


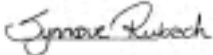

Case projects in Norway

Testing of the OPTI-PACK System for the Industrial Documentation of the European Packaging and Packaging Waste Directive (94/62/EU)

Tine BA and Elopak

**Synnøve Rubach
Mie Vold**

REPORT OVERVIEW

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PREFACE

Packaging waste has for a long time been one of the most focused problems in environmental politics, both nationally and internationally. On the European arena, the EU Packaging Directive from 1994 (62/ 94) has been an important basis, both for promoting increased recycling and recovery rates of packaging materials, as well as waste reduction related to packaging. Nationally, several countries have established agreements between environmental authorities and the packaging sector to follow up the requirements set in the Packaging Directive.

The Opti-pack project is a synergy project between the Nordic countries; Denmark, Finland, Island, Norway and Sweden, financed by the Nordic Industrial Fund, Centre for innovation and commercial development. The main objective in the project is to provide instruments for the industry for documentation of the requirements for packaging optimization set in the Packaging Directive. The project will finish their work within 01.10.2004.

This report is a documentation of the test phase of the project, where a number of companies have tested out the proposed system for industrial documentation. This report documents the work Tine BA and Elopak has done together with Østfold Research Foundation, STØ, in order to document a carton of 1 litre of milk in accordance with the EU directive and the CEN standards EN13427 to EN13432.

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ABSTRACT

This report is a summary of the work that has been done to demonstrate how to assess conformity with the EU Directive on packaging and packaging waste (94/62/EC) with the help of CEN -standards EN 13427-13432 and revised standards prEN 13427-13431. 1 litre of TINE Semi-Skimmed Milk (Lettmelk) was selected as the case product, including the distribution systems. The assessment is based on the proposed Opti-pack system for industrial documentation of the European Packaging and Packaging Waste Directive.

1 INTRODUCTION

This project report deals with development and application of a system for industrial documentation of the European Packaging and Packaging Waste Directive (94/62/EU) and the CEN standards from EN 13427:2000 to EN 13432:2000.

1.1 THE EU DIRECTIVE

As a member of the EEC, Norway has implemented the EU directive on packaging and packaging waste.

To be able to show that a package is designed in accordance with the requirements of the Packaging and Packaging Waste Directive, it is necessary to have documentation on how the package has been assessed.

The necessary documentation shall show that:

- the amount of packaging material has been minimised in the package
- the amount of eco-toxic substances (if any) in the package has been minimised
- the contents of heavy metals are below the limit
- the package can be recovered either as material, energy or compost.

For returnable packages it must also be shown that there is an existing return system in operation.

The essential requirements in the Directive have a reference to EN Standards. By applying to harmonised standards, the essential requirements in the Directive are met.

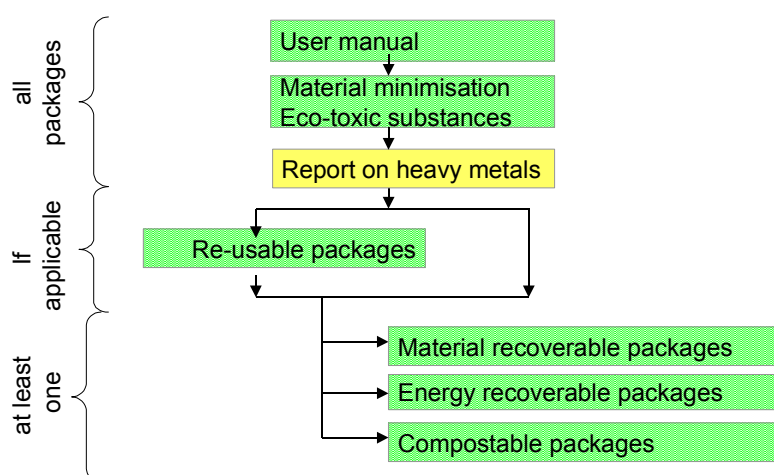
1.2 THE CEN STANDARDS

The European Commission mandated the European standardisation organisation, CEN, to develop new standards. These standards, EN13427–13432, have been worked out mainly in six working groups within CEN TC 261: *Packaging* and were published in the end of 2000. About 250 experts, mainly from European countries, participated in the work. The standards are implemented as national standards in all of the CEN member states.

The structure of the standards is as follows:

Generally <ul style="list-style-type: none"> The Packaging and Packaging Waste Directive (94/62/EC) CEN standard: EN 13427:2000 Requirements for the use of European Standards in the field of packaging and packaging waste.
Production, minimal use of packaging <ul style="list-style-type: none"> EN 13428:2000 Requirements specific to manufacturing and composition. Prevention by source reduction.
Reuse <ul style="list-style-type: none"> EN 13429:2000 Reuse.
Material recycling <ul style="list-style-type: none"> EN 13430:2000 Requirement for packaging recoverable by material recycling.
Energy recovery <ul style="list-style-type: none"> EN 13431:2000 Requirements for packaging recoverable in the form of energy recovery, including specification of minimum inferior calorific value.
Composting and biodegradation <ul style="list-style-type: none"> EN 13432:2000 Requirements for packaging recoverable through composting and biodegradation. Test scheme and evaluation criteria for the final acceptance of packaging.

The standards are designed in a logical structure:



The European standards have no legal status until the European Commission has harmonised the standards. The Commission was not satisfied with all the standards. In the summer of 2001, only one standard was harmonised (EN13432) without comments and one was partly harmonised (EN13427).

CEN afterwards got a new mandate to upgrade the five standards that were not harmonised. The revised standards are planned published in April 2004. A harmonisation is expected after that. The OPTI-PACK system described in this report is based on the first version of the standard, but will be updated after the new revisions are published and before the project ends (1.10.04).

The European standards will in the future contain more, not fewer, demands on the packaging design process. This means that companies can already implement the European standards decided in the year 2000, but must be prepared to upgrade within 1–2 years.

2 BACKGROUND

2.1 PRESENTATION OF THE COMPANIES

Elopak is one of the world's leading suppliers of packaging systems for liquid food products. Pure-Pak® is their core packaging system, and their portfolio comprises plastic packaging systems - Unifill®, Elopouch® and Plastic Bottle Systems.

TINE BA is Norway's largest producer, distributor and exporter of dairy products. TINE BA is the sales and marketing organisation for Norway's dairy cooperative and is responsible for product development, quality assurance, production and distribution planning, marketing and the export of TINE products.



When the work with the case started, both Tine and Elopak stated that they wanted to join this project in order to contribute in the development of a simple and practical system for industrial documentation. Tine and Elopak also stated the importance of that the system easily can be adapted to the existing quality system in the companies.

Elopak has already experiences that customers want documentation of the products in accordance with the essential requirements in the EU directive 94/62/EU.

2.2 ORGANISATION

The first case project in the companies has followed the following activities:

1. Propose the organisation of the project
2. Make a schedule with milestones
3. Develop a format for collection of data/ description of what and how (STØ activity)
4. Develop a format for declaration (STØ activity)
5. Suggest how to organise the further work in the company

The participants in the project has been:

From Elopak:	Pål Hafrom
From Tine BA:	Ragnar T. Solgaard
From STØ:	Synnøve Rubach
	Mie Vold

There have been performed tree case projects, concerning four companies. Representatives from these four companies have had regular meetings to discuss their experiences from the project. The participants of the national group of case companies are described in Table 1.

Table 1 *The Norwegian group of case companies.*

Company	Name of contact person	STØ contact
Stabburet	Inger Elisabeth Næs	Mie Vold (Synnøve Rubach)
Rieber & Sønn	Vidar Kvamme	Hanne Lerche Raadal
Tine/Elopak	Pål Hafrom	Synnøve Rubach (Mie Vold)
	Ragnar Solgaard	
Project leader, Norway	Ole Jørgen Hanssen	

2.3 THE MANAGEMENT SYSTEM

Documentation from the packaging supplier and from previous parts of the packaging chain (packaging material manufacturers etc.), regarding for instance minimisation of any dangerous substances in the material, must be available in order to enable the final assessment. This makes the different operators in the distribution chain responsible for different parts of the complete assessment. Roughly, the areas of responsibility can be divided as follows:



2.3.1 Company responsibility in the management system, producing and filling of data.

Each company in the management chain is responsible for a certain part of the system. It is clear that the packer/filler will require data from other partners in the chain, also responsibilities for certain aspects belong to others but the packer/filler. The Umbrella standard prEN 13427 shows the relationship between the essential requirements of the directive (94/62/EC) and the designated assessment criteria for packaging (prEN 13427, annex A, table A.1). The same table can be used as a reference to supply chain assessment.

The table below is a modification of prEN 13427, annex A, table A.1. It could be used for showing how the actors of the distribution chain share the responsibility of the evaluation of the package and also which of the standards prEN 13427-13432 each company should be

using. The numbers in the section 3, *Reference to company assessment*, refer to standards and CEN reports:

- 1.1 Prevention by source reduction, prEN 13428
- 1.2 Requirements for measuring and verifying the four heavy metals present in packaging, CR 13695-1 (CEN technical report)
- 1.3 Requirements for measuring and verifying dangerous substances present in packaging, CR 13695-2 (CEN technical report)
- 2 Reuse, prEN 13429
- 3.1 Material recycling, prEN 13430
- 3.2 Energy recovery, prEN 13431
- 3.3 Organic recovery, EN 13432

Table 2 Company assessment criteria for packaging system, according to prEN 13427

1 Essential requirement of the Directive 94/62/EC		2 Assessment criteria identified	3 Reference to company assessment							
			1.1	1.2	1.3	2	3.1	3.2	3.3	
Article 9 with reference to Annex II										
Para 1	1st indent	Minimum adequate amount of material	F							
	2nd indent	Reuse and/ or recovery including recycling to minimisation of impact to the environment				F	PM, MM,	PM, MM,	PM, MM	
	3rd indent	Dangerous substances, minimisation of impact to the environment	MM		MM					
Para 2	1st indent	Enable a number of trips or rotations				F				
	2nd indent	Health and safety	F, PM, MM							
	3rd indent	Environmental impact of Waste Management	F, PM, MM				PM, MM	PM, MM	PM, MM	
Para 3	A	Suitable for Material Recycling					PM, MM,			
	B	Suitable for Energy Recovery						PM, MM		
	C	Suitable for Composting								PM, MM
	D	Suitable for Biodegradation								PM, MM
Article 11 Para 1		Limitation and minimisation of the combined content of four heavy metals (Cd, Pb, HG, and hexavalent Cr)	MM	MM						
F= Filler, PM = Packaging Manufacturer, MM = Material Manufacturer										

2.4 EVALUATING EXISTING METHODS

In general, all companies have been working with the optimisation of packaging in many years. Therefore, the first step in the process of fulfilling the requirements of the directive will be an evaluation of the methods already in use.

1. A practical way through the process will be using the last 1–10 packaging development processes as cases.
2. Find all the documentation you have filed on the design processes.
3. Interview relevant personnel both in-house and suppliers involved in the designs in order to map who did what for the optimisation of the packaging to the product and distribution.
4. Evaluate your optimisation methods by following questions:
 - Can your method demonstrate to a public auditor and your customer that you have reached the critical level of packaging materials?
5. Report the existing assessment methods you can use in the future for the documentation of the essential requirements in the Packaging Directive in connection with the different Performance criteria.

3 ASSESSMENT PROCEDURE

The work follows 11 main activities that will be repeated in each project. The 11 activities and the relation between them are shown in Figure 1.

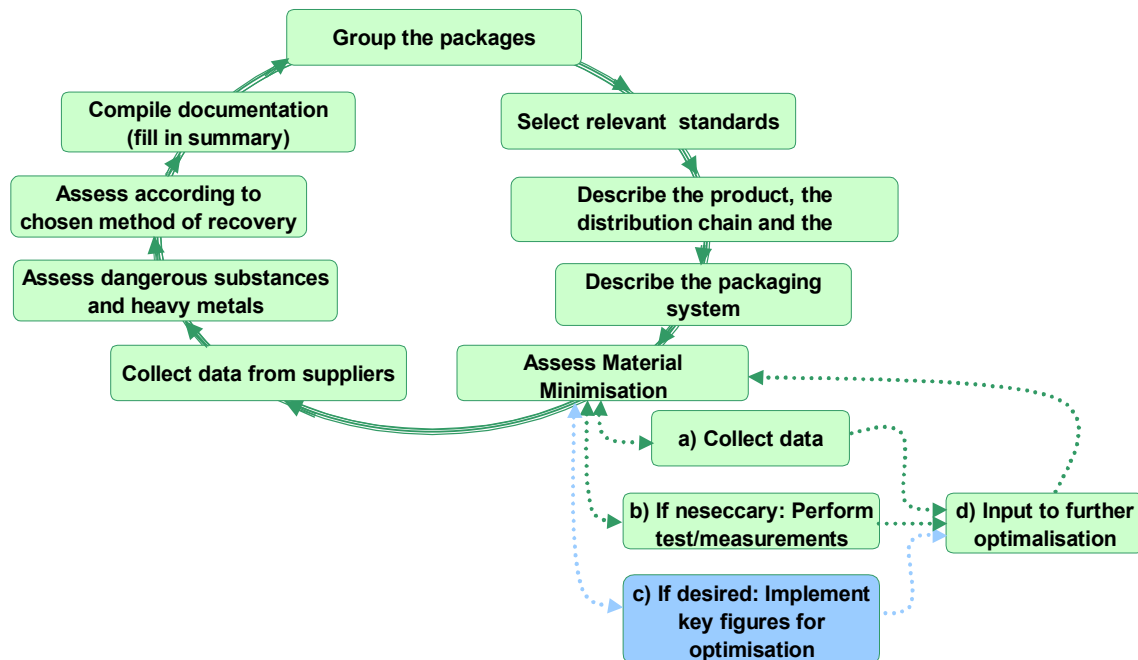


Figure 1 The work procedure

3.1 GROUP THE PACKAGES

Step 1 is to divide the packages to be assessed into groups that can be evaluated jointly. The group should consist of packages with a common dimensioning factor.

The work started as a brainstorming on how to group the products from Tine. It was decided to exclude butter- and cheese products within the limits of this case project.

This result from the brainstorming was then systematised as follows:

	Beverage carton \geq 1 litre without barrier and without screw-cap	Beverage carton < 1 litre without barrier and without screw-cap	Beverage carton < 1 litre with barrier and with screw-cap	Beverage carton < 1 litre with barrier and without screw-cap	Beverage carton with 50 % plastic	Polystyrene cup \leq 200 ml with carton	Polystyrene cup \leq 200 ml without carton	Polystyrene cup > 200 ml	Polypropylene cup \leq 200 ml
Sweet milk	X	X	X	X	X				
Sour milk/juice			X	X					
Creme fraiche /yoghurt						X	X	X	X
Desserts		X					X		

1 litre of TINE Semi-Skimmed Milk (Lettmelk) was selected as the case product. It is pasteurised, homogenised milk, with a fat content of 1.5%.

The primary package is a gable top carton without barriers.

The secondary package is a plastic tray which can take 2x5 cartons of 1 litre milk (they fit to the roll container) and a roll container that can take 160 cartons of 1 litre milk, or only a roll container without the use of plastic trays.



3.2 SELECT THE STANDARDS

Step 2 is to select the standards appropriate for the assessment.

The result is shown underneath.

		Relevant = Yes Not relevant = No/Not applicable	If relevant: State which part of the system
Prevention by source reduction	EN 13428	Yes	The whole packaging system
Minimisation of heavy metals	CR 13695-1/2	Yes	The whole packaging system
Minimisation of noxious and other dangerous substances	EN 13428	Yes	The whole packaging system
Reuse	EN 13429	Yes	Plastic tray
Material recovery	EN 13430	Yes	The whole packaging system
Energy recovery	EN 13431	Yes	F-pak and plastic tray
Composting recovery	EN 13432	No	

3.3 DESCRIBE THE PRODUCT AND THE DISTRIBUTION CHAIN

Step 3 is to describe the product, the distribution chain and consumer demands. Use primary available information in your databases, etc.

It is important to describe the product and the distribution chain in order to argue why the existing packaging system has been selected.

This milk product is used fresh, and a cold chain distribution system is used.

The description of the system has been done in the Excel-format that has been developed through the work with the case projects.

Product name and description	1 l TINE semi skimmed milk in Gable Top packaging distributed in plastic crates in roll containers of steel.	
Relevant technical problems that might occur during the filling process	To secure a functional packaging that is tight and easy to open for the consumer.	
Relevant geographic market areas for the product	The product is distributed to all foodstores and big chains in the country	
Temperature demands during distribution		Uninterrupted temperature conditions
	Yes	Uninterrupted frozen temperature conditions
		No demands
		Other Describe
Description of the distribution (if information is available)		
Normal way	Type of transport	
From filler to wholesaler		
From filler to retailer	Directly from dairy to retailer	
From wholesaler to retailer		
Important conditions for storage		
Number of pallets in height		
Storage time	Shelflife = 10 days	
Customer		
Relevant technical problems/ sources to losses in the distribution		
Damage of the carton during filling and distribution.		
Other relevant data		
TINE has own rolling containers with shelves made of steel. We also use plastic crates for 10 milk cartons in the distribution. TINE distribute in own cars that is either insulated or insulated with cooling system.		

3.4 DESCRIBE THE PACKAGING SYSTEM

Step 4 is to describe the applied packaging system as regards the primary, secondary and tertiary packages. Use primary available information in your databases, etc.

The packaging system must be described with respect to:

Primary packaging

Secondary packaging

Tertiary packaging (Euro pallet with strapping etc)

The specific producer must be stated, the material used in the packaging, demands to distribution and critical factors in the distribution.

The primary packaging is a gable top package made of liquid packaging board (carton coated with plastics). The material used for one litre of milk is 27,6 grams liquid packaging board. This is described in Table 3.

Table 3 Description of the primary packaging.

Type of packaging	1 litre gable top packaging made of liquid board			
Dimensions	height	23,4	cm	1153 Volume cm ³
	width	7,02	cm	
	length	7,02	cm	
Filling weight		gram		
	Description	Material	Weight [g/unit]	Supplier
Component 1	Blanks	PE-coated board	27,6	Elopak / Tetra Pak
Component 2				
Component 3				
Component 4				
Component 5				
Description				

The plastic tray, which is optional to use as a secondary packaging, can take 10 x 1 litre of milk is made of 250 grams of plastic (PP). The number of trips for this tray is approximately 25. The secondary packaging is described in Table 4.

Table 4 Description of the secondary packaging.

Number of primary/sales packages per secondary/grouping package		10	units	
Number of layers of primary/sales packages per secondary/grouping package		1		
Description		Material	Weight [g/unit]	Supplier
Component 1	Plastic tray	PP	250	Kato Plast
Component 2				
Component 3				
Component 4				
Component 5				

The roll container weights 44,5 kg and it is made of steel. The number of trips for the roll container is approximately 800. The material is recycled when scrapped. This is described in Table 5.

Table 5 Description of the tertiary packaging

Number of secondary/grouping packages per pallet/transport package		16	units	
Number of layers of secondary/grouping packages per pallet/transport package		4		
Description		Material	Weight [g/unit]	Supplier
Component 1	Rollcontainer	Steel	44500	Grythytan
Component 2				
Component 3				
Component 4				
Component 5				

3.5 ASSESS MATERIAL MINIMISATION

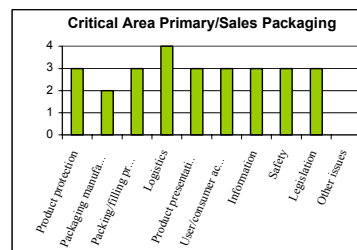
Step 5 is to assess the primary package in accordance with the instructions given in the standard for material optimisation.

At Tine, the dimensioning function criteria were discussed at an internal packaging group meeting. All participants were asked to go through the performance criteria and tell what they estimated to be the most important criteria.

This was then used to make a weighted average for each function criteria.

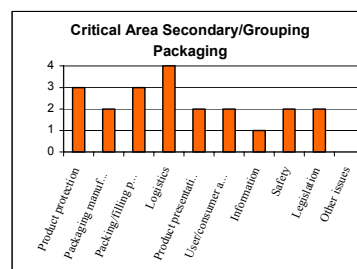
Primary/Sales Packaging

Performance criteria	Most important/relevant requirements	References	Score Primary packaging	Critical area
Product protection	Food safety/health security		3	No
Packaging manufacturing process			2	No
Packing/filling process	Min. stop/damage		3	No
Logistics	efficient/secure distribution	1	4	Yes
Product presentation and marketing	Good		3	No
User/consumer acceptance	High acceptance		3	No
Information	Good printability		3	No
Safety	OK		3	No
Legislation	OK		3	No
Other issues				No



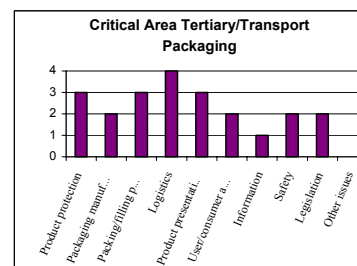
Secondary/Grouping Packaging

Performance criteria	Most important requirements	References	Score Secondary/grouping packaging	Critical area
Product protection			3	No
Packaging manufacturing process			2	No
Packing/filling process			3	No
Logistics			4	Yes
Product presentation and marketing			2	No
User/consumer acceptance			2	No
Information			1	No
Safety			2	No
Legislation			2	No
Other issues				No



Tertiary/Transport packaging

Performance criteria	Most important requirements	References	Score Tertiary/Transport packaging	Critical area
Product protection			3	No
Packaging manufacturing process			2	No
Packing/filling process			3	No
Logistics			4	Yes
Product presentation and marketing			3	No
User/consumer acceptance			2	No
Information			1	No
Safety			2	No
Legislation			2	No
Other issues				No



3.6 COLLECT DATA FROM SUPPLIERS

Step 6 and 7 is to assess contents of dangerous substances and heavy metals. This data must be collected from the packaging supplier(s).

The result from this work is found in the appendix 1.

3.7 ASSESS ACCORDING TO CHOSEN METHOD OF RECOVERY

Step 8 is to assess according to the selected recovery method. In order to show that the package fulfils the requirements regarding recovery of the package and its materials, suppliers of packages and packaging materials shall provide documentation.

describe the assessments made to show that the different levels of packaging fulfil the requirements of the recovery standards.

Energy recovery

The assessment of packaging components is based on the supplier declarations. The energy content and/or content of organic content is displayed here. The assessment of packaging components of the total packaging system is showed in Table 6. The assessment indicates that the whole system except the rollcontainer fulfil the requirements of the energy recovery standard. The net energy and/or organic content for the primary and secondary packaging of the system are higher than minimum required in the standards, as well as the content of heavy metals and other hazardous substances is below the limits set.

Table 6 Description of packaging components.

Primary/Sales packaging												
	Component	Weight	Organic (O) / Inorganic (U) %		Supplier	Energy content, (If: % organic < 50%)		Total, heavy metals ref I.2.1	Other environmental hazardous substances?		Reference	
	Type	g / packaging unit	ref I.2.1			ref I.3.1						
			O %	U %								
Component 1	Board	24,20	100	0	Elopak	8	MJ/kg		ppm		Supplier	
Component 2	PE	3,40	100	0	Elopak	19	MJ/kg		ppm		Supplier	
Component 3		0	0,00	100	0		MJ/kg		ppm			
Component 4		0	0,00	100	0		MJ/kg		ppm			
Component 5		0	0,00	100	0		MJ/kg		ppm			
	Total	27,60	g									
Secondary/Grouping packaging												
	Component	Weight	Organic (O) / Inorganic (U) %		Supplier	Energy content, (If: % organic < 50%)		Total, heavy metals ref I.2.1	Other environmental hazardous substances?		Reference	
	Type	g / packaging unit	ref I.2.1			ref I.3.1						
			O %	U %								
Component 1	Plastic tray	250	100	0	Kato Plast	24			ppm			
Component 2		0	0	100	0				ppm			
Component 3		0	0	100	0				ppm			
Component 4		0	0	100	0				ppm			
Component 5		0	0	100	0				ppm			
	Total	250	g									
Tertiary/Transport packaging												
	Component	Weight	Organic (O) / Inorganic (U) %		Supplier	Energy content, (If: % organic < 50%)		Total, heavy metals ref I.2.1	Other environmental hazardous substances?		Reference	
	Type	g / packaging unit	ref I.2.1			ref I.3.1						
			O %	U %								
Component 1	Rollcontainer	44500		100	Grythyttan				ppm	ppm		
Component 2		0	0	100	0				ppm	ppm		
Component 3		0	0	100	0				ppm	ppm		
Component 4		0	0	100	0				ppm	ppm		
Component 5		0	0	100	0				ppm	ppm		
	Total	44500	g									

Reuse

If the packaging system, or parts of the system is to be reused, an assessment of compliance has to be performed. Table 7 shows the results of the assessment performed for the packaging system. The secondary and tertiary packaging in this system are intended to be reused and the requirements for reuse in the standard are fulfilled.

3.8 COMPILE DOCUMENTATION

Step 9 is to compile and file the documentation. Assessments shall be compiled in the form "Statement of compliance with standard EN 13427", EN13427 Annex B. This form is then the official document, showing that the package has been assessed according to legal requirements.

Packaging identification <input style="width: 90%;" type="text"/>	Document identification <input style="width: 90%;" type="text"/>
---	--

The most important materials in the packaging	
Blanks	PE-coated board
0	0
0	0
0	0
0	0

Critical areas:

Critical Area	Primary	Secondary	Tertiary
Product protection	3	2	1
Packaging materials...	2	1	1
Packaging/printing process	3	2	1
Logistics	4	3	2
Product presentation...	3	2	1
User-consumer recep...	2	1	1
Information	1	1	1
Safety	2	1	1
Legislation	2	1	1
Other issues	1	1	1

Part I Summary of assessment			
Standard	Assessment requirement	Claim	Note
1.1	Prevention by source reduction Ensure only minimum adequate amount of material in the packaging system (EN 13428:2000)	Yes	Ref 1
1.2	Heavy metals and Ensure below maximum permitted levels for components (CR 13695-1:2000)	Yes	Ref Supplier
1.3	other noxious/hazardous substances Ensure in compliance with (EN 12328:2000)	Yes	Ref. Supplier
2	Reuse ensure reusability in all terms of the standard for the functional packaging unit (pr EN 13429)	Yes	Closed loop system
3.1	Recovery by material recycling Ensure recyclability in all terms of the standard for the functional packaging unit (EN 13430-2000)	Yes	Ref Returkartong and Plastretur
3.2	Recovery in the form of energy Ensure that calorific gain is achievable for the functional packaging unit (EN 13431:2000)	Yes	Ref supplier
3.3	Recovery by composting Ensure compostability in all terms of the standard for the functional packaging unit (EN 13432:2000)	No	

Note: Conformity with EN 13427 requires affirmative responses to sections 1.1, 1.2, 1.3 and to at least one of sections 3.1; 3.2; 3.3. In addition, where a claim of reuse is made, section 2 should also record affirmative responses.

Part II Statement of conformity				
In light of the assessment results recorded in part I above, this package is claimed to comply with the requirements of EN 13427:2000				
Signed on behalf of (Name and address of supplier, supplier as defined in EN 13427)	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="padding: 2px;">TINE BA</td></tr> <tr><td style="padding: 2px;">Bedriftsveien 7</td></tr> <tr><td style="padding: 2px;">0907 OSLO</td></tr> </table>	TINE BA	Bedriftsveien 7	0907 OSLO
TINE BA				
Bedriftsveien 7				
0907 OSLO				
Signature: <input style="width: 80%;" type="text"/>				
Position: <input style="width: 80%;" type="text"/>	Date: <input style="width: 100px;" type="text" value="01.10.03"/>			

3.9 IMPLEMENTATION OF THE SYSTEM

A first step in the implementation process is to educate personnel who will be involved in the assessment process. Understanding the whole process and the purpose of the process will help to make the right choices. Education is offered in several countries.

To facilitate the implementation of these new routines, it is recommended that they be integrated in present ISO 9000 or ISO 14000 systems or other generally accepted quality assurance systems. Integration in existing certification systems will secure an independent and regular audit of the assessment system.

Implementation of work routines for evaluation of packaging within the company should be performed in two phases:

1. Implementation of routines for evaluation of packaging in connection with new development
2. Implementation of routines for evaluation of existing packaging

Knowledge about existing procedures and evaluation methods should serve as a basis for the development of these routines.

A lot of information can be shared in the daily design and documentation. For this reasons a general database could collect relevant data and make it possible to share the information in the company. Such a database must be maintained.

The database could contain data such as:

1. Group of products in company needing special data
2. File relevant standards
3. Special needs for each product group (fragility (i.e. fat<>oxygen), design for promotion etc.)
4. Descriptions of the distribution chain including risks and transport quality
5. Special demands from customers/consumers/end-users
6. Analyse and determine waste/recovery systems on relevant markets
7. A packaging policy for the product group
8. Data from suppliers
9. Data from the markets
10. Methods for evaluating critical area for the company in question including own equipment and external test laboratories
11. Etc.

4 CONCLUSIONS

4.1 CONFORMITY ASSESSMENT

According to the procedures presented in standards prEN13427-13431 and EN 13432, the liquid packaging board (LPB) used for 1 litre of TINE Semi-Skimmed Milk (Lettmelk), including the distribution systems, are in conformity with the EU directive on packaging and packaging waste (94/62/EC), assuming the harmonisation of the prEN:s. The conformity are also applicable for all TINE products which uses the same packaging system (according to the grouping of packaging).

4.2 INPUT TO FURTHER DEVELOPMENT

4.2.1 For the Opti-pack project

More specific guidelines on the matter of grouping should be worked on. This is a complex and difficult point for most companies.

A simple and easy understandable system for documentation of the prevention standard must be focused on.

It should also be a strict focus on further simplification of the Excel-sheets that has been developed, and it should be looked upon the possibility to make a more intelligent electronic version of this system (which "hides" all not applicable information during the filling in process).

4.2.2 For the participating companies

The case project has shown that this provides a lot of work; and therefore this must be integrated in a practical way in the company. It should be looked upon as a useful help to systematise the product- and packaging development in the company.

There must be developed rational and easy systems for documentation and information gathering based on the already existing systems in the companies. In this way time and work can be saved.

