



Material flows for some products – LCD-monitors, tires, jackets and bridge foundations in concrete

Hanna Brolinson

Annica Carlsson

Environmental accounts and natural resources

Statistics Sweden

Stockholm, Sweden, February, 2011

CHEMITECS REPORT P4-D3b

ChEmitEcs

CHEMITECS REPORT P4-D3b, CHEMITECS PUBLICATION SERIES

Material flows for some products – LCD-monitors, tires, jackets and bridge foundations in concrete

Hanna Brolinson

Annica Carlsson

Environmental accounts and natural resources

Statistics Sweden

Stockholm, Sweden, February, 2011

Material flows for some products – LCD-monitors, tires, jackets and bridge foundations in concrete

© Hanna Brolinson, Annica Carlsson, 2011

ChEmiTecs publication P4-D3b
ISSN [XXXXXXXX](#)

ChEmiTecs

ChEmiTecs is a research program funded by the Swedish EPA. The program's goal is to improve the understanding of emissions of organic substances from articles and to clarify and determine the magnitude of this problem. The program aims to support development of Swedish and EU management programs to minimise risks from harmful substances. The program started in December 2007 and will proceed until November 2012. Participating organisations and organisation representatives are:



Swedish Environmental Protection Agency
(Funding organisation)
www.naturvardsverket.se

IVL Swedish Environmental Research Institute Ltd
Tomas Rydberg (Programme manager)
tomas.rydberg@ivl.se
Eva Brorström-Lunden (Communications manager)
eva.bl@ivl.se

Stockholm University
Åke Bergman
ake.bergman@mmk.su.se

Royal Institute of Technology
Christina Rudén
cr@abe.kth.se

Umeå University
Peter Haglund
peter.haglund@chem.umu.se

Chalmers University of Technology
Sverker Molander
sverker.molander@chalmers.se

[Printing service name and year](#)

Table of contents

| | | |
|-----------------------|--|------------|
| 1 | Abstract | iii |
| 2 | Acknowledgements | vii |
| 3 | Background | 1 |
| 3.1 | Aim and system boundary | 1 |
| 4 | Method | 1 |
| 5 | Quality | 2 |
| 6 | Results | 3 |
| 6.1 | Standalone LCD-monitors for computers and televisions | 3 |
| 6.1.1 | CN category | 3 |
| 6.1.2 | Lifetime..... | 5 |
| 6.1.3 | Net inflow and accumulated amount | 5 |
| 6.1.4 | Company information | 8 |
| 6.1.5 | Quality..... | 8 |
| 6.2 | Tires for cars, buses, lorries and tractors | 8 |
| 6.2.1 | CN category | 8 |
| 6.2.2 | Lifetime..... | 10 |
| 6.2.3 | Net inflow and accumulated amount | 12 |
| 6.2.4 | Company information | 14 |
| 6.3 | Waterproof, unlined jackets impregnated with water repellent substance..... | 14 |
| 6.3.1 | CN category | 14 |
| 6.3.2 | Lifetime..... | 15 |
| 6.3.3 | Net inflow and accumulated amount | 15 |
| 6.3.4 | Company information | 16 |
| 6.4 | Bridge foundations made of concrete | 17 |
| 6.4.1 | CN category | 17 |
| 6.4.2 | Net inflow and accumulated amount | 18 |
| 6.4.3 | Ways to go forward..... | 18 |
| 7 | References | 20 |
| Appendix | | 21 |
| 7.1 | LCD-monitors data on imports, domestic production and export to Sweden, tonnes and numbers, 2000-2009..... | 21 |
| 7.2 | Tires for road vehicles..... | 22 |
| 7.2.1 | Tires for cars | 22 |
| 7.2.2 | Tires for buses and lorries..... | 22 |
| 7.2.3 | Tires for tractors..... | 23 |
| 7.3 | Waterproof, unlined, jackets impregnated with water repellent substance..... | 23 |
| 7.4 | Bridge foundations made of concrete | 24 |

1 Abstract

This project has been performed on an assignment from the ChEmiTecs research program. ChEmiTecs aims to improve the understanding of emissions of organic substances from goods, and to evaluate the magnitude of the problem.

The purpose of this project is to calculate the national net inflow and the accumulated amount of the following products or product groups:

- Standalone LCD-monitors for computers and televisions
- Tires for cars, buses, lorries and tractors
- Waterproof, unlined, jackets impregnated with water repellent substance
- Bridge foundations made of concrete, in contact with water

The net inflow is calculated as follows: $\text{Net inflow} = \text{Imports} - \text{Exports} + \text{Domestic Production}$.

The first step for these calculations is to identify the CN (Combined Nomenclature) categories for the case study products. Statistics on foreign trade and industrial commodity production have been used as the data source.

The accumulated amount is estimated by summing the annual net flow for each year during a product's lifetime. The lifetime of a product is defined as the time from production to the time when the product enters the waste management system. The lifetime is estimated using different kind of references for example searching the Internet, scientific articles, and personal comments from people in branch organisations or professionals dealing with the product. It is important to be aware of that these estimations on lifetime are based on qualified guesses, when using the figures on accumulated amount in further calculations.

In three of the four product types, the annual net inflow and accumulated amount have been possible to calculate. For the bridge foundations, there is no correspondent CN code, and hence no further calculations could be performed. For the different types of tires it was possible to distinguish specific CN codes that almost matched what was specified in the assignment. For LCD-monitors and jackets the codes may as well include other types of products. A summary table for the different products and their accumulated amounts is shown in Table 1. The accuracy in the calculations is dependent on several factors: how well the CN structure matches what products are wished to follow, if data on trade and domestic production is available for the wished year and, of course, quality in data.

Table 1. Summary table for accumulated amount of the different products, thousand tonnes (rounded numbers).

| Product | Years | Accumulated amount (1000 tonnes) | |
|---|-----------------------|----------------------------------|---------|
| LCD-monitors | for televisions | 2004-2009 | 80 |
| | for computers | 2006-2009 | 20 |
| Tires | for cars | 2006-2009 | 260 |
| | for buses and lorries | 2006-2009, 2000-2009 | 210-450 |
| | for tractors | 2006-2009 | 160 |
| Waterproof, unlined, jackets impregnated with water repellent substance | | 2000-2009 | <25 |

LCD-monitors

Standalone LCD-monitors are included in a number of CN codes. In discussion with the Swedish Customs a selection of CN codes were made. For increased accuracy the selected CN codes were also divided into codes representing LCD monitors for televisions and LCD monitors to be used with computers. However, for both categories the selected CN codes may as well include other sorts of monitors for example plasma monitors for television.

The net inflow of LCD-monitors used for televisions had a big increase from 2005 to 2006. The annual net inflow since then has been around 18 thousand tonnes, or 850 thousand units per year. For LCD-monitors to be used with computers the net inflow is about 6 tonnes per year. Based on Nordiska Ministerrådet (2009) the lifetime of LCD-monitors for televisions was set to six years. This corresponds to an accumulated amount of 80 thousand tonnes, or over 4 million of LCD televisions. For LCD-monitors used together with computers the lifetime was estimated to four years in the same report. The accumulated amount of LCD-monitors for computers was calculated to more than 19 thousand tonnes or 3.6 million of monitors.

Tires for road vehicles

CN codes were chosen as representative for tires for the different categories, cars, buses, lorries and tractors (both new and retreaded tires). The CN codes that were chosen were the ones for cars (new and retreaded tires), buses and lorries (new and retreaded tires) and tractors for agriculture and forestry, and industrial use or constructional work. It is not possible to separate tires for buses from tires for lorries in the CN-codes.

The lifetime of tires for cars is estimated to 4 years. The annual net inflow of tires for cars decreased from 71 thousand tonnes, or 8.0 million tires, in 2006 to 48 thousand tonnes, or 5.0 million tires, in 2009. The accumulated amount was 260 thousand tonnes or 29 million tires in 2009. About 10 percent of tires for cars are retreaded, and the durability is the same for retreaded and new tires.

The lifetime of tires for buses and lorries is harder to estimate as the models vary to a large extent. There are models with four wheels and models with 24 wheels. However, based on the average mileage for buses and lorries respectively together with an estimation of the average mileage a tire for a lorry or bus is in use, the lifetime is estimated to four (for buses) to ten years (for lorries). The accumulated amount is given in an interval, since it is unknown how large the share of each type of tire that is included in the CN category. In 2009 the interval for the accumulated amount was 210 to 470 thousand tonnes, or 4.8 to 11 million tires. 50 percent of tires for lorries and buses are retreaded, and the durability is the same for both new and retreaded tires.

The lifetime of tires for tractors is hard to estimate as the area of use varies for different models. However, an estimation of the lifetime of tractors is four years. The annual net inflow for tires for tractors is decreasing from 40 thousand tonnes, or 480 thousand of tires, in 2006 to 16 thousand tonnes, or 390 million tires, in 2009. The accumulated amount in 2009 was 160 thousand tonnes or 2.2 million tires.

Waterproof, unlined jackets, impregnated with water repellent substance

CN codes were chosen as representative for waterproof, unlined jackets, impregnated with water repellent substance. However, in the CN structure the code for this type of fabric include other types of garments (e.g. trousers), garments made of other types of fabrics (such as plastic or rubber coated fabric) and garments that are lined as well as unlined. It is not possible to distinguish in the trade statistics the share of waterproof, unlined jackets, impregnated with water

repellent substance. Hence, the calculations on the annual net inflow and accumulated amount are overestimations.

The lifetime for waterproof, unlined jackets, impregnated with water repellent substance is estimated to 10 years. The annual net inflow of these kinds of jackets has varied between 1.4 thousand tonnes in 2000 to 3.2 thousand tonnes in 2009. The figures are only available in weight, not in number of garments. The accumulated amount in 2009 was less than 25 thousand tonnes of garments.

Bridge foundations made of concrete

There are no CN codes that cover bridge foundations made of concrete in contact with water. Within the statistical databases it is possible to identify the domestic production of a number of concrete products. However, the share of the product category that can be related to use in bridge foundations is not possible to distinguish in the statistics. Data on bridge foundations has also been searched for in the databases of the Swedish Transport Administration. This did not generate any result, but could possibly be one way forward if addressing a more detailed question.

It would likely also be possible to account for the amount of materials used in some typical examples of bridge foundations by contacting constructors and companies of bridges. However, the shortcoming of such a method is that it is not scalable into accounting the net inflow, or the stock of bridge foundation in Sweden. For identifying the net inflow and accumulated amount of bridge foundations made of concrete more investigations is needed.

2 Acknowledgements

Thanks to our survey respondents – individuals, companies, government authorities and other organizations – Statistics Sweden is able to provide reliable and timely statistics that meet society's need for information.

3 Background

This project has been performed on an assignment from the ChEmiTecs research program. ChEmiTecs aims to improve the understanding of emissions of organic substances from goods, and to evaluate the magnitude of the problem. The project started in the December 2010 and the report was delivered in February 2011. The project group consisted of Hanna Brolinson and Annica Carlsson at Environmental Accounts and Natural Resources at Statistics Sweden. In a former case study on PVC floors methods for calculations on net inflow and accumulated amounts have been evaluated (Sörme and Brolinson, 2010). The same method that was chosen for PVC-floors has also been used in this study.

3.1 Aim and system boundary

The aim of this project is to calculate the national net inflow and the accumulated amount of the following products or product groups by using national statistical data sources:

- Standalone LCD-monitors for computers and televisions
- Tires for cars, buses, lorries and tractors
- Waterproof, unlined, jackets impregnated with water repellent substance
- Bridge foundations made of concrete, in contact with water

For the calculations of the accumulated amount the system boundary is set to the expected lifetime of the products respectively.

The data presented in the report on net inflows and accumulated amounts should mainly be read as information on magnitudes.

4 Method

This chapter contains a general description of the method used for the calculation of the net inflow and accumulated amount for all case study products. For further details on the method for each specific product, please refer to the result section for the individual product or product group. The general method used is described in detail in Sörme and Brolinson (2010).

The first step for these calculations is to identify the CN (Combined Nomenclature) categories for the case study products. The Swedish Customs can be contacted if support is needed when choosing the codes. When the codes are chosen, data can be collected at Statistics Sweden, for accounting the net inflow.

The net inflow is calculated as:

$$\text{Net inflow} = \text{Imports} - \text{Exports} + \text{Domestic Production.}$$

In order to provide data on the net inflow Statistics Sweden uses statistics on foreign trade and industrial commodity production, available in the statistical database at Statistics Sweden¹.

¹ <http://www.ssd.scb.se/databaser/makro/start.asp>

The accumulated amount (also known as the stock) is estimated by summing the net inflow for each year during a product's lifetime. This method has been used in the scientific literature on substance and material flows, see e.g. Sörme (2003) and Sörme et al (2001). The lifetime of a product is defined as the time from production to the time when the product enters the waste management system.

The lifetime is estimated using different kind of references for example searching on the Internet, scientific articles and personal comments from people in branch organisations or professionals dealing with the product.

5 Quality

In the trade statistics measurement errors occur to some extent². One example of particular errors is when the respondent shall indicate the net weight or another quantity, where constructed figures or guesses sometimes can be the case. Companies' uncertainty when classifying goods into the right CN implies that a certain percent of the statistics is made up of misclassified goods. In addition there are some systematic and periodic errors in reporting due to misinterpretation and lack of resources of the respondent.

In the statistics on production of commodities and industrial services measurement errors can be companies reporting information that is not related to the current calendar year³. Many companies have difficulties in providing the amount of products (in tonnes, number of items, etc.) correctly. It can also be difficult for companies to split up the production on the level of detail required. This means that the quality of the data shown on the lowest level of detail (8 - and 9-digit code) in the CN structure has some shortcomings.

No estimations on weight of products have been done in the calculations. If data on quantities in tonnes or number of products have not been available, data has been excluded. This is only the case for a small number of CN codes covering the domestic products. However, the domestic production of those products that are included in this report is insignificant compared to the traded flows.

The Swedish customs indicates that it is likely that the classification on CN codes for a new type of product is more uncertain for the earlier years than for the more recent⁴.

The weight of the packaging material should not be included in the data. This is regulated in an EU regulation. However, according to the Swedish customs, it is believed that the weight is given including packaging (SCB, 2009:3).

As estimated lifetimes are used when calculating the stock of products, this must be considered when using the figure in further calculations. A change in the products estimated lifetime may have large impact on the magnitude of the stock.

² More about quality in trade statistics in http://www.scb.se/Statistik/HA/HA0201/_dokument/HA0201_BS_2009.pdf

³ More about quality in the statistics of production of commodities and industrial services in http://www.scb.se/Statistik/NV/NV0207/_dokument/NV0207_BS_2009.pdf

⁴ Personal contact, Mats Renenius, Swedish Customs

6 Results

6.1 Standalone LCD-monitors for computers and televisions

6.1.1 CN category

Following the method in Sörme and Brolinson (2010) representative codes were searched for on standalone LCD-monitors used together with computers or as television. Since electronic devices, such as LCD-monitors, is a type of product under rapid change the Swedish Customs was also contacted for further information on the classification normally used⁵. Five CN codes were chosen as representative for standalone LCD-monitors, Table 2 (detailed explanatory text in Table 3). As seen in Table 2, there have been changes in the CN codes in 2007. These types of changes are fairly common on this detailed level of CN. The changes in CN codes have been addressed in the calculations of the net inflow.

Table 2. Selection of CN codes representing standalone LCD-monitors for computers and televisions. (The detailed CN codes with 10 figures (in italics) in the CN 2007-2010 column are not searchable in the trade statistics but are used for customs purposes.)

| Type of product | CN 2000-2006 | CN 2007-2010 | Comments |
|---|--|---|--|
| Colour TV with built-in recording. | 8528 12 20 | 8528 72 20 | Both Plasma and LCD-monitors are addressed within this code. It is not possible to separate the share of individual products |
| Colour TV without built-in recording plasma/LCD | 8528 12 81 non widescreen (4/3 format) | 8528 72 91 non widescreen (4/3 format) | Both Plasma and LCD-monitors are addressed within this code. It is not possible to separate the share of individual products. |
| | 8528 12 89 widescreen (16/9 format) | 8528 72 99 widescreen (16/9 format) | |
| Computer monitors | 8471 60 90 according to the classification, however the CN codes 852821xx were likely used (see comments) | 8528 51 00 LCD computer monitor with VGA contact. 8528 59 90 <i>8528599030</i> (4/4 or 5/4 computer monitor with DVU input maximum of 19") or <i>8528 59 90 90</i> (16/10 computer monitor with DVI input maximum of 19") or <i>8528 59 90 90</i> (computer monitor >19") | Computer monitors were for 2000-2006 not classified according to CN 8528 ----(text), instead they are to be found in the code of 84716090. However, if the computer monitor had a video input they were classified according to CN 8528 21--(followed by more detailed CN codes dependent on their inherent properties). Since it is likely that most LCD computer monitors had a video input at that time the CN code 8528 21 were likely used (This especially since the DVI input on the computer monitor many times were considered as a video input and most LCD computer monitors had DVI input ⁶). In 2007 the international classification system were changed also to include computer monitors in CN 8528 ----. Televisions, Computer Monitors and other monitors were then separated |

⁵ Personal contact with Mats Rennerius, The Swedish Customs contact person for issues regarding electronics and mechanics.

⁶ Personal contact with Mats Rennerius, The Swedish Customs contact person for issues regarding electronics and mechanics.

Table 3. Detailed explanatory texts in Swedish and in English representing standalone LCD-monitors for Televisions and Computer monitors for CN codes 2000-2006, and 2007-2010.

| CN 2000-2006 | Explanation (EN) ¹ | Explanation (SWE) ² |
|---------------------|--|---|
| 8471 60 90 | Input or output units, whether or not containing storage units in the same housing, other...(Input or output units for digital automatic data-processing machines, whether or not containing storage units in the same housing (excl. for use in civil aircraft of subheading 8471 60 10, printers and keyboards)) | Inorgan och utorgan till maskiner för automatisk databehandling, även innehållande minnen inom samma hölje (exkl. för civila luftfartyg enligt nr 8471 60 10 samt skrivare och tangentbord) |
| 8528 12 20 | Television receivers, colour, incorporating a video recorder or reproducer | Televisionsmottagare med inbyggd utrustning för inspelning eller återgivning av videosignaler, för färgtelevision |
| 8528 12 81 | Television receivers, colour, with screen, with a screen width/height ratio < 1,5 (excl. with integral tube or incorporating video recording or reproducing apparatus and video monitors) | Televisionsmottagare utan inbyggt bildrör, för färgtelevision, med en bildskärm där förhållandet mellan bredd och höjd är < 1,5 (exkl. med inbyggd utrustning för inspelning eller återgivning av videosignaler samt videomonitorer) |
| 8528 12 89 | Other...Television receivers, colour, with screen, with a screen width/height ratio >= 1,5 (excl. with integral tube or incorporating video recording or reproducing apparatus and video monitors) | Televisionsmottagare utan inbyggt bildrör, för färgtelevision, med en bildskärm där förhållandet mellan bredd och höjd är >= 1,5 (exkl. med inbyggd utrustning för inspelning eller återgivning av videosignaler samt videomonitorer) |
| 8528 21 90 | Video monitors, colour (excl. with cathode ray tube) | Videomonitorer för färgmottagning (exkl. med katodstrålerör) |
| CN 2007-2010 | | |
| 8528 72 20 | Reception apparatus for television, colour, incorporating a video recorder or reproducer | Televisionsmottagare med inbyggd utrustning för inspelning eller återgivning av videosignaler, för färgtelevision. |
| 8528 72 91 | Reception apparatus for television, colour, with a screen width/height ratio < 1,5 (excl. with integral tube or incorporating video recording or reproducing apparatus and monitors, and television projection equipment) | Televisionsmottagare utan inbyggt bildrör, för färgtelevision, med en bildskärm där förhållandet mellan bredd och höjd är < 1,5 (exkl. med inbyggd utrustning för inspelning eller återgivning av videosignaler samt videomonitorer) |
| 8528 72 99 | Reception apparatus for television, colour, with a screen width/height ratio >= 1,5 (excl. with integral tube or incorporating video recording or reproducing apparatus and monitors, and television projection equipment) | Televisionsmottagare utan inbyggt bildrör, för färgtelevision, med en bildskärm där förhållandet mellan bredd och höjd är >= 1,5 (exkl. med inbyggd utrustning för inspelning eller återgivning av videosignaler samt videomonitorer) |
| 8528 51 00 | Monitors of a kind solely or principally used in an automatic data-processing machine of heading 8471 (excl. with cathode ray tube) | Monitorer av sådana slag som uteslutande eller huvudsakligen används i ett system för automatisk databehandling enligt nr 8471 (exkl. katodstrålerörsmotorer) |
| 8528 59 90 | Monitors, colour, not incorporating television reception apparatus (excl. with cathode ray tube and those of a kind solely or principally used in an automatic data-processing machine of heading 8471) | Monitorer för färgmottagning, utan inbyggd televisionsmottagare (exkl. med katodstrålerör samt av sådana slag som uteslutande eller huvudsakligen används i ett system för automatisk databehandling enligt nr 8471) |

¹ Text from RAMON, Eurostat's metadata server

http://ec.europa.eu/eurostat/ramon/index.cfm?TargetUrl=DSP_PUB_WELC

² Text in Swedish is downloaded from "Självförklarande texter" <http://www.intrastat.scb.se/knskrivut.asp>

6.1.2 Lifetime

For information on lifetime of LCD-monitors El-kretsen⁷ (the business sectors service company for collection and recycling of electrical and electronic products) and Elektronikåtervinningsföreningen⁸ (The Swedish Association of Recycling Electronic Products) were contacted. Both organizations inform that they have made investigations on the age of those products that are collected within the framework of Producers Responsibility. For example, according to the WEEE directive (2002/96/EG) (WEEE - Waste from Electrical and Electronic Equipment) all products put on the market after the 12th of August 2005 should be marked with a crossed waste container, Figure 1. This label has then been used by Elektronikåtervinningsföreningen when sorting products by age. However, none of the organizations wanted to express an average lifetime on a specific category of monitors. A recycling plant for LCD-monitors, CIT Recycling Development AB in Borlänge⁹, was also contacted about the average age of those LCD-monitors that is treated in their plant. According to them most of the LCD-monitors are between 3 and 5 years old.



Figure 1. Symbol on Electric and Electronic Equipment put on the market after August 2005.

The organization Elektronikbranschen, who organize a large share of the sales companies of home electronics in Sweden, express that the functional lifetime of a LCD-TV is long¹⁰. However, there might be other reasons than that the product doesn't work in an exchange of a TV. The expected lifetime was by the representatives of Elektronikbranschen set to 10 years, as a rough estimate. Compared to other estimations on average lifetime of these kinds of products, 10 years seems to be in the upper edge.

The lack of data on lifetime on electric and electronic equipment is also discussed in a recent report from Nordiska Ministerrådet (2009) on methods to measure the amount of WEEE generated. Lifetime estimates on individual types of products were identified based on a questionnaire. The respondents were asked when 25 percent, 50 percent, 75 percent and 90 percent of the marked products were supposed to end up as waste. Consequently, the time when 50 percent of the products will end up as waste express the average lifetime of a given product. For "Computer monitors, flat screen (LCD/TFT)" 50 percent of the products were estimated to have become waste in 4 years with an interval of 3 to 7 years (Nordiska Ministerrådet, 2009). For "Television, flat screen (LCD/Plasma)" the average lifetime was estimated to 6 years with an interval of 3 to 9 years (Nordiska Ministerrådet, 2009).

6.1.3 Net inflow and accumulated amount

For almost all CN codes in this study identified as representing standalone LCD-monitors there is no domestic production in Sweden. The net inflow is therefore accounted for as import minus export for each CN code. There is however, one exception in the CN code 8528 51 00 (Monitors of a kind solely or principally used in an automatic data-processing machine of heading 8471 (excl. with cathode ray tube)). For this code domestic production (only in numbers) is reported for 2007 and 2008. Hence, it would be possible to account the inflow based both on trade

⁷ Personal contact with Martin Seger, <http://www.el-kretsen.se/>

⁸ Personal contact with Josef Tapper, <http://www.elektronikaterving.com/kontakt.asp>

⁹ Personal contact with Clas Røjterwall, CIT Recycling Development, For more information on CIT <http://www.chalmers.se/cit/recycling-en/services>

¹⁰ Personal contact with Tobias Gullberg, Elektronikbranschen, <http://www.elektronikbranschen.se/>

statistics and on domestic production. After contact with the department responsible for statistics on production of commodities and industrial services the domestic production figures are after all excluded, since they are likely a result of estimation¹¹. Therefore, all data for the calculations of the net inflow is taken from trade statistics (www.ssd.scb.se).

The total net inflow for CN codes including standalone LCD-monitors used as Televisions or computer monitors during 2004-2009 is showed in Table 4. As shown in the selection of CN codes, they might include other types of monitors, for example Plasma monitors (Table 2 and Table 3). It is not possible within the trade statistics to distinguish the share of the code that includes explicitly LCD-monitors.

Table 4. Total net inflow of CN codes including LCD-monitors for computers and televisions, 2004-2009, thousand tonnes and millions of products. For selection of CN codes see Table 2 and Table 3. Data from Statistics Sweden, www.ssd.scb.se. Rounded numbers.

| Year | Net inflow, 1000 tonnes | Net inflow, number of products, millions |
|------|-------------------------|--|
| 2004 | 14 | 2.5 |
| 2005 | 18 | 3.5 |
| 2006 | 16 | 0.85 ¹ |
| 2007 | 22 | 1.8 |
| 2008 | 24 | 2.5 |
| 2009 | 24 | 2.1 |

¹This figure is likely a result of errors in the statistics. We therefore recommend excluding it in further calculations.

As indicated above the expected lifetime of LCD-monitors might differ depending on if it is an LCD monitor in a television or an LCD monitor used together with a computer. For calculation on the accumulated amounts of LCD-monitors in Sweden we decided to account the stock based on the rather short average lifetimes as expressed in the report of Nordiska Ministerrådet (2009), i.e. the number of years when 50 percent of the product on the market was expected to have ended up as waste. The net inflow and accumulated amount LCD-monitors divided on LCD-monitors used for television or LCD-monitors used with computers is showed in Table 5 and Table 6 as well as Figure 212 and Figure 3.

As seen in Table 5 the net inflow for LCD-monitors for televisions almost doubled between years 2004 to 2005 and between the years 2005 to 2006. After 2006 the annual net inflow stabilized on a more constant level. For LCD-monitors used with computers the net inflow has been on the same level of 6 to 7 tonnes for the last years.

Table 5. Net inflow and accumulated amount of LCD-monitors for televisions in Sweden, 2004-2009, tonnes and number of items, based on trade statistics, rounded numbers.

| Year | Net inflow, 1000 tonnes | Net inflow, 1000 items |
|---------------------------|-------------------------|------------------------|
| 2004 | 3.5 | 260 |
| 2005 | 8.9 | 480 |
| 2006 | 16 | 850 |
| 2007 | 17 | 840 |
| 2008 | 17 | 830 |
| 2009 | 19 | 1 100 |
| Accumulated amount | 80 | 4 400 |

¹¹ Personal contact Caisa Bergman, Statistics Sweden

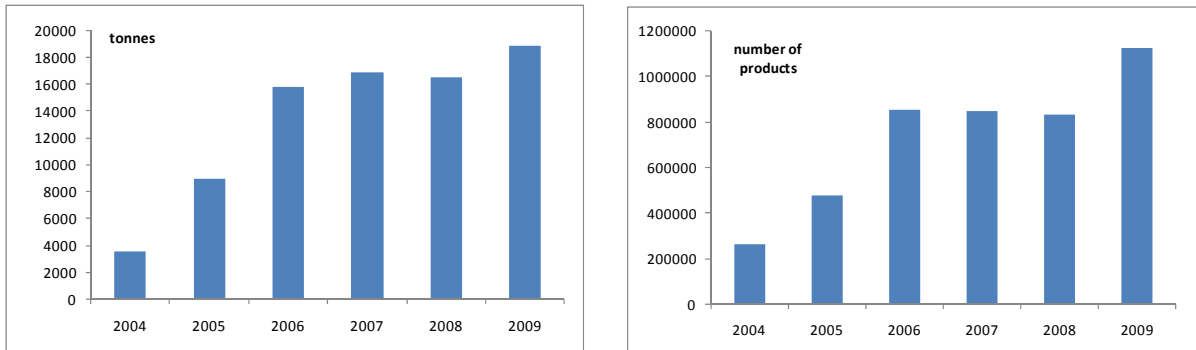


Figure 21. Net inflow of CN codes covering LCD-monitors for televisions Sweden, 2004-2009, tonnes and number of products, based on trade statistics.

Table 6. Net inflow and accumulated amount of LCD-monitors for computers Sweden, 2006-2009, tonnes and number of items, based on trade statistics, rounded numbers. 2006 is excluded due to likely errors in the statistics (Table 4).

| Year | Net inflow, 1000 tonnes | Net inflow, 1000 of items |
|---------------------------|-------------------------|---------------------------|
| 2006 | No data available | Excluded |
| 2007 | 5.6 | 1000 |
| 2008 | 7.3 | 1600 |
| 2009 | 6.1 | 960 |
| Accumulated amount | >19 | >3 600 |

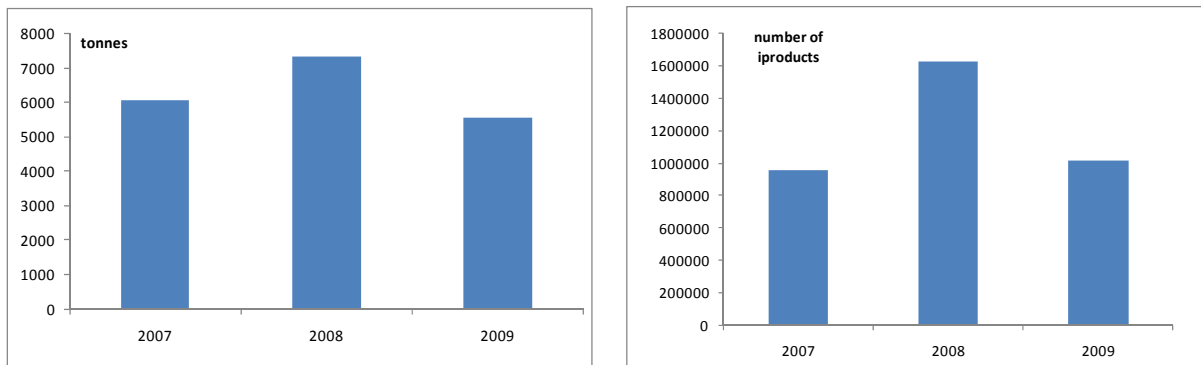


Figure 3. Net inflow of CN codes covering LCD-monitors for computers 2007-2009, in tonnes (to the left) and number of items (to the right), based on trade statistics.

As mentioned above it is not possible to separate the LCD-monitors from other kinds of monitors in the trade statistics. One approach for estimation of the share that is solely LCD-monitors is to compare with sales statistics. Data from Elektronikbranschen on the sales of flat screen LCD and Plasma Televisions in Sweden 2001-2009 are shown in Table 7. For LCD-monitors used with computers it has not been possible to find any compiled sales statistics. The sales data on LCD-monitors for Televisions indicate that the figures of trade statistics is an over estimation if only having an interest in LCD-monitors. As seen in Table 7 the sales of LCD-monitors for televisions have increased after 2005. This pattern was also visible in the trade statistics, see Table 5.

Table 7. Sale statistics for flat screens (LCD and plasma Televisions), number of items in 1000 of products, Sweden, 2001-2009. Data from Elektronikbranschen <http://www.elektronikbranschen.se/>

| (1000 of products) | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 |
|------------------------|------|------|------|------|------|------|------|------|------|
| LCD | - | - | 25 | 77 | 158 | 425 | 709 | 715 | 650 |
| Plasma | 1 | 3 | 9 | 35 | 74 | 105 | 126 | 140 | 145 |
| Total Flat screen | 1 | 3 | 34 | 112 | 232 | 530 | 835 | 855 | 795 |
| LCD share of total (%) | - | - | 74% | 69% | 68% | 82% | 85% | 84% | 82% |

6.1.4 Company information

Information on two companies that import LCD-monitors to Sweden, are listed in Table 8.

Table 8. Business information on two importers of LCD-monitors. Data from Business Register at Statistics Sweden.

| Name of establishment | Organization number | Number of establishments | Address of head office | Number of employees | Turnover (thousand SEK) |
|------------------------|---------------------|--------------------------|----------------------------------|---------------------|-------------------------|
| Elgiganten Aktiefbolag | 165564714474 | 49 | Box 1264, 164 29 Kista | 1494 | 5 000 000-9 999 999 |
| Expert | 165560966813 | 3 | Kronoborgsgränd 23, 164 46 Kista | 105 | 1 000 000-4 999 999 |

6.1.5 Quality

As seen above standalone LCD-monitors are registered together with other type of monitors in the CN. The share of the CN code that solely refers to standalone LCD-monitors is not distinguishable in the trade statistics. As discussed above the figures based on trade statistics is likely an overestimation.

The average lifetime of a product that is used in the calculations on the accumulated amount gives no information about variations. The lifetime of products may vary due to issues like, for example, the preferences of the user. Errors in lifetime of the products may generate errors in the estimated amount in stock.

6.2 Tires for cars, buses, lorries and tractors

6.2.1 CN category

Representative codes were searched for, on different kind of tires, in the Combined Nomenclature, CN. There are CN codes covering tires used for cars, buses and lorries and vehicles for agriculture or forestry, constructional work and industrial handling. Tires for buses and lorries cannot be separated in the code structure. Vehicles for agriculture and forestry are not intended for road traffic, as was specified in the assignment. Especially forestry vehicles are seldom driven on roads. However, many tractors are probably used both in agriculture and for road traffic (for example a tractor used in agriculture and for snow removal or when driving on roads for transportation between fields).

The CN codes, with explanatory texts in English and in Swedish, used for tires, are listed in Table 9.

Table 9. CN codes for tires used for different kind of vehicles.

| Type of vehicle | CN code (before 2002) | CN code (after 2002) | Explanation (EN) ¹ | Explanation (SWE) ² |
|-------------------|-----------------------|----------------------|---|---|
| Cars | 4011 10 00 | 4011 10 00 | New pneumatic tyres, of rubber of a kind used on motor cars (including station wagons and racing cars) | Däck av gummi, nya, av sådana slag som används på personbilar, inkl. stationsvagnar och tävlingsbilar |
| | 4012 10 30 | 4012 11 00 | Retreaded or used pneumatic tyres of rubber; solid or cushion tyres, tyre treads and tyre flaps, of rubber of a kind used on motor cars (including station wagons and racing cars) | Däck av gummi, regummerade, av sådana slag som används på personbilar, inkl. stationsvagnar och tävlingsbilar |
| Lorries and buses | 4011 20 10 | 4011 20 10 | New pneumatic tyres, of rubber of a kind used on buses or lorries with a load index not exceeding 121 | Däck av gummi, nya, av sådana slag som används på bussar eller lastbilar, med ett belastningsindex av ≤ 121 |
| | 4011 20 90 | 4011 20 90 | New pneumatic tyres, of rubber of a kind used on buses or lorries with a load index exceeding 121 | Däck av gummi, nya, av sådana slag som används på bussar eller lastbilar, med ett belastningsindex av > 121 |
| | 4012 10 50 | 4012 12 00 | Retreaded or used pneumatic tyres of rubber; solid or cushion tyres, tyre treads and tyre flaps, of rubber of a kind used on buses or lorries | Däck av gummi, regummerade, av sådana slag som används på bussar eller lastbilar |
| Tractors | 4011 61 00 | 4011 61 00 | New pneumatic tyres, of rubber Other, having a 'herring-bone' or similar tread of a kind used on agricultural or forestry vehicles and machines | Däck av gummi, nya, med slitbana med fiskbensmönster eller liknande mönster, av sådana slag som används på fordon för lantbruk eller skogsbruk |
| | 4011 62 00 | 4011 62 00 | New pneumatic tyres, of rubber, Other, having a 'herring-bone' or similar tread of a kind used on construction or industrial handling vehicles and machines and having a rim size not exceeding 61 cm | Andra slag, med slitbana med fiskbensmönster eller liknande mönster. Av sådana slag som används på fordon och maskiner, för byggändamål eller för industriell hantering, för en fälgdiameter av högst 61 cm |
| | 4011 63 00 | 4011 63 00 | New pneumatic tyres, of rubber, Other, having a 'herring-bone' or similar tread of a kind used on | Andra slag, med slitbana med fiskbensmönster eller liknande mönster. Av sådana slag som används på fordon och |

| | | | |
|------------|------------|---|---|
| | | construction or industrial handling vehicles and machines and having a rim size exceeding 61 cm | maskiner, för byggändamål eller för industriell hantering, för en fälgdiameter av mer än 61 cm |
| 4011 69 00 | 4011 69 00 | New pneumatic tyres, of rubber, Other, having a 'herring-bone' or similar tread Other | Däck av gummi, nya, av Andra slag, med slitbana med fiskbensmönster eller liknande mönster. Andra |
| 4011 92 00 | 4011 92 00 | New pneumatic tyres, of rubber, Other | Däck av gummi, nya, av sådana slag som används på sådana slag som används på fordon för lantbruk eller skogsbruk |
| 4011 93 00 | 4011 93 00 | New pneumatic tyres, of rubber, of a kind used on construction or industrial handling vehicles and machines and having a rim size not exceeding 61 cm | Däck av gummi, nya, av sådana slag som används på fordon och maskiner, för byggändamål eller för industriell hantering, för en fälgdiameter av högst 61 cm |
| 4011 94 00 | 4011 94 00 | New pneumatic tyres, of rubber, of a kind used on construction or industrial handling vehicles and machines and having a rim size exceeding 61 cm | Däck av gummi, nya, av sådana slag som används på fordon och maskiner, för byggändamål eller för industriell hantering, för en fälgdiameter av mer än 61 cm |
| 4011 99 00 | 4011 99 00 | Other | Andra |

¹ Text from RAMON, Eurostat's metadata server

http://ec.europa.eu/eurostat/ramon/index.cfm?TargetUrl=DSP_PUB_WELC

² Text in Swedish is downloaded from "Självförklarande texter" <http://www.intrastat.scb.se/knskrivut.asp>

6.2.2 Lifetime

The lifetime of tires is more due to how many kilometres they have been in use than how many years they have been used. Except from kilometres, there are also other factors that influence the lifetime such as driving style, speed and season.

6.2.2.1 Lifetime of tires used for cars

To estimate the lifetime of tires used on cars, buses and lorries we contacted STRO (Scandinavian Tire and Rim Organization)¹².

According to STRO the lifetime of tires used for a car is in average 4 years. This figure is based on that a tire for a car is durable for maximum 40 000 km and the yearly average mileage for cars is approximately 10 000 km. The lifetime is then hence calculated as $40\,000/10\,000=4$

This lifetime is used for both new and retreaded tires. 10 percent of the tires for cars are retreaded.

¹² Personal contact at STRO is Torsten Johansson

6.2.2.2 Lifetime of tires used for buses and lorries

Regarding lorries and buses the lifetime of the tires is more complicated to estimate than in the case for cars, as the lifetime of tires differs essentially between different types of vehicles and where the tires have been mounted on the vehicle. For example there are models with many tires, which prolongs the lifetime and models with fewer tires that shortens the lifetime. The area of use is also of importance, for example on which kind of roads the vehicle is driven. 50 percent of the tires for lorries are retreaded. As the number of tires differs essentially between different lorries and buses, the estimation of expected lifetime is unsure. An estimation has been done using the average mileage for lorries and buses in Sweden. According to the Scandinavian Tire and Rim Organization (STRO) tires for lorries and buses are expected to be in use in average for 200 000 to 250 000 km. According to Fordon 2009 (SIKA, 2010) the lorries in Sweden drove in average 22 120 km¹³ in 2009. However, the average mileage for lorries that weigh less than 3 500 tonnes is 17 060 km, while the average mileage for lorries that weigh more than 3 500 tonnes is 48 960, which shows the difference between models. According to the same report, the buses in Sweden drove in average 59 410 km¹⁴ in 2009. It is not possible to know share of tires used for lorries and share of tires used for buses within this CN category. However, an interval can be calculated by using the information about the tires' durability together with the information on average mileage.

If the tire is used in 200 000 km, the number of years it would be used for lorries is calculated as follows:

$$200\ 000/22\ 120=9,0\ \text{years}$$

If the tire is used in 250 000 km, the number of years it would be used for lorries is calculated as follows:

$$250\ 000/22\ 120=11,3\ \text{years}$$

This gives an average lifetime in years as follows:

$$(9,0+11,3)/2=10$$

If the same calculations is performed for buses that have a longer average mileage, this gives:

$$200\ 000/59\ 410=3,4\ \text{years}$$

If the tire is used in 250 000 km, the number of years it would be used for buses is calculated as follows:

$$250\ 000/59\ 410=4,2\ \text{years}$$

This gives an average lifetime in years as follows:

$$(3,4+4,2)/2=3,8$$

As the CN category contains tires both for lorries and buses, and the lifetime differs essentially between the types, the accumulated amount will in this study be given in an interval, 4 to 10 years. A possible way to get a more accurate estimation might be to study the number of vehicles in traffic of the different types.

6.2.2.3 Lifetime of tires used for tractors

To estimate the lifetime of tires used for tractors we contacted Trelleborg Wheel¹⁵.

¹³ Table LB11

¹⁴ Table BU8

¹⁵ Personal contact at Trelleborg Wheel is Bo Lenander

As in the case for lorries and buses the lifetime of tires for tractors varies as the area of use for different kind of tractors differs a lot. For forestry tractors the use is relatively homogeny, and an expected lifetime is three to four years. For tractors used in agriculture, the trend is that tractors are used for transportation more nowadays than before. This is due to tax regulations, it is more favourably to use a tractor than a truck for transportation. This means that the tractor can be used on roads and be driven for many kilometres each day, or be used for harvesting on fields only. According to Trelleborg Wheels the expected lifetime can be anywhere between one year and twelve years (which is maximum as the rubber starts to dry out and crack at that time). However, an average lifetime is expected to be three to five years. Four year has been used as an estimate of the lifetime for tires for tractors in the calculations of the accumulated amount in this study.

6.2.3 Net inflow and accumulated amount

The net inflow for tires used for cars for the years 2006 to 2009 is shown in Table 10. The net inflow is calculated using data on import and export (given in tonnes and number of tires in the trade statistics) plus domestic production. The net inflow is decreasing during the period from 71 thousands of tonnes, or 8.0 millions of tires, to 48 thousands of tonnes or 5.0 millions of tires. The domestic production is only available for a few years, and data is only given in thousands of tires, not in tonnes. For the number of tires, the net inflow is calculated using data on import and export and domestic production when available. For the weight of tires the net inflow is calculated using data on import and export only. However, if wished, one could assume an average weight of each produced tire and add this weight to the net inflow in tonnes, but this has not been done in this study. The accumulated amount of tires used for cars in the end of year 2009 is calculated to 260 thousand tonnes or 29 millions of tires.

Table 10. Net inflow for tires used for cars in tonnes and numbers year 2006-2009, rounded figures. Net inflow in tonnes based on trade statistics and net inflow in number of tires based on trade statistics and domestic production.

| Year | Net inflow (1000 tonnes) | Net inflow (millions of tires) |
|---------------------------|--------------------------|--------------------------------|
| 2006 | 71 | 8.0 |
| 2007 | 75 | 9.5 |
| 2008 | 65 | 6.1 |
| 2009 | 48 | 5.0 |
| Accumulated amount | 260 | 29 |

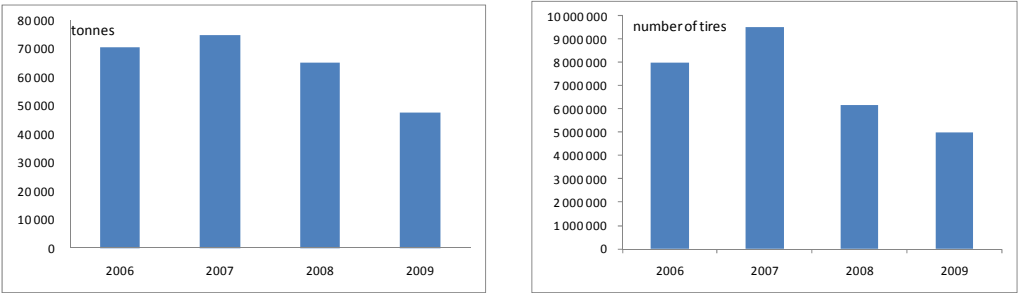


Figure 4. Net inflow of CN codes covering tires for cars, Sweden 2006-2009, in tonnes to the left based on trade statistics and in number of tires to the right, based on trade statistics and industrial commodity production.

The net inflow for tires used for lorries and buses for the years 2000 to 2009 is shown in Table 11. The net inflow has been calculated using data on import, export and domestic production for the chosen CN-codes. During the time 2000-2009 there is no available data on domestic production for new rubber tires (due to secrecy or to small amounts). There is data on domestic production of retreaded tires for the years 2000-2003. This data is only given in numbers and not

in tonnes. The data on number of tires have not been transformed to weight in the calculations of net inflow.

