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APPLICATION REGULATIONS

TRA 84 BENOR

BENOR

APPLICATION REGULATIONS

FOR THE

PRODUCT CERTIFICATION

OF

ROAD MARKING MATERIALS -

BASE MATERIALS:

- PAINTS

- THERMOPLASTICS

- COLD PLASTICS

- PREFORMED ROAD MARKINGS

UNDER THE

BENOR MARK

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CONTENTS

1 INTRODUCTION

This chapter gives and explains some of the rules concerning the certification regulations.

1.1 TERMINOLOGY

This article defines some of the special terms and abbreviation used in these Application Regulations.

1.1.1 Definitions

Client	The party purchasing the product from the supplier. The definition applies to different types of purchaser: producers of other products, contractors, awarding authorities, authorities, et cetera.
Comparative test	A test carried out in pairs, in which the result of the control laboratory is compared with the result obtained by the supplier in order to verify the self-monitoring system.
Exclusive distributor	If a producer of BENOR certified product articles does not deliver product articles directly to a customer, but only to a distributor who further distributes the product articles to customers on the Belgian market, this distributor is considered an exclusive distributor.
Producer	Company responsible for manufacturing a product.
Product	Result of an industrial process or activity that is the subject of one or more reference documents. This a collective noun for all of the product articles and product types to which one and the same Application Regulations or certificate applies.
Product article	Set of units of a product with the same characteristics and performance that are produced in a specific manner and comply with the same technical data sheet.
Product type	Group of manufactured goods with similar characteristics. One product may be divided into different product types on the basis of the applicable reference document, property categories, application, et cetera. The Product types for road marking materials – base materials are: - Paints, - Thermoplastics, - Cold plastics, - Preformed road markings.
Production unit	Technical installation(s) linked to a geographical location which is/are used by a supplier where the product is made, as defined in the Application Regulations.
Reference document	Document (standard, Technical Requirement or any other technical specification) that specifies the technical characteristics that the staff, equipment, production unit, raw materials,

	production processes and/or the product must comply with and which states that the relevant Application Regulation applies to a certain product and its manufacture.
Sampling	Sampling can be subdivided into: - removing part or all of a product or component; - applying an identification/mark to a defined part or to an entire product or component, for the purpose of inspecting and testing it.
Supplier	The party responsible for ensuring that the product meets the certification requirements. This definition applies to producers, distributors and importers. If a supplier is referred to with regard to raw materials, general equipment, control equipment or services, this is specifically stated.
Type test	A series of verifications to determine initially (initial type test) or possibly to confirm periodically (repeat type test) the characteristics of a product article and its conformity.

1.1.2 Abbreviations

TRA	Application Regulations
PTV	Technical prescriptions
TAR	Tariff regulations

1.1.3 References

CRC 01 BENOR	General certification regulations for the product certification in the construction sector under the BENOR mark
PTV 883	Technical requirements for paints for road marking
PTV 884	Technical requirements for thermoplastics for road marking
PTV 885	Technical requirements for cold plastics for road marking
PTV 888	Technical requirements for preformed road markings
TAR BENOR	Tariff Regulations for the product certification
TAR 84	Tariff Regulations for the Certification of road marking products – base materials within the framework of the BENOR mark of conformity TAR 84

These Application Regulations incorporate dated and undated references. For dated references, only the edition cited applies. For undated references, the last edition of the referenced document applies, including any errata, addenda and amendments.

For any EN standards referred to in these Regulations, it shall always be the corresponding Belgian NBN EN publication that applies. The certification body may allow the use of a publication other than the Belgian publication, provided that its content is identical to the Belgian publication.

1.2 AVAILABILITY OF THE CERTIFICATION REGULATIONS

This article describes how the certification regulations are made available.

The current version of the certification regulations is available free of charge on the certification body's website.

A printed version of the certification regulations can be ordered from the certification body. The certification body has the right to charge for these.

It is not permitted to make any modifications to the original certification regulations approved by the sectoral commission and/or registered certification regulations by the non-profit organisation BENOR.

1.3 STATUS OF THESE APPLICATION REGULATIONS

This article refers to the data concerning the version, approval and ratification of these Application Regulations.

1.3.1 Status of these Application Regulations

These Application Regulations are version 6.0 that will replace version 5.0.

1.3.2 Approval of these Application Regulations

These Application Regulations were approved by the Sectoral Commission on the 30th of September 2024.

1.3.3 Ratification of these Application Regulations

These Application Regulations were ratified by the COPRO Management body on the 3rd of December 2024.

1.3.4 Ratification of these Application Regulations

These Application Regulations were submitted to BENOR non-profit organisation on the 9th of December 2024.

1.5 QUESTIONS AND OBSERVATIONS

Questions or observations concerning the certification regulations must be sent to the sectoral organisation or the certification body.

2 OVERVIEW OF PRODUCT CERTIFICATION

This chapter indicates who is responsible for preparing the certification regulations. The objectives and scope of the product certification are described.

2.1 PREPARATION OF THE CERTIFICATION REGULATIONS

This article indicates who is responsible for preparing the various certification regulations.

2.1.2 Preparation of these Application Regulations

A specific Application Regulation shall be drawn up for each product. This is done in principle by a specialist technical sectoral commission on which the parties with an interest in the area of the product in question are represented. The sectoral organisation shall be responsible for organising the sectoral commission (art. 3.1.4).

The structure of these Application Regulations follows the structure of the General Certification Regulations CRC 01 BENOR, supplementing the provisions of the same.

With the exception of the additions and/or changes set out in these Application Regulations, the articles of the General Certification Regulations CRC 01 BENOR apply.

These articles refer to the articles of the General Certification Regulations CRC 01 BENOR.

2.2 OBJECTIVES

This article describes the objectives of the certification regulations and the product certification.

2.2.2 The goal of these Application Regulations

2.2.2.1 These Application Regulations contain all the specific and additional rules for the certification of road marking materials – base materials. They also contain the rules relating to applications for a certification and additional information.

2.2.2.2 The Application Regulations shall be used by the sectoral organisation, the certification bodies and the inspection bodies in carrying out their tasks, example given when dealing with the certification application and external surveillance.

2.2.3 The goal of the product certification

The BENOR mark is a voluntary mark that is owned by the Bureau for Standardisation.

The BENOR mark is intended to confirm the confidence in the actions taken by the supplier with regard to the declaration of the conformity of a product with the reference documents. These reference documents may be agreed in a public voluntary framework and may be based on Belgian, European or international legislation.

The BENOR mark thus offers the client a sufficient degree of certainty that the product satisfies the well-defined quality requirements.

The BENOR mark does not declare the product's conformity with its performance and characteristics as stated by the supplier but confirms that a sufficient degree of confidence indicates that the supplier is permanently capable of guaranteeing the conformity of a product that it produces and/or supplies in accordance with the rules set out in the reference documents.

The BENOR mark acts in the public interest by promoting the best practices in construction and thus contributes to technical and economic progress.

These application regulations are, furthermore, conceived in such a way that precisely those aspects are safeguarded that are important for road marking materials – base materials according to the interested parties. This concerns, among other things, improving consumer protection, meeting the expectations of the market and defending the public interest.

Under no circumstances does the certification affect the liability of the designer, the author of the tender document, the design or research consultancy, the contractor or the supplier.

2.3 SCOPE

The scope of the product certification is described in this article. It states what is and what is not included in the product certification. The different types of certification regulations and reference documents are listed. There may also be a possibility of supplying some production parts not covered by the BENOR mark.

2.3.1 Object of product certification

2.3.1.1 The object of product certification is the control of production and supply of base materials.

Here we can look at:

- implementing and monitoring a quality plan;
- the possible type testing of a product article or product type;
- the receipt of the raw materials to be used in the production;
- the use of appropriate equipment and staff;
- the actual production;
- the controls on raw materials;
- the controls on the production process;
- the controls on the base materials;
- the recording and archiving of all relevant data and results.

The product types that belong to the certified production part are the base materials for road markings:

- paints for road markings,
- thermoplastics for road marking,
- cold plastics for road marking,
- preformed road markings.

The input for the certification consists of all relevant requirements of the applicable reference documents relating to the road marking materials - base materials. The output is a conforming base material.

2.3.1.2 The conformity of the raw materials used in production also falls under the product certification.

The supplier uses the appropriate raw materials as described in PTV 883, PTV 884, PTV 885 or PTV 888. Provision may optionally be made to use certified raw materials and/or carry out a control on the raw materials used. Depending on the results of this control, the supplier shall take appropriate actions in accordance with these Application Regulations.

2.3.1.3 The conformity of the resulting work is not covered by the product certification.

The use of compliant base materials is an essential link in the realisation of a high quality and conforming construction. However, given that there are still parameters that are not covered by the certification of base materials, this certification cannot fully guarantee that the resulting structure will meet the project owner's quality requirements.

2.3.5 Application Regulations

2.3.5.1 These Application Regulations apply to the issue of a BENOR certificate and the use of the BENOR mark for base materials in accordance with at least one of the in accordance with at least one of the documents mentioned in article 2.3.7.

2.3.5.2 BENOR certification of base materials is voluntary.

2.3.6 Additional regulations and circulars

2.3.6.3 The rates that apply in the context of product certification are included in the General Tariff Regulation TAR BENOR and in the Tariff Regulations for the Certification of road marking materials - base materials TAR 84.

2.3.7 Reference documents

2.3.7.1 The applicable standard for the preformed road markings is EN 1790.

2.3.7.2 In the context of the BENOR certification there are no applicable tender documents.

2.3.7.3 The applicable Technical requirements are:

PTV 883	Technical requirements for paints for road marking;
PTV 884	Technical requirements for thermoplastics for road marking;
PTV 885	Technical requirements for cold plastics for road marking;
PTV 888	Technical requirements for preformed road markings.

2.3.7.4 Other applicable reference documents are mentioned in article 1.1.3.

2.3.9 Exempt production parts to which the BENOR mark does not apply

2.3.9.1 There are no base materials that are constantly delivered outside of the BENOR mark.

2.3.9.2 The following base materials may be supplied outside the BENOR mark:

- Base materials whose characteristics differ from the certified base materials in a clear and recognisable way for the client;
- Base materials supplied outside of Belgium.

2.3.9.5 The exempt base materials must be identified in a manner approved by the certification body.

2.4 CERTIFICATE

This article describes the rules relating to the certificate.

2.4.2 Scope of the certificate

2.4.2.1 Each certificate is issued per product and per production unit. The scope of the certificate may be limited to the set of characteristics of base materials, as specified in these Application Regulations.

2.4.2.3 By issuing the certificate, the certification body acknowledges that there is a sufficient degree of confidence in the actions taken by the certificate holder in order to ensure the conformity of base materials to the technical data sheets and the reference documents.

2.4.3 The certificate

2.4.3.1 The certificate must contain at least the following information:

- the certificate number;
- the identity of the certification body;
- the identity and registered office of the certificate holder;
- the identity, the identification number and the address of the production unit;
- the reference documents;
- the date of issue of the certificate;
- a reference to the certification body's website, with regard to the validity of the certificate;
- the scope of the certificate: the product types that are covered by the certificate.

The certificate describes the product in accordance with the Application Regulations.

2.4.6 Modification of the certificate

2.4.6.1 The certificate holder shall give the certification body prior written notice if it wishes to - temporarily or otherwise - limit, expand or modify the set of product types listed on the certificate.

2.4.6.2 In case of extension or modification, the type test is performed by the certification body.

2.4.7 Suspension by the certificate holder

2.4.7.3 The maximum permitted period during which the existing certified stock may still be supplied under the BENOR mark is 12 months from the date on which the suspension takes effect.

2.4.8 Cessation by the certificate holder

2.4.8.3 The maximum permitted period during which the existing certified stock may still be supplied under the BENOR mark is 12 months from the date on which the cessation takes effect.

2.5 IDENTIFICATION OF THE PRODUCT

This article focuses on the identification of the base material. In addition to an internal identification and the public identification there is also the BENOR logo, which may be used by the certificate holder only under strict conditions.

2.5.1 Internal identification

The internal identification is freely chosen by the supplier insofar as it does not lead to confusion with the public identification.

2.5.2 Public identification

The product article is identified with:

- the information according to the applicable PTV, article 5.2;
- reference to the product article's technical data sheet code.

The official and commercial names of each product are according to article 5.1 of the applicable PTV.

2.5.3 Identification using the BENOR mark

The supply of a product article under the BENOR mark is illustrated by means of an identification marking. This is done in accordance with article 2.6.3.

2.5.4 Identification of exempt production parts

An exempt production part may not refer to the BENOR certification and the technical data sheet code, not on the product, not on the delivery notes, not on or in any other document.

2.5.5 Delivery note

2.5.5.1 The delivery notes are divided into:

- delivery notes for the delivery of road marking materials from the producer to the customer or the exclusive distributor(s);
- delivery notes for the delivery of road marking materials from the exclusive distributor to the client.

2.5.5.2 The following information must be included on each delivery note from the producer to the client or the exclusive distributor(s):

- name and, if possible, address of the producer;
- name and address of the production unit;
- name and contact details of the client or the exclusive distributor;
- public identification of the product article (article 2.5.2);

- the code of the product’s article technical datasheet (quick code) by means ofthe following: “Technical data sheet: quick code AAAA/CCCC (see extranet.copro.eu)” or “TDS: code AAAA/CCCC”, whereby the fast code satisfies article 2.7.2;
- departure date from the production unit;
- quantity per product article;
- the mandatory data according to the relevant reference documents;
- from the moment that the certificate is issued, reference is made to the BENOR mark, for each certified product article, in accordance with the rules of article 2.6.4.

The following information must be included on each delivery note from the exclusive distributor to the client:

- name and address of the exclusive distributor;
- name and contact details of the client;
- the public identification of the product: (article 2.5.2);
- date of departure from the exclusive distributor;
- the code of the product's technical datasheet (quick code) by means of the following: “Technical datasheet: quick code AAAA/CCCC (see extranet.copro.eu)” or “TDS: code AAAA/CCCC”, whereby the quick code complies with article 2.7.2;
- quantity per product article;
- the mandatory data according to the relevant reference documents;
- from the moment that the certificate is issued, reference is made to the BENOR mark for each certified product article, in accordance with the rules of article 2.6.4.

2.6 USE OF THE BENOR MARK

This article deals with the use of the BENOR mark.

2.6.1 Typographical description of the BENOR logo

2.6.1.2 When it is not technically possible to use the BENOR mark as described in article 2.6.1.1, an alternative identification is permitted. All rules governing the use of the BENOR mark then apply to the use of the alternative identification.

2.6.4 The BENOR mark on the delivery note

2.6.4.4 The way in which the BENOR mark is affixed to the delivery note must be approved in advance by the certification body.

2.7 TECHNICAL DATA SHEET

2.7.1 General

2.7.1.1 The supplier shall prepare a technical data sheet for each certified product article.

2.7.1.2 All information listed on the technical data sheet is based on the type test.

2.7.1.3 For each delivery of base materials, the client must be provided with the corresponding valid technical data sheet. This is made possible by the certification body's website.

2.7.1.4 The information and results contained in the technical data sheet are used to assess the results of the self-monitoring and external surveillance.

3 THE STAKEHOLDERS

This chapter deals with the various parties involved in the product certification.

3.2 CERTIFICATION BODIES

This article sets out information and rules concerning the functioning of the certification bodies.

3.2.5 Registered office and Secretariat

3.2.5.1 The only certification body for the certification of base materials is COPRO.

3.4 SUPPLIER

This article deals with the supplier, the key player in the delivery of the base materials and therefore also in the product certification. A supplier may be a producer, distributor or importer. He is the player who is responsible for ensuring that base materials meet the requirements on which the certification is based and guarantees this to the client

3.4.2 Possible suppliers

3.4.2.1 In these Application Regulations the term ‘supplier’ is used for an applicant or certificate holder.

4 REQUIREMENTS FOR A CERTIFIED PRODUCT

This chapter describes what is required to achieve a certified base material. In the first place, this means a competent staff. With appropriate equipment and compliant materials this staff manufactures base materials at a specific production unit. An initial type test is required. The production and everything that comes with it must be carried out in accordance with a documented quality plan.

