

Contributions through Products

Products and Production Technologies

1. Contribution to the environment through products and production technologies

Steel products have excellent recyclability and are one of materials suited to a recycling-oriented society. The foundation of steel recycling system is a steel-making process using electric arc furnaces, where steel scrap is used as main raw material for various steel products. Daido Steel, by improvement of production process and development of new special steel grade, is providing special steels with various functions that make it possible to have high strength, long life and lighter weight, and to simplify processes in the customers and to save resources for contribution to reduce environmental impact.

Main ecological products and technology of Daido Steel

M : Materials T : Technology
E : Equipment/Steel making equipment engineering

energy saving

ECOLOGY
&
ECONOMY

Recycling

Environmental preservation

Resources and energy saving

Lightening weight of parts for automobile, simplifying the process of customer contribute to save resources and energy.

Lightening weight

High strength gear steel
High strength spring steel
Titanium Alloy

Process simplification

Micro alloy steel
Induction case hardening steel for cold forging
Boron steel for cold forging
Case hardening steel with special quality to control grain growth
Metalic Powder

High efficiency

High magnetic force rare earth magnet
Memory shape alloy
Gasturbine disk

Long life

Long life tool steel
Super clean bearing steel
High strength gear steel
PPW system

Eliminating process

TEKISUN technology
e-QUALITY
Precision casting technology
High-precision steel strip production technology

Recycling

Contribution to recycling by developing and providing equipments to reduce disposals and wastes.

Ash Melting System by oxy-fuel banner
Municipal Solid Waste Incinerated Ash Melting System
Sewage Sludge Carbonizing System
Metal bearing wastes recycling system

Environmental preservation

Treatment facility for drain(pumping out)

Landfill refuse leachate treatment equipment
Domestic wastewater treatment equipment
Sewage treatment equipment
Wastewater treatment equipment for high density Hydrazine
Oxidation ditch sewage waste treatment equipment
Electro magnetic filter

Treatment of disposals

Dust removal filter(for tunnel exhaust)
Dust chamber

Others

Annealing furnace for steel pipes
Dioxin reduced equipment
Starcut TICS
Free cutting steel called "e-series"

Environmental friendly technologies in steel making

Daido Steel has been promoting the reduction of the environmental impact with its long nurtured technology such as dust collecting and slug recycling.

Saving energy and resources

ELVAC system

Recycling

Steel-making by electric arc furnace
Slag recycling technology
Dust recycling technology
Circulating cooling water in plants

Preserving environment

Technology to improve work environment Sky house dust collection
Dust treatment technology (chemical treatment)
Reducing Nitro-oxides

Turbocharger Housing



Daido Castings Co., Ltd. employs a process called CLAS (*) to manufacture complex shapes of products, e.g. turbocharger housings. And the CLAS process also enables to cast 1.5 mm thickness of its thinnest part of the products.

In the stringent emission regulation in Europe, the number of automakers began to apply gas turbocharger housings of our steel grade KN2.

(*) Counter gravity Low pressure Air-melt Sand process

New material for turbocharger housings

Newly developed 1100 degree centigrade heat-resistant steel for the first time in the world We collaborated with Daido Castings Co., Ltd. in developing 1100 degree centigrade heat-resistant steel for turbocharger housings for gasoline engine.

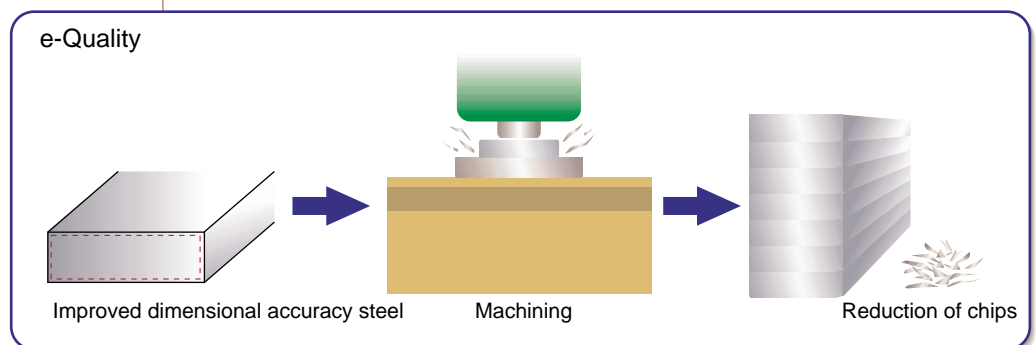
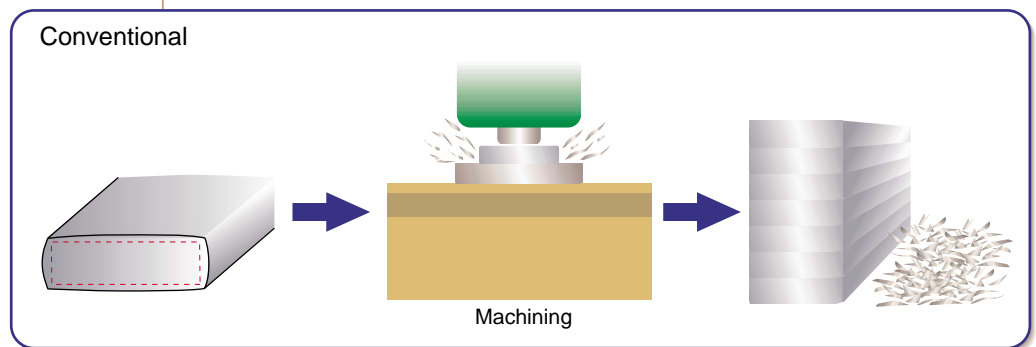
They are called "KN series" which includes steel grade "KN6" and others. We are producing variety of heat-resistant steels series to meet customers' requirements.

Mechanical properties and temperature (mass%)

鋼種名	C	N	Cr	W	Nb	temperature ()
KN2	0.27	72	20		0.7	830 ~ 1100
KN3	0.27	20	25	1.0	1.0	960 ~ 1020
KN4	0.3	26	25	2.0	1.0	990 ~ 1050
KN5	0.3	25	25	4.0	1.0	1020 ~ 1080
KN6	0.3	40	25	6.0	1.5	1050 ~ 1100

Precise rolling of tool steel plate "e-QUALITY"

Improved rolling technology enables to produce tool steel of precise dimension accuracy. "e-QUALITY" is the improved tool steel which has a dimension accuracy by one thirds as it was used to be. Cutting breadth is under 1 mm on the surface. It saves material cost, extends tool life, shortens the time of die processing and reduces the amount of chips. These advantages for our customers all lead to saving energy and resources.



2. Latest environmentally-friendly technologies and products

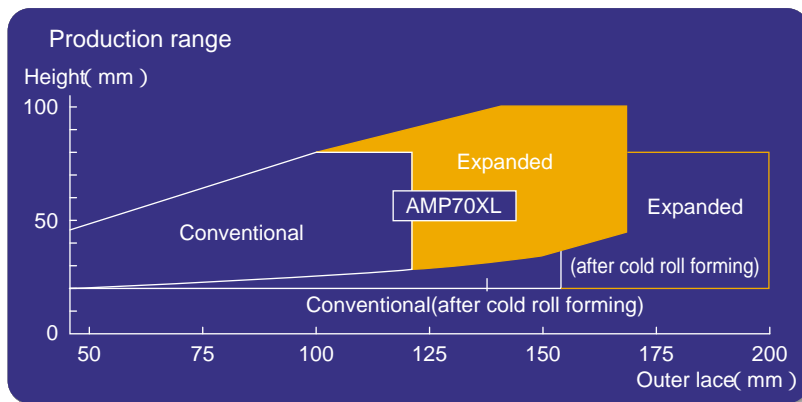
Large size precise hot forging
AMP70XL^(*) was introduced to Chita Forging Plant and started operation in May, 2003. It is the large size precise hot forging machine of high speed.

We have been providing value-added forging products mainly for auto parts and bearings with 12 warm precise forging machines of high speed at Daido Steel Group.

Large products are produced in highly "near-net" shape effectively with the combination of CRF^(**) to save machining.

(*1) AMP: Automatic Multistage Press

(*2) Cold Roll Former



AMP70XL
 Length 13600mm
 Width 9600mm
 Height 4450mm
 Weight 187ton

