

BLUE ANGEL

The German Ecolabel



Salt-free Abrasives

DE-UZ 13

Basic Award Criteria

Edition April 2009

Version 3

The Environmental Label is supported by the following four institutions:



The Federal Ministry for the Environment, Nature Conservation and Nuclear Safety is the owner of the label. It regularly provides information on the decisions taken by the Environmental Label Jury.



The German Environmental Agency with its specialist department for "Ecodesign, Eco-Labeling and Environmentally friendly Procurement" acts as office of the Environmental Label Jury and develops the technical criteria of the Basic Criteria for Award of the Blue Angel.



The Environmental Label Jury is the independent, decision-making body for the Blue Angel and includes representatives from environmental and consumer associations, trade unions, industry, the trade, crafts, local authorities, academia, the media, churches, young people and the German federal states.



The RAL gGmbH is the awarding body for the Environmental Label. It organises the process for developing the relevant award criteria in independent expert hearings – which involve all relevant interest groups.

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Version 1 (04/2009): First Edition, Expiry date: December 31, 2013

Version 2 (01/2013): Prolongation without any change for 4 years, until 31.12.2017

Version 3 (01/2017): Prolongation without any change for 4 years, until 31.12.2021

Table of contents

1	Introduction.....	4
1.1	Preface	4
1.2	Background	4
1.3	Objectives of the Environmental Label	4
2	Scope	4
3	Requirements and Compliance Verifications	5
3.1	Absence of de-icing agents, organic constituents and environmentally harmful admixtures	5
3.2	Compliance with LAGA M20	5
3.3	Granules from firing residues	5
3.4	Guarantee of blunting effect	6
3.5	Grain size	6
3.6	Spreadability	6
3.7	Impact resistance.....	6
3.8	Edginess	7
4	Applicants and Parties Involved.....	7
5	Use of the Environmental Label	7
	Appendix A Test Report for Winter Abrasives	8

This document is a translation of a German original. In case of dispute, the original document should be taken as authoritative.

1 Introduction

1.1 Preface

In cooperation with the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, the German Environmental Agency and considering the results of the expert hearings conducted by RAL gGmbH, the Environmental Label Jury has set up these Basic Criteria for the Award of the Environmental Label. RAL gGmbH has been tasked with awarding the Environmental Label.

Upon application to RAL gGmbH and on the basis of a Contract on the Use of the Environmental Label to be concluded with RAL gGmbH, the permission to use the Environmental Label may be granted to all products, provided that they comply with the requirements as specified hereinafter.

The product must comply with all the legal requirements in the country in which it is to be marketed. The applicant shall declare that the product meets this requirement.

1.2 Background

De-icing salts cause severe damage to trees and shrubs. Roadside plants are damaged either directly (salt spray and splash from passing vehicles) or indirectly (from the soil). Protective measures and replacement planting are not only very expensive but will have only a limited effect as it will take 40 to 60 years until newly planted trees develop their full potential to improve the environment.

In addition, road salt does not only increase groundwater salinization but also expedites the corrosion process of bridges and vehicles. The use of salt-free winter abrasives can help avoid these problems, especially in inner-city areas.

1.3 Objectives of the Environmental Label

Therefore, following benefits for the environment and health are stated in the explanatory box:



2 Scope

These Award Criteria apply to salt-free abrasives for use on sidewalks and in similar areas (such as walking paths, park paths, private garden and service paths, squares, yards and parking areas).

These Award Criteria shall not apply to the use of winter abrasives on roads.

3 Requirements and Compliance Verifications

3.1 Absence of de-icing agents, organic constituents and environmentally harmful admixtures

The Eco-Label shown on page 1 may be used for the marking of winter abrasives as specified in paragraph 2, which do not contain:

- any de-icing agents,
- organic constituents (e.g. urea),
- other environmentally harmful admixtures.

3.2 Compliance with LAGA M20

Winter abrasives obtained from natural rocks must meet the requirements for an unrestricted use in close-to-ground applications „Z0“ in accordance with the Technical Rules of LAGA M20¹ (LAGA - Länderarbeitsgemeinschaft Abfall -Working Group of the Federal States on Waste).

