

natureplus e.V.

Guideline 0807

Masonry mortar

Issue: September 2020

For the Awardance of the Eco-Label



1. Application Areas

The following award criteria contain the requirements for awarding the natureplus quality mark to factory-produced lime and cement-based masonry mortar (sack or silo mortar). They are to be applied exclusively to such products as normal masonry mortar, light masonry mortar, thin-bed mortar, or roller mortar. Masonry mortars based on synthetic ingredients are not considered here.

2. Award Criteria

A prerequisite for the awarding of the natureplus label of quality to a product is compliance with the following awarding guidelines, where applicable:

- RL5001 Chemicals Directive
- RL5004 Transparency and social responsibility
- RL5010 Low emission building products
- RL5020 Climate compatibility and energy efficiency

2.1 Functional Usability

Masonry mortars based on lime and cement must meet the requirements of EN 998-2 or a comparable standard. The following requirements apply to the components used (if applicable):

- Cement: EN 197 or equivalent standard
- Lime: EN 459-1 or equivalent standard
- Aggregates for mortar: EN 13139 or equivalent standard
- lightweight aggregates for mortar: EN 13055-1 or equivalent standard
- admixtures for mortar: EN 934-1 and -3 or equivalent standard

The manufacturer is obliged to prove compliance with these requirements by means of appropriate documents.

2.2 Composition, Forbidden Substances, Substance Restrictions

The product must consist of at least 98% by weight of mineral raw materials. The following ingredients are permitted: Building lime, cement, mineral aggregates (e.g. sand) as well as for light masonry mortar mineral light aggregates such as expanded perlite, expanded clay or expanded glass.

Secondary materials should preferably be used as aggregates or lightweight aggregates. The manufacturer must disclose the current status of secondary raw material use and the situation regarding current and possible future availability. He must also present a concept for increasing the proportion of secondary raw materials.

The proportion of organic input materials is limited to 2 M-% of the product. An exception to this regulation can be made after approval by the review commission if the manufacturer can prove that his product is suitable for special areas of application or has special processing or technical properties and these represent an ecological advantage. In these exceptional cases, the proportion of synthetic organic components may be up to 5 %.

The use of other additives and admixtures must be technically justified. Methyl cellulose is classified as a renewable raw material.

The use of synthetic fibers, synthetic lightweight aggregates (e.g. expanded polystyrene) and biocides is not permitted.

The following substances are not permitted to be added to the product:

- Glycol compounds
- APEO's (alkylphenol ethoxylates)
- Azo dyes that cleave off carcinogenic amines
- Biocides that are not used for pot preservation (film preservatives)
- Halogenated isothiazolinones
- Formaldehyde separator

The product is subjected to tests according to section 3 and must comply with the limit values specified there.

2.3 Raw Material Sourcing, Production of Preliminary Products, Production

A proof of origin must be provided for all raw materials used. When using mineral raw materials, the requirements of RL-5003 must be observed. Proof of compliance with these requirements must be provided.

If silica sand is used as an additive, the manufacturer must prove that the workers are not exposed to any danger from quartz dust during the production process. Provide appropriate evidence: Wet processing of the quartz sand; no permanent workplaces in areas with high dust exposure; dust extraction equipment with high-performance filters; regular checks and inspections by official supervisory authorities.

If the product contains more than 5% cement, the cement manufacturer must confirm that the following requirements are met:

- The cement production plant must comply with the current state of the art, particularly with regard to the use of raw materials and energy sources, energy efficiency and emissions into the atmosphere.
- If waste is co-incinerated, emissions shall comply with the requirements of Directive 2010/75/EU, Annex VI, Part 4, Section 2. Compliance with the official regulations for the extraction of natural mineral resources and for the renaturation of the extraction areas shall be demonstrated. The extraction may not impair the protection objectives of areas that are protected or worthy of protection by law, either nationally or internationally. The relevant requirements of the natureplus Basic Guideline RL-5003 apply.

2.4 Usage

During use, the product must not have any odor or smell foreign to the product.

Emissions must not exceed the natureplus-limits as per Section 3 during the utilisation phase.

2.5 Recycling / Disposal

The product components must be suitable for disposal at a landfill for inert waste in accordance with EU Council Decision 2003/33/EC and in accordance with the national implementations of the respective member states. The manufacturer is obliged to prove compliance with the requirements of the member state (e.g. approval by national authorities or laboratory tests).

2.6 Ecological Parameters

The product must be manufactured in such a way that the requirements of public procurement directive RL-5020 on climate compatibility and energy efficiency are met.

2.7 Declaration

On the product packaging - if this is not possible, as close as possible to the product, in the technical data sheet or the sales brochure - a full declaration of the ingredients (in the national language or in English) must be provided in accordance with the EU Cosmetics Regulation, according to decreasing mass percentage. Input materials from preliminary products or preparations that remain in the endproduct with a mass content of >0.1% must also be included in the full declaration.

The following applies to the naming of the input materials within the scope of the full declaration:

- over 1 M-% the name of the substance
- less than 1 M-% at least the functional designation

Furthermore, the obligation exists to attach the following information to the product or to make it available to the consumer or user in a suitable manner (e.g. on the Internet):

- - Processing instructions and safety instructions
- - Storage and disposal instructions
- - Batch numbers
- Indication of the place and country of manufacture of the product

If ingredients with environmentally hazardous potential are used, the manufacturer must indicate at a suitable point which measures are to be taken in the context of removal and demolition work to protect the environment (e.g. controlled dismantling).

In addition, the consumer or user shall be provided with the following product-specific information where applicable.

- Material consumption or output quantity
- Indication of the mixing ratio
- Application temperature
- Minimum and maximum coating thickness
- Time frame for initial and complete curing
- pH value of the mortar mixture

- Expiration Date

2.8 Processing and installation

Products containing cement must meet the requirements of Regulation (EC) No 1907/2006, Annex XVII.

2.9 Packaging

The packaging used must be recyclable. The manufacturer must belong to a recycling system, if available.

Paper and cardboard packaging must consist of recycled paper. Alternatively, paper from sources in accordance with RL-5002 is permissible.

Plastic packaging must consist of polyolefins. PET, polystyrene, and polycarbonates are also possible as justified exceptions. PVC packaging is generally not permitted.

Packaging must not be equipped with biocides.

The natureplus symbol must be printed on the packaging after the awarding of the label.

3. Laboratory Tests

The products are examined by means of laboratory analysis for harmful substances and unwanted by-products. For the laboratory analyses, a representative sample is taken during the site inspection. Should the sampling not be able to be carried out by the natureplus inspector, then another independent person may also take the sample on behalf of natureplus. In the case of products with different dimensions but the same composition, one sample is sufficient.

3.1 VOC / TVOC

To check the release of VOC, SVOC and other volatile substances, a test chamber test is carried out with the product. The measurements are usually carried out after 3 and 28 days. The test chamber examination is carried out according to the awarding directive RL-5010

Low-emission building products. The limit values, demolition criteria, test chamber conditions and requirements for the test specimen listed there apply.

3.2 Elemental analysis

To check the content of questionable elements and to control undesirable impurities, an element analysis is carried out on the product. The limit values must be observed.

Element	Limit value	Unit	Method
Arsenic (As)	10	mg/kg	ICP-MS measurement in accordance with DIN EN ISO 17294-2, supplemented by natureplus implementation regulations and sample preparation adapted to the specific problem.
Cadmium (Cd)	1	mg/kg	
Cobalt (Co)	20	mg/kg	
Mercury (Hg)	0,5	mg/kg	
Nickel (Ni)	20	mg/kg	
Lead (Pb)	30	mg/kg	
Antimony (Sb)	5	mg/kg	
Tin (Sn)	5	mg/kg	

3.3 Other analyses

Test parameters	Limit value	Unit	Method
Chrom VI (Cr VI)	≤ 2	mg/kg	EN 196-10 Methods of testing cement - Part 10: Determination of water-soluble chromium (VI) content in cement
Organohalogen compounds: AOX/EOX	≤ 1	mg/kg	Organohalogen compounds after combustion and microcoulometric determination in accordance with natureplus - "AOX/EOX" design specification
pH-Value	≤ 12,75	-	EN 15933
Asbestos Fibers	not detectable	M.-%	VDI 3866-5 incl. appendix B (detection limit 0,01-0,001 M.-%)
Odour intensity	≤ 3	-	natureplus-execution regulation "Odour Test", 6-stage grading scale 24h after test chamber loading

4. Glossary

Test methods and references

natureplus-Awarding Guidelines RL-5001 Chemicals Directive

natureplus-Awarding Guidelines RL-5004 Transparency and Social Responsibility

natureplus-Tendering Guidelines RL-5010 Low-emission Building Products

natureplus-Tendering Guidelines RL-5020 Climate Compatibility and Energy Efficiency

natureplus - Design Specification "AOX/EOX

natureplus-Execution Regulations "Odour Test

EN 13055-1 Lightweight aggregates

EN 13139 Aggregates for mortar

EN 15933 Sludge, treated bio-waste and soil - Determination of pH

EN 196-10 Methods of testing cement - Part 10: Determination of the water-soluble chromium (VI) content of cement

EN 197 Cement - Part 1: Composition, requirements, and conformity criteria for standard cement

EN 459-1 Building lime - Part 1: Definitions, requirements, and conformity criteria

EN 934-1 Admixtures for concrete, mortar, and grout - Part 1: Common requirements

EN 934-3 Admixtures for concrete, mortar, and grout - Part 3: Admixtures for masonry mortar - Definitions, requirements, conformity, marking and labelling

EN 998-2 Specification for mortar for masonry - Part 2: Masonry mortar

EN ISO 17294-2 Water quality - Application of inductively coupled plasma mass spectrometry (ICP-MS) - Part 2: Determination of selected elements including uranium isotopes

Decision 2003/33/EC Council Decision of 19 December 2002 establishing criteria and procedures for the acceptance of waste at landfills pursuant to Article 16 of and Annex II to Directive 1999/31/EC

Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on industrial emissions (integrated pollution prevention and control), Annex VI, Part 4, Section 2 Special provisions for cement kilns co-incinerating waste

Regulation (EC) No 1223/2009 of the European Parliament and of the Council of 30 November 2009 on cosmetic products



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Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Regulation (EEC) No 793/93, Commission Regulation (EC) No 1488/94, Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, Annex XVII Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles