

	<b>VINCOTTE – CERTEST PRODUCTS</b>	 
	<b>OK biobased : Initial acceptance tests</b>	
	Doc Ref : <b>OK20-e</b> Edition : A Application Date : 2009-10-01              Page : 1 / 4 Replace : -	
<b><u>Program OK 20</u></b>  <b>Biobased content of products</b>		

## 1. Scope

The development of biobased materials is considered to be a key concern for the future and has the potential to reduce the carbon footprint.

As there is not yet a standard defining which requirements a product claiming to be biobased has to meet, this specification proposes an objective method for determining the bio-based content of raw materials, intermediates, additives and finished products, and a logo to communicate this value to the end-users.

All products (partially or completely) made of materials and/or polymers of natural origin are eligible for this certification scheme (except solid, gaseous or liquid fuels).

This technical specification does only consider the biobased content and does not give any judgement about the other environmental aspects like energy use, end of life treatment, water use, content of hazardous substances, ...

A star system for the different products and materials is used for easy communication about the biobased content but is not meant to be a ranking system.

## 2. Normative References :

### 2.1 Applicable standard



- ASTM D 6866 : “ *Standard Test Methods for Determining the Biobased Content of Solid, Liquid, and Gaseous Samples Using Radiocarbon Analysis* ” – last issue

### 2.2 Other references

- ASTM D 7026 : “ *Standard guide for Sampling and Reporting Results for Determination of Biobased Content of Materials via Carbon Isotope Analysis* ” – last issue
- FprCEN/TR 15932, “ *Plastics – Recommendations for terminology and characterisation of bioplastics* ”
- EN 13432:2000 E: “ *Packaging – Requirements for packaging recoverable through composting and biodegradation – Test scheme and evaluation for the final acceptance of packaging* ”
- EN ISO 14024:2001 “ *Environmental labels and declarations - Type I environmental labelling - Principles and procedures* ” (ISO 14024:1999)
- Technical document Vincotte : TS-OK20 – “ *OK biobased – Description of the analysis methods* ”

## 3. Terms and definitions :

- **Biobased Carbon** : Derived from biomass. [FprCEN/TR 15932]
- **Biomass** : Material of biological origin excluding material embedded in geological formation or fossilized. [FprCEN/TR 15932]
- **Organic Carbon** : Material containing carbon-based compound in which the element carbon is attached to other carbon atoms, hydrogen, oxygen, or other elements in a chain, ring, or three-dimensional structure. [FprCEN/TR 15932]

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- **Biobased (Carbon) Content** : the amount of biobased carbon in the material or product as a percent of the weight (mass) of the total organic carbon in the product [ASTM 6866-06]
- **Organic (Carbon) Fraction** : the amount of organic carbon in the material or product as a percent of the total weight (mass) of the product
- **Product** : any tangible good [ISO 14024]
- **Finished product** : Product resulting from the transformation and/or the assembly of raw materials and/or intermediate materials and/or semi-finished products, destined for the end user.  
A component (integrated or not integrated) is not considered as a finished product.  
In case of packaging products, the primary packaging is considered as the finished product.
- **Constituent** : all pure chemical materials and substances of which a product material is composed [EN 13432]
- **Component** (not integrated) : part of a product (or a packaging) that can be separated by hand by using simple physical means [EN 13432]
- **Integrated Component** : part of product that can be (easily) differentiated but not (easily) separated by hand or by using simple physical means
- **Materials of natural origin** : Chemically unmodified materials of natural origin, such as wood, wood fibre, cotton fibre, starch, paper pulp or jute
- **Renewable resource** : Resource replenished by natural processes at a rate comparable to its exploitation rate. [FprCEN/TR 15932]
- **Significant** : present in more than 1 % of the dry weight of the finished product. [EN 13432]

#### 4. Application for Certification :

Refer to the *OK biobased* application form.

#### 5. Classification :

A classification is established on the basis of the biobased content. This classification is symbolized by stars (between 1 and 4) featured in the logo.

One star	★	$20 \% \leq A < 40 \%$
Two stars	★★	$40 \% \leq A < 60 \%$
Three stars	★★★	$60 \% \leq A < 80 \%$
Four stars	★★★★	$80 \% \leq A$

Where A = biobased content, as a %, acquired by testing and/or calculating as described below.

#### 6. Evaluation :

##### 6.1. Preliminary examinations



Study of the files and preliminary inspection of the submitted product.

##### 6.2 Basic requirements

Each product presented to certification must have:

- an Organic Carbon Fraction of at least 30 % (dry weight).
- a Biobased Carbon Content of at least 20 %.

The total proportion of non-significant constituents or components (integrated or not) without determined biobased carbon content and/or organic carbon fraction shall not exceed 5 % ( of dry weight of the total product ).

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### 6.3. Test method

#### 6.3.1. Measurements and Number of samples

Both Organic Carbon Fraction and Biobased Carbon Content are measured for each submitted sample.

- Biobased Carbon Content is measured according to ASTM D6866; methods B or C.
- Organic Carbon Fraction is measured according to the Vinçotte's document TS-OK20

Unless mentioned differently, 3 distinct measurements are necessary for each parameter.

These measurements will be undertaken by the laboratory in - at least - two separate batches (1 + 2 measurements or 2 + 1 measurements).

The value adopted is the arithmetic average (rounded off to the integer) of the 3 measurement results obtained. The difference between each individual measurement and the average of all measurements has to be a maximum of 3%. If not, additional measurements may be necessary.

#### 6.3.2. Test specifications for Raw materials

The raw materials, in form of granulates, films or other formats, are subjected to the number of measurements as specified in § 6.3.1.

#### 6.3.3. Test specifications for Inks, Colorants and Additives

The inks, colorants, masterbatches and other additives are subjected to the number of measurements as specified in § 6.3.1.

#### 6.3.4. Test specifications for finished products and Intermediates

6.3.4.a. If all significant components and constituents of an intermediate or finished product are certified, the value of the biobased content and the organic content of the product will be determined by calculation. In that case, the intermediates and finished products are subjected to 1 confirmation measurement.

The value adopted is the value obtained by calculation (rounded off to the integer).

If the value obtained for the confirmation measurement is considered to be different (> 3 %) compared to the calculated value, and cannot be documented by the applicant, two complementary analyses are undertaken at expense of the applicant.

In that case, the value to be taken into account is the average (rounded off to the integer) of the confirmation measurement and the two complementary measurements.

6.3.4.b. If significant components and/or constituents of an intermediate or finished product are not certified, additional measurements will be made, at expense of the applicant, in order to determine the missing data. These additional measurements can be related to the intermediate, the finished product, the significant component and/or the significant constituent and the number of these measurements will be determined according to § 6.3.1.

Additionally, one confirmation measurement will be made on the certified components.

If the value obtained for the confirmation measurement is considered to be different (> 3 %) compared to the calculated value, and cannot be documented by the applicant, two complementary analyses are undertaken at expense of the applicant.



In that case, the value to be taken into account is the average (rounded off to the integer) of the confirmation measurement and the two complementary measurements.

6.3.4.c. If non significant components and/or constituents are not certified, the calculation will be made with a default value of 90% organic carbon fraction and 0% biobased carbon content for these components and/or constituents.

6.3.4.d. If, at the time of application, it is not possible to submit a sample of a finished product of which all significant components and constituents are certified, a temporary certificate with a validity of 6 months can be issued. In this case, the biobased content and the organic content can be determined by calculation.

Applicants have to submit a sample immediately after being granted permission to use the logo. One measurement for confirmation will be made as soon as the relevant product is available.

If the value obtained for the confirmation measurement is considered to be different (> 3 %) compared to the calculated value, and cannot be documented by the applicant, two complementary analyses are undertaken at expense of the applicant.

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In that case, the value to be taken into account is the average (rounded off to the integer) of the confirmation measurement and the two complementary measurements.

If a sample is not submitted before the expiration date of the temporary certificate, this certificate will not be prolonged.

### 6.3.5 Products with a variable partition of components

In the case of a finished product resulting from a well defined but variable partition ( in dry weight ) of different components, the minimum and maximum biobased content and organic content are determined by calculation, based on the weight, biobased and organic content of each component.

In this case, the certification covers an envelope of combinations of the dry weight percentages of the different components, ensuring that each combination results in an assembled product with a biobased content within the obtained class.

If, depending on the combination of the dry weight percentages of the different components, the product can belong to two different classes, it is possible to specify two classes with their respective envelopes on one product certificate.

Each modification of this envelope will be subjected to a formal evaluation by Vincotte.

## 7. **Marking / Logo**

The *OK biobased* conformity mark can be applied to a product only if this product is formally certified by Vincotte.

The logo featured on the product corresponds to the class obtained (logo with 1, 2, 3 or 4 stars and licensee code). It is not allowed to modify the logo, especially the number, the position, the shape and the readability of stars allocated to the specific product. The logo application technique (printing, embossing, ...) must allow the stars obtained and non-obtained to be clearly visible.

The percentage of the biobased content and organic fraction are not shown on the logo, but is featured on the certificate.

The percentage of the biobased content may be put on the product if and only if that product is well defined and certified. It is not allowed to claim the percentage of biobased content on products certified under the provisions of the paragraph § 6.3.5.

The logo shall be applied once on the finished product, with the corresponding number of stars obtained for the finished product as a whole.

However, in certain cases, the logo can be applied more than once if and only if the number of stars is the same in each logo and corresponds to the number of stars obtained for the finished product as a whole.

*OK biobased* certification of a product may not be used to make a claim of compostability or biodegradability. Formal certification to a separate standard such as EN 13432, *OK compost HOME*, *OK biodegradable SOIL* or *OK biodegradable WATER* is required in order to make such a claim.

Commercial or other declarations may not mislead the final consumer. More particularly the declarations concerning the use of a certified component or constituent may not give the end user the impression that the finished product is certified and comply with the *OK biobased* specifications when this is not true.

## 8. **Possible extensions of the certification**

The use of certified components and/or constituents ( raw materials, inks, colorants, masterbatches or additives ) does not automatically imply the conformity of the finished product.

Any modification of a certified raw material or of a certified finished product, including its dimensions and weights, must be notified to Vincotte and may require a new evaluation.

## 9. **Validity**

Unless otherwise stated, a certificate is valid for 3 years.