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**APPLICATION REGULATIONS  
FOR THE  
PRODUCT CERTIFICATION  
OF  
PREFABRICATED SYNTHETIC LINERS  
FOR  
MANHOLES AND INSPECTION CHAMBERS  
UNDER THE  
COPRO MARK**

*Version 1.0 of 2016-09-20*

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# 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, etc.
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.
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 unit groups and product types to which one and the same Implementing Regulations or certificate applies.
Product group	A group of products with comparable characteristics or for which the same certification or verification procedures apply.
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, etc.
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 Implementing Regulations.
Reference document	Document (standard, tender document, 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"><li>- removing part or all of a product or component;</li><li>- applying an identification/mark to a defined part or to an entire product or component;</li></ul> 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	A group of units of a product with the same characteristics and performance that are produced in a certain way and comply with the same technical data sheet.

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### 1.1.2 Abbreviations

TRA            Application Regulations

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### 1.1.3 References

CRC 01	General certification regulations for the certification of products in the construction sector under the COPRO mark
NBN EN ISO 62	Plastics - Determination of water absorption
NBN EN ISO 178	Plastics - Determination of flexural properties
NBN EN ISO 179-1	Plastics - Determination of Charpy impact properties - Part 1: Non-instrumented impact test
NBN EN ISO 179-2	Plastics - Determination of Charpy impact properties - Part 2: Instrumented impact test
NBN EN ISO 527-1	Plastics - Determination of tensile properties - Part 1: General principles
NBN EN ISO 527-2	Plastics - Determination of tensile properties - Part 2: Test conditions for moulding and extrusion plastics
NBN EN ISO 527-4	Plastics – Determination of tensile properties – Part 4 : Test conditions for isotropic and orthotropic fibre-reinforced plastic composites
NBN EN ISO 868	Plastics and ebonite - Determination of indentation hardness by means of a durometer (Shore hardness)
NBN EN ISO 1133-1	Plastics - Determination of the melt mass-flow rate (MFR) and melt volume-flow rate (MVR) of thermoplastics- Part 1: Standard method
NBN EN ISO 1172	Textile-glass-reinforced plastics – Prepregs, moulding compounds and laminates – Determination of the textile-glass and mineral-filler content – calcination methods
NBN EN ISO 1183-1	Plastics - Methods for determining the density of noncellular plastics - Part 1: Immersion method, liquid: pycnometer method and titration method

NBN EN ISO 2039-1	Plastics - Determination of hardness - Part 1: Ball indentation method
NBN EN ISO 3126	Plastics piping systems - Plastics components - Determination of dimensions
NBN EN ISO 3451-5	Plastics - Determination of ash - Part 5: Polyvinyl chloride
PTV 8450-1	Prefabricated synthetic liners for manholes and inspection chambers – Product requirements
PTV 8450-2	Prefabricated synthetic liners for manholes and inspection chambers – System requirements
RNR 450	Regulatory note for gauging, calibrations and checks on checking equipment for the certification of prefabricated synthetic liners for manholes and inspection chambers
TAR 02	Financial system within the framework of the COPRO-mark of conformity
TAR 450	Financial system within the framework of the COPRO-certification of prefabricated synthetic liners for manholes and inspection chambers

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 Advisory Board and/or the COPRO Board of Directors.

## **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**

This Application Regulations concerns version 1.0.

### **1.3.2 Approval of these Application Regulations**

These Application Regulations were approved by the Advisory Board on 15-10-2016.

### **1.3.3 Ratification of these Application Regulations**

This Application Regulations was ratified by the COPRO Board of Directors on 14-12-2016.

## **1.5 QUESTIONS AND OBSERVATIONS**

Questions or observations concerning the certification regulations must be sent to 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 Implementing Regulation shall be drawn up for each product. This is done in principle by a specialist technical advisory board on which the parties with an interest in the area of the product in question are represented. COPRO shall be responsible for organising the advisory board (Art. 3.1.4).

The structure of these Application Regulations follows the structure of the General Certification Regulations CRC 01, 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 apply.

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



## 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 prefabricated synthetic liners for manholes and inspection chambers. They also contain the rules relating to applications for a certification and additional information.
- 2.2.2.2 These Application Regulations shall be used by the certification body and the inspection bodies 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 COPRO mark is a voluntary mark that is owned by the non-profit organisation COPRO.

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

The COPRO 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 COPRO 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 the prefabricated synthetic liners for manholes and inspection chambers 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 COPRO 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 prefabricated synthetic liners for manholes and inspection chambers.

Here we can look at:

- implementing and monitoring a quality plan;
- determining the client's requirements;
- the possible type testing of a unit group or product type;
- the selection and 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 prefabricated synthetic liners for manholes and inspection chambers;
- the recording and archiving of all relevant data and results.

The product types that belong to the certified production part are all prefabricated synthetic liners for manholes and inspection chambers that finally will be used in COPRO- or BENOR-certified manholes and inspection chambers.

The input for the certification consists of all relevant requirements of the applicable reference documents relating to the prefabricated synthetic liners for manholes and inspection chambers. The output is a conforming prefabricated synthetic liner for a manhole or inspection chamber, made traceable on the basis of a prescribed set of records of controls.

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

The supplier must use the appropriate raw materials, and 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 measures, in accordance with these Application Regulations.

2.3.1.3 The conformity of the manhole or inspection chamber itself is not covered by the product certification.

The use of compliant prefabricated synthetic liners for manholes and inspection chambers 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 prefabricated synthetic liners for manholes and inspection chambers, 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 manhole or inspection chamber;
- products not falling within the scope of the product certification;
- the system requirements as described in PTV 8450-2.

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### **2.3.3. General Certification Regulations for the certification of products in the construction sector**

2.3.3.1 These Application Regulations apply to the issue of a COPRO certificate and the use of the COPRO mark for prefabricated synthetic liners for manholes and inspection chambers in accordance with at least one of the following reference documents:

- a Technical Prescription (PTV);

The applicable reference documents are set out in Art. 2.3.6.

2.3.3.2 COPRO certification of prefabricated synthetic liners for manholes and inspection chambers is voluntary.

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### **2.3.5 Additional regulations and circulars**

2.3.5.3 The rates that apply in the context of product certification are included in the Tariff Regulations for the Certification of Products TAR 02 and the Tariff Regulations for the Certification of prefabricated synthetic liners for manholes and inspection chambers TAR 450.

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### **2.3.6 Reference documents**

2.3.6.1 There are no applicable standards.

2.3.6.2 There are no applicable tender documents.

2.3.6.3 The applicable Technical Prescriptions is PTV 8450-1.

2.3.6.4 There are no other applicable reference documents.

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### **2.3.8 Exempt production parts to which the COPRO mark does not apply**

2.3.8.1 There are no production parts that are constantly delivered outside of the COPRO mark.

2.3.8.2 The following production parts may be supplied outside the COPRO mark:

- product types and production parts whose characteristics differ from the certified products in a clear and recognisable way for the client; supplying products sometimes covered by and sometimes outside the COPRO mark is not permitted;
- production parts supplied for the use in manholes and inspection chambers without COPRO- or 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 a set of characteristics of the prefabricated synthetic liners for manholes and inspection chambers, 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 measures taken by the certificate holder in order to ensure the conformity of prefabricated synthetic liners for manholes and inspection chambers to 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 certificate describes the product in accordance with the Application Regulations.

## **2.5 IDENTIFICATION OF THE PRODUCT**

*This article focuses on the identification of the prefabricated synthetic liners for manholes and inspection chambers. In addition to an internal and public identification there is also the COPRO logo, which may be used by the certificate holder only under strict conditions.*

### **2.5.1 Internal identification**

The producer may identify his products by the means of an internal identification. The certification body can oblige to modify this internal identification method if it can lead to confusion on the market.

### **2.5.2 Public identification**

There are no rules regarding the public identification of the prefabricated synthetic liners for manholes and inspection chambers.

### **2.5.3 Identification using the COPRO logo and/or reference to the COPRO mark**

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

### **2.5.4 Identification of exempt production parts**

An exempt production part may never be identified with the COPRO mark and for these production parts can never be referred to the COPRO mark.

