

# ALUMINIUM AND ALUMINIUM ALLOYS

## - SHEET No.2: COATED ALUMINIUM – REPEATED USAGE – SHORT DURATION CONTACT

### 1. Scope

- Objects in aluminium or aluminium alloys coated with organically coating intended for repetitive use and short duration contact.
- The main examples are for:
  - \* Household articles: Saucepans, frying pans, dishes, flasks;
  - \* Household electrical cooking appliances such as pressure cookers.

### 2. Definitions of performance criteria for food contact

#### 2.1. Texts

##### 2.1.1. Regulatory texts

- Coatings:
  - *Order of 2<sup>nd</sup> April 2003* relating to the use of some epoxy derivatives in materials and objects put in or intended to be in contact with foodstuffs (BADGE, BFDGE, NOGE);
  - *Order of 30<sup>th</sup> January 1984* relating to materials and objects containing vinyl chloride monomer intended to be in contact with foodstuffs and food and drink products;
  - *Order of 30<sup>th</sup> January 1984* relating to official analysis methods relating to the determination of the content of vinyl chloride monomer in materials and objects intended to be in contact with foodstuffs, food and drink products and the determination of vinyl chloride transferred by the materials and objects to the foodstuffs, food and drink products put in contact with them;
  - Other texts brought together in brochure No. 1227 of the Official Journal of the French Government.
- Aluminium:
  - *Order of 27 August 1987* relating to materials and objects in aluminium or aluminium alloys in contact with foodstuffs and food and drink products.

##### 2.1.2. Texts to be used provisionally while waiting for regulations on organic coatings for metals.

- *Order of 2<sup>nd</sup> January, 2003* relating to materials and objects in plastic put in or intended to be in contact with foodstuffs, food products and drinks.
- Resolution of the Council of Europe AP (96) 5 of 02/10/1996 on surface coating intended to come into contact with foodstuffs.
- Information notice No 2003-27 from the DGCCRF relating to additives to plastic materials intended to be in contact with foods.
- Texts relating to coatings and lacquers brought together in brochure 1227 of the Official Journal of the French Government.

2.2.

**Criteria to be used**

2.2.1 Coating only

- The coating supplier must ensure that the monomers and additives used are included in the positive list of constituents for plastic materials (order of 2 January 2003, Information notice No.2003-37 and brochure 1227 from the Official Journal of the French Government) or in the list in resolution AP (96) 5 of the Council of Europe relating to surface coating.  
Among the substances laid down in resolution AP(96) 5, the substances in lists 1-1 & 1-2 have been evaluated by a scientific authority and their use does not appear to cause problems taking account this evaluation. For a period of 5 years from the date of adoption of this sheet, the substances in lists 2-1 and 2-2 can be used if they have been authorised by a member state or by the FDA. This period should the industries to produce evidence relating to the safety of use for these substances .
- When the material or metal is varnished, manufacturers must ensure that overall migration conforms to the limits laid down in the order of 2 January 2003 (Directive 2002/72/CE) according to the measurement regulations mentioned below.
- When a substance is subject to restrictions of use (particularly specific migration limit), the *decree of 8 July 1992* (cf. articles 3 & 4) assumes that professionals shall check the compliance with this limit. This verification can be done in several ways: by analysis (specific migration test), by calculation based on the residual quantity of the substance in the material or from the overall migration.

2.2.2 Aluminium

Chemical composition according to the *order of 27<sup>th</sup>*

*August 1987..*

2.2.3. Finished product

Overall and specific migrations: cf. 2.2.1.

**3. Acceptability limits**

- Overall migration limit for organic coverings laid down in the *order dated 2 January 2003* (Art. 2), i.e. 10 mg/dm<sup>2</sup> or 60 mg/kg of food depending on the geometry of the material or the object. A material or an object whose migration level exceeds the overall migration limit by an amount not exceeding the analytical tolerance defined below will be considered as conform to the order (art.8 and chapter VI of the annex of the order):
  - 20 mg/kg or 3 mg/dm<sup>3</sup> in migration tests using rectified olive oil or its substitutes;
  - 12 mg/kg or 2 mg/dm<sup>3</sup> in migration tests using other simulators laid down in directives 82/711/CEE and 85/572/CEE.
- Specific migration limit: see 2.2.1 In the case of epoxy derivatives (BADGE BFDGE, NOGE), the limits are specified in the order of 2 April 2003.

**4. Rules to check the criteria defined in paragraph 2.**

**4.1 Coating only**

The coating manufacturer supplies the ready-to-use packaging manufacturer with :

- a) A certificate testifying that the composition, overall migration and, if necessary, specific migrations, comply with the tests mentioned above;
- b) An analysis report indicating the results of inertia tests (overall migration) carried out on the coating put on an inert support (stainless steel or glass) with simulators chosen according to the use, according to directive 82/711/CEE (lastly amended by directive 97/48/CEE), and 85/572/CEE.

#### 4.2 ALUMINIUM ONLY

The aluminium manufacturer must supply the packaging manufacturer with:

- a) An evidence of conformity to the order of 27/08/1987.
- b) An analysis report of the chemical composition which must comply with the order of 27/08/1987.

#### 4.3. Finished product

- a) Coating Inertia : inertia test (overall and specific migration) to be carried out on the coating of the ready-to-use packaging.
  - Test conditions according to directives 82/711/CEE (lastly amended by directive 97/48/CEE) and 85/572/CEE:
    - Temperature and contact duration
    - Simulator liquids chosen according to the use:

Foodstuff	Simulator Liquid
Aqueous food (pH>4.5)	Distilled water or water of equivalent quality
Acid food (pH≤4.5)	Ethanol at 10% (v/v).
Alcoholic food	Ethanol at 10% (v/v). This concentration should be adapted according to the alcoholic content of the food if it exceeds 10% (v/v).
Fatty food	Oil or substitute simulator liquid
Dry food	No migration test

Methods to be used for overall migration according to standards in series NF EN 1186, XP CEN/TS 14235 of April 2003 (Polymeric coatings on metal substrates).

- b) Looking for absence of chromates on the interface of non-stick coatings, in the absence of evidence if they are used in the manufacturing process.

Limit in undisclosed Cr VI with a detection threshold of 5 µg/dm<sup>2</sup> (see BOCCRF n°8 of 24 May 1996, notification from CSHPF meeting of 13 February 1996, p. 433 Brochure n°1227 15 July 2002 edition).