

INTEGRATED SYSTEM – QUALITY, ENVIRONMENT AND SAFETY

Clarice Heck and Luis Emilio Athanasio
Quality Assurance

Mariezi Olivo de Brida
Environmental Engineering

ELIANE Revestimentos Cerámicos
(BRASIL)

1. INTRODUCTION

The concept of quality has long been treated in a broader sense by both companies and consumers. The old definition, according to which quality only meant producing goods or services appropriate for use, has made way for the concept that for a company to operate with quality, it must meet the needs of all the persons somehow involved in the work. The so-called "Dimensions of Quality", affecting customers, staff, shareholders and the neighbouring community need to be attended to: product quality, services, delivery, profit, cost, employee morale and environmental protection. This last dimension has been dealt with in a very special way in recent years. It is no longer countenanced that a company, regardless of its area of work, should pose a threat to the environment by its activities. If the directions of these dimensions are treated separately through independent programmes and systems, they can give rise to contradictions, excessive documentation and multiple verification systems, and when one particular dimension is focussed on, others tend to be forgotten.

An Integrated Quality System was implemented at Eliane Gres Porcellanato by adopting two internationally recognised and accepted management standards: the ISO 9000 and ISO 14001 series of standards. The ISO 13006 standard was used as the product reference standard, and applicable labour law was adopted for integrating Work Safety.

2. INTEGRATION OF QUALITY SYSTEM AND ENVIRONMENTAL MANAGEMENT SYSTEM FEATURES

Based on acquired experience, Eliane chose to keep the ISO 9001 structure to integrate the systems, identifying the features that were common to the two standards and adding the specific features of ISO 14001. The structure of the Integrated System was established by considering these two management Systems, while the other requirements (ISO 13006 and Labour Law) were included in the items of one of the two standards.

3. SYSTEM FEATURES

During the implementation procedure, great similarity was found between certain features. Other items at first appeared to be completely independent, but further analysis allowed each item from one standard to be integrated with an item from the other. The items were then divided into two groups: common features and related features. The table below sets out the relationship between ISO 9001 and ISO 14001 features.

3.1 COMMON FEATURES

This group contains the items of the two standards, which mirror each other almost fully. Hardly any changes needed to be made in the already familiar Quality System processes for the Gres Porcellanato unit to meet the environmental requirements. The following items were involved: quality policy and environmental policy, quality objectives, environmental targets and safety objectives, structure and responsibility, training, documentation, documentation control, non-conformity, corrective and preventive action, internal audits, management review.

3.2 RELATED FEATURES

Quality planning (environmental aspects, legal requirements), process control (emergency plan and capacity of response, communication), inspection and tests. Other company activities which, besides being characteristic quality system requirements, also directly affect the environment are: contract review, design control, purchasing, handling, storage, packaging, preservation and delivery, and after-sales service.

4. CONCLUSION AND RESULTS

Implementing the Integrated Quality System has yielded the following results:

- An integrated view of the process by those making up the system, from the conception of a new product, via the process, its interactions with the environment, to health and safety risks in the workplace, providing a management system based on the two international standards.
- Participation and commitment of the staff of the unit with regard to the systems and a clear definition of responsibilities in every process step.

ITEM ISO 90001	ITEM ISO 14001
4.1 Management responsibility	4.2 Environmental policy 4.4.1 Structure and responsibility 4.6 Management review
4.2 Quality System	4.3.1 Environmental aspects 4.3.2 Legal and other requirements 4.3.3 Objectives and targets 4.3.4 Environmental management programme 4.4.1 Structure and responsibility 4.4.4 Documentation of the environmental management system
4.3 Contract review	4.4.6 Operating control
4.4 Design control	4.4.6 Operating control
4.5 Document and data control	4.4.5 Documentation control
4.6 Purchasing	4.4.6 Operating control
4.7 Control of customer supplied product	Non-applicable
4.8 Product identification and traceability	4.4.6 Operating control
4.9 Process control	4.4.3 Communication 4.4.6 Operating control 4.4.7 Emergency plans and capacity of response
4.10 Inspection and tests	4.5.1 Monitoring and measurement
4.11 Control of inspection, measuring and test equipment	4.5.1 Monitoring and measurement
4.12 State of inspection and tests	4.5.1 Monitoring and measurement
4.13 Control of non-conforming product	4.5.2 Non-conformity, corrective and preventive action
4.14 Corrective and preventive actions	4.5.2 Non-conformity, corrective and preventive action
4.15 Handling, storage, packaging, preservation and delivery	4.4.6 Operating control
4.16 Control of quality records	4.5.3 Records
4.17 Internal quality audits	4.5.4 Environmental management system audit
4.18 Training	4.4.2 Training, raising awareness and professional competence
4.19 After-sales service	4.4.6 Operating control
4.20 Statistical techniques	4.5.1 Monitoring and measurement

- Waste control and prevention by analysis of the best available technique.
- Economy and lower costs by reducing the consumption of electricity, heat, fuel and raw materials.
- Reducing or eliminating risks inherent to emergency situations.
- Improved dialogue with the neighbouring community and environmental bodies.
- Implementing a maintenance verification system and improving the Quality System by internal audits.
- And finally, the opportunity to publicly demonstrate that a company is involved which works within a concept of development that has been certified by ISO 14001, and guarantees the quality of its products and services through ISO 9001 and ISO DIS 13006 certification.