4.2 EQUIPMENT

This article describes the rules relating to equipment.

4.2.2 Laboratory and control equipment

4.2.2.2 The supplier may not refer to an external laboratory for some or all of the controls within the framework of the self-monitoring system, to which the requirements of article 3.5 are applicable.

4.2.2.3 Not applicable.

4.2.2.4 All controls within the framework of the self-monitoring system are carried out by the supplier.

4.3 RAW MATERIALS

This article describes the rules relating to raw materials.

4.3.1 Requirements for raw materials

4.3.1.1 The raw materials must meet the requirements of PTV 883, PTV 884, PTV 885 or PTV 888 and the requirements of the applicable reference documents.

4.3.2 Validation of raw materials

4.3.2.1 The supplier must have an overview of all the validated raw materials that may be used in a production.

4.3.2.2 The supplier must have the technical data sheet and, if appropriate, the certificate for each validated raw material.

4.3.2.3 The data concerning the raw materials actually used for a particular production must be kept by the supplier in a traceable manner (art. 6.1.2). The traceability can then be guaranteed by a reference to a unique identification of the raw materials (delivery note number, batch number, et cetera).

4.3.3 Supply of raw materials

The delivery documents of the supplied materials are registered.

4.3.4 Storage of raw materials

The supplier must take the necessary actions to guarantee the identification and quality of the raw materials. The raw materials are stored in such a way that product damages (internal specifications and/or producer's specifications) are avoided.

4.3.5 Disposal of raw materials

Not applicable.

4.5 PRODUCT

This article describes the rules relating to the base materials itself. This covers everything from the determination of the requirements, production, up to the delivery of base materials.

4.5.1 Period of activity

4.5.1.1 Production may not remain at the same level throughout the year. If production is irregular or temporarily interrupted, or if the number of production periods is lower than the number of external standard inspections determined in article 7.2.3, the certificate holder may be required to notify the certification body in advance of the period of activity or interruptions, so that the external surveillance can be adapted accordingly.

In the event of production or delivery under the BENOR mark continuing to be interrupted, a minimum of external supervision is provided (art. 7.2.3.2).

If production and delivery under the BENOR mark continue to be interrupted, the certificate holder can also opt at his own request for a suspension of the certificate in accordance with article 2.4.7.

4.5.1.2 In order to maintain confidence in the conformity of the base materials after an interruption of the period of activity, the certification body may instruct the inspection body to carry out an additional inspection prior to the restart of production.

4.5.2 Determination, evaluation and communication of the requirements

Not applicable.

4.5.3 Client's order

Not applicable.

4.5.4 Production planning

4.5.4.1 To enable the inspection body to organise inspections, the inspection body can require the producer, in case of discontinuous productions, to inform the inspection body of the productions of concerned base materials.

4.5.5 Production plan

4.5.5.1 The supplier must register the production parameters per product article that includes the following points:

- the equipment to be used;
- the raw materials to be used;
- the production parameters to be applied.

4.5.5.2 Not applicable.

4.5.6 Requirements for the product

4.5.6.1 The base materials shall satisfy the requirements in PTV 883, PTV 884, PTV 885 or PTV 888.

4.5.7 Waste disposal

Not applicable.

4.6 QUALITY PLAN

This article describes the rules that are imposed on the supplier's quality plan. The quality plan includes a quality manual and a technical file. The quality manual relates to the organisation of the supplier and the different procedures. The technical file may be regarded as a supplementary file with lists, summaries and reports about all kinds of related issues.

4.6.2 Quality manual

4.6.2.2 The quality manual shall contain the following parts:

- composition:
    - summary of the content;
    - identification of procedures and documents;
- terminology;
- organisational structure:
    - organisation chart;
    - job descriptions (see also art. 4.1);
- quality monitoring:
    - procedures for authorising delivery and identifying the product;
    - procedures related to quality monitoring, with in particular a procedure for dealing with complaints; this special procedure specifies how a complaint is handled, who is responsible for it, recording it in the complaints register, the inquiry, possible corrective actions and the notification of all interested parties;
    - procedures related to dealing with nonconforming outputs;
    - procedure related to actions for nonconforming production parts; this procedure covers at least the following elements:
        - immediate communication in writing to the client, the certification body or any other interested party;
        - determining, defining questionable or rejected production parts;
        - researching the causes and consequences of the nonconformity, including a risk analysis and assessment;
        - deciding to take corrective actions and corrective measures and implementing them;
        - assessing the effectiveness of the corrective actions and corrective measures;
- document management system;
- production control;
    - procedures relating to production;
- procedures relating to the production equipment (including maintenance, repairs, calibration);
- procedures relating to the controls;
- procedures relating to the control equipment (use, calibration);

- procedures relating to registration and archiving;
- procedures relating to staff and training.

4.6.2.3 Not applicable.

4.6.2.4 The quality in the context of the BENOR certification may overlap with or be a part of an overall quality manual, which may include procedures in the context of another certification (ISO 9001, CE, et cetera). In this case the supplier must ensure that there are no contradictions and that any references remain valid. The rules relating to the quality manual in the Application Regulations remain applicable. The “quality manual” as described above can be replaced by “documented information” as long as the necessary information is adequate.

4.6.3 Technical file

4.6.3.2 The technical file contains:

a) an overview of all equipment used during production;

b) a list of the names of members of staff involved in self-monitoring, including in particular the names of the quality manager, the self-monitoring manager(s) and their deputies, as well as those persons authorised to receive the inspection body’s inspection reports;

c) a list of the names of members of staff who may be involved in the production, delivery and control;

d) an overview of the control equipment that may be used in the context of the self-monitoring process;

e) if appropriate, a list of the external self-monitoring laboratories approved by the supplier, with an indication of the possible controls;

f) a list of the valid versions of all applicable reference documents;

g) the method of identifying the product;

h) if appropriate, the by the certification body approved derogations from the Application Regulations;

i) if appropriate, the correlation reports approved by the certification body for alternative control and test methods;

j) details of the exclusive distributor.

4.6.3.3 For those parts of the technical file the supplier is required to notify the certification body immediately of any temporary or permanent change resulting in a derogation from the situation described in the technical file:

Points b, e and g of article 4.6.3.2.

4.7 TYPE TEST

This article deals with any required type testing of the product. It is more commonly called (Initial) Type Testing or ITT.

4.7.1 General

4.7.1.1 Type tests are conducted according to the requirements of the applicable PTV.

4.7.1.2 The type test is carried out according to article 3.6 of the concerned PTV, for the road trials according to the G0025 and for laboratory tests.

4.7.2 Scope

The scope of the type tests is according to the applicable PTV.

4.7.3 Requirements

4.7.3.1 The requirements for the type test are stated in the applicable PTV.

4.7.3.2 The product article of the type test must correspond to the proposed product article and comply with the reference documents.

4.7.3.3 The conditions in which the type test is carried out shall be representative of the particular product article.

4.7.4 Type test report

4.7.4.1 The data and the results of type test are assessed by the certification body.

4.7.4.3 The certification body edits the assessment reports of the type test.

4.7.5 Validity

4.7.5.1 Only reports edited by the certification body type test are valid.

4.7.5.2 The validity of type tests is according to the applicable PTV.

4.7.6 Modifications

Rules concerning modifications are described in the applicable PTV.

4.7.7 Repeat type test

The rules concerning the repeat type tests are described in the applicable PTV.

4.7.8 External surveillance

The certification body organizes the type test.

5 OBTAINING A CERTIFICATE

This chapter describes how a supplier can apply for and ultimately obtain a certificate and the rules that must be followed.

5.2 APPLICATION PERIOD

This article deals with the period between the approval of the application and the issue of the certificate. It describes what is authorised during that period, what must be done and what must not be done.

5.2.4 Trial period

5.2.4.2 The trial period commences on the date of the initial inspection, subject to the favourable opinion of the inspection body.

Before the trial period can start, the following results of the start-up inspection must be completed:

- availability of trained personnel;

- availability of all necessary compliant and calibrated control equipment;

- a compliant production unit (storage, ...);

- availability of raw materials;

- availability of all relevant reference documents;

- a draft quality plan.

5.2.4.3 The duration of the trial period is in principle minimum 10 production days for every product type and maximum 12 months.

5.2.5 Self-monitoring during the trial period

During the trial period, the self-monitoring applies as stipulated in article 6.

The minimum number of tests before the end of the trial period, whose results comply with the applicable PTV, is given in the table below. In addition, the three most recent test results shall be compliant.

Product type	Property	Minimum number of tests in the trial period
Paints	Density	5 / property
	Solids content	
	Organic content	
	Viscosity	
Thermoplastics	Chromaticity coordinates and luminance factor	5 / property
	Softening point	
	Organic content	
Cold plastics	Density	5 / property
	Organic content	
	Viscosity	
	Chromaticity coordinates and luminance factor	
Preformed road marking		
Tape, Preformed cold plastic road marking and preformed thermoplastic without drop–on materials	Chromaticity coordinates	5 / property
	Retroreflection (R_L)	
	Coefficient of luminance under diffuse illumination (Qd)	
	Skid resistance	
	Ash content	3
For self-adhesive road markings	Adhesive – mass per unit area	5
Preformed thermoplastic with drop–on materials	Chromaticity coordinates and luminance factor	5 / property
	Softening point	
	Ash content	

5.2.7 External surveillance during the trial period

During the trial period, the external surveillance as set out in article 7 is applied.

The minimum number of tests carried out under supervision of the inspection body, whose result comply with the requirements of the applicable PTV is two per product type. In addition, the result of the last two tests attended per product type, must be compliant.

Per product type from the tables below, all characteristics are determined at least twice by an external laboratory. The conformity of the entire set of tests must meet the requirements

of the applicable PTV. Furthermore, for the last two determinations, the conformity of the entire set of tests must meet the requirements of the applicable PTV.

Product type	Property
Paints	Density
	Solid content
	Content of non-volatile organic compounds (binders and additives; NVO)
	Identification of the organic constituents
	Identification of pigment and fillers
	Titanium dioxide content
Thermoplastics	Softening point
	Organic content
	Identification of the organic constituents
	Identification of the pigment and fillers
	Titanium dioxide content
Cold plastics	Organic content
	Identification of the organic constituents
	Identification of the pigment and fillers
	Titanium dioxide content
Preformed road marking	% Organic material (weight % of the “Passing 90 µm material”)
	% TiO2 in the not coarse material (weight % of the “Passing 90 µm material”)
	Identification of the organic constituents
	Identification of the pigment and fillers
	Ash content 900 °C

The minimum number of compliant comparative tests is two per product type.

5.2.8 Closure of the application file

5.2.8.1 If the trial period cannot be closed with a positive result after the period of one year, the applicant is notified in writing by the certification body of the closure of the application file. The applicant may then, if desired, submit a new application.

6 SELF-MONITORING

This chapter deals with the control carried out by the supplier as part of the product certification. It contains details of what must be monitored and how the supplier guarantees the traceability of the controls and results. It also indicates what must be done in the event of nonconformities.

6.1 REGISTRATION AND ARCHIVING

This article sets out the rules relating to the traceable archiving of monitoring, controls and results.

6.1.1 Worksheets

6.1.1.5 Computerisation of worksheets is allowed.

6.1.2 Registers

6.1.2.3 The supplier guarantees the traceability of the self-monitoring on the basis of registers or another registration system to be approved by the certification body.

Raw materials register:

This register contains:

- the specifications of the producer regarding the supplied raw materials;

- the control results of the tests performed by the producer on the raw materials;

- test results supplied by the manufacturers of the supplied raw materials;

- the delivery notes of all the supplied raw materials.

Production register:

The register of the production process contains the registered and dated trace of each manual or automatic control so as to discover the causes of any deviations that may have been found on the end products.

The manufactured quantities per day are registered for each product article including the identification of the manufactured batches.

Tests register:

All control results concerning the certified end products are registered and are available in the form of an historical survey.

Stock and deliveries register:

All documents accompanying the delivery of products covered by the BENOR mark are registered (hard or soft copy).

This register is available from the producer as well as from the supplier and exclusive distributor(s), and contains the delivery notes from the relevant location.

Equipment register:

This register contains the results and the proofs or certificates of the control, gauging and calibration of the production equipment (not necessarily of all equipment, to be justified by the producer) and the registration of the maintenances that could have an impact on product conformity.

Control equipment register:

This register contains the results and the proofs or certificates of the control, gauging and calibration of the control equipment and the registration of the maintenances that could have an impact on product conformity.

Complaints register (see articles 8.1.3 and 8.1.4):

This register will contain the list of all the complaints regarding the BENOR certified products and follow-up.

6.1.2.5. All records are available for inspection at the production unit.

6.1.2.7 During the inspection, the inspection body may mark the pages of a register.

6.1.2.9 All registers may be kept digitally and not on paper.

6.2 CONTROLS WITHIN THE FRAMEWORK OF SELF-MONITORING

This article sets out the rules in relation to all checks carried out by the supplier as part of the self-monitoring process in the context of product certification.

6.2.2 Control locations

The controls can be conducted:

- on the production unit for all the routine tests,
- in a laboratory room at a different location for other tests.

6.2.3 Self-monitoring of raw materials

The control systems for raw materials. These systems contain the minimum requirements.

Premix glass beads:

The specification for the premix glass beads are mentioned in the PTV of the base material. Premix glass beads that are not delivered with BENOR certification (delivery document referring to the BENOR certification) are subject to internal and external inspections according to a control plan agreed with the certification body.

Surface materials for application on preformed road markings:

- The antiskid aggregates, the glass-beads and the mixtures of glass beads and antiskid aggregates shall meet the technical requirements of chapter 4 of the standard EN 1423 (and corresponding addenda). Surface materials that are not delivered with BENOR certification (delivery document referring to the BENOR certification) are subject to internal and external inspections according to a control plan agreed with the certification body.

- Other surface materials are subject to internal and external inspections according to a control plan agreed with the certification body.

6.2.4 Self-monitoring of the production unit

No requirements for self-monitoring of the production unit.

6.2.5 Self-monitoring of the production process

The production process is registered on hard or soft copy with traceable information of the process.

6.2.6 Self-monitoring of the product

The following table mentions the minimum frequency for the self-monitoring of the base materials. The standard test methods are mentioned in the PTV.

Product type	Property	Minimum frequency
Paints	1. Density	1/batch
	2. Solids content	
	3. Organic content	
	4. Viscosity	
Thermoplastics	1. Chromaticity coordinates and luminance factor	1 / starting 10 ton produced and 1/day
	2. Softening point	
	3. Organic content	
Cold plastics	1. Density	1/batch
	2. Organic content	
	3. Viscosity	
	4. Chromaticity coordinates and luminance factor	
Preformed road marking		
Tape, Preformed cold plastic road marking and preformed thermoplastic without drop–on materials	1. Chromaticity coordinates	Every 2000 m² and 1/ day
	2. Retroreflection (R_L)	
	3. Coefficient of luminance under diffuse illumination (Qd)	
	4. Skid resistance	
	5. Ash content	Every 5000 m²
For self-adhesive road markings	1. Adhesive – mass per unit area	1/day per product
Preformed thermoplastic with drop–on materials	1. Chromaticity coordinates and luminance factor	1/10 ton and 1/day
	2. Softening point	
	3. Ash content	

6.2.7 Controls, calibrations and verifications of the equipment

The controls, calibrations and verifications of the production equipment and the control equipment are carried out in accordance with the rues of Regulatory Note 84.

6.3 FOLLOW-UP OF NONCONFORMITIES

This article sets out what the supplier must do in the case of nonconformities.

6.3.1 Dealing with nonconformities

6.3.1.1 In case of serious shortcomings (breakdown or malfunctioning of laboratory equipment, discovery of a non-conformity after delivery of the product, ...) the supplier shall contact the certification body.

Every deviation has to be clearly identified in the corresponding register. Every corrective or preventive action shall be recorded.

The rules to be followed on determining the deviation of a product are described in article 6.3.2, 6.3.3 and 6.3.4.

6.3.3 Discovery of a non-conformity before delivery of the product

6.3.3.4 The delivery of rejected production parts is done at the discretion and under the sole and exclusive responsibility of the supplier.

7 EXTERNAL SURVEILLANCE

This chapter describes the rules pertaining to the external surveillance by the inspection body in connection with the product certification. The inspections can differ according to their content or the location in which they are conducted.

7.2 INSPECTIONS

This article deals with the inspections carried out by the inspection body. Inspections may differ according to their content or the location where they take place.

7.2.1 Content of the inspections

7.2.1.2 The external supervision can partly be done by means of remote inspections, provided that the producer and the certification body agree to it. The parts eligible for remote inspection are specified in article 7.2.1.3.

In case of deviations or sanctions, the agreement for remote inspections may be withdrawn.

7.2.1.3 The standard inspections cover:

- the control equipment for self-monitoring;
- the raw materials, as defined in the Application Regulations;
- the stock of raw materials;
- the production process;
- the product;
- the self-monitoring system;
- the implementation of controls within the framework of the self-monitoring system;
- following up changes to the quality plan;
- the work books and registers;
- the assessment of self-monitoring results;
- the identification of the product;
- the delivery of the product;
- if appropriate, the questionable production parts;
- carrying out controls under the supervision of the inspection body;
- samples for the comparative tests;
- evaluating the results of the comparative tests and controls carried out under the supervision of the inspection body;
- the implementation of corrective actions and corrective measures in case of non-conformity.

The following parts are eligible for remote inspection (non-exhaustive list):

- verification of the quality plan (except for the practical application of it on the production unit);
- the assessment of self-monitoring results;

- the assessment of ITT-test results;
- verification of delivery notes;
- the assessment of calibration reports;

7.2.1.4 The additional inspections may concern:

- controls that were not feasible at the time of the standard inspection;
- any controls in the external laboratory for self-monitoring;
- the conducting of checks and controls on non-certified raw materials under the supervision of the inspection body;
- any additional controls deemed necessary by the certification body, for example in the context of a complaint received or due to suspension or termination by the certificate holder;
- additional checks carried out at the request of the supplier, on identifying nonconformities in the self-monitoring system, which, according to the provisions of the Application Regulations, require the intervention of the inspection body;
- additional controls carried out as a result of a sanction imposed by the certification body (art. 8.2);
- additional controls at the request of the supplier.

7.2.3 Planning and frequency of the inspections

7.2.3.1 A standard inspection of the production unit is planned, in principle, in consultation with the supplier. Other inspections can be conducted without informing the supplier beforehand.

7.2.3.2 The number of standard inspections is 2 per year per production unit. The standard inspections are distributed evenly over time, taking into account articles 4.5.1, 7.3.1.3 and 7.3.2.2.

If since last inspection there has been no production of BENOR certified products, the certification body can decide to perform less inspections than the number of standard inspections foreseen on annual basis.

The minimum external surveillance in the event of production or delivery under the BENOR mark remaining interrupted consists of:

- one inspection within four years;
- after a year of interruption: an investigation into the ability of the certificate holder to continue to comply with the rules of the Application Regulations, with, in particular, the changes in personnel, equipment, raw materials, the production unit, the product and the quality plan since the previous inspection being checked. This investigation can be done via correspondence.

7.3 CONTROLS IN THE CONTEXT OF EXTERNAL SURVEILLANCE

This article sets out the rules relating to controls – and often certain tests - carried out within the framework external surveillance. These controls may be carried out by the supplier in the presence of the inspection body and/or by an external laboratory. If they are performed by the supplier's laboratory as well as a control laboratory, this relates to comparative tests.

7.3.1 Controls under the supervision of the inspection body

7.3.1.2 The controls under the supervision of the inspection body are further divided into:

- controls in the presence of the inspection body;
- controls by a control laboratory.

7.3.1.3 The controls in the presence of the inspection body are:

- during each standard inspection for every product type the tests of article 6.2.6, with a maximum of two product types per inspection,
- when applicable, at least once a year for each product type, the verification of the content of the packaging with the requirements of the concerned PTV,
- during each standard inspection, the mass per unit area of preformed road markings,
- at least once a year the thermogravimetric analysis of multilayer of tapes or control at a control laboratory (see table of controls for tapes).

The controls to be performed by a control laboratory are mentioned in the tables underneath.

During certification period each product type will be submitted twice a year to the tests mentioned in the tables below (with a maximum of 1 series of tests per year on one product article). Sampling will be performed in presence of the inspection body.

Product article	Property
Paints	Density
	Solid content
	Content of non-volatile organic compounds (binders and additives; NVO)
	Identification of the organic constituents
	Identification of pigment and fillers
	Titanium dioxide content
	Solvents content and identification [*1]
	Ash content [*1]
[*1] Only in case of doubt	

Product article	Property
Thermoplastics	Density [*1]
	Organic content
	Identification of the organic constituents
	Identification of the pigment and fillers
	Titanium dioxide content
	Glass bead content [*1]
	Ash content [*1]
[*1] Only in case of doubt	

Product article	Property
Cold plastics	Density [*1]
	Organic content
	Identification of the organic constituents
	Identification of the pigment and fillers
	Titanium dioxide content
	Glass bead content [*2]
	Ash content [*1]
[*1] Only in case of doubt [*2] Only for cold plastics with premix beads or in case of doubt	

Product article	Property
Tapes	Ash content
	Thermogravimetric analysis (TGA) [*2]
	ATR FT-IR of the adhesive layer [*1]
[*1] Only in case of doubt [*2] Only in case the test is not witnessed by the inspection body	

Product article	Property
Preformed cold plastics	% Organic material (weight % of the “Passing 90 µm material”)
	% TiO2 in the not coarse material (weight % of the “Passing 90 µm material”)
	Identification of the organic constituents
	Identification of the pigment and fillers
	Ash content 900 °C
	ATR FT-IR of the adhesive layer [*1]
[*1] Only in case of doubt	

Product article	Property
Preformed thermoplastics without drop-on materials	% Organic material (weight % of the “Passing 90 µm material”)
	% TiO2 in the not coarse material (weight % of the “Passing 90 µm material”)
	Identification of the organic constituents
	Identification of the pigment and fillers
	Ash content

Product article	Property
Preformed thermoplastics with drop-on materials	% Organic material (weight % of the “Passing 90 µm material”)
	% TiO2 in the not coarse material (weight % of the “Passing 90 µm material”)
	Identification of the organic constituents
	Identification of the inorganic constituents
	Ash content

7.3.1.7 The transport of test samples to the laboratory is the responsibility of the supplier. The transport costs are to be borne by the supplier.

7.3.1.8 The cost of the controls performed by a control laboratory is to be borne by the supplier.

7.3.1.10 The results of the controls under the supervision of the inspection body are assessed by the inspection body in the same way as for the self-monitoring. For the assessment of the test results the requirements mentioned on the technical data sheet of the product article are used as reference.

7.3.1.11 The actions to be taken as a result of nonconforming results of controls under the supervision of the inspection body are the same as for self-monitoring (article 6.3). The certification body can furthermore also impose additional self-monitoring and/or external surveillance or a sanction.

7.3.2 Comparative tests

7.3.2.2 For some of the tests performed according to 7.3.1.3, a comparative test is performed. The tests which are submitted to a comparative test are shown in the tables below. These tests will be executed twice a year for each product type (with a maximum of 1 series of tests per year on one product article).

Product type	Property
Paint	Density
	Solid content
	Content of non-volatile organic compounds (binders and additives; NVO)
Thermoplastics	Softening point
	Organic content
Cold plastics	Organic content
Tapes	Ash content
Preformed cold plastics	Ash content
Preformed thermoplastics without drop-on materials	Ash content

Preformed thermoplastics with drop-on materials	Ash content
	Softening point

7.3.2.3 Sampling for the comparative tests takes place according to the choice of the inspection body. The inspection body spreads the comparative tests over the various certified products. The supplier carries out the sampling and any preparation under the supervision of the inspection body.

7.3.2.6 The transport of the samples to the control laboratory is the responsibility of the supplier or the inspection body. The transport is at the expense of the supplier.

7.3.2.9 The result of the comparative tests is assessed by the certification body. The results of the controls performed by the control laboratory are assessed by the certification body in the same way as for the self-monitoring. For the assessment of the test results the requirements mentioned on the technical data sheet of the product article are used as reference. The result of a comparative test is considered satisfactory when the difference between the internal test result and the test result of the external laboratory is inferior to the following data:

Product type	Property	Requirements
Paint	Density	0,04
	Solid content	0,8
	Content of non-volatile organic compounds (binders and additives; NVO)	1,2
Thermoplastics	Softening point	10,2
	Organic content	2,0
Cold plastics	Organic content	2,5
Tapes	Ash content	To be determined
Preformed cold plastics	Ash content	To be determined
Preformed thermoplastics without drop-on materials	Ash content	To be determined
Preformed thermoplastics with drop-on materials	Ash content	To be determined
	Softening point	10,2

7.3.2.10 Where a second control laboratory is available, the re-tests are carried out by a different control laboratory.

If the results of the re-test are satisfactory according to article 7.3.2.9, the results of the first control laboratory are not taken into account. If this is not the case, the result of the comparative test will definitively be regarded as unsatisfactory.

7.6 EVALUATION SYSTEM

This article describes how the external surveillance is monitored by the inspection and certification body. The possible sanctions imposed by the certification body are discussed in chapter 8.

7.6.3 Points system

Not applicable.

7.6.4 Self-monitoring level

Not applicable.

7.6.5 External surveillance level

Not applicable.

9 RATES AND INVOICING

This chapter contains the financial rules, rates and rules on invoicing.

9.1 FINANCIAL RULES

9.1.5 Additional financial rules

Not applicable.

9.2 RATES

9.2.2 Certification contribution

The amount for the certification payments is included in the Tariff Regulations for the Certification of road marking products – base materials within the framework of the BENOR mark of conformity TAR 84.

9.2.3 Inspection contribution

The amounts of the flat fee per inspection, performance fee, the travel allowance, transport costs and accommodation allowance are stipulated in the TAR BENOR.

9.2.4 Production contribution

Not applicable.

9.2.8 Indexing of rates

Indexation of all tariffs is done analogously to that described in TAR BENOR.