Compliance Verification

The applicant shall name the geologico-mineralogical characterization for winter abrasives obtained from natural rocks (heavyweight and lightweight rock grain size according to DIN EN 13055). If the origin of the rock allows the assumption that the material could have contaminated at an earlier time the applicant shall also indicate the heavy metals content. The applicant shall submit a test report according to the Appendix A to the Award Criteria DE-UZ 13.

The applicant assures compliance with the requirements under para. 3.1 and 3.2 in the Annex 1 to the contract.

3.3 Granules from firing residues

For winter abrasives made of granules consisting of firing residues the applicant shall verify compliance with the allocation values for heavy metals in the solid according to LAGA M20 allocation value Z0, following aqua regia digestion for the following elements (see Table 1):

Table 1: Maximum Permissible Heavy Metal Content in mg/kg TS *)

Arsenic	Lead	Cadmium	Chromium	Nickel	Copper	Mercury	Thallium	Zinc
15	70	1	60	50	40	0.5	0.7	150

*) The permissible heavy metal concentrations correspond to the allocation values Z0 (installation category Z0 unrestricted open installation) of LAGA Communication 20 „Requirements for the Recycling of Mineral Waste“ (as of November 6, 2003)

and the applicant shall demonstrate compliance with the allocation values Z0 for eluates from power plant residues (melting chamber granules) (see Table 2):

¹ LAGA M20 (11/1997 and 11/2003) Requirements for the recycling of mineral residues/waste – Technical Rules

Table 2: Standard Values for Eluates**)

Parameter	Dimension	Standard Value
Arsenic	µg/l	10
Lead	µg/l	20
Cadmium	µg/l	2
Chromium - total	µg/l	15
Copper	µg/l	50
Nickel	µg/l	40
Mercury	µg/l	0.2
Zinc	µg/l	100
Chloride	mg/l	10
Sulphate	mg/l	50
pH Value	-	7-12
Electrical Conductivity	µS/cm	500

**)The standard values correspond to the allocation values Z0 for the eluate of coarse ashes /boiler ash, grate ash and melting chamber granules in Table II.4-1 of the Technical Rules for the Recycling of Ashes and Slags from Coal-fired Power Plants, Combined Heating and Power Plants as well as Heating Plants (as of November 6, 2003).

Compliance Verification

The applicant shall submit a test report of an independent testing institute according to the Appendix A to the Award Criteria DE-UZ 13.

Applicants whose products consist of firing residues are requested to submit once per year current analysis data on the heavy metals content and the eluate of the product for statistical purposes to the eco-label awarding agency.

3.4 Guarantee of blunting effect

For compliance with user's obligation to ensure road safety the winter abrasive must have a blunting effect.

3.5 Grain size

The grain size of the abrasive shall fall mainly within a range from 1 to 5 mm. The maximum grain size shall not exceed 8 mm. The percentage of fine grains < 0.063 mm shall not exceed 5 weight percent.

3.6 Spreadability

The abrasive's humidity must be such as to allow its spreading at any time.

3.7 Impact resistance

The abrasive's impact resistance - measured according to DIN EN 1097-2 - must not exceed 30 weight percent.

3.8 Edginess

The abrasive's edginess must ensure a blunting effect in terms of in para.3.6. This requirement shall be considered to be complied with if the percentage of cubically shaped particles according to DIN EN 933-4 is greater than 50 weight percent (no sharp-edged particles) and the percentage of fracture surfaces according to DIN EN 933-5 is greater than 90 weight percent.

Compliance Verification

The applicant assures compliance with the requirements under para. 3.4 to 3.8 and submits a test report according to the Appendix A to the Award Criteria DE-UZ 13.

4 Applicants and Parties Involved

Manufacturers or users of final products according to Paragraph 2 shall be eligible for application.

Parties involved in the award process are:

- RAL gGmbH to award the Blue Angel Environmental Label,
- the federal state being home to the applicant's production site,
- Umweltbundesamt (German Environmental Agency) which after the signing of the contract receives all data and documents submitted in applications for the Blue Angel in order to be able to further develop the Basic Award Criteria.

5 Use of the Environmental Label

The use of the Environmental Label by the applicant is governed by a contract on the use of the Environmental Label concluded with RAL gGmbH.

Within the scope of such contract, the applicant undertakes to comply with the requirements under Paragraph 3 while using the Environmental Label.

Contracts on the Use of the Environmental Label are concluded to fix the terms for the certification of products under Paragraph 2. Such contracts shall run until December 31, 2021. They shall be extended by periods of one year each, unless terminated in writing by March 31, 2021 or March 31 of the respective year of extension.

After the expiry of the contract, the Environmental Label may neither be used for labelling nor for advertising purposes. This regulation shall not affect products being still in the market.

The applicant (manufacturer) shall be entitled to apply to RAL gGmbH for an extension of the right to use the ecolabel on the product entitled to the label if it is to be marketed under another brand/trade name and/or other marketing organisations.

The Contract on the Use of the Environmental Label shall specify:

- Applicant (manufacturer/user)
- Brand/trade name, product description
- Distributor (label user), i.e. the above-mentioned marketing organisations.

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Appendix A Test Report for Winter Abrasives

Manufacturer / Origin
Manufacturer / User (Name, Address, Telephone):
Origin (Storage facility, Extracting Facility):

Description
Natural Rocks <input type="checkbox"/> - The origin allows the assumption of an earlier contamination <input type="checkbox"/> Yes <input type="checkbox"/> No Secondary raw material, e.g. melting chamber granules <input type="checkbox"/> Main components, among other things a mineralogical/petrographic description: Additions: None Comment, if applicable - added de-icing agents <input type="checkbox"/> - organic foreign bodies <input type="checkbox"/> - Agent having a fertilizing effect <input type="checkbox"/>

Heavy Metals Content (not applicable for natural rocks material that has not been contaminated earlier)
Digestion method Aqua regia extract: - DIN 384 14-7 (LAGA M20) <input type="checkbox"/> - DIN ISO 11466 (BodSchV) - (German Soil Protection Ordinance) <input type="checkbox"/> - other (please specify)
Elution Method (optional): DIN 38414-4 (LAGA M 20) <input type="checkbox"/> LAGA EW 98 /Method S, T or P) <input type="checkbox"/> by use of method Other (please specify):

Heavy Metal Concentrations in the Solid and Eluate Parameters:

	Solid Content following Aqua Regia Digestion		Aqueous Eluate	
	Measured Values mg/kg TS	Standard Values* mg/kg TS	Measured Value	Standard Value **
Arsenic		15		10 µg/l
Lead		70		20 µg/l
Cadmium		1		2 µg/l
Chromium, total		60		15 µg/l
Copper		40		50 µg/l
Nickel		50		40 µg/l
Mercury		0.5		0.2 µg/l
Thallium		0.7		-
Zinc		150		100 µg/l
Chloride		-		10 mg/l
Sulphate		-		50 mg/l
pH Value		-		500 µS/cm
Electrical Conductivity		-		7-12

* The permissible heavy metal concentrations correspond to the allocation values Z0 (installation category Z0 unrestricted open installation) of LAGA Communication 20 „Requirements for the Recycling of Mineral Waste“ (as of November 6, 2003).

** The standard values correspond to the allocation values Z0 for the eluate of coarse ashes/boiler ash, grate ash and melting chamber granules in Table II.4-1 of the Technical Rules for the Recycling of Ashes and Slags from Coal-fired Power Plants, Combined Heating and Power Plants as well as Heating Plants (as of November 6, 2003).

Have all standard values, heavy-metal concentrations in the solid and eluate parameters been complied with?

.....

Humidity	
Spreadability is guaranteed	<input type="checkbox"/>

Grain Size Distribution:		
	Undersize Material in Weight Percent	
	0.063 mm	8 mm
Actual value		
Limiting	< 5	Set point = 100

Grain Shape in conformity with DIN EN 933-4:		
Grain Shape Measurement Value	> 50 weight percent <input type="checkbox"/>	(Set value, cubic = percentage of cubically-shaped grains with a length/width ratio < 3 in the overall sample)

Percentage of Broken Grains in conformity with DIN EN 933-5:				
Estimated Values <input type="checkbox"/>		Measured Values <input type="checkbox"/>		
	Fully broken > 90% broken surface	Broken > 50% broken surface	Rounded < 50% broken surface	Fully rounded < 10% broken surface
weight percent				

broken surface = visually determined broken surface

Impact Crushing Value:	
- according to DIN EN 1097-2	<input type="checkbox"/>
- other (please specify)	<input type="checkbox"/>
Measured Value (SZ)	(limiting value < 30)

Further Data
.....
.....

Place:
Date:

Signature of the Responsible Laboratory
Official and Company Stamp: