

# S Quality Initiatives

## Basic Stance

The EKK Group regards product quality problems as an existential threat because they lead to defective products in the hands of customers or end-users and, in turn, loss of stakeholders' trust.

The Group has vowed to never allow even a single defective product to be shipped. Under the slogan "Eternal Zero," it has been unremittingly striving since FY2016 to improve quality with the aim of maintaining a level of product quality that customers can rely on and guaranteeing the same quality level all over the world.

## Quality Management Regime

To continuously provide products which satisfy customers, EKK strives to maintain and improve quality, and has built and makes use of an ISO 9001-based quality management system.



## Companies/Divisions Certified as Compliant with International Quality Standards

Company/division name	Industry	Standard	Month certified
AI/CI Division, Eagle Industry Co., Ltd.	Automobile/construction machinery	ISO 9001	May 1999
	Nuclear power generation	IATF 16949	March 2018
Marine Division, Eagle Industry Co., Ltd.	Marine	ISO 9001	March 1994
Aerospace Division, Eagle Industry Co., Ltd.	Aerospace	JIS Q 9100 (including ISO 9001)	April 2004
Niigata Plant, EagleBurgmann Japan Co., Ltd.	General machinery	ISO 9001	March 1999
Eagle Highcast Co., Ltd.	Marine (casting)	ISO 9001	November 2001
ESM Company	Semiconductors	ISO 9001	June 2020

## Quality Assurance Regime

Each year in response to the president's policies, the Safety, Environment & Quality Control Office formulates quality policies, priority matters and quality targets which are then deployed by the EKK Group. In turn, business divisions formulate quality assurance action plans which are then deployed throughout the business divisions as well as to global subsidiaries under their jurisdiction.

The individual business division components and subsidiaries then incorporate concrete action plans for achieving the directed quality targets into their annual operational plans, with all components and subsidiaries engaging in activities to improve quality.

As part of deploying the quality policies, priority matters and quality targets, business division quality control (QC) managers regularly convene to hold a QC Manager Meeting. At QC Manager Meetings, quality managers review the state of implementation of quality assurance action plans as well as policy deployment. In addition, they also strive to ensure a uniform quality level across the entire EKK Group and to implement bottom-up management.

Each year, the president and upper management conduct on-site management assessments of business divisions and overseas production subsidiaries, and the Safety, Environment & Quality Control Office conducts quality patrols. The purpose is to check and review quality assurance activities and promote effective and continuous improvement.

## Quality Improvement Initiatives

EKK implements its own quality improvement initiatives for all of the processes spanning from order reception to delivery.

### Monitoring of Quality Information from the Market

EKK constantly monitors for signs of possible serious quality problems, actively commissioning product studies and gathering and analyzing customer complaints and other market quality information.

The information gathered from these studies and analyses are not only provided to internal organizations but also conveyed back to customers when needed, aiding in the improvement of product quality.

### Quality Evaluation Meeting Inspections Conducted before Mass Production of New and Updated Products

For new products as well as products with updated designs or production processes, Quality Evaluation Meetings are held based on matters such as purpose of use, novelty, and update content to determine whether to move forward with mass production.

When designated in the requirements, Quality Evaluation Meetings are held at the design conception stage, design completion stage and mass production transition stage. The General Manager of the Safety, Environment & Quality Control Office makes the decision as to whether to move on to the next stage.

### Activities to Reduce In-Process Defective Products

EKK actively engages in activities to reduce the occurrence of defective products in its production processes with the aim of preventing complaints.

Business divisions and subsidiaries conduct activities based on various annual themes. In recent years, an activity focusing on production floor-led initiatives has produced particularly great results.

This activity was based on one being implemented by a customer. Examples of defective products are displayed on the production floor. Led by a defective product event department and with other departments also participating, this aids in the development of countermeasures as the defective products are examined, resulting in the steady creation of measures for dealing with individual defect events.

In addition to contributing to the realization of the Group's "Eternal Zero" vision, this activity results in the belief that quality is something created at the process level permeating down to the individual production worker. In turn, this contributes significantly to individual workers seeking to proactively resolve problems which occur in their respective processes.





### Quality Education for Human Resource Development

EKK provides level-specific quality education.

In order to cultivate the next generation of quality control personnel with the aim of perpetual quality maintenance and improvement, it particularly focuses on introductory education to young employees to increase their knowledge of quality, and on intermediate education for mid-level employees to increase their problem-solving capabilities.

The Group has created more than 10 courses, covering everything from the seven basic quality control tools to courses which teach how to utilize various statistical methods such as why-why analysis and MSA.\* Some courses also incorporate group exercise-based skills acquisition.

Due to the movement restrictions imposed by the COVID-19 pandemic since FY2020, the Group has introduced quality education leveraging online courses, the content of which is steadily being improved even as they are conducted.

From FY2017 to FY2021, 793 employees received introductory education. From FY2019, when we began providing it, to FY2021, 215 employees received intermediate education.



\* Measurement system analysis. A method for quantifying and evaluating the validity of a measurement system.

Introductory	Intermediate	Advanced
<ul style="list-style-type: none"> <li>• TQC and TQM</li> <li>• QC story</li> <li>• 7 QC tools, etc.</li> </ul>	<ul style="list-style-type: none"> <li>• Why-why analysis</li> <li>• Basic statistics</li> <li>• Control charts, etc.</li> </ul>	<ul style="list-style-type: none"> <li>• Multiple regression analysis</li> <li>• Experiment design</li> <li>• MSA, etc.</li> </ul>

### Quality Handbook to Increase Quality Consciousness

Developing human resources highly conscious of quality is integral to maintaining high quality. In FY2019, EKK published *Eternal Zero* (the EKK Quality Handbook). The handbook is distributed to all employees to elevate employee quality consciousness, and to be used as a collection of knowledge employees can quickly check when having difficulty.

It has been translated into English, Korean, Indonesian, Thai and Chinese (in both traditional and simplified characters). Distributed to overseas companies, as well, it is helping to increase quality consciousness on a global level.



### Quality Control Circle Activities

EKK conducts employee-led, small-group quality control circle activities with the aim of improving quality.

In these quality control circles, themes relevant to their workplace are chosen together by all members, making the circles an important activity for improving member capabilities and energizing workplaces.

Business divisions and subsidiaries conduct annual presentations of their activities and select a circle group to represent them at the EKK QC Circle Tournament.

In FY2021, seven circle groups from Japan and two from overseas were selected to present the results of their activities at the 16th EKK QC Circle Tournament.

Due to the movement restrictions imposed by the pandemic since FY2020, the conference was conducted over the internet.



### Quality Awards System

EKK has introduced an internal quality awards system with the aim of stimulating quality improvement activities and increasing motivation.

In order to enhance the quality consciousness of EKK Group employees in Japan, entries are encouraged to be submitted on an organizational level and to be about activities that are relevant to the employees themselves. Once a year, organizations are chosen to be awarded for outstanding quality improvement results.

### Promotion of Quality DX

EKK has introduced a quality information system and begun creating a database of information concerning quality.

The EKK Group is promoting going paperless by digitalizing existing documents, increasing the speed with which information is disseminated by digitalizing existing workflows, enhancing work efficiency and automating the smooth collection and dissemination of information.

Going forward, the Group will link its accumulated quality information with production and design data to share and effectively utilize this information.

The Group has also achieved great success in the smooth implementation of teleworking, the need for which grew with the pandemic, by introducing an electronic approval system.