### **2.5.5 Delivery note**

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 Art. 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 COPRO mark, for each certified unit group, in accordance with the rules of Art. 2.6.4.

## 2.6 USE OF THE COPRO LOGO AND REFERENCE TO THE COPRO MARK

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

### 2.6.1 Typographical description of the COPRO logo

- 2.6.1.2 When it is not technically possible to use the COPRO logo, an alternative identification is permitted, the 'COPRO' label, possibly supplemented with the word 'certified'. All rules governing the use of the COPRO 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 All characteristics, other than dimensional characteristics listed on the technical data sheet is based on the type test.
- 2.7.1.3 For each delivery of a prefabricated synthetic liners for manholes and inspection chambers, 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.



## 3 THE STAKEHOLDERS

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

### 3.2 INSPECTION BODY

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

#### 3.2.2 Designation of the inspection body

- 3.2.2.1 COPRO acts as the inspection body for prefabricated synthetic liners for manholes and inspection chambers.
- 3.2.2.2 Not applicable.
- 3.2.2.3 Not applicable.

## 3.3 SUPPLIER

*This article deals with the supplier, the key player in the delivery of prefabricated synthetic liners for manholes and inspection chambers 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 prefabricated synthetic liners for manholes and inspection chambers meets the requirements on which the certification is based and guarantees this to the client.*

### 3.3.2 Possible suppliers

3.3.2.1 In these Application Regulations the term 'supplier' is used for an applicant or certificate holder.

A supplier can be the producer, the distributor or the importer. When different companies are involved in the certification then all parties have to agree by means of a written and signed document, how their responsibilities regarding the certification process are organised.

## 4 REQUIREMENTS FOR A CERTIFIED PRODUCT

*This chapter describes what is required to achieve a certified prefabricated synthetic liner for manholes and inspection chambers. In the first place, this means a knowledgeable workforce. With appropriate equipment and compliant materials these employees manufacture the prefabricated synthetic liner for manholes and inspection chambers at a specific production unit. On every product type, 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. 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 Art. 3.4 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 For all tests foreseen in this application regulations regarding the self-control, the manufacturer may use an external laboratory.

## **4.3 RAW MATERIALS**

*This article describes the rules relating to raw materials.*

### **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.

### **4.3.3 Supply of raw materials**

The supply of raw materials is registered in the registry of the raw materials according clause 6.1.2.3. In this registry, all delivery documents regarding the raw materials are stored.

### **4.3.4 Storage of raw materials**

The raw materials are stored in a way that contamination of the raw material is impossible. Every raw material shall be identified. Every type of raw material shall be stored separately.

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

### **4.3.5 Disposal of raw materials**

The disposal of raw materials is registered in the registry of the raw materials. Every disposal of raw materials shall be accompanied with a disposal document that is stored in the registry of raw materials.

## 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

- 4.5.1.2 To maintain the confidence in the self-control after an interruption of the period of activity, the inspection body may execute an additional inspection prior to the restart of the production.

### 4.5.5 Production plan

- 4.5.5.1 The supplier must draw up a production plan. This production plan must satisfy the requirements of the reference documents and 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 The production plan must be filed in the production register, in accordance with Art. 6.1.2.3.

## **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 or determination of product type. It is possible that a distinction may be made between an initial type test and a repeat type test.*

### **4.7.1 General**

4.7.1.1 Type-tests has to be executed for every type of prefabricated synthetic liner for manholes and inspection chamber. A type test exists in the determination of all the non-dimensional characteristics according PTV 8450-1 for the type of liner. Type-tests can be executed on a finished product or on laboratory samples. In case of laboratory samples, the manufacturer has to assure that the properties of the laboratory sample are identical as the finished products, for the properties concerned. The use of laboratory samples must be approved by the certification body prior to the fabrication of those samples.

### **4.7.2 Scope**

When a new raw material will be used (new supplier, new type of raw material, new specification of the raw material), the producer has to examine the influence of the change of the raw material with respect to the conformity of the final product. Therefore it can be necessary to test one or more non-dimensional requirement(s) of the final product prior to the approval of the new raw material.

### **4.7.3 Requirements**

- 4.7.3.1 The controls that must be carried out for each type test are all non-dimensional characteristics for the type of product according PTV 8450-1.
- 4.7.3.2 The unit group of the type test must correspond to the proposed unit group 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 unit group or product type. This means that the conditions for the type test (production parameters, raw materials used, test parameters) has to be identical or representative for the final product.

### **4.7.4 Type test report**

- 4.7.4.1 The data and the results of the supplier's type test by the supplier shall be included in a type test report. The form, content and identification of this report have to be approved by the inspection body.
- 4.7.4.2 All data and results of the type test must preserved in a traceable manner for a period of at least 10 years after the end of the validity of the type test.
- 4.7.4.3 Each type test report shall be submitted to the certification body whenever the certification body asks for it.

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#### **4.7.5 Validity**

- 4.7.5.1 Only reports approved by the manufacturer are valid.
- 4.7.5.2 A type test is valid until there are changes in raw materials or production method that modifies the characteristics of the final product related to the type test.

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#### **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 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**

5.2.4.3 The minimum duration of the trial period is 10 production days and the maximum duration of the trial period is 1 year.

#### **5.2.5 Self-monitoring during the trial period**

During the trial period, the self-monitoring applies as stipulated in Art. 6. Before the end of the trial period, al type test has to be executed.

#### **5.2.7 External surveillance during the trial period**

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



## 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 Type test register:

In this register, all relevant data regarding the type test is saved.

##### Raw materials register:

In this register, all relevant data regarding the raw materials is saved. In particular, the technical data sheets regarding the approved raw materials, the delivery notes and the proof of acceptance of a delivery are important data.

##### Production register:

In this register, all data regarding the production is saved.

##### Tests register:

In this register, all data regarding the executed tests (internal and external) are saved.

##### Stock and deliveries register:

In this register, all data regarding the stock and deliveries is saved. In particular, all delivery notes are stored in this register.

##### Equipment register:

In this register, all data regarding the equipment is saved.

##### Maintenance register:

In this register, all data regarding the maintenance is saved.

##### Control equipment register:

In this register, all data regarding the control equipment is saved.

##### Complaints register (see Art. 8.1.4):

In this register, all data regarding the complaints (internal and external) is saved.

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 digital (a paper copy should be always available if necessary).

## **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.*

### **6.2.3 Self-monitoring of raw materials**

For every type of raw material, the manufacturer has to specify his internal specifications (supplier, requirements, test frequencies, ...).

When a raw material is delivered, the manufacturer has to check if the delivery note and the accompanying documents are according the internal specifications. When the internal specifications requires some tests, the manufacturer has to execute those tests prior to the acceptance of the delmivery (onless otherwise specified in the internal specifications). In case of doubt, the manufacturer can decide to perform some tests on the raw material before accepting the delivery.

Every decision has to be recorded (on the delivery note).

### **6.2.4 Self-monitoring of the production unit**

The manufacturer has to monitor constantly the production unit (stock of raw materials, stock of the finished product). All observations has to be recorded, together with the actions taken.

### **6.2.5 Self-monitoring of the production process**

The manufacturer has to monitor constantly the production process. All observations has to be recorded, together with the cactions taken.

## 6.2.6 Self-monitoring of the product

On the finished product, at least the following tests are executed:

\* Liners and connection sockets from PU:

Property	Test method	Frequency
Dimensional requirements	According production plan	1 / day
Density	NBN EN ISO 1183-1	1 / week
Shore D hardness	NBN EN ISO 868	1 / week
Flexural properties Flexural stress Flexural strain Flexural modulus	NBN EN ISO 178	2 / year
Charpy impact properties	NBN EN ISO 179-1 or NBN EN ISO 179-2	2 / year
Wall thickness	NBN EN ISO 3126	1 / week
Water absorption	NBN EN ISO 62 method 4 50 % R.H., 23 ± 2 °C, 192 h Drying 72 h	1 / year

\* Liners and connection sockets from PP:

Property	Test method	Frequency
Dimensional requirements	According production plan	1 / day
Ash content	NBN EN ISO 3451-5	1 / week
Density	NBN EN ISO 1183-1	1 / week
Hardness – Ball indentation method (ball = 5.0 mm ± 0.05 mm)	NBN EN ISO 2039-1	1 / month
MFR (230 °C – 2160 g)	NBN EN ISO 1133-1	1 / week
Heat stability – change in dimensions (150 ± 3 °C – 120 ± 1 min)		1 / month
Wall thickness	NBN EN ISO 3126	1 / week
Water absorption	NBN EN ISO 62 method 4 50 % R.H., 23 ± 2 °C, 192 h Drying 72 h	1 / year
Tensile strength	NBN EN ISO 527-1/-2	2 / year

\* Liners and connection sockets from GRP:

Property	Test method	Frequency
Dimensional requirements	Accordinging production plan	1 / day
Inner layer Thickness Mineral filler content	EN ISO 1172	1 / week
Outer layer Mineral filler content Mass fiber glass mat Glasfiber content	EN ISO 1172 EN ISO 1172	1 / week
Total layer Thickness	NBN EN ISO 3126	1 / week
Water absorption	NBN EN ISO 62 method 4 50 % R.V., 23 ± 2 °C, 192 h Drying 72 h	1 / year
Density	NBN EN ISO 1183-1	1 / week
Tensile strength	NBN EN ISO 527-1/-4	2 / year

\* Connection sockets from PS:

Property	Test method	Frequency
Dimensional requirements	Accordinging production plan	1 / day
Density	NBN EN ISO 1183-1	1 / week
Hardness (358 N / 30 s)	NBN EN ISO 2039-1	1 / month
MFR (200 °C – 5 kg)	NBN EN ISO 1133-1	1 / week
Heat stability – change in dimensions (45 ± 3 °C – 120 ± 1 min)		1 / month
Water absorption	NBN EN ISO 62 method 4 50 % R.V., 23 ± 2 °C, 192 h Drying 72 h	1 / year
Wall thickness	NBN EN ISO 3126	1 / week
Tensile strength	NBN EN ISO 527-1/-2	2 / year

## 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 RNR 450.

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

### **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.

### **6.3.4 Discovery of a non-conformity after delivery of the product**

6.3.4.5 All rejected production parts are indelibly marked by the supplier. This is to ensure that the distinction between the approved and rejected parts is unambiguous.

## 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

7.2.1.3 The standard inspections cover:

- the equipment;
- the control equipment for self-monitoring;
- the raw materials, as defined in the Implementing 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;
- the work books and registers;
- the assessment of self-monitoring results;
- following up changes to the quality plan;
- the identification of the product;
- the delivery of the product;
- if appropriate, the questionable production parts;
- carrying out inspections 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;
- carrying out type tests under the supervision of the inspection body;
- the implementation of corrective actions and corrective measures in case of non-conformity.

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 calibrations and checks and controls under the supervision of the inspection body in accordance with Regulatory Memo RNR 450;

- 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 shortcomings in the self-monitoring system, which, according to the provisions of the Implementing 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.

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### **7.2.3 Planning and frequency of the inspections**

- 7.2.3.1 For organisational reasons, the inspections can be conducted with the supplier being noticed in advance.
- 7.2.3.2 Normally, 2 standard inspections are carried out every year. After 5 years of certification, a supplier can ask (with a motivation) for halving the frequency of the standard visits. This can be approved by the certification committee.

## **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 All controls that are executed during the self-control can be executed under the supervision of the inspection body. All tests that has to be executed in the framework of comparative tests, has to be carried out under the supervision of the inspection body.
- 7.3.1.7 The transport of test samples to the laboratory is the responsibility of the supplier. The transport costs are payable by the supplier.
- 7.3.1.8 If the control is carried out by a control laboratory, the supplier shall draw up an application for a test that contains all the relevant information concerning the test and the test samples. The supplier takes care that the identification number of the sample and the sealing (if any) is mentioned in the test report. The supplier also grants the control laboratory the right to communicate the results and the report to the inspection or certification body. The party responsible for transport (see Art. 7.3.1.7) provides the test application for the control laboratory.
- 7.3.1.9 The control laboratory's test report is sent to the supplier.
- 7.3.1.10 The results of controls under the supervision of the inspection body are assessed on the same basis as all test conducted during the self control.
- 7.3.1.11 The supplier investigates why the result if a test, conducted under the supervision of the inspection body, is not conforming the specifications. Therefore, the rules according clause 6.3 will be followed. The reasons for the non-conforming results and the corrective actions will be communicated to the inspection body. The certification body may impose a sanction and an additional internal or external control.



## 7.3.2 Comparative tests

7.3.2.2 On the liners and the connection sockets, following comparative tests are executed:

\* Liners and connection sockets from PU:

Property	Test method	Frequency
Density	NBN EN ISO 1183-1	1 / year
Shore D hardness	NBN EN ISO 868	1 / year
Flexural properties Flexural stress Flexural strain Flexural modulus	NBN EN ISO 178	1 / 2 year
Charpy impact properties	NBN EN ISO 179-1 or NBN EN ISO 179-2	1 / 2 year
Water absorption	NBN EN ISO 62 method 4 50 % R.H., 23 ± 2 °C, 192 h Drying 72 h	1 / 2 year

\* Liners and connection sockets from PP:

Property	Test method	Frequency
Ash content	NBN EN ISO 3451-5	1 / year
Density	NBN EN ISO 1183-1	1 / year
Hardness – Ball indentation method (ball = 5.0 mm ± 0.05 mm)	NBN EN ISO 2039-1	1 / year
Water absorption	NBN EN ISO 62 method 4 50 % R.H., 23 ± 2 °C, 192 h Drying 72 h	1 / 2 year
Tensile strength	NBN EN ISO 527-1/-2	1 / 2 year

\* Liners and connection sockets from GRP:

Property	Test method	Frequency
Inner layer Mineral filler content	EN ISO 1172	1 / year
Outer layer Mineral filler content Glasfiber content	EN ISO 1172 EN ISO 1172	1 / year
Water absorption	NBN EN ISO 62 method 4 50 % R.V., 23 ± 2 °C, 192 h Drying 72 h	1 / 2 year
Density	NBN EN ISO 1183-1	1 / year
Tensile strength	NBN EN ISO 527-1/-4	1 / 2 year

\* Connection sockets from PS :

Property	Test method	Frequency
Density	NBN EN ISO 1183-1	1 / year
Hardness (358 N / 30 s)	NBN EN ISO 2039-1	1 / year
Water absorption	NBN EN ISO 62 method 4 50 % R.V., 23 ± 2 °C, 192 h Drying 72 h	1 / 2 year
Tensile strength	NBN EN ISO 527-1/-2	1 / 2 year

- 7.3.2.6 The transport of the samples to the control laboratory is the responsibility of the supplier. The transport is at the expense of the supplier.
- 7.3.2.9 The results of the comparative tests are assessed by the inspection body the same way as the tests of the self control are evaluated.
- 7.3.2.10 During the first sampling, an extra sample will be identified that can be used in case of a re-test.

Re-tests can be carried out by the same control laboratory or another laboratory accredited for the tests concerned. If the same laboratory is used then the supplier may, if he wishes, assist during the execution of the re-tests.

The results of the re-test are assessed the same way as the first test.

If the results of the re-test are satisfactory according to Art. 7.3.2.9, the results of the first test are not taken into account. If this is not the case, the result of the comparative test is deemed to be definitively unsatisfactory. The certification body may impose a sanction or require an additional internal or external control.

## **7.6 EVALUATION SYSTEM**

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

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### **7.6.3 Points system**

Not applicable.

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### **7.6.4 Self-monitoring level**

Not applicable.

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### **7.6.5 External surveillance level**

Not applicable.

## **9 RATES AND INVOICING**

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

### **9.2 RATES**

#### **9.2.2 Certification contribution**

Both the amounts and the calculation of the period for the certification payments are stipulated in the TAR 450.

#### **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 450.

#### **9.2.4 Production contribution**

The amount for the production payment are stipulated in the TAR 450.