



Dit pdf bestand bevat alle beschikbare talen van het opgevraagde document.

Ce fichier pdf reprend toutes langues disponibles du document demandé.

This pdf file contains all available languages of the requested document.

Dieses PDF-Dokument enthält alle vorhandenen Sprachen des angefragten Dokumentes.

COPRO vzw - Onpartijdige instelling voor de controle van bouwproducten
COPRO asbl - Organisme impartial de contrôle de produits pour la construction
COPRO - A not-for-profit impartial product control body for the construction industry

Z.1. Researchpark - Kranenberg 190 - BE-1731 Zellik (Asse)
T +32 (0)2 468 00 95 - info@copro.eu - www.copro.eu

KBC IBAN BE20 4264 0798 0156 - BIC KREDBEBB - BTW/TVA/VAT BE 0424.377.275 - RPR Brussel/RPM Bruxelles/RLP Brussels



APPLICATION REGULATIONS
FOR THE
PRODUCT CERTIFICATION
OF
ELASTOMERIC PRODUCTS
UNDER THE
BENOR MARK

Version 7.0 of 2019-08-19

COPRO - A not-for-profit impartial product control body for the construction industry

Z.1. Researchpark
Kranenberg 190
BE-1731 Zellik (Asse)

T +32 (0)2 468 00 95
info@copro.eu
www.copro.eu

VAT BE 0424.377.275
KBC BE20 4264 0798 0156
RLP Brussels

CONTENTS

1	INTRODUCTION.....	3
1.1	TERMINOLOGY	3
1.2	AVAILABILITY OF THE CERTIFICATION REGULATIONS	7
1.3	STATUS OF THESE APPLICATION REGULATIONS	7
1.5	QUESTIONS AND OBSERVATIONS	7
2	OVERVIEW OF PRODUCT CERTIFICATION.....	8
2.1	PREPARATION OF THE CERTIFICATION REGULATIONS.....	8
2.2	OBJECTIVES	9
2.3	SCOPE	10
2.4	CERTIFICATE	12
2.5	IDENTIFICATION OF THE PRODUCT	13
2.6	USE OF THE BENOR LOGO AND REFERENCE TO THE BENOR MARK.....	15
2.7	TECHNICAL DATA SHEET	15
3	THE STAKEHOLDERS	16
3.2	CERTIFICATION BODY	16
3.3	INSPECTION BODY	16
3.4	SUPPLIER.....	16
4	REQUIREMENTS FOR A CERTIFIED PRODUCT.....	17
4.1	STAFF	17
4.2	EQUIPMENT	17
4.3	RAW MATERIALS	18
4.5	PRODUCT.....	19
4.6	QUALITY PLAN.....	19
4.7	TYPE TEST	20
5	OBTAINING A CERTIFICATE	21
5.2	APPLICATION PERIOD	21
6	SELF-MONITORING	22
6.1	REGISTRATION AND ARCHIVING.....	22
6.2	CONTROLS WITHIN THE FRAMEWORK OF SELF-MONITORING	24
6.3	FOLLOW-UP OF SHORTCOMINGS	28
7	EXTERNAL SURVEILLANCE	29
7.2	INSPECTIONS	29
7.3	CONTROLS IN THE CONTEXT OF EXTERNAL SURVEILLANCE	30
9	RATES AND INVOICING	33
9.1	FINANCIAL RULES	33
9.2	RATES.....	34

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 abbreviations used in these Application Regulations.

1.1.1 Definitions

Batch	Quantity of a mixture, produced using the same raw materials, the same production equipment and the same production parameters in a continuous production process.
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.
Extrusion	Heating a plastic in a heated, forward-moving screw.
Hardness category	Category based on hardness determined via the IRHD method. Depending on the nominal hardness value chosen, these come under a particular category. For example, nominal hardnesses 46-55 correspond to hardness category 50 (Table 1; EN ISO 681-1).
Hardness IRHD	Property determined in accordance with test standard ISO 48. Can be implemented as N-IRHD (normal IRHD) or μ -IRHD (Micro-IRHD). In the case of discussion, the μ -IRHD method prevails.
Injection moulding process	Process in which the rubber mixture is pressed through or into a mould by means of extrusion and then cooled and released from the mould where appropriate.
Mixture	Rubber mixture, regarded here as a raw material, ready for further processing by way of extrusion, injection moulding or any other process.
Producer	Company responsible for manufacturing a product.

Product	Elastomeric profiles belonging to the product group of elastomeric products which correspond to one or more of the following reference documents: PTV 832-1, PTV 832-2, PTV 832-3, PTV 832-4, PTV 832-5. These profiles can be seals or bearings depending on the usage.
Product group	Elastomeric products used for concrete, sulphur concrete or cast iron covers.
Product type	All of the elastomeric profiles complying with an applicable reference document.
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.
Sampling	Sampling can be subdivided into: <ul style="list-style-type: none"> - 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 unit group or product type and its conformity.
Unit group	All of the elastomeric profiles with the same profile type and the same properties complying with the same technical datasheet.
Quality	All of the elastomeric profiles with a different profile type but with the same properties.

1.1.2 Abbreviations

KI	Inspection Body
OCI	Certification Body
OSO	Sectoral Organisation
TRA	Application Regulations

1.1.3 References

CPR	Regulation (EU) N° 305/2011 of the European Parliament and of the Council of 9 March 2011 laying down harmonised conditions for the marketing of construction products and repealing Council Directive 89/106/EEC
CRC 01 BENOR	General Certification regulations for the certification of products in the construction sector under the BENOR mark
PTV 832-5	Technical prescriptions for cast iron covers: elastomeric bearings - vulcanized rubber
PTV 832-1	Technical prescriptions for elastomeric seals: Part 1: Vulcanized rubber
PTV 832-2	Technical prescriptions for elastomeric seals: Part 2: Thermoplastic elastomer
PTV 832-3	Technical prescriptions for elastomeric seals: Part 3: Cellular materials of vulcanized rubber
PTV 832-4	Technical prescriptions for elastomeric seals: Part 4: Cast polyurethane sealing elements
RNR 32	Regulatory Note for Gauging, Calibrations and Checks on Production Equipment and Checking Equipment for the certification of Elastomeric Products
TAR BENOR	Financial system within the framework of the BENOR-mark of conformity
TAR 32	Tariff Regulations for the Certification of Elastomeric products within the framework of the BENOR mark of conformity ISO 3417 Rubber - Measurement of vulcanization characteristics with the oscillating disc curemeter
ISO 3302-1	Rubber - Tolerances for products - Part 1: Dimensional tolerances
ISO 48	Rubber, vulcanized or thermoplastic - Determination of hardness (hardness between 10 IRHD and 100 IRHD)
ISO 37	Rubber, vulcanized or thermoplastic - Determination of tensile stress-strain properties
ISO 815-1	Rubber, vulcanized or thermoplastic - Determination of compression set - Part 1: At ambient or elevated temperatures
ISO 188	Rubber, vulcanized or thermoplastic - Accelerated ageing and heat resistance tests
ISO 9691	Rubber - Recommendations for the workmanship of pipe joint rings - Description and classification of imperfections
ISO 815-2	Rubber, vulcanized or thermoplastic - Determination of compression set - Part 2: At low temperatures
ISO 1817	Rubber, vulcanized or thermoplastic - Determination of the effect of liquids
ISO 1431-1	Rubber, vulcanized or thermoplastic - Resistance to ozone cracking - Part 1: Static and dynamic strain testing
ISO 3384-1	Rubber, vulcanized or thermoplastic - Determination of stress relaxation in compression - Part 1: Testing at constant temperature

ISO 3387	Rubber - Determination of crystallization effects by hardness measurements
ISO 4649	Rubber, vulcanized or thermoplastic - Determination of abrasion resistance using a rotating cylindrical drum device
ISO 34-2	Rubber, vulcanized or thermoplastic - Determination of tear strength - Part 2: Small (Delft) test pieces

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 7.0 and replaces version 6.0.

1.3.2 Approval of these Application Regulations

These Application Regulations were approved by the Sectoral Commission on 2019-08-19.

1.3.3 Ratification of these Application Regulations

These Application Regulations were confirmed by the Board of Directions of COPRO on 2019-12-11.

These Application Regulations were submitted to BENOR non-profit organisation on 2019-12-11.

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 elastomeric profiles. 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 body and the inspection body in carrying out their tasks, e.g. 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 measures 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 elastomeric profiles 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.

2.3.1 Object of product certification

2.3.1.1 The object of product certification is the control of production and supply of elastomeric profiles.

Here we can looking at:

- implementing and monitoring a quality plan;
- determining the client's requirements;
- the type testing of a unit group 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 product;
- the recording and archiving of all relevant data and results.

The products that belong to the certified production part are the elastomeric profiles which correspond to one or more of the following documents: PTV 832-1, PTV 832-2, PTV 832-3, PTV 832-4 or PTV 832-5.

The input for the certification consists of all relevant requirements of the applicable reference documents relating elastomeric profiles.

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

In the framework of these application regulations, unhandled mixtures are regarded as raw materials. The supplier must use the appropriate raw materials as described in PTV 832-1, PTV 832-2, PTV 832-3, PTV 832-4, and/or PTV 832-5 and carry out a control on the raw materials used. Depending on the results of this control, the supplier shall take appropriate measures 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 elastomeric profiles is an essential link in the realisation of a high quality and conforming construction. As there are still parameters that are not covered by the certification of elastomeric profiles, this certification cannot fully guarantee that the resulting structure will meet the project owner's quality requirements. The parameters not covered by the product certification include:

- the design of the structure;
- products not falling within the scope of the product certification;
- the uncertified execution of a project.

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 elastomeric profiles in accordance with at least one of the following reference documents:

- a Technical Prescription (PTV).

The applicable reference documents are set out in article 2.3.7.

2.3.5.2 BENOR certification of elastomeric profiles is voluntary.

2.3.5.3 For elastomeric profiles for which a harmonized EN standard applies, the BENOR certificate is only awarded after the supplier has complied with all the rules on the CE marking for the product.

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 Tariff Regulations for the Certification of Products TAR BENOR and the Tariff Regulations for the Certification of Elastomeric products within the framework of the BENOR mark of conformity TAR 32.

2.3.7 Reference documents

2.3.7.1 There are no applicable standards.

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

2.3.7.3 The applicable Technical Prescriptions are PTV 832-1, PTV 832-2, PTV 832-3, PTV 832-4 and PTV 832-5.

2.3.7.4 There are no other applicable reference documents.

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

2.3.9.1 There are no production parts that are constantly delivered outside of the BENOR mark.

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 products for which a certified technical data sheet exists on the extranet from COPRO (extranet.copro.eu).
- 2.4.2.3 By issuing the certificate, the certification body acknowledges that there is a sufficient degree of confidence in the measures taken by the certificate holder in order to ensure the conformity of the elastomeric profiles to the relevant technical data sheet.

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 certificate describes the product in accordance with the Application Regulations.

2.5 IDENTIFICATION OF THE PRODUCT

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

2.5.2 Public identification

The commercial name of the product chosen by the producer is used as public identification.

2.5.3 Identification using the BENOR logo and/or reference to the BENOR mark

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

All profiles/package unities are indelibly marked in accordance with clause 5 of the applicable PTV.

In addition of the above-mentioned clauses, the following identifications are established:

A label is affixed by package unity. Every package unity must mention at least the following data:

- clear identification regarding what unit group the package contains,
- number of the technical data sheet or any other unambiguous reference,
- the BENOR logo,
- producer identification data.

Every profile must carry at least the following identification:

- production period or production day, if the seal was produced by extrusion,
- identification number of the producer.

2.5.4 Identification of exempt production parts

Reference may not be made to the BENOR mark or a technical datasheet code for exempt production parts (see Art. 2.7).

2.5.5 Delivery note

2.5.5.1 The delivery notes are drawn up for delivery of the product by the supplier (same entity as the producer) to the customer.

2.5.5.2 The following information must be included on each delivery note:

- name and, if possible, address of the supplier;
- name and address of the production unit;
- name and contact details of the client;
- public identification of the unit group (Art. 2.5.2);
- unit group technical data sheet's code (fast code) in the following form: "Technical data sheet: fast code AAAA/CCCC (see extranet.copro.eu)" or "TDS: fast code AAAA/CCCC", whereby the fast code satisfies article 2.7.2;
- departure date from the production unit;
- quantity per unit group;
- mandatory data according to the applicable reference documents;
- once the certificate has been issued, reference may be made to the BENOR mark, for each certified unit group, in accordance with the rules of Article 2.6.4.

2.6 USE OF THE BENOR LOGO AND REFERENCE TO THE BENOR MARK

This article deals with the use of the BENOR logo and the reference to the BENOR mark. The logo is the "symbol" or alternative identification by which the certification is made clear.

2.6.1 Typographical description of the BENOR logo

- 2.6.1.2 When it is not technically possible to use the BENOR logo, an alternative identification is permitted at the request of the certification body by the non-profit organisation BENOR. This alternative identification will be included in the Application Regulations. All rules governing the use of the BENOR logo then apply to the use of the alternative identification.

2.7 TECHNICAL DATA SHEET

2.7.1 General

- 2.7.1.1 The supplier shall prepare a technical data sheet for each certified unit group.
- 2.7.1.2 Every information listed on the technical data sheet is based on the type test.
- 2.7.1.3 For each delivery of elastomeric profiles, the client must be provided with the corresponding valid technical data. 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 control.
- 2.7.1.5 The information contained in the technical data sheet relating to the essential characteristics of a harmonized standard, must precisely match the information stated by the supplier in the declaration of performance.

3 THE STAKEHOLDERS

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

3.2 CERTIFICATION BODY

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

3.2.5 Registered office and Secretariat

3.2.5.1 The only certification body for the certification of elastomeric profiles is COPRO.

3.3 INSPECTION BODY

This article deals with the cooperation of the certification body with the inspection body.

3.3.2 Designation of the inspection body

3.3.2.1 COPRO acts as an inspection body for elastomeric profiles.

3.3.2.2 Not applicable.

3.3.2.3 Not applicable.

3.4 SUPPLIER

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

3.4.2 Possible suppliers

3.4.2.1 In the General Certification Regulations the term 'supplier' is used for an applicant or certificate holder.

The applicant or the certificate holder is responsible for ensuring that the rules of this Application Regulation and the applicable reference documents are complied with. He can pass on certain tasks to another supplier or to the producer but bears the final responsibility for this as the applicant or certificate holder.

The supplier can also be the producer itself, a distributor or an importer.

4 REQUIREMENTS FOR A CERTIFIED PRODUCT

This chapter describes what is required to achieve a certified product. In the first place, this means a knowledgeable workforce. With appropriate equipment and compliant materials these employees manufacture the product at a specific production unit. Initial, a type test is required. The production and everything that comes with it must be carried out in accordance with a documented quality plan.

4.1 STAFF

This article describes the rules relating to staff. It focuses in particular on the control staff and staff training.

4.1.1 General

- 4.1.1.3 The following functions are described:
- senior management;
 - quality manager;
 - self-monitoring manager (at the production unit);
 - responsible for the production (the producer);
 - responsible for the supplies (the supplier);
 - laboratory head.

4.2 EQUIPMENT

This article describes the rules relating to equipment. A distinction is made between production equipment and control equipment.

4.2.2 Laboratory and control equipment

- 4.2.2.2 The supplier may 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. The reciprocal obligations of the supplier and the external laboratory for self-monitoring are defined in a written agreement.
- 4.2.2.4 These controls must be carried out by the supplier if they apply for the relevant unit group: determination of dimensions, hardness μ -IRHD or N-IRHD, determination of tensile stress-strain properties, determination of tear strength, accelerated ageing and determination of compression set.

4.3 RAW MATERIALS

This article describes the rules relating to raw materials.

4.3.2 Validation of raw materials

4.3.2.3 The data concerning the mixtures 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 mixtures (delivery note number, batch number, et cetera).

4.3.3 Supply of raw materials

The delivery documents for the mixtures are recorded in the register or raw materials (Art. 6.1.2).

4.3.4 Storage of raw materials

Each mixture is stored in an orderly and organised manner.

The supplier must take the necessary measures to guarantee the identification and quality of the raw materials.

4.3.5 Disposal of raw materials

Where appropriate, the data and transport documents are recorded in the register of raw materials in a traceable manner (Art. 6.1.2).

4.5 PRODUCT

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

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 monitoring can be adapted accordingly.
- 4.5.1.2 With regard to the steps required to maintain confidence in the conformity of the elastomeric profiles after an interruption of the period of activity, the certification body can instruct the inspection body to carry out an additional inspection prior to restarting production.

4.5.5 Production plan

- 4.5.5.1 The supplier must draw up a production data sheet with the production parameters per unit group.

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

With regard to this article, reference is made to the CRC 01 BENOR regulation.

4.6.3 Technical file

With regard to this article, reference is made to the CRC 01 BENOR regulation.

4.7 TYPE TEST

This article deals with type testing of the product. It is more commonly called Type Testing or determination of product type.

4.7.1 General

- 4.7.1.1 A number of provisions are implemented as type tests. See article 4.7.3.1.
- 4.7.1.2 Type tests shall in principle be carried out by the supplier. If the supplier does not itself conduct certain controls of the type test, these may be performed by an external laboratory that satisfies the requirements of Article 3.5.

4.7.2 Scope

The type test is conducted for each quality/mixture at the start of certification with a view to laying down specifications in the technical datasheet.

4.7.3 Requirements

- 4.7.3.1 The controls that must be carried out for each type test are all tests marked with an x in the table under article 6.2.6. The tests with an x have to be carried out as a type test if these are applicable to the product type.

4.7.5 Validity

- 4.7.5.1 All type testing reports are kept in the supplier's technical file.
- 4.7.5.2 In principle, a type test always remains valid.

4.7.6 Modifications

If a raw material, the composition, production process or another relevant parameter is modified, the supplier must verify the effect of this modification on the characteristics of the unit group or product type.

It may be necessary for part or all of the type test to be performed again.

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 receipt 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

5.2.4.3 The maximum duration of the trial period is one year.

5.2.5 Self-monitoring during the trial period

The minimum number of tests (with the exception of type testing) is three per unit group for the tests with a frequency in the table in article 6.2.6 of level A, B, C, D or E. The minimum number of tests for the other tests is one per quality. For each quality, there has to be a minimum of 10 production days per applicable reference document during the trial period.

5.2.7 External surveillance during the trial period

The minimum number of compliant comparative tests is two per applicable reference document.

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 shortcomings.

6.1 REGISTRATION AND ARCHIVING

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

6.1.2 Registers

6.1.2.3 Discussion of all registers and everything that has to be recorded in them. A number of recommended registers are set out below.

Type test register:

The type tests stipulated in article 4.7.3.1 are recorded in the test register.

Raw materials register/mixtures:

The supplier certificates and the internal test results, where applicable, are kept in the raw material register chronologically. It must also be noted in the raw material register if the mixture is not released for further processing.

Production register:

The register contains the details of the manufacture of the end products and the self-produced mixtures. The following information must be included as a minimum requirement: production date, type of mixture or profile.

Stock and deliveries register:

This register contains a copy of all the delivery notes.

Tests register:

All conforming and non-conforming test results relating to the end product are recorded in this register, as well as the follow-up to a non-conforming result.

If a producer avails itself of an external laboratory for the internal tests, the results obtained by this laboratory are entered in the registers no later than one working day after the results are made known.

Equipment register:

This register contains:

- all data and results relating to the monitoring of the equipment;
- an overview of the production and control equipment in accordance with Regulatory Note RNR 32;
- the calibration certificates as well as the calibration and inspection reports for the equipment.

Control equipment register:

This register contains:

- an overview of the monitoring equipment in accordance with Regulatory Note RNR 32;
- the calibration certificates as well as calibration and inspection reports for the monitoring equipment, classified per device.

Complaints register:

This register is kept according to the rules set out in articles 8.1.4.2 and 8.1.5.2 of CRC 01 BENOR.

- 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 described in article 6.1.2.3 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 inspections and tests can be conducted:

- on the production unit, in an enclosed space or otherwise;
- at a distributor, an importer or the delivery location;
- in a laboratory room at a different location.

6.2.3 Self-monitoring of raw materials

PTV 832-1 and PTV 832-5:

In the framework of these application regulations, unhandled mixtures are regarded as raw materials.

If the producer produces the mixtures himself, at least the following properties will be controlled for each batch:

Properties	Symbol	Method
Minimum moment	M_i	ISO 3417
Maximum moment Max. moment after determined time	M_{HR} of t_{M_H}	ISO 3417
Time needed to 5,10 or 90 % of M_{HR} or M_H	T_5 of T_{10} T_{90}	ISO 3417

If the producer purchases the mixtures, the mention of these properties on the delivery certificate, is sufficient.

The producer determines for each mixture the requirements for the concerned properties.

PTV 832-2, PTV 832-3 and PTV 832-4:

The producer defines in his technical dossier for each mixture which are the properties to test, the test frequencies, the test methods and the criteria of acceptance or refusal.

6.2.4 Self-monitoring of the production unit and the warehouse

Product handling and storage control:

Half-finished product and final products shall be stored as such that all product units remain easily accessible for checking purposes.

Visual checks shall be completed in the warehouse for damages incurred during product handling.

Approved products shall be stored clearly separate from dubious or rejected products.

6.2.5 Self-monitoring of the production process

The producer has a production sheet that is kept with the production equipment and which lists the production parameters to be checked.

6.2.6 Self-monitoring of the product

The tests to be carried out are specified in the respective PTV. In the table below, the frequency is only stipulated if a test is applicable.

If certain matters have to be taken into account for conducting the inspections (sampling, preparation of test samples, et cetera), in addition to the PTVs this is recorded in the technical file.

Property	Frequency	Method	PTV 832-1	PTV 832-2	PTV 832-3	PTV 832-4	PTV 832-5
Dimensions	A	ISO 3302-1	X ⁽¹⁾	X ⁽¹⁾	X ⁽¹⁾	X ⁽¹⁾	X ⁽¹⁾
Length	A	measure	X ⁽²⁾	X ⁽²⁾	X ⁽²⁾	X ⁽²⁾	X ⁽²⁾
Hardness	B	ISO 48	X	X		X	X
Tensile strength and elongation at break	B	ISO 37	X	X	X	X	X
Compression stress at 23 °C	B	PTV 832-3			X		
Tear strength for joint seals for hot water supply	B	ISO 34-2	X				
Compression set in air							
at 70 °C	C	ISO 815-1	X	X	X	X	X
at 125 °C	C	ISO 815-1	X				
Hardness, compression stress, tensile strength and elongation at break after accelerated ageing in air							
7 days at 70 °C	C	ISO 188	X ⁽⁴⁾	X ⁽⁴⁾	X ⁽⁵⁾	X ⁽⁶⁾	X ⁽⁴⁾
7 days at 125 °C	C	ISO 188	X				
Imperfections and defects	D	ISO 9691	X	X	X	X	X
Joint	E	PTV 832-1 Art. 3.4.13	X ⁽³⁾				X ⁽³⁾
		PTV 832-3			X ⁽³⁾		
Compression set							
at -10 °C	F	ISO 815-2	X	X	X	X ⁽⁷⁾	X
at 23 °C	F	ISO 815-1	X	X	X	X	X
Volume change in water							
at 70 °C	F	ISO 1817	X	X	X		X
at 95 °C	F	ISO 1817	X				
Resistance to ozone cracking	F	ISO 1431-1	X	X	X		X ⁽⁸⁾
Stress relaxation in compression							
7 days at 23 °C	G	ISO 3384-1	X	X	X	X	
100 days at 23 °C	G	ISO 3384-1	X	X	X	X	
7 days at 125 °C	G	ISO 3384-1	X				
Compression set in water at 110 °C	G	PTV 832-1 Art. 3.4.12	X				
Reaction force	H	according to pipes norm	X				
Permanent distortion after compression at -25 °C (Low temperature performance)	H	ISO 815-2	X ⁽⁹⁾		X		X
Change of hardness at -25 °C	H	ISO 3387	X ⁽⁹⁾				
Change of volume in oil at 70 °C	H	ISO 1817	X ⁽⁹⁾	X			X
Abrasion resistance	G	ISO 4649					X
Tear strength	B	ISO 34-2					X

Chemical resistance	I	PTV 832-5 Art. 3.4.12					X
		PTV 832-1 Art. 3.4.16	X				
High temperature resistance	I	PTV 832-1 Art. 3.4.17	X				
High chemical resistance	I	PTV 832-1 Art. 3.4.18	X				
		PTV 832-4 Art. 3.4.9				X	
Resistance to de-icing salts	I	PTV 832-5 Art. 3.4.13					X
<p>(1) Tolerances on the dimensions are described in the corresponding PTV documents. The functionality of dimensions is established on the technical data sheet;</p> <p>(2) Tolerances on the length: +/- 1 %;</p> <p>(3) Maximum 3 joints on a ring;</p> <p>(4) No compression stress to determine after ageing;</p> <p>(5) No hardness to determine after ageing;</p> <p>(6) Only hardness to determine after ageing;</p> <p>(7) As an alternative the hardness at -10 °C may be determined according to par. 3.4.6 of PTV 832-4. This has to be described in the technical dossier;</p> <p>(8) Concentration of 25 ppm instead of 50 ppm;</p> <p>(9) If high temperature resistance is applicable, these tests should be carried out after conditioning of the seals and splices according to Article 3.4.17 of PTV 832-1.</p>							

Explanations of frequencies of preceding table	
A	- At the start and in the end of the production period (= after mould change, by change of extrusion profile); - minimum 1 control by week and by unit group or by quality.
B	Minimum 1 control by day and by product type.
C	Minimum 1 control by month and by product type.
D	Continuous.
E	Minimum 5 joints by day of production and by unit group.
F	Minimum 1 control by year and by product type.
G	Minimum 1 control by 5 year and by product type.
H	Minimum 1 control by year by product type, if applicable. The property is resumed on the technical data sheet.
I	Minimum 1 control by 6 months and by product type.

Note: If de producer mentions other properties on the technical data sheet, the control scheme for these properties must be resumed in the technical dossier.

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 rules of Regulatory Note 32. If inspections, calibrations or adjustments indicate that a piece of equipment is non-compliant, the supplier immediately investigates the effect on the results. If this review shows that conformity to the reference documents is not guaranteed, the supplier shall initiate appropriate measures immediately.

6.3 FOLLOW-UP OF SHORTCOMINGS

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

6.3.1 Dealing with shortcomings

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 should contact the certification body.

The rules to be followed on determining the non-conformity of a product are described in Article 6.3.2, 6.3.3 and 6.3.4 of the CRC 01 BENOR regulations and Article 6.3.3.4 of this document.

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

6.3.3.4 To avoid that any product declared non conforming be delivered under the BENOR certificate, any non conforming product must be destroyed, or the mention BENOR must be removed from the product.

If the mention BENOR cannot be removed, the product must be destroyed.

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.

7.2.3 Planning and frequency of the inspections

- 7.2.3.1 An 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 There is one type of standard inspections (T1).
As a rule, four standard inspections are carried out per year for each certificate.
- 7.2.3.3 The number of additional inspections per year for performing calibrations and checks of control equipment under the supervision of the inspection body is such as to comply with the rules of Regulatory Note RNR 32.

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

7.3.1.3 The controls that can be carried out under the supervision of the inspection body are listed in Article 6.2.6.

As soon as the results of the tests are available they shall be forwarded to the inspection body by the producer (if the inspector was not present for the tests). These results must be transmitted to the inspection body within 2 weeks.

7.3.1.7 The transport of test samples to the laboratory is the responsibility of the supplier or the inspection body. The transport costs are in principle payable by the supplier.

7.3.1.10 The results of inspections conducted under the supervision of the inspection body are assessed in the same way as for self-monitoring.

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

7.3.2 Comparative tests

7.3.2.2 The planned comparative tests are shown in the table below for each applicable reference document. The frequency of the sampling for the comparative tests is two per year, with a minimum of one comparative test per applicable reference document under Article 1.1.3 for which the producer has certified profiles.

Property	Method	PTV 832-1	PTV 832-2	PTV 832-3	PTV 832-4	PTV 832-5
Hardness	ISO 48	X	X		X	X
Compression stress at 23 °C	PTV 832-3			X		
Tensile strength and elongation at break	ISO 37	X	X	X	X	X
Compression set in air						
at 70 °C	ISO 815-1	X	X	X	X	X
at 125 °C	ISO 815-1	X				
Hardness, compression stress, tensile strength and elongation at break after accelerated ageing in air						
7 days at 70 °C	ISO 188	X ⁽¹⁾	X ⁽¹⁾	X ⁽²⁾	X ⁽³⁾	X ⁽¹⁾
7 days at 125 °C	ISO 188	X				
⁽¹⁾ No compression strength to determine after ageing; ⁽²⁾ No hardness to determine after ageing; ⁽³⁾ Only hardness to determine after ageing.						

If the producer determines only the N-IRHD as internal control for the hardness, the N-IRHD and the μ -IRHD will be determined by the control laboratory for the comparative tests.

7.3.2.3 The sampling for the comparative tests is carried out according to the choice of the inspection body. The supplier conducts the sampling and any preparation under the supervision of the inspection body.

Each sampling includes three samples taken from the same part of production. When taking samples in the production unit, testing is carried out as far as possible in the presence of the inspection body's representative. The results of the other tests are sent to the inspection body as soon as they become known.

The second sample is tested at the control laboratory.

The third sample is sealed and stored by COPRO in case a repeat test is required.

7.3.2.6 The transport of the samples to the control laboratory happens in principle by the supplier. The transport is basically at the expense of the supplier.

7.3.2.9 The results of the comparative tests are assessed by the inspection body in the same way as for the internal results (see 7.3.1.10), but additionally the reproducibility is evaluated. The results of the inspection tests are regarded as reproducible when the difference between the test results for each test of the internal and external labs is inferior to the following data:

Properties	Requirements
Hardness method N	5.6 points
Hardness method M	6.5 points
Tensile strength	2.5 MPa
Elongation at break	130 %
Compression strength at 23 °C	To determine
Tensile strength after ageing	20 %
Elongation at break after ageing	20 %
Compression strength after ageing	To determine
Permanent distortion after compression	12 %
Tear strength	To determine

7.3.2.10 If the supplier does not accept the control laboratory's results a re-test may be carried out at its request.

If the supplier accepts that its own result is incorrect, and that only the control laboratory's result should be considered, there is no need for a re-test. The result is then immediately seen as unsatisfactory.

If a repeat test is carried out, then all non-reproducible tests will be tested again. If a test is not reproducible after ageing, the test must be repeated in original conditions and in aged conditions.

Repeat tests shall be carried out by another laboratory of control. The laboratory shall be selected from the appointed control laboratories by the inspection body, with approval of the manufacturer. In case no other laboratory is available for the test, the re-tests may be conducted by the same control laboratory, if desired in the presence of the supplier, and, where appropriate, accompanied by a representative of the inspection body. In this case, the costs incurred for the inspection body to attend are borne by the supplier.

All sampling, transport and testing costs for re-tests will be payable by the supplier.

The results of the re-test are compared with the results of the supplier's original test.

If the results of the repeat test are reproducible according to Article 7.3.2.9, then the results of the first laboratory of control are not taken into account. If this is not the case, the result of the comparative test is deemed to be definitively unsatisfactory.

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 payment

The amount for the certification payments is included in the Tariff Regulations for the Certification of Elastomeric products within the framework of the BENOR mark of conformity TAR 32.

9.2.3 Testing payment

All inspections during the application period: the amounts for the fixed fee per inspection, the performance fee, the transport charge, the travel costs and the subsistence allowance are stated in the Tariff regulations TAR BENOR.

Standard inspections during the period with certificate (see Art. 7.2.3.2): the amounts for the performance fee, the transport charge, the travel costs and the subsistence allowance are stated in the Tariff regulations TAR BENOR.

Additional inspections during the period with certificate: The amounts of the flat fee per inspection, performance fee, the travel allowance, transport costs and accommodation allowance are given in the Tariff Regulations TAR BENOR.

9.2.4 Production payment

Not applicable.