The lifetime of these tires depends on if they are used for buses or lorries, among other factors. For buses the lifetime is approximately 4 years and the accumulated amount is the sum of the net inflow for the years 2006-2009. For lorries, the average lifetime is 10 years and the accumulated amount is the sum of the net inflow for the years 2000-2009. Therefore, the accumulated amount of all tires included in the chosen CN codes will be given in this interval.

The interval for the accumulated amount in the end of 2009 is 210- 450 thousands of tonnes or 4.5-11 millions of tires.

Table 11. Net inflow for tires used for lorries and buses in tonnes and numbers year 2000-2009, based on trade statistics and industrial commodity production, rounded figures

| Year | Net inflow (1000 tonnes) | Net inflow (thousands of tires) |
|---------------------------------------|-----------------------------|------------------------------------|
| 2000 | 35 | 840 |
| 2001 | 38 | 990 |
| 2002 | 38 | 1 000 |
| 2003 | 39 | 1 000 |
| 2004 | 43 | 900 |
| 2005 | 51 | 1 100 |
| 2006 | 54 | 1300 |
| 2007 | 57 | 1300 |
| 2008 | 60 | 1 308 |
| 2009 | 37 | 850 |
| Accumulated amount (2006-2009) | 210 | 4 800 |
| Accumulated amount (2000-2009) | 450 | 11 000 |

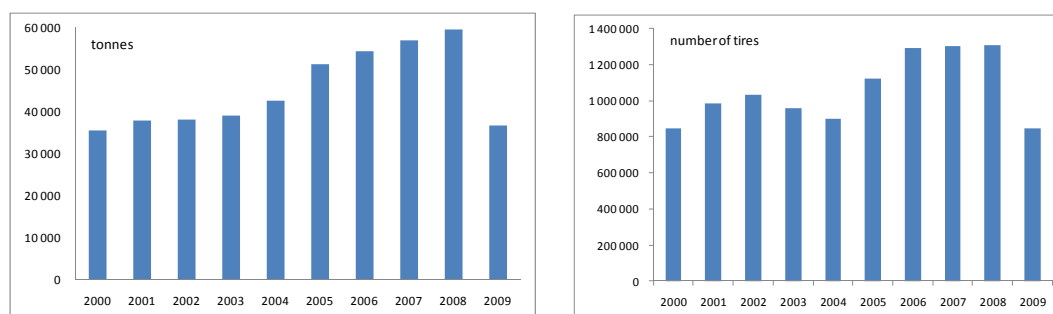


Figure 5. Net inflow of CN codes covering tires for buses and lorries, Sweden 2000-2009, in tonnes to the left based on trade statistics and in number of tires to the right, based on trade statistics and industrial commodity production.

The net inflow for tires used for tractors for the years 2006 to 2009 is shown in Table 12. The annual inflow was 40 thousand tonnes in 2006, increased to 61 thousand of tonnes in 2008 and then decreased to 16 thousand tonnes. There is no data on domestic production on tires for tractors, either the value is “0” or “..” (the latter means ‘not available’, which can be due to secrecy of data or other reasons) in the statistics from industrial production of commodity and services for the chosen CN codes during the studied period of time. Hence, the net inflow for these kinds of tires, is calculated using data on import and export only.

The accumulated amount at the end of 2009 of tires used for tractors is 160 thousand tonnes or 2.2 million of tires.

Table 12. Net inflow for tires used for tractors in tonnes and numbers year 2006-2009, based on trade statistics, rounded figures

| Year | Net inflow (1000 tonnes) | Net inflow (thousand of tires) |
|---------------------------|--------------------------|--------------------------------|
| 2006 | 40 | 480 |
| 2007 | 47 | 690 |
| 2008 | 61 | 680 |
| 2009 | 16 | 390 |
| Accumulated amount | 160 | 2 200 |

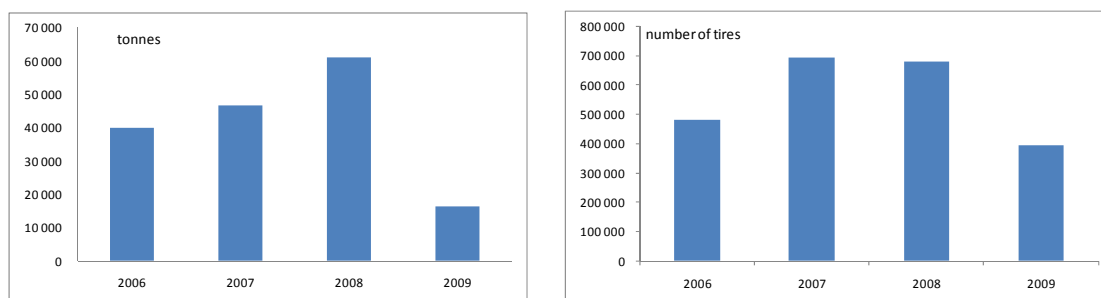


Figure 6. Net inflow of CN codes covering tires for tractors for agriculture and forestry, Sweden 2006-2009, in tonnes to the left and in thousand of tires to the right, based on trade statistics.

6.2.4 Company information

As there are no data on domestic producers in recent data we have chosen to list two importers of tires.

Table 13. Business information on two importers of tires.

| Name of establishment | Organization number | Number of establishments | Address of head office | Number of employees | Turnover (thousand SEK) |
|-----------------------|---------------------|--------------------------|----------------------------|---------------------|-------------------------|
| Trelleborg Aktiebolag | 165560063421 | 2 | Box 153, 231 22 Trelleborg | 80 | 100 000-499 999 |
| Däckia Aktiebolag | 165565276952 | 61 | Box 2980, 187 29 Täby | 321 | 500 000-999 999 |

6.3 Waterproof, unlined jackets impregnated with water repellent substance

6.3.1 CN category

Representative codes were searched for, on different kind of garments, in the Combined Nomenclature, CN. There are several codes that contain different kind of jackets and coats, but there are only two codes that contain information on impregnation. To be sure that the right codes were chosen, we contacted the Swedish Customs. The Swedish Customs confirmed that the codes, listed in Table 14, should be used when registering trade with waterproof, impregnated jackets. However, the codes include all types of garments, not only jackets, and the garments can be lined. The codes also include garments made from plastic or rubber coated fabrics. In the trade statistics it is not possible to distinguish data on unlined, jackets from other garments, or garments made from plastic or rubber coated fabrics from impregnated fabrics.

Table 14. CN codes used for waterproof, unlined garments impregnated with water repellent substance.

| CN code | Explanation (EN) ¹ | Explanation (SWE) ² |
|------------|--|---|
| 6210 40 00 | