2006, we have been using special containers, wire containers and covers for repeated use as returnable containers.

We have seen results such as improved service operation, 400 cardboard boxes saved for each shipment, and reduction of packaging material costs. The same is rolled out to other operations since FY2008



Special rack + cover





Improved packaging of peripheral equipments

Amada offers system products called "line products", which is a combination of machine and peripheral equipment such as parts feeder, feeder/ take out loader, shelves for stacking the parts, and a computer terminal for data input.



Basic rack + cover

The line products have many parts, so a large amount of packaging material went to waste. In order to completely eliminate the packaging waste, we created special racks and containers that can be used repeatedly for each peripheral equipment.

These racks and containers have "Reuse" mark on them, and have been used since FY2007.





returnable containers for Line PC cable

Unified "Reuse" mark



Improved shipment efficiency and reduced packaging material for peripheral equipments

Many packaging materials are used when delivering the peripheral equipments necessary for building automated system lines. Also, the delivery of large sized peripheral equipment may require multiple trucks, increasing the CO_2 emission. This is why Amada is seeking to improve the transportation efficiency and reduce the packaging materials.

Ideas from the development divisions and suggestions from the manufacturing divisions are being reflected on the environmentally-compatible peripheral equipment design. The jig to fix the MP-C1 cover is one of them, which is introduced in our feature article "LC-C1NT series". This year, we have successfully improved the transportation efficiency and reduced the packaging material for AS-C1, the peripheral equipment for LC-C1NT. By storing the auxiliary table and the stopper rail inside the loader frame during transport, we can now deliver the AS-C1 in one truck, as opposed to 3 trucks required for the conventional model ASR-48M.

Also, with our creative idea of keeping the silver cover to the shelf during transport, we were able to reduce the packaging material, reducing the waste at our customers' site. Furthermore, we successfully reduced the work load for shipping and packaging (dismantling, rust proofing, packaging, loading) significantly.



Voice 2

We designed the product by imagining how it will be shipped!

Peripheral Equipment Development Division Blanking Dev.1 Group Group Leader Mr. Yuji Araki, Mr. Takahiro Ichikawa

We designed the product by imagining how it will be shipped. It was difficult to decide how to fix each unit, and the architecture of components, but we were able to reduce the packaging materials, reduce man-hours, and see environmental results for transportation. We will continue to promote environmentallycompatible design through Front Loading development.



Mr. Yuji Araki

Mr. Takahiro Ichikawa



Use (Service)

During the use (service) phase, the Amada Parts Center equipped with a computer system that processes vast service data is taking an active part. It supports the customers' manufacturing as a core service facility.

The start of Amada Parts Center

The Parts Center was established in Fujinomiya Works as a logistics base for supplying the maintenance parts to our customers "faster", "with reliability", and "with better service".

The concept of Center is "a system to supply appropriate parts in timely manner" for improving the logistics efficiency. The parts are supplied globally 24 hours a day, with the goal of raising the prompt delivery rate to 98% for both Japan and overseas markets.

The Parts Center is operated with "the total operation support system" that facilitates the prompt recovery of customers' machines at the time of breakdown, by accumulating the customer's maintenance history. Also, the picking cart with the industry's first RFID (IC tag) prevents wrong delivery of maintenance parts.

Furthermore, with the installation of "ultra high-speed free size automatic case storage" that accommodates cases of various sizes, the 4 warehouse functions of receiving, storing, picking, and routing are fully automated, reducing the operators' load and eliminating mistakes.

Also, the seamless info-sharing between Amada's unique "order management system (LMS)" and "warehouse management system (WMS)" reduced lead-time until delivery, while improving the QCD of parts supply.



Ultra high-speed automated warehouse system



Full view of the Parts center

Using returnable containers for maintenance circuit board shipping

Amada has been working to reduce the packaging materials, and we have started using returnable boxes for maintenance circuit boards.

Use

Before, the maintenance print circuit boards were delivered to the customer-site in cardboard boxes, but the cardboard boxes were discarded after two round trips since they were not strong enough. Since the opening of the Parts Center, a stronger box has been introduced as a returnable containers, reducing the waste volume and cost.

This returnable containers is marked with Amada's "Reuse" logo with built-in IC tag, and can be located inside the Parts Center. Also, the maintenance print circuit boards has QR codes, and they are controlled by serial numbers and used for keeping maintenance history.



The returnable box for print circuit board with "Reuse" mark

Spring bags for waste disposal

We promote the use of returnable boxes at the time of delivery, but we can't eliminate the packaging material to zero for quality assurance reasons. In order not to leave any packaging material at our customers' facilities, our 300 service engineers throughout Japan carry spring bags



(container for waste material) with them.



Disposal / Recycle

During the disposal/ recycle phase, we voluntarily collect the parts that are difficult for the customers to dispose, and adequately dispose of our used-products.

Regeneration

Disposal certification system for used products

We believe that we are responsible for seeing our products through to their proper disposal when they finish their product life. We certify the waste processors based on our selection criteria.

Since FY2008 we have certified 5 facilities of two partner companies throughout Japan to realize proper disposal. The recycling factory at our certified facility ensures the compliance of regulations such as "Waste disposal act" and "Recovery and disposal of Freon act". Also, in addition to crime-prevention security, we also provide "disposal certification" to verify functional disposal of used parts. We will expand the number of certified waste processors in the future.



Process flow of disposal

Waste processors are certified based on our standards for "area management", "equipment capacity", and "various permits".

CO₂ emission at disposal phase

We have researched the amount of CO_2 emission and the environmental load during the disposal phase of used products, as a part of LCA (Life cycle assessment). The CO_2 emission for the disposal of 1 punching machine (weight 10 tons), for example, was 148kg- CO_2 . This equals to the disposal of approximately 5 personal computers. We also found out that the environmental load at disposal phase is low, with high recycling ratio at 97.8%.



Amada-designated parts for recovery

Within our products, there are some that contain chemicals that are now designated as regulated chemical substance because there were no technically available substitute materials at the time they were manufactured. Normally the customers do not come in contact



with parts like this, but it wouldn't be good for the environment if they were disposed with the others. This is why we have established a system called "Amadadesignated parts for recovery" since 2003. It means Amada is responsible for collecting and disposing the parts after its life cycle, as a manufacturer of these parts.

For instance, the light focus lens (that includes selenium compound) used in laser machines applies to the "designated parts for recovery", and after collection, we will determine whether they can be reused, and if not, they will be disposed of properly.



Light focus lens for laser machines (includes selenium compound)



Recycle filter for wire cut electric discharge machine



lon exchange resin for wire cut electric discharge machine



Material Balance

The environmental impact of a product throughout its life cycle is understood/ analyzed quantitatively, and the results are applied to our environmentally- friendly business activities.



* Revised ton k method by the Ministry of Economy, Trade and Industry , calculated with alternate method B



Environmental accounting

Amada has adopted environmental accounting to use in reasonable decision making by understanding the costs and their benefits related to environmental conservation activities.

The adoption of Environmental accounting

Amada has adopted the environmental accounting since FY2005 for the purpose of understanding the costs and the economic impact associated with environmental conservation measures, and to provide information useful for decision making of the stakeholders.

In addition to the Isehara Works, the Ono plant was added since FY2008, and Fujinomiya Works since FY2009.

To summarize the cost and economic impact (profit of actual results) associated with the environmental conservation measures, an "environmental accounting" item was added to the monthly accounting system for automatic calculation.

As for the environmental performance, we are not calculating in association with the environmental conservation costs.

Environmental conservation cost

The major costs within the FY2009 environmental conservation costs was the R&D costs for Amada Eco Products. We calculate all the development costs for the models that are already certified as Eco Products, as well as the models that are now applying for its certification. The main costs are the test materials and fees for creating jigs, and this does not include the costs for test research and man-hour involved in its development.

Economic impact associated with environmental conservation measures

The main economic impact for FY2009 was the business income generated from waste recycling and others. The breakdown of income are metal (iron, aluminum, stainless-steel, and so on).

Unit: 1000 yen

Environmental accounting items		FY2006	FY2007	FY2008	FY2009
	Cost	463,118	821,452	323,689	456,854
Environmental conservation cost	Investment	195,084	543,002	470,233	0
	Total	658,202	1,364,453	793,922	456,854
Economic impact accompanying environmental conservation measures		12,484	31,039	24,317	17,299

Other engagement

Bio processing unit

A bio processing unit was installed for cleansing the drainage from Isehara Works to the sewer.

Until now, adsorbents were used to absorb the oil to eliminate the oil included in the drainage from the kitchen of FORUM 246 (training and lodging facility) and staff cafeteria. The adsorbents with oil were disposed of as flammable garbage, and its volume amounted to 9 tons annually.

With this new bio processing unit, the bio bacteria microbe called "Kataoka-kin" biodegrade the oil, so the waste is reduced to zero. It also achieved significant environmental improvements such as eliminating the foul smell and improved water quality. We were also able to reduce maintenance costs.



Pouring in the Kataoka-kin (bio bacteria)



The activated bio tank



Our history of environmental activities

Amada has always deployed advanced environmental activities as a leading manufacturer of metalworking machinery.

Amada and the environment

Amada has addressed the environment from the very early days in the machine industry, and it's been 12 years since the Isehara Works

(where the headquarter is) acquired the ISO14001. We will introduce our history since company establishment, and our 12 years of environmental activities.

	1948	Jun.	Amada Seisakusho (limited company) founded	
	1955	Jan.	First contour machine made	Company started from 1 lathe
	1961	Aug.	Isehara Factory built in current Isehara, Kanagawa Prefecture	First contour machine as a hine manufacturer
	1964	Jan.	Company name changed to Amada Co., Ltd.	
	1969	Apr.	Headquarters relocated from Nakano, Tokyo to Isehara, Kanagawa	New factory in Isehara, Kanagawa
		Aug.	Joined the first section of Tokyo and Osaka market	
	1978	May	Amada Machine Tool Plaza built as 30 th anniversary event	
	1979	Apr.	Headquarter building built	Amada Machine Tool Plaza
	1987	Sep.	Fujinomiya Plant (current Fujinomiya Works) established in Fujinomiya, Shizuoka	Headquarter building
	1991	Jul.	Clean Campaign activities started	Clean campaign
Started ISO14001	1992	Apr.	New Amada Machine Tool Plaza opened as 45 th anniversary event FORUM246 (training center) opened Software Center Building built	New Amada Machine Tool Plaza
4001	1994	Feb.	AMADA SFERA, symbol of Amada's environmental activities created	AMADA SFERA
>	>			

certification in SEP 1996



	1998	Sep.	Product assessment manual established (assessment of product's environmental impact)	Example 2 A Constant A
		Dec.	Isehara Works ISO14001 certified	Isehara Works ISO4001 certified (JACO)
	2001	Oct.	Amada ECO PRODUCTS certification system started	
	2002	Sep.	Fujinomiya Works ISO14001 certified	Amada ECO PRODUCTS Standard established
FEB Kyot	2003	Sep.	Press announcement for "Amada designated parts for recovery system" (recovering the used-parts that includes regulated chemical substances)	 Fujinomiya Works ISO14001 certified (JQA)
FEB 2005 Kyoto Protocol		Dec.	Press announcement for reducing 10000 tons of CO_2 in 10 years (CO_2 reduction of Amada facilities and Amada products)	Recovery of designated parts announced 2003.9.17
	2004	Mar.	Wind power plant installed (for generating power for foot light)	
>	2006	Apr.	Press announcement for RoHS directive accommodation (EU's regulation on restricting the use of Hazardous Substances)	Wind power plant and foot light
ap Ro	2007	Mar.	Development center and Laser factory completed in Fujinomiya Works	Laser factory Development center
JUL 2006 RoHS directive applied		Jul.	Amada Eco Information Mark established (product's environmental information for the stakeholders)	- المعلم الم المعلم المعلم المعلم المعلم المعلم المعل المعلم المعلم ال
-		Sep.	Japan Forming Machinery Association (JFMA) Eco Machine Project participation	MF Bolion
	2008	Dec.	Ono Plant ISO14001 certified	MF certified eco machine mark
	2009	Jun.	Environmental report "Forest-In Office" First issue posted on the website	Forest-In Office Market corrections 2000 Ono plant ISO14001 certified (JQA)
		Oct.	Parts Center at Fujinomiya Works opened	Environmental report "Forest-In Office" first edition



Communication

The Precision Sheet Metal Technology Fair

Excellent skills are the driver for revitalizing the economy, and the starting point of the manufacturing industry is everyone's efforts in creating products with high added values. To further develop our industry, Amada contributes to the development of human resources, as well as skills and technology, under our philosophy of "growing with our customers".

What is the Precision Sheet Metal Technology Fair?



How can we develop processing technologies from the manufacturing angle? Amada and Amada School have been organizing the Precision Sheet Metal Technology Fair since 1989, with the purpose of contributing to the development of the metal-fabrication industry, and also to train and enhance the technology and skills. We can say that

Poster of the 22nd Precision Sheet Metal Technology Fair

sheet-metal fabrication is a fusion of "analogue technology" (skills the workers acquire) and the "digital technology" (integration of machines, controls, and software) which supplement each other. The Precision Sheet Metal Technology Fair introduces the fruits of these fabrication technologies and know-how, and contributes to the regeneration of the sheet-metal industry and the improvement of manufacturing technology.



First selection: votes casted by the guests of Amada Solution Center



Second selection: selection by the selection committee members from the industry, government, and academics



Award ceremony: at Amada 246 Hall

Selection process

The Fair entries exhibited at the Amada Solution Center will first be reviewed and voted by the guests of the solution Center. They are then reviewed by the selection committee consisting of members from the industry, government, and academic circles.

Gold, Silver, and Bronze awards are awarded for each category, in addition to the Health, Labor and Welfare Minister Prize, Japan Vocational Ability Development Association Chairman's Award, Nikkan Kogyo Shimbun Award, Amada Special Award, Selection committee Special Award, and more.

The transition of Precision Sheet Metal Technology Fair

A total of 3,201 products were submitted since the start of the Fair, and 19% of those are from overseas, from 17 countries such as U.S., Europe, and Asia.

We have started the students category since the 17^{th} Fair, and we offer awards in the 5 categories now.

#	Dates	# of entries	# of votes	History
1	1989/2 ~1989/5	114 (0)	2,553	Hosted by Amada
2	1989/11 ~1990/2	111 (18)	3,094	 Hosted by Amada School, sponsored by Nikkan Kogyo Shimbun and Amada
3	1990/11 ~1991/3	98 (13)	3,189	 Japan Society for Technology of Plasticity joined as a sponsor
4	1991/11 ~1992/3	134 (31)	4,841	Divided the Fair into three categories: "Sheet Metal Working Part", "Welding fabrication", and "Assembling technology"
5	1993/1 ~1993/5	110 (26)	3,717	With many entries from overseas, created the "overseas category"
6	1993/11 ~1994/2	84 (7)	2,325	" Formative arts fabrication" category added
7	1994/11 ~1995/2	140 (11)	3,127	Name changed to current "The Precision Sheet Metal Technology Fair"
8	1995/11 ~1996/2	133 (16)	4,631	Japan Vocational Ability Development Association joined as sponsor
9	1996/11 ~1997/2	141 (9)	3,647	
10	1997/11 ~1998/2	149 (29)	3,331	 Regional precision/machine sheet metal industrial associations joined as sponsor
11	1998/11 ~1999/2	139 (25)	2,400	"Amada Award" created

The 22nd Precision Sheet Metal Technology Fair

On Apr. 17, 2010, the award ceremony for the 22nd Precision Sheet Metal Technology Fair was held at the 246 Hall inside Amada FORUM246. 70 great entries were selected for awards, including 6 Gold Awards. The characteristics of this year's Fair was that many products were submitted with the design drawing and work-inprogress along with the actual product. It allowed us to see how the product was manufactured, helping us assess the product's "difficulty of manufacturing, its method, and quality".

Of the 233 submitted products, 64 of them were from overseas, accounting for 1/4 of total entries. There were 27 for student participation category. We are happy to see the number of entries grow, but of course the true purpose of this Fair is the enhancement of sheet metal fabrication technology.

Health, Labor and Welfare

Minister Prize

One of the missions of the Fair's organizer, Amada School, is "developing human resources". They believe that manufacturing products will lead to developing people, and they plan to continue contributing to the nurturing of human resources through the Precision Sheet Metal Technology Fair in the future.



Dates	# of entries	# of votes	History
1999/11 ~2000/2	194 (30)	1,629	" Ministry of Labor" (current Ministry of Health, Labor and Welfare) joined as sponsor " High-precision Small Part" category added
2000/11 ~2001/2	118 (23)	2,099	 Prefecture of Kanagawa joined as sponsor
2001/11 ~2002/2	127 (24)	1,965	 " Health, Labor and Welfare Minister Prize" added
2002/11 ~2003/2	133 (20)	1,330	
2003/11 ~2004/2	116 (20)	1,450	
2004/11 ~2005/2	133 (33) <24>	1,457	"Student Participation Category" added
2005/11 ~2006/2	147 (28) <22>	1,003	
2006/11 ~2007/2	136 (19) <25>	2,650	
2007/11 ~2008/2	251 (86) <28>	1,773	20 th commemorative award (Achievement Award, Most number of entries Award" "Amada Special Award" added
2008/11 ~2009/2	260 (71) <27>	2,542	
2009/11 ~2010/2	233 (64) <27>	1,737	
	1999/11 ~2000/2 2000/11 ~2001/2 2001/11 ~2002/2 2002/11 ~2003/2 2003/11 ~2004/2 2004/11 ~2005/2 2005/11 ~2006/2 2006/11 ~2007/2 2007/11 ~2008/2 2008/11 ~2009/2 2009/11	Dates entries 1999/11 194 ~2000/2 (30) 2000/11 118 ~2001/2 (23) 2001/11 127 ~2002/2 (24) 2002/11 133 ~2003/2 (20) 2003/11 116 ~2004/2 (20) 2003/11 116 ~2004/2 (20) 2004/11 133 ~2005/2 (24) 2005/11 147 ~2006/2 (22> 2006/11 136 ~2007/2 (25) 2007/11 251 ~2008/2 251 2008/11 260 ~2009/2 233 ~2009/1 233 ~2009/1 233 ~2010/2 64)	Dates entries votes 1999/11 194 1,629 2000/12 194 1,629 2000/11 118 2,099 2001/11 127 1,965 2002/2 (24) 1,965 2002/11 133 1,330 2003/11 116 1,450 2003/11 116 1,450 2004/11 133 1,457 2005/12 147 1,003 2005/11 147 1,003 2006/11 136 2,650 2006/11 136 2,650 2007/11 251 1,773 2008/11 260 2,542 2008/11 260 2,542 2009/11 233 1,737

Voice 3

The Fair is supported by many people

Amada School Managing Director, Mr. Kenjiro Watanabe

The Precision Sheet Metal

Technology Fair is a major event made possible with the support of all domestic sales offices and overseas affiliated companies - from asking the customers to submit their products, collecting them, vote casting by the guests, and sending out invitations for the award ceremony.



attractively, figure out a way to display the unfold drawing and the operation sheet with the product, create a list of all the entries, create reports for the sponsors, hold steering committees and selection meetings, host the award ceremony, and store the submitted products.

With the support from all the sales staff, we received 233 entries for the 22nd Fair, and we were able to host an award ceremony on April 17th. We will start accepting submissions for the 23rd Fair from June, and we hope to see many products aiming for the Award Ceremony scheduled in March 2011. We are proud to support the development of global sheet metal technologies and skills.



MADA

Social / regional contributions

Amada would like to show sincere efforts toward all our stakeholders.

Supporting the sheet metal industrial associations

A sheet metal industrial association is a locally organized association for the prosperity of its member companies and the development of the sheet metal industry, and there are currently 24 associations all over Japan.

Each association organizes activities such as board meetings, general meetings, beginning of the year meetings, management seminars, skill seminars, training sessions in Japan and overseas, skill proficiency tests, youth associations and more throughout the year.

Amada supports these activities by helping their office, and at training sessions and skill proficiency tests which are the pillar activities of the associations.

Activities	Amada Support
Board meetings, local meetings	Business planning, report
General meetings/ beginning of the year meeting	Holding seminars that stimulate proactive management such as capital investments and utilization of advanced technology, communication with the Amada management and marketing manager.
Management seminar	Holding management seminars and lectures that meet the needs of times; on topics such as the equipments, HR, and financial resources.
Skill seminars	Holding seminars for improving the quality & productivity, skills and knowledge.
Domestic and overseas training	Visiting selected enterprises/ factories to improve management, productivity, and process control.
Youth division	Supporting the youth association that consists of second-generation CEOs and young members in order to succeed the active participation to the industrial association and sheet metal industry.
Skill proficiency tests/ drawing tests	Providing seminars, training materials, and equipments to nurture engineers, and help them obtain qualifications
Communication	Exchanging information and human network among the members, providing company/ industry information

Seminars

Amada organized various seminars for the industrial association members. In FY2009, 6 seminars were held at general meetings and at the "beginning of the year meeting".

Seminar titles
Trends of 2010 sheet metal industry
Amada's engagements toward the Chinese market
South China region from my perspective
Now and future ASEAN - ASEAN region trends with focus on Vietnam
Strengthening the shop floor capabilities and potential for growth - Importance of developing human skills
The new sheet metal industry paradigm - The outlook of the new sector of the sheet metal industry



Hosting training seminars for HR development



Amada hosts training seminars 12 times a year at "Asagiri Square", Amada's training facility in Yamanashi Prefecture, to support the nurturing of employees who work for the association's member companies, and to support

employees

the growth of these companies.

The seminars are organized for different groups; new employees, middle-class employees, leaders, executives; and the topics of the seminars vary by the group.

In FY2009, 108 people from 92 companies participated in the seminars, and they were well received. We also host regional seminars organized by each local association as well.

Skill Proficiency test support

In order for the industrial association members to pass the skill proficiency test (a national exam) and succeed as a qualified technical engineer, we send out instructors for pre-test workshops for academic and practical tests.

We also lend the machines used for practical tests, some of which are bending machines, bending tools, shearing machines, spot welding machines, and CAD / CAM software.

The pass ratio of the skill proficiency tests of industrial association members are higher than the national average.



Participating in the "Ecocap Movement"

Approving the activities of the "Ecocap Movement" (Used Bottle Caps Funding Polio Vaccines for World's Children), Amada started collecting PET bottle caps in Isehara, Fujinomiya, and Ono facilities from FY2009. We have funded vaccines for 67 people so far.

At Fujinomiya Works, the activity is deployed with a slogan of "Aim for the top of Mt. Fuji! 3776m", with their goal of collecting 251,773 caps (vaccines for 315 people) which equals the height of Mt. Fuji when the caps are stacked. One of our suppliers inside the Fujinomiya Works bring the caps to the NPO office.

At Ono Plant, in addition to collecting the caps inside the plant, they support the Ono City activities by creating name plates for the cap collection box placed at the ceremony venue for "Seijin shiki",.





Fujinomiya, Ecocap poster

Fujinomiya Works, accepting visitors

Fujinomiya Works accepts various visitor tours and training sessions throughout the year. In FY2009, 657 guests visited the facility from 365 groups.



In January, a factory tour was planned for the nearby Jr. high school students, with the theme "environment". The students toured our factory that makes environmental efforts from various angles, such as energy conservation, and

Environmental factory tour by the Jr. High School students

contamination prevention in order not to cause problems for the schools and families nearby.

In February, the Fujinomiya City Hall officials visited for five days for training, continuing from previous year. During the training course, in addition to company introductions and facility tours, they received some technical training such



experienced air leak checks

as manufacturing and inventory counting. They also experienced air leak checks with detectors as one of the energy-saving activities.

Global Internship

Amada accepts interns every year, and the number from overseas is growing. We accepted students from India in FY2008, and in FY2009, in addition to the University students from India and Germany, we accepted students from China, Taiwan, and Brazil.

We also accepted 15 students from Japan for the Summer technical internship. By counting the Jr. high school students that came with the "work experience program", we accepted a total of 271 students in FY2009.

India Student Internship

IIIT, India TCE University
Summer Technical Internship
Tokyo Institute of Technology, Salesian Polytechnic, Tohoku University Grad school, Science University of Tokyo, Kitami Institute of Technology, Nihon University, Sophia University, Shizuoka University, Yatsushiro National College of Technology, Nagoya Institute of Technology, Shinshu University Grad school, Oita University, Ariake National
College of Technology
Foreign Students Summer Internship
Yokohama National University (China, Taiwan, Brazil),
Kanagawa University (China), University of Duisburg
(Germany), Tokyo Institute of Technology (China)
Jr. High School Students "work experience program"
Sanno Jr. High School of Isehara City

Facility tours for students

Aside from the internships, we have been offering "student facility tours" at Isehara Works, for career education and staff recruiting purposes. Mainly, the students learn about our company and products, and tour the Amada Solution Center. Many students participate from various schools.

(FY2009)
Saitama University
Tokyo Metropolitan University
Seikei University
University of Electro-Communications
Tokyo Institute of Technology
Nippon Institute of Technology
Waseda University
Polytechnic University of Japan
Sagami Ono High School (Kanagawa)

On-site environmental seminars

Continuing from FY2008, on-site seminar on "environmental management" was held at Shoin University Graduate School as a part of environmental / social contribution activities.

The students asked incising questions on "environmental accounting", and broadened their understanding of the companies' environmental activities.



The environmental seminar



Isehara Clean Campaign

At Isehara Works, we have been cleaning our commuting route early in the morning since 1991. The "clean campaign" was held 193 times until FY2009, and in 2000, we received a letter of appreciation from the chief of Kanto Construction Bureau of Ministry of Construction.

We all wear the orange "Forest-in Office" vest while cleaning the streets, and sometimes we receive warm words of encouragement and appreciation from the neighborhood residents.



Ono Clean Campaign

The Ono Plant participates in Ono City's "No litter & environmental month clean campaign" every year around May or June. In 2009, it was held on June 25th, and 174 Ono Plant employees (almost all) participated in the event.

They swept up a total of 26 bags full of litter from the roadside gutter around the plant.



Riverside clean campaign

Amada supports the activities of "Isehara liaison council of environmental conservation" where the city and the companies work together to promote environmental conservation.

Amada proactively participates in the "Riverside Clean Campaign" held every year in June, and clean the Shibutagawa riverside that flows through Isehara City.



Fujinomiya / Tanuki lake walk

At Fujinomiya Works, to promote the health of the employees and their family, they host a walking tour & cleaning of Tanuki Lake which is famous for the "Diamond Mt. Fuji".

This event is co-hosted by "Fujinomiya Works environmental health group" and "JAM Amada Fujinomiya labor union youth, women, and family group council", and participated by 140 people in FY2009.

The number of participants for this event is increasing every year, and it is a well established event among the employees.



Fujinomiya City Clean Campaign

Following the cleaning event of Tanuki Lake, more than 200 employees gathered on June 25th and 26th to clean the Fujinomiya Works, Elementary and Jr. High schools of the area, and the grounds of Mt. Fuji Hongu Sengen Taisha, picking up a total of 1.25 tons, one truck full of litter.



Voice 4

Cleaning improved our teamwork!

First assembly manufacturing division, Coating group, Group leader, Mr. Yasuhisa Watanabe

The cleaning was held during the sunny interval of the raining period, and everyone worked very hard. Each group was assigned an area, and after we were done, I felt it improved our teamwork. It was very hard work, but seeing the clean landscape, I'm glad I participated.



This was a part of our company assignment, but I look forward to participating in regional events like this in the future.



Fujinomiya Environmental Fair

On June 5th and 6th on the World Environment Day, "The Environmental Fair of Shizuoka Prefecture" was held at Fujinomiya City Cultural Hall, hosted by Fujinomiya City and the local companies.

Amada exhibited our environmental initiatives, introduced our products and machining samples, and shown video that introduces our company. Some of the visitors took interest in our exhibited materials, and asked us some detailed questions. We think this Environmental Fair served a good opportunity for us to appeal our Fujinomiya Works to local residents.

We hope to continue these locally rooted activities with Fujinomiya City and participating companies.



The Fair

Elementary school field trips

Amada accepts field trips from elementary schools every year, and in FY2009, we invited 64 Third graders and 3 teachers from a nearby school to tour our facility and watch our machines. The children watched in amazement when the machines process metal.

On the map, Amada is represented with a factory mark (X), and the children were wondering why because our facility doesn't look like a factory from the outside. But by looking at the manufacturing floor, they seemed to understand our company, our products, and its relationship with the products around them



Taking notes of what they saw



the bent sheet metal, "we can have nagashi-somen" (eating noodles from long bamboo shoot) with this

Composting Fallen Leaves

There are 164 Keyaki (zelkova) trees in Isehara Works, and its leaves in the fall amount to 10 tons. These 10 tons of leaves are brought to a farm in Samukawa-cho to compost for 3 years. This compost is very high in quality, and they're used for growing cyclamen (Chinese lantern plant), and periwinkle.

The cyclamen grown with the keyaki compost are sold at bargain prices every December inside the FORUM246 (the training facility) at Isehara Works, for the local residents and employees.



Cyclamens being sold

Ono -cherry blossom viewing event

There are 35 year old cherry trees in Ono Plant. Between the rows of cherry blossom trees runs a water for agricultural use, and every year during the cherry blossom season, the local residents gather at the pedestrian walk along the water to watch the flowers.

This year, we opened a part of our facility to the public as a "cherry-blossom viewing event", and promoted communication with the local residents; with the flowers, as well as chorus performance under the cherry trees, and cutting-demonstration with Amada machines







Cherry trees at the main entrance of Ono Plant

Chorus by the volunteers

Also on a different day, people from the nearby senior care-home "Sawarabi Day Service Center Ono" and "Day Service Shippo" were invited to sit and watch the cherry blossoms



The people from the day service center watching the cherry blossoms



Pictures with the guests



With our employees

Amada values each one of our employees, their families, and everyone around our company, trying to become a better company through our activities.

Family Facility Tour

In order to let the family members feel closer to and have a better understanding of the company, Amada hosts facility tours for the family members in August. This year, the dates for Isehara and Fujinomiya were different, so it was possible to participate in both.

52 families for Isehara and 15 for Fujinomiya participated, and the employees introduced the facilities and the machines to their families, having fun each in their own ways.

This year at Isehara, they introduced the meaning and the intent behind the buildings and art pieces. At Fujinomiya, they organized events such as orienteering quizzes and sales of locally grown organic vegetables. We received good reviews from the participants, such as "it was a great opportunity for the family to get to know the company I work for", and "it was a great experience for both the parents and the children to see where the machines actually worked.





Isehara: interested in work samples



Fujinomiya: showing their own families around the facility

Isehara: meals after the tour



Fujinomiya: the organic vegetable sale was a great success

Worm Farm



There is a "Worm Farm" inside the Isehara Works. We call it that because the fallen leaves collected make the leaf mold, and worms gather, and these worms make the leaf mold composts.

In FY2009, we distributed the larvae of beetles that grew in this worm farm to the employees who wants them who has children under 3rd grade. Afterward, this high quality composts were distributed to the employees who wants them for kitchen gardens and such.

An employee who applied for the beetle commented, "I wanted my child to experience raising beetles from

larvae" - it seemed to help out in parent-child communication. Another employee who got the compost commented, "the soil in my garden was becoming poor, so I added the compost around the Christmas Orchid. It grew very big, and it looks like it will produce big flowers!"



The growing Christmas Orchid

Voice 5

Amada Machine is like Magic!

Press Sales Division, Product sales unit Service Promotion Group Mr. Seiji Saito

"Wow, it's like magic!", this was my daughter's first comment.

Until the day before the facility tour, she was filled with excitement for seeing where her father works, but also anxious and afraid of not knowing what to do in an foreign environment.

Arriving at the reception desk tense with anticipation, she received a name card with her name on it, and she was quickly in a good mood, maybe she felt she was able to join the "adult world".

Once we went inside the exhibition hall, she saw many machines that looked like magicians – everything she saw was a new experience for her, filling her with surprise and wonder. I'm glad that she came to understand that the products she sees and uses casually everyday are made with Amada machines. I would like to thank the company for giving us an opportunity like this. Thank you very much.

I would definitely like to see this event continue in the future.





Disabled Persons' Employment

The Handicapped Persons' Employment Promotion Act defines the ratio of people with physical and intellectual disabilities in private firms meet 1.8% of the overall employees.

At Amada, we have accomplished 1.8% in March 2008, and we are now at 1.85% in FY2009.



Special leave system

Amada has concluded an agreement between the Kanagawa Prefecture Board of Educations on implementing the initiatives for "improving the family education capabilities by appealing to the employees the necessity of family education".

As one of these initiatives, Amada has adopted the "Special leave for school events" in FY2008. Employees that have children under 15 (during compulsory education) can take 2 days off from work (4 days for more than one child) for participating in school events.

We also have various "special leaves" such as "marriage leave" for the employees getting married, "maternity leave" for childbirth, "child-care leave" for raising children, "spouse's childbirth leave" for accompanying their spouse's childbirth, and "family-care leave" for those who have family members that needs nursing. Employees can take a longer leave of absence than required by the statute for "child-care leave" and "family-care leave", supporting the employees balance work and family.

Voice 6

I now know what "family education" is!

Custom System Division, Custom Software Group Mr. Hideo Baba



I used the "Special leave for school events" to attend the "parents' day" and the "Sports Festival". I felt less guilty about taking the days off because of the note "please use the leave without hesitation" on the HR department's web page.

By participating in school events, I was able to see how my child is growing. I was able to discover his likes and dislikes, and recognized what we should be doing at home for family education. I am grateful that this special leave was newly established for us to participate in family education.

Group video training

Amada implemented group video training on compliance and sexual/ power harassment in Isehara and Fujinomiya Works in July.

The trainings were realized because the importance of "improving the awareness of compliance, and continuing its activities" for Amada and the Group employees was recognized.

From the post-training questionnaire results, we saw many voices such as "it was easy to understand with the video, and it enhanced my awareness on compliance and harassment", "we unintentionally postponed the 'belearning*', so this group video training is more effective", "it is important to continue education like this", and they seemed to understand the importance of compliance and harassment.

The Internal Control Council posted the courses taken on "Be-Learning" on the intra-net, and the employees can use them as many times as they like.

Internal reporting / consultation

With the purpose of strengthening compliance, Amada has established "internal reporting/ consultation desk" since FY2008. This desk is used for consultation and reporting organizational or private violation of law.

The consultation desk is located both inside and outside Amada, and the reporting desk is located only on the outside to keep it more accessible.

Voice 🕖

"Child-care leaves" for new dads too!

Solution Software Development Division Software planning & control unit, software verification group Ms. Yuriko Okuma

My supervisors readily agreed when I talked to them about returning to work after "maternity leave" and "child-care leave", and they fulfilled my wishes as much as possible. We communicated periodically during my leave of absence, and the processes for returning to work



was smooth so I was able to come back without anxiety.

It's difficult to balance work and family, but I'm glad I was able to continue working at Amada with our maternity leave system.

I hope Amada will streamline the environment so that anyone wanting children can take the child-care leaves, whether male or female.

* Be-Learning: Web learning system using the network technology.



Forest-In Office

Surrounded by beautiful nature

Amada's dream is to be "an office of the forest". The facility treasures the harmony with the greens, and unique ideas are hidden here and there. Amada's imagination is nurtured in this beautiful nature, and we will continue our efforts to bequeath this natural environment to our future generations.

Isehara Works





A Japanese garden near the main entrance, a garden that delights the eye - with a stone that forms an image of a bridge, a turtle sticking his head out from gravel portrayed as water



Amada symbol "SFERA" It looks like it's floating



A gazebo close to the Japanese garden where the employees can relax



Japanese trees that are difficult to grow indoors with

supplemen

and



o on the 1st floor of the Building - with indoor



Roof top garden near the headquarter building. Started out with 5 trees, but the number grew naturally, and there are now more than 10 vibrant trees



Atrium and indoor patio inside the Amada Solution Center - comforting environment Amada facility with indoor greenery where you can enjoy the fusion of building and greenery

Bamboo inside

Many planter boxes inside the office. With special soil, the plants grow well with just one watering every 2 weeks to 3 months



Spot gardens between FORUM 246 and the 246 lounge - it's beautiful to look at

Editor's note

How did you enjoy the "Forest-In Office – Amada Green Action 2010"? We hope you have a better understanding of Amada's environmental activities.

To fulfill the environmental responsibilities toward our stakeholders, Amada is deploying business activities such as offering eco-products, and regional and a social activities with environmental-conservation purposes.

Furthermore, Amada has established the "Environmental declaration" in April 2010 as a new step for demonstrating our commitment.

We tried our best in introducing Amada's environmental activities to our readers, but we're sure there is still room for improvement.

We would like to reflect the opinion of our readers on our future environmental activities, and our future reports. Let us hear from you!



Forest-In Office editorial board



Fujinomiya Works



Natural light welcomes the customers and employees at the Development Center







With priority on harmony with nature, natural stones are used for stone walls, and the facility is designed so as not to destroy the forest scenery.



"Narusawa club" in the forest is a place where the employees can relax





Wild Christmas Orchids (listed as endangered) grow in Amada Forest



Beautiful cherry blossoms from the parking lot to the "Narusawasou"

A bank near the parts center with cherry trees



Reservoir is surrounded with abundant nature

Phlox subulata near the

main entrance – the combination with the water

fountain is vibrant



Path leading to the "Narusawa club" – very relaxing with the sound of a stream





The fountain expresses the blade tip and gullets, and the fountain water expresses the chips



The gate station is designed to express the left and right blade setting



The lobby of the office building images a forest with house plants and greens



The red triangle on the office building expresses the blade tip



Rows of cherry trees – employees and the general public can view the cherry blossom



The waterfall behind the water fountain – with carp in the pond





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