

## Quality guideline of EQAR



### Preamble:

- EQAR supports a sustainable and ecological substance cycle in the sense of a recycling economy in construction.
- EQAR promotes the production of high-quality, quality-controlled recycled building materials of mineral residual building masses.
- EQAR supports environmental, resources and landscape protection by recycling building materials.
- EQAR stands for a high construction and environmental engineering quality of recycled building materials.
- EQAR regards itself as a lobbyist for recycling building materials and stands up for political, economic and legal basic conditions promoting a recycling economy.
- EQAR claims responsibility for the quality of recycled products.
- EQAR supports its members in implementing these aims certifying their quality control systems according to the following criteria:

### • Pre-selection of material input

Material for recycling shall be only accepted if a pre-selection has taken place during the demolition of the previous object/structure ("controlled demolition"). This is to minimize the input of hazardous materials and pollutants already in advance. The data must be documented.

### • Removal of materials with pollutants containing harmful substances

If, however, pollutants containing harmful substances are found in the material to be recycled this material must be removed or refused. This must be documented.

### • Input control secures input quality

A thorough input control will ensure the required quality and composition of the material input. The input control must be documented.

### • Processing of the recycled building material according to the requirements in conformity with EN 12620 and EN 13242

When using recycled building materials in the field where this European standard is applicable these requirements must be met.

### • Ensuring environmental compatibility in conformity with the relevant regulations of the national states

Proof of the suitability of the national regulations relating to environmental compatibility must be furnished by sampling and documented.

### • Quality assurance by rotational testing of the recycled products

A quality assurance system prescribing which regular tests will ensure the quality of the materials must be developed and adopted.

### • Transparency of quality assurance by documenting the test results of the recycled building materials tested

All data obtained on the basis of the above-mentioned criteria of the quality assurance system must be documented to ensure transparency for the client.

**National member associations and companies committing themselves in writing to observe this quality guideline will be awarded the EQAR quality label for quality control systems.**

## EQAR provides the following advantages to its members:

- EQAR-quality label as a European certificate for quality-controlled recycled building materials
- Information on all recycling subjects
- Information on the European laws and regulations
- Support in political problems on national level
- Support in market preparation
- Marketing for recycled building materials
- Support in all recycling problems
- Technological lead by a European exchange of experiences
- Technical knowhow of modern update recycling materials

### Impint

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### Sources of illustrations and graphics:

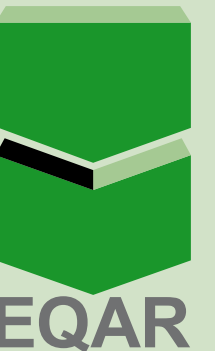
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Seite innen m., Graphs: (o.) eurostat, European statistics (mineral waste, Recovery of 2004 and 2006), own calculations, (u.) Report to the European Commission DG XI.E.3 1999 and ETC/W questionnaire,  
Page inside r.: Österreichischer Güteschutzverband Recycling-Baustoffe (brv)



## Recycling of building materials

## European market of quality-assured recycled building materials

EQAR – European Quality Association for Recycling e.V.



# Recycling of building materials – for nature and climate protection!

## The global environmental situation

In the 21st century our planet faces new global, sustainable and, in particular, ecological challenges. Until 2025 the world population will increase to approx. 8 billion people.

Since 1960 the use of natural resources has increased by 260 %.

The climate change threatening due to an uncontrolled CO<sub>2</sub> output shows also the problems associated with an unhindered consumption of resources by the resource-intensive world economy.



## Protection of resources required

According to data published by the European Environment Agency [3] the consumption of primary materials amounts to about 15 - 16 tons per person and year in the 15 EU member states. This consumption of materials has adverse effects on environment in Europe as well as in other regions of the world, e.g. by the production of big quantities of waste.



Already in the foreseeable future primary building materials may run short. The European Commission requested to no longer destroy interconnected undisturbed landscape areas by the extraction of primary raw materials.

For all these reasons a fast reorganization of the European economy and, in particular, of construction in the sense of a recycling economy will be indispensable and is a declared aim of the European Union.

## Waste accumulation in Europe

One third of the resources consumed is converted into waste and emissions according to data quoted by the European Environment Agency. In the member states of the European Union approximately 4 t of waste per person are produced a year.

The biggest volume of waste in Europe is produced by construction and demolition work. According to information given by the European Statistical Office EUROSTAT 48 % of the waste produced fall to construction and demolition work and further 15 %

of the waste produced come from mining and stone and earth extraction in the 15 EU states.

Yet, the materials contained in construction waste differ enormously in the European states. In Austria, Germany and the Netherlands high portions of concrete, bricks and tiles are contained (see graphics). In Finland and Sweden naturally the wood portion dominates.

Notably construction waste with a high portion of concrete and stone may be processed into high-quality recycled building materials.

## European targets of environmental protection

To avoid waste the European Union laid down binding recycling quota for the member states of the European Union in the amended EU Waste Framework Directive which entered into force in 2010. The recycling quota for construction and demolition waste is on average to be increased to 70 % of the waste produced until 2020. It is the aim to produce high-quality construction products of construction waste in the sense of a closed cycle.

## Recycling is indispensable

By a minimum recycling quota of 70 % environment will be protected in multiple respects. Less dumping areas mean less use of landscape. High-quality recycled building materials are an equally good substitute for natural building materials, thus contributing to a protection of landscape by reducing extraction areas and pits respectively.

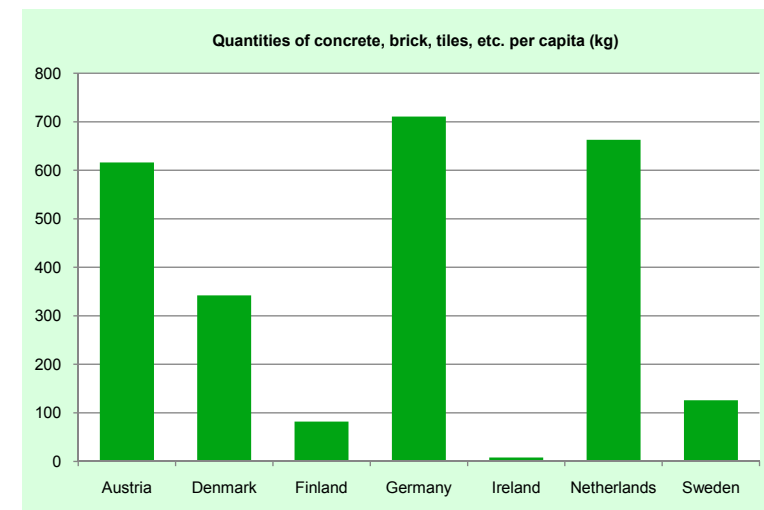
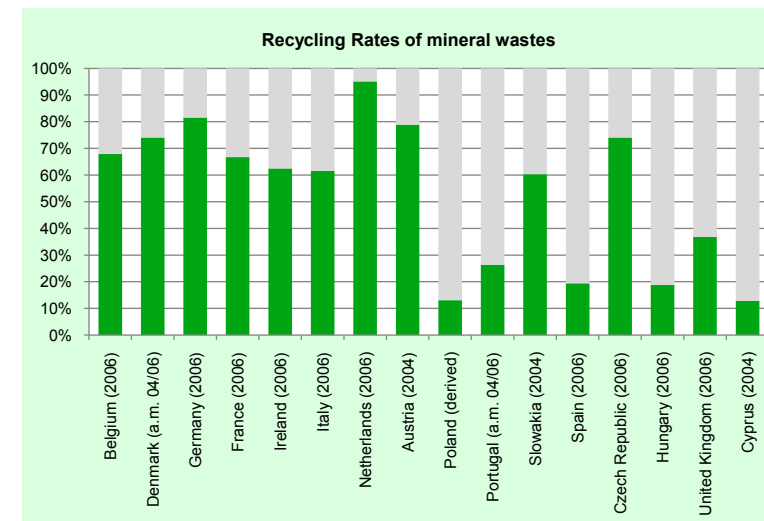
By recycling building materials on site or in the nearer region finally big quantities of CO<sub>2</sub> are saved which otherwise would be released by removing waste and supplying natural building materials frequently over large distances. Thus, recycling of building materials may also pay a remarkable contribution to climate protection.

## Big differences in the readiness to recycle in Europe

In construction the readiness to recycle differs remarkably in Europe. In Austria, Denmark, Germany and the Netherlands a recycling quota of more than 70 % was stated. However, potentials are still available in the remaining European states.

## Markets for quality-assured recycled building materials

The fields of application of recycled building materials are wide-ranging. So far recycled building materials have been used in the construction of roads, road foundations and sports grounds, for noise protection walls, earth banks and in landscape construction. They are also increasingly used as aggregates in the concrete and stone production.



By controlling the quality of recycled building materials on the basis of technological test criteria a high quality and an excellent suitability of them are ensured. In addition, recycled building materials produced in modern processing plants are more economic than primary building materials.

The success story in the field of quality-assured recycling of building materials shows a high marketability of these products also as compared to natural stones in many European countries such as Austria, Germany, Italy, the Netherlands, Czech Republic and Switzerland. This is proved by their rising acceptance and demand by clients and authorities. In carrying through infrastructural measures in particular high-quality as well as economically beneficial recycled building materials are regularly used.



25 years of experience of the RAL quality community in Germany show: at the beginning 87 million tons of unused mineral wastes are now processed into 78 million tons of high-quality mineral recycling products.

Waste was processed into new marketable, quality-assured products and a new market was developed. Thus, a new market for recycled products is supplied with construction waste.

## Security for suppliers and users by quality control

As a matter of course, the pollution limits for drinking water fixed in the EU Drinking Water Directive 1998 have also to be considered. Against this background recycled building materials used in road construction and civil engineering are checked for their environmental compatibility to give the customers the guarantee of a certified ecological product.

EQAR through its member associations offers for this purpose a neutral quality assurance by means of respective certification methods with a current control. It is the aim to produce recycled building material of an unchanged high quality in a secure and low-cost process.

## EQAR – Engagement for quality of recycled building materials

As the roof organization of the building material recycling economy EQAR is active all over Europe. It is politically and technically active in preparing and

implementing complexes of rules and standards. EQAR participates in preparing relevant draft laws on European level in the sense of environment and its members.

EQAR aims at promoting and spreading a high-quality processing of mineral construction waste in the sense of the environment. Recirculating it into the economic cycle means preserving the value of these resources. That is why high demands have to be made on the quality of the products.

EQAR supports its members in ensuring high-quality standards of their products.

As a lobbyist of European recycling of building materials EQAR makes efforts to reach a high quality of the quality-controlled recycled building materials in the sense of the environmental and resources protection. This involves also the establishment of a European quality-assurance system for recycled building materials.

The longstanding experience and high competence of our European member associations and companies are concentrated in EQAR. Only in a strong association complexes of rules suitable for practice can be prepared and then implemented in a way accepted by all.

We shall be pleased to inform and advise you on all problems associated with recycling of building materials.

[www.eqar.info](http://www.eqar.info)