TRACEABILITY APPLIED TO METAL PACKAGING FOR FOOD & DRINKS (Practical Guidelines)
INTRODUCTION

- A document prepared by the “Traceability & Food Contact Materials Industry Liaison Committee” was submitted to the EU Commission in 2002. As a result, Member States requested that Industry produce a practical guideline document in order to illustrate, with examples, some of the current industrial practices used to ensure traceability.

- In order to understand the full picture regarding traceability applied to Packaged Food, it is recommended that the Reader of these guidelines reads the document prepared for the commission in 2002.

I. SCOPE

- The present guide describes how traceability is currently applied to Metal Packaging for Food & Drinks.

- It is the objective of this document to provide a guidance for the Industry in order to allow it to adopt systems capable of fulfilling the requirements of Article 17 in Framework Regulation 1935/2004/EC which deal with traceability of materials and articles for food contact.

- The present document describes Traceability along the manufacturing process, starting from upstream raw materials (incoming materials) downstream to supply of metal packaging products (finished articles) to customers.

- For information, examples of practices used by the producers of raw materials is also supplied.
II. GENERAL INFORMATION

II.1 Associations taken as part of the metal packaging group

The following associations represent suppliers of raw materials used for food contact paint/lacquers:
- PlasticsEurope
- EPRA - European Phenolic Resins Association

The following associations represent incoming materials used for metal packaging:
- APEAL – Association of European Producers of Steel for Packaging
- EAA – European Aluminium Association
- CEPE – Conseil Européen de l’Industrie des Peintures, des Encres d’Imprimerie et des Couleurs d’Art (European Confederation of Paints, Printing Inks and Artists Colours Manufacturers)
- Rubber – No European Association identified; information provided by an individual company

The following associations represent metal packaging manufacturers:
- EAA – European Aluminium Association (e.g. trays)
- FPE – Flexible Packaging Europe, - covered in the Plastic Appendix Guide- (e.g. aluminium foil lids and laminates).
- SEFEL – European Secretariat of Manufacturers of Light Metal Packaging (e.g. cans, closures, aerosols, etc.)

II.2 Methodology

In order to provide a consistent approach to consolidate the work prepared by the different associations, the following structure was used by each association:

1) Flow chart
The chart consists of a short overview of the major steps related to traceability for that specific industry. The chart provided by each association is illustrated in chapter III.

2) Scope and Tools
This document consists of the key Traceability steps and the related tools used to cover these steps. This document provided by each association is available in Chapter III. Below is an example of the document structure:

<table>
<thead>
<tr>
<th>Metal Packaging</th>
<th>Traceability Scope</th>
<th>Traceability Tools</th>
</tr>
</thead>
<tbody>
<tr>
<td>e.g. Beverage 2 piece cans</td>
<td>Metal coil reception</td>
<td>Description of tools (1)*</td>
</tr>
<tr>
<td></td>
<td>Raw material to production line</td>
<td>...</td>
</tr>
<tr>
<td></td>
<td>...</td>
<td>...</td>
</tr>
</tbody>
</table>

* this number refers to the example

3) Examples

Examples provided by each association are available in the appendix section of this document. The purpose of the examples is to illustrate the existing tools used in the production environment and through the Supply Chain. These examples are not to be considered as either a standard to be reached or as the reference for that industry. The examples have been taken across all of the industries represented by the associations contributing to this document.
II.3  **Existing System and Key Traceability concepts**

II.3.1  **Existing System**

The overall metal packaging industry value chain is based on several industries providing their products in parallel or at consecutive levels downstream to the metal packaging producers (see flowchart under III.2.1). In the consecutive level structure the products of one level of industry are raw materials to the next level downstream. In this scenario, the expression ‘raw material’ indicates different products. All levels of the metal packaging supply chain have to be able to trace their incoming raw materials and outgoing products. The existing traceability system allows for timely alert, and this in turn provides for the option of appropriate recall steps to be undertaken as necessary.

II.3.2  **Key Concepts**

Requirements for sustaining and further improving traceability are seen as follows:

- Traceability must be ensured at all stages – incoming goods, manufacturing and despatch.
- Joint responsibilities among partners to share information.
- Goods must be adequately labelled and identified to facilitate their traceability.

II.3.3  **Example**

Example of traceability requirements typical for metal food packaging

- Food packaging suppliers provide information to fillers such as:
  - Supplier name
  - Product number and name
  - Date of production
  - Traceability number
- Fillers must keep records of food packaging supplier information.
- Partners must ensure that upstream and downstream Traceability exist (see graph below).
  - Upstream means that it is possible to trace back to the source of the incident
  - Downstream means that it is possible to trace down the Supply Chain
- The same concept applies between the packaging manufacturer and its own suppliers.
Example of Upstream and Downstream Traceability Concepts

Example of standard pallet label for cans and closures manufacturers, which is a key element to communicate the relevant information.
III. TRACEABILITY INFORMATION AND PROPAGATION

A flow chart and traceability “scope/tools” information is presented in the following pages, with each of the finished articles and incoming materials listed below.

III.1 Traceability for finished articles

- Beverage cans & ends
- Food cans & ends
- Metal closures
- Aerosols cans

III.2 Traceability applied to incoming materials (examples)

III.2.1 Steel for packaging – APEAL
III.2.2 Aluminium for packaging – EAA
III.2.3 Lacquers for Packaging – CEPE
  III.2.3.1 Examples of Raw Materials for coating manufacturers
    - PlasticsEurope/ERC
    - EPRA

III.2.4 Compound for packaging – Rubber Association
III.1 Traceability for finished articles

Flow Chart

From Suppliers

Legend:
- Metal Coils: Beverage cans & ends, Food cans & ends, Metal closures, Aerosols cans & tops & bottoms
- Lacquers: Beverage cans & ends, Food cans & ends, Metal closures, Aerosols cans & tops & bottoms
- Side stripe: Food cans, Aerosol cans
- Compound: Food ends, Metal closures, Aerosol tops & bottoms
- Foil: Food ends

- Raw Material Reception
- Use
- Finished Goods
- Warehouse
- Despatch

To CIAA (To Food and Drink Industry)
### Scope & Tools

<table>
<thead>
<tr>
<th>Traceability Scope</th>
<th>Traceability Tools</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Raw Materials reception</strong></td>
<td></td>
</tr>
<tr>
<td>Metal Coil reception</td>
<td>Supplier provides coil label. Label contains supplier identification, coil serial number and date of production. (see examples SEFEL 1 n°1 &amp; SEFEL 2 n°2).</td>
</tr>
<tr>
<td></td>
<td>At reception the coil label is kept on the coil</td>
</tr>
<tr>
<td>Lacquer &amp; Side stripe reception</td>
<td>Supplier provides document, which contains supplier identification and lot number (see example SEFEL 1 n°2).</td>
</tr>
<tr>
<td>Compound reception</td>
<td>Supplier provides document, which contains supplier identification and lot number (see examples SEFEL 3 n°2 &amp; SEFEL 4 n°2).</td>
</tr>
<tr>
<td>Foil reception</td>
<td>Supplier provides coil label. Label contains supplier identification, mother coil serial number and date of production. At reception the coil label is kept on the coil.</td>
</tr>
<tr>
<td><strong>Issue Raw Materials &amp; Components to production line</strong></td>
<td></td>
</tr>
</tbody>
</table>
| Coil is moved onto the line                | “Manual” Scenario  
Coil label is kept with the date, time and line number  
Or Keep track of coil serial number issued to production (see example SEFEL 1 n°3). |
|                                           | “Automated” Scenario  
Coil label barcode (serial number) is scanned and recorded into the system. |
| New container of lacquer, side stripe or compound is | “Manual” Scenario  
Lot number is recorded with date & time on |

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| Used | production log book (see examples SEFEL 1 n°4 & SEFEL 3 n°3 and n°4 & SEFEL 4 n°5).

“Automated” Scenario
Lot number is recorded into system and associated to production order. |
|---|---|
| New component pallet is used (end pallet and stillage of lacquered plates) | “Manual” Scenario
Pallet label is kept with the date, time and line number. |
| | “Automated” Scenario
Label barcode (serial number) is scanned and recorded into the system (see example SEFEL 2 n°5). |
| Finished Goods Production | “Manual” Scenario
A label is applied to the pallet. It contains manufacturer identification, date, lot and unique pallet reference. |
| Cans, Ends and closures are stored on a pallet (on a unit pack) | “Automated” Scenario
A barcode label (EAN) is applied to the pallet. It contains a unique pallet number: Serial Shipping Container Code (SSCC). This number is linked in the system to further information (lot, date, time, etc.) (see examples SEFEL 2 n°6 & SEFEL 4 n°6). |
| Warehouse Management & Despatch | “Manual” Scenario
When goods are sent to a customer, a manual record of the goods sent is kept. |
| | “Automated” Scenario
When goods are loaded the system keeps record of the pallet number and the load reference (linked to customer order) (see examples SEFEL 2 n°7 & SEFEL 4 n°7). |
III.2.1 Steel for packaging – APEAL

Flow chart

Simplified production flow of steel for packaging
Scope & Tools

What is steel for packaging?
The European standards EN10202 and EN10205 specify requirements for steel for packaging products. Steel for packaging consist of single and double reduced low carbon mild steel electrolytically coated with either tin (tinplate) or chromium/chromium oxide (ECCS/TFS).

Traceability of steel for packaging – an overview
From a few hundred tonnes of molten steel (+1600°C), steel slabs are produced which are further processed into coils or cut into sheets and, in most instances, delivered directly to the can manufacturing industry¹.

Depending on steel makers, the identification system of coils may change but, at each step of the production process, there is always a unique coil ID number which enables its traceability. Slide #12 is an example of a typical coil label (Mill #3) mentioning the ID coil number and other relevant information.

Examples of traceability of steel used for packaging by APEAL members are shown in Annex:

1) Mill #1
A detailed example of traceability of steel for packaging from the caster to warehouse in Mill #1 is described in Annex. (see slides #2 to #7).

2) Mill #2
Based on the coil label used in the example of beverage can traceability (Mill #2), upstream & downstream traceability between a steel maker and a can manufacturer is illustrated in Annex (see slides #8 to #11).

   a) Continuous casting: After the converter, liquid steel is loaded in a casting ladle and a unique cast number is automatically allocated to that load. At that stage, the chemistry of the steel is determined.

   b) The slab caster: Steel slabs are produced from the cast load in slab casters which run in parallel. Each slab automatically receives a unique slab number which is made up of the associated cast number and an additional code (a string number and a serial number). Therefore, the slabs will be uniquely identified by their slab numbers. The slab is automatically marked with a spraying robot (see slide #11).

   c) The hot strip mill: at the hot strip mill, each slab is reduced in thickness and at the end of the hot roll process, a hot rolled coil is produced with a unique coil number. It is normally a 1 to 1 relation with the slab. A label is manually fixed to the hot strip coil.

   d) The pickling line: before cold rolling, the hot rolled coil has to pass through a pickling process. After the pickling line, each hot rolled coil will be attributed a unique number on a one-to-one basis. A label with barcode is fixed to the pickled coil before cold-rolling. In general, the coil number after pickling will remain unchanged until delivery to the can manufacturing industry.

Generic description of the next production steps and traceability (see slides #5 to #7 for more details)
The subsequent production process can be described as follows: after pickling, the coil is cold rolled to almost final gauging. The cold-rolled strip is cleaned (degreased) and sent to the

¹ See schematic production of steel for packaging (simplified) on the previous page “Flow Chart”
annealing process (batch or continuous) which will restore its mechanical properties. After annealing, the coil goes through the secondary rolling where its mechanical properties and geometry are fine-tuned.

The coil is then electrolytically coated with a layer of tin (tinplate) or chromium (ECCS/TFS). The supplier of tin ingots provides documents which contain supplier identification and lot number, certification of purity. The lot is analysed in order to check conformance with the declared composition.

After plating, the ECCS coil is lacquered either in the steel mill (rarely) or by another company (the general rule). The lacquer supplier provides written information including supplier identification, lot number and product information. Lacquers are generally delivered in drums.

**Delivery of steel for packaging to can makers as coils and plates**

Coils can be slit (adaptation of coil width) or cut into plates and bundled before being delivered to customers. Traceability is ensured by adding a serial number to the slit coil or bundle. A label accompanies the delivery (see slide #7).

**Polymer-coated steels (film lamination or extrusion)**

Tinplate or ECCS/TFS can be additionally coated with a polymer. The polymer is often delivered in big bags with indication of lot number, manufacturing date, identification of supplier and nature of the polymer (see slide #13 & 14). Traceability is ensured by internal documentation.

The illustrated examples can be extrapolated *mutatis mutandis* to all APEAL members.
### III.2.2 Aluminium for packaging – EAA

**Flow chart, Scope & Tools**

**Traceability of Aluminium Packaging**

**Basic operation: Casting and Rolling**

<table>
<thead>
<tr>
<th>Primary Material and Products</th>
<th>Traceability Scope</th>
<th>Traceability Tool</th>
</tr>
</thead>
</table>
| Melting oven / Casting aluminium | Warm rolling and cold rolling | Ingot:  
- Batch number (no.), bar code, alloying constituents, etc.  
- Reference no. with bar code for identification of cast and all subsequent aluminium coils.  
- Alloy composition registered - cast analysis on request. |
| **Ingots** | | |
| Aluminium coils, about 3-7 mm thickness | Rolling | Coils:  
- Coil no., batch no., bar code, etc.  
- Reference no. with bar code for identification of cast, and all subsequent aluminium coils.  
- Computer based reference to cast. |
| | | Coils:  
- Coil no., batch no., bar code, etc.  
- Computer based reference to input material and cast. (1) |
| Aluminium coils, about 0.4-0.7 mm thickness | Rolling | Coils:  
- Product no., article no., coil no (batch no)/bar code, etc.  
- Computer based reference to input material in the rolling program. |
| Aluminium coils, about 0.006-0.3 mm thickness | | |
| I) Bare aluminium trays,  
II) Beverage can lid stock, rigid containers and semi-rigid containers | | |
Traceability Aluminium Packaging:
I) Bare aluminium trays

<table>
<thead>
<tr>
<th>Primary Material and Products</th>
<th>Traceability Scope</th>
<th>Traceability Tool</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminium coils, +/-40-300µm thickness</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lubricant</td>
<td></td>
<td>Coils:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Product no, article no, coil no (batch no)/bar code, etc.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Computer based reference to input coil</td>
</tr>
<tr>
<td>Aluminium coils, lubricated</td>
<td>Lubricating and slitting</td>
<td>Lubricant:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Recipe: batch no, article no, etc.;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- lubricant components in recipe: article no, batch no, product name, etc.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Computer based or manual reference to raw material.</td>
</tr>
<tr>
<td>Aluminium trays in packed units</td>
<td>Stamping and forming</td>
<td>Coils:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Product no, article no, coil no (batch no) with bar code, etc.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Computer based reference to input material.</td>
</tr>
<tr>
<td>Packed units on palettes</td>
<td>Packing</td>
<td>Tray units:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Product no, batch no, bar code, etc.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Computer based reference to input material</td>
</tr>
<tr>
<td>Trade</td>
<td></td>
<td>Palettes:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Product no, batch no, bar code, etc.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Computer based reference to input material (2)</td>
</tr>
</tbody>
</table>
## Traceability Aluminium Packaging:

**II) Lidstock for beverage cans and rigid or semi-rigid containers**

<table>
<thead>
<tr>
<th>Primary Material and Products</th>
<th>Traceability Scope</th>
<th>Traceability Tool</th>
</tr>
</thead>
</table>
| Aluminium coils, +/- 40-300µm thickness | Pretreatment (optional) | Coils:  
  - Supplier, batch no supplier (coil no), article no, etc.  
  - Converter identification: batch no, article no, etc.  
  - Computer based reference to input material |
| Aluminium coils, pretreated (optional, partly inline) | Pretreatment chemicals:  
  - No significance for food contact.  
  - Traceability for weekly production possible. |
| Lacquer, adhesive, and/or plastic film | Lacquering and/or laminating | Coils:  
  - Batch no (coil no), article no, etc.  
  - Computer based reference to input material |
| Lacquered and/or laminated aluminium coils | Lacquer/adhesive:  
  - Supplier: product name, article no, batch no  
  - Recipe: article no, batch no  
  - Computer based or manual reference to raw material |
| lubricant (optional) | Plastic film:  
  - Supplier, product name, article no, batch no,  
  - Computer based or manual reference: input material to coil |
| Coils packed in units on palettes | Lubricant:  
  - Recipe: batch no, article no, etc.;  
  - lubricant components in recipe: article no, batch no, product name, etc.  
  - *Computer based or manual reference to raw material.* |
| Can maker | Palette:  
  - Batch no (coil no), article no, etc, batch no palette  
  - Computer based reference to input material (2) |
Traceability Aluminium Packaging:
III) Casting and Rolling for Foil

<table>
<thead>
<tr>
<th>Primary Material and Products</th>
<th>Traceability Scope</th>
<th>Traceability Tool</th>
</tr>
</thead>
<tbody>
<tr>
<td>Casting/ Melting Furnace</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Discontinuous Casting (DC)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continuous Casting (CC)</td>
<td>Slab</td>
<td></td>
</tr>
<tr>
<td>Slab</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foil stock 3 to 7 mm</td>
<td>CC and DC foil stock</td>
<td></td>
</tr>
<tr>
<td>Rolling</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foil stock 0.4 to 0.7 mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rolling</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foil stock 0.006 to 0.2 mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flexible Packaging Household Foil</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Aluminium raw material: ingot or aluminium scrap – sorting and identification according to alloy composition

Slab: batch number and/or reference number

Coil identification number, alloy composition, possibility of all subsequent coils (for both CC and DC foil stock)

Coil identification number, batch number, possibility of identification of all subsequent coils
Traceability Aluminium Packaging: Key Aspects

- The traceability process consists of a customer order no with the identification of batch nos. of the materials that are used/produced in the process.
- The Quality Management System ensures the identification of the input aluminium coil and the output aluminium coil by process with a coil number and a bar code reference.
- Lubricating, coating and polymeric materials are correlated with a production order and the individual coil numbers, either manually or by a computer system. During a change of these materials all reference numbers are recorded.
- Traceability is a key feature in the quality management system and is audited on a regular basis by internal and external auditors.
III. 2.3 Lacquers for Packaging – CEPE

Flow Chart

Traceability: Food Contact Coatings for Metal Packaging

Supplier

- Raw material supplier
  - Delivery based on agreed specification
  - Raw material name and lot number, container name
  - Internal raw material name, code and lot number
  - Container code
  - Supplier name, delivery date
  - QC test results, raw material retained sample...
  - Batch number, production order number
  - Date of manufacture
  - Equipment assigned to production order
  - Formulation kept
  - Batch sheet (how, where, when, who), pack code
  - In process test results
  - Raw material lot number recorded
  - Immediate product reference and batch number

Coatings Manufacturer

- Process
- Coating
  - Lacquer name, reference number, batch number, date of manufacture
  - Order number, delivery date and weight
  - General specification test results
  - Customer specific test results
  - Retained sample
  - Shelf life or best before date

- Shipment and storage
  - Carrier name, date of dispatch, delivery number, tank container number
  - Storage number, bulk storage tank number

Customer

- Canmaker
  - Delivery based on agreed specification
### Scope & Tools

<table>
<thead>
<tr>
<th>Primary Material</th>
<th>Traceability Scope</th>
<th>Traceability Tool</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coatings</td>
<td>Raw materials</td>
<td>Delivery based on agreed specification</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Raw material name (1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Raw material lot number (1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Supplier name</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Delivery date (2)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Internal raw material name (2)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Internal raw material code (2)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Internal raw material lot number (2)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Raw material QC results kept or available from raw material supplier</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Raw material samples kept for appropriate time or available from raw material supplier</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Concession requests for raw material deliveries concerned</td>
</tr>
<tr>
<td>Containers</td>
<td></td>
<td>Delivery based on agreed specification</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Container name</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Supplier name</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Delivery date</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Container code</td>
</tr>
<tr>
<td>Process</td>
<td></td>
<td>Batch number</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Production order number</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Date of manufacture</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Equipment assigned to production order</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Formulation retained</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Batch sheets retained with process details (How? Where? When? Who?)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pack code</td>
</tr>
<tr>
<td></td>
<td></td>
<td>In process test results retained</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Raw material lot number recorded</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Intermediate product reference and batch number recorded</td>
</tr>
<tr>
<td>Finished product</td>
<td></td>
<td>Lacquer name (3)(4)(5)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lacquer reference number (3)(4)(5)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lacquer batch number (3)(4)</td>
</tr>
<tr>
<td>Category</td>
<td>Information</td>
<td></td>
</tr>
<tr>
<td>---------------------------</td>
<td>----------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Storage</td>
<td>General specification test results</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Customer specific test results</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Retained samples kept for appropriate time</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Shelf life or best before date quoted (3)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Barcode (5)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Storage location number</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bulk storage tank number</td>
<td></td>
</tr>
<tr>
<td>Shipment</td>
<td>Carrier name</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Date of despatch</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Delivery number</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tank container number</td>
<td></td>
</tr>
<tr>
<td>Customer order file</td>
<td>Lacquer name</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lacquer reference number</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lacquer batch number</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Date of manufacture</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Delivery date</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Delivery weight</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Order number</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Customer bulk storage tank number</td>
<td></td>
</tr>
<tr>
<td>Supportive documentation</td>
<td>Hard copies</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Computer based files (individual log on passwords)</td>
<td></td>
</tr>
</tbody>
</table>
III.2.3.1 Examples of Raw Materials for coating manufacturers
- Plastics Europe/ERC
- EPRA

Flow Charts

Traceability: Resins as Components of Food Contact Coatings

Suppliers Raw Materials Suppliers (RMS) Delivery based on agreed specifications

Raw Materials

Identified by raw mat. name + lot numbers
Quality results* and Samples kept or available from RMS for limited time**

Resin Producer

Process

Batch number assigned to production order
Major equipment assigned to batch number
Formulations kept*
Batch sheets kept*
In process test results kept*

Identified by brand name/grade name + batch-nr.
General specification test results kept*
Customer-specific test results kept*
Samples kept for limited time**

Customers Coatings Industry Delivery based on agreed specification

* as legally required, minimum 1 year
** as practically feasible

Traceability: Phenolic Resins as Components of Food Contact Coatings

Suppliers Raw Materials Suppliers (RMS) Delivery based on agreed specifications

Raw Materials

First identified by RM name + batch-nr.
* Internal RM name and RM Code assigned.
* Quality results and Samples kept or available from RMS for appropriate time.

Phenolic Resin Producer

Process

Batch number assigned to production order:
* product-nr. + name.
* Major equipment assigned to production order.
* Formulations kept.
* Batch sheets kept with RM information.
* In process test results process data kept.

Identified by product-nr. and/or product name + batch-nr. on the label.
General specification test results kept.
Customer-specific test results kept.
Samples kept for appropriate time.

Customers Coatings Industry Delivery based on agreed specification

EPRA_Traceability_Phenolic_Resins_V9 08/05/2004
**Scope & Tools**

<table>
<thead>
<tr>
<th>Primary Material</th>
<th>Traceability Scope</th>
<th>Traceability Tools</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenolic Resins</td>
<td>Raw material identification</td>
<td>- First identification by RM name + batch-no.</td>
</tr>
<tr>
<td></td>
<td>(completed by EPRA)</td>
<td>- Assignment of internal RM name and RM Code.</td>
</tr>
<tr>
<td></td>
<td>Formulation &amp; Process</td>
<td>- Quality results and Samples retained or available from RMS for appropriate time.</td>
</tr>
<tr>
<td></td>
<td>Finished resin product identification</td>
<td>- Batch number assigned to production-order/product-no./-name.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Major equipment assigned to production order.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Formulations retained.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Batch sheets retained with RM information.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- In process test results/process control data retained.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Identified by product-no. and/or product name + batch-no. on the label.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- General specification test results retained.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Customer-specific test results retained.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Samples retained for appropriate time.</td>
</tr>
</tbody>
</table>

RM = Raw Material  
RMS = Raw Material Supplier  
08.06.2003
III.2.4 Compound for packaging – Rubber Association

Flow Chart

- R.M. Chemicals
- Water
- Packaging
- Pallets
  - Drums/Barrels
  - Plastic bags
  - Wrap film
  - Other
- Supplier batch #
- Reception date
- Supplier batch #
- Unique internal code batch linked to supplier batch # & reception
- Unique internal code batch linked to reception date
- Unique internal code batch linked to supplier batch # & reception
- Product batch # = manufacturing and QC records, linked to components internal batches
- No direct link with auxiliary process (maintenance, calibration, ...)
- Packed product batch # = bulk product batch # = manufacturing and QC records, linked to components internal batches and "primary" packaging.
- No traceability on "secondary" packaging
- Product label on "primary" packaging: product & packaging code, product batch #, manufacturing date, expedition date, net & gross weigh, customer, other...
- Expedition
  - Two labels
  - Product label on primary packaging (traceability data)
  - Expedition label containing delivering data on secondary packaging (no traceability data)
- Canmaking Industry
Scope & Tools

<table>
<thead>
<tr>
<th>PRIMARY MATERIAL</th>
<th>TRACEABILITY SCOPE</th>
<th>TRACEABILITY TOOLS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Based Sealing Compounds</td>
<td>Raw Material Identification</td>
<td>Assign to internal batch linked to supplier batch &amp; reception date (1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Labelling according to internal name and batch</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Purchasing &amp; QC records (internal and supplier) and RM sample kept for appropriate time</td>
</tr>
<tr>
<td></td>
<td>Chemicals</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Primary packaging (pails/drums/ibc, plastic bags)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Water</td>
<td>Assign of internal batch linked to reception date</td>
</tr>
<tr>
<td></td>
<td>Secondary packaging (pallets, wrap film, ...)</td>
<td>Labelling according to internal name</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Purchasing records kept for appropriate time</td>
</tr>
<tr>
<td>Manufacturing Process</td>
<td>Bulk Product</td>
<td>Product batch = production order</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Formulation based on internal RM name</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Manufacturing records contains components (RM or intermediate products) internal name + batches &amp; quantities, major equipment, processing indications, workers, PRD date and time, in process QC and PRD comments (2) (3)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Manufacturing records, QC records &amp; Formulation kept</td>
</tr>
<tr>
<td></td>
<td>Packed Product</td>
<td>Packed product batch = bulk product batch = production order (4)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Packed order includes bulk product</td>
</tr>
<tr>
<td>Finish Product Identification</td>
<td>batch &amp; primary packed batch</td>
<td></td>
</tr>
<tr>
<td>------------------------------</td>
<td>------------------------------</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Packed product code = product name + primary packaging type</td>
<td></td>
</tr>
</tbody>
</table>

Product label, on primary packaging, contains (5):
- product batch (=packed, bulk and production order)
- product name (product + primary packaging)
- end manufacture and expiry date
- gross and net weight
- customer
- notes (upon request)
- safety information (when needed)

Expedition label, on secondary packaging, contains delivering information

Delivery note includes product batch and also some information about secondary packaging

Delivery docs and product label retained

RM: raw material; PRD: production; QC: quality control
IV. **RECALL**

If a problem arises at the retail level, and a decision is made to recall the products, the following procedures would usually be used.

- The packaged food product sold on the shelf provides the following information:
  - Product code and product owner (typically the EAN 13 barcode)
  - Best Before Date
  - A number used for traceability (lot number, filling time, etc.)

- With this information the retailer identifies the Food Packer and provides him with the above information and description of the defects.

If the defects identified by the Food Packer, the Distributor, or others, relate to the metal packaging. The Food Packer, the Distributor, or others would provide the Metal Packaging Manufacturer(s) with the traceability information that was displayed on labels or documentation which accompanied the metal packaging goods.

- The Metal Packaging Manufacturer will use that information to identify at which steps the defect arose. The failure could be due to either:
  1) A defect in the production process
  2) or a problem with incoming raw materials

  *In case 2) the Metal Packaging Manufacturer will contact his own supplier(s) in a similar manner as the one described above.*

- Once the source of the problem has been identified (upstream traceability exercise finished) the Metal Packaging Manufacturer analyses the situation and can begin the downstream traceability exercise. Internal records are used to identify all products that could possibly contain the same defect.

- The Metal Packaging Manufacturer will then communicate back to his customers, the lot number(s) and / or unit packs (pallet) number(s) to be blocked and / or recalled.

- The Food Packer will use that information to continue the downstream traceability exercise to the retailer and final point of sale.

**NB:** In case of serious incident the complete process both upstream and downstream can be accelerated by taking preventive measures and impounding larger quantities of goods that have similar attributes (i.e. date of production, lot number(s), etc.)
V. OTHERS

This paper does not cover traceability aspects related to Importers and Traders. It is also recognised that not all possible raw materials for food contact paint/lacquers are covered by this paper due to a lack of contributions by their respective associations. In this case however, similar traceability concepts apply, and it is the responsibility of the company placing the goods on the marketplace to ensure that Traceability links are ensured.

The paper also does not cover materials such as unit packs (pallets), layer pads, etc. which are used to carry metal packaging products. However it is important to mention that these products are subject to strict specification defined in most cases jointly by the metal packaging manufacturer and food packers.
APPENDIX

This section contains the examples for each Association.

SEFEL Beverage cans
SEFEL Food cans & ends
SEFEL Metal closures
SEFEL Aerosols cans
APEAL
EAA
CEPE
Plastic Europe / ERC
EPRA
Compound for packaging
SEFEL 1. Beverage Cans

Reception of Raw Material: Metal Coil (1)

Keep Supplier Label

Traceability Key:

Coil Serial Number

Reception of Raw Material: Lacquer (2)

Keep Supplier Document

Traceability Key:

Lot number

Lot Number: DC9536FG

Manufactured: 18-Mar-03

Net Weight: 22 kg
SEFEL 1. Beverage Cans

Issue to Production : Coil (3)

Keep Track of Coil
Serial Number issued to production

Analyse quality & performance of coil

Feedback to Metal supplier

SEFEL 1. Beverage Cans

Issue to Production : Lacquer (4)

Keep Track of Lot number issued to production

Example of lacquer line report
SEFEL 1. Beverage Cans

Continuous Production Process (5)

Quality Data

Production & Quality reports to keep track of events
(data not shown - confidential)

Production data

Production events

SEFEL 1. Beverage Cans

Finished Goods Production (6)

Apply Pallet label

Traceability Key:
Unique pallet number
Lot
Date of production
SEFEL 1. Beverage Cans

Warehouse Management & Despatch (7)

Keep track of movements
Despatch by FIFO

Traceability Key:
Pallet / Lot number
Load Reference
Customer Order

SEFEL 2. Food Cans & Ends

Reception of Raw Material: Tinplate Coil (1)

Double labelling:

- input data = Supplier label
- output data = Crown label
**SEFEL 2. Food Cans & Ends**

**Reception of Raw Material : Tinplate Coil (2)**

Key data: Coil Serial Number + specifications (dim., tin, weight)

Software stores data and generates an unique pallet number

**SEFEL 2. Food Cans & Ends**

**Reception of Raw Material : Tab Metal Coil (3)**

Same system: from supplier data to unique label
SEFEL 2. Food Cans & Ends

Reception of Raw Material: Compound & Lacquer (4)

Always the double labelling

Same system: from supplier data to unique n° label

SEFEL 2. Food Cans & Ends

Process Production: Common Steps (5)

Complete the production data (product n°; date; quantity; line n°)

The software generates a label for each pallet produced

Track the labels of components used
SEFEL 2. Food Cans & Ends

Process Production : End & Can making (6)

Each pallet has its unique label
Note: the bare-code is a sufficient key to get all traceability data

SEFEL 2. Food Cans & Ends

Warehouse and Delivery (7)

Keep track of pallet labels => by Sales order, check the correct reference to be loaded and store the pallets n° delivered to the Customer
SEFEL 3. Metal Closures

Reception of Raw Material : Metal Sheets (1)

Keep Supplier Label
Traceability Key :
Stillage Serial Number

SEFEL 3. Metal Closures

Reception of Raw Material : Compound (2)

Keep Supplier Document
Traceability Key :
Lot number, drum number, ...
SEFEL 3. Metal Closures

Issue to Production : Lacquer (3)

Keep Track of Lot Number issued to production

SEFEL 3. Metal Closures

Issue to Production : Compound (4)

Keep Track of Lot number issued to production

Example of log sheet line report
SEFEL 3. Metal Closures

Production Process (5)

Production & Quality reports to keep track of events

SEFEL 3. Metal Closures

Finished Goods Production (6)

Apply information on individual cartons

Product description
Production order
Date and time
...

Apply Pallet label
Traceability Key:

Unique pallet number
Lot
Date of production
SEFEL 4. Aerosols Cans

Reception of Raw Material : Metal Coil (1)

Keep Supplier Label
Traceability Key :
Coil Serial Number

SEFEL 4. Aerosols Cans

Reception of Raw Material : Compound (2)

Keep Supplier Document
Traceability Key :
Lot number, drum numbers, ...
SEFEL 4. Aerosols Cans

Reception of Raw Material : Piston (3)

Keep Supplier Document

Traceability Key :

Box numbers, date of production, ...

SEFEL 4. Aerosols Cans

Issue to Production : Printed Plate (4)

Keep Track of stillage of plate unique number (SSCC) issued to production

Keep track of each passes
SEFEL 4. Aerosols Cans

Issue to Production: Side stripe lacquer (5)

Keep Track of supplier batch number when issued to production

Example of log sheet report

SEFEL 4. Aerosols Cans

Finished Goods Production (6)

Apply Pallet label - Traceability Key:
Unique pallet number (SSCC) - Lot - Date of production
SEFEL 4. Aerosols Cans

Warehouse Management & Despatch (7)

Keep track of movements

Traceability Key:
- Pallet / Lot number
- Load Reference
- Customer Order
Example of coil labels

Label of Polymer-coated steel
Coil etiquette after rolling to a thickness of 0.650mm

Palette etiquette of a palette unit
CEPE

Raw Material Name and Lot Number (1)

CEPE

Internal Raw Material Name, Code & Delivery Date (2)
CEPE

Lacquer Label (3)

CEPE

Lacquer Catalyst Identification Supplier (4)
CEPE

Lacquer Identification Barcode (5)

Rubber Compounds

Raw Material Reception (1)

<table>
<thead>
<tr>
<th>Supplier</th>
<th>Manufacturer</th>
</tr>
</thead>
<tbody>
<tr>
<td>[Image of barcode and raw material reception form]</td>
<td>[Image of barcode and raw material reception form]</td>
</tr>
</tbody>
</table>
### Rubber Compounds

#### Production step x-1 (2)

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Preparation of materials and ingredients.</td>
</tr>
<tr>
<td>2</td>
<td>Melt the materials and ingredients together.</td>
</tr>
</tbody>
</table>

#### Production step x (3)

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Prepare the rubber compound.</td>
</tr>
<tr>
<td>2</td>
<td>Mix the ingredients and materials.</td>
</tr>
<tr>
<td>3</td>
<td>Cure the rubber compound.</td>
</tr>
</tbody>
</table>

---

**Example:**

- **Preparation of materials and ingredients:**
  - Melt the materials and ingredients together.
- **Melt the materials and ingredients:**
  - Mix the ingredients and materials.
- **Cure the rubber compound:**
  - Cure the rubber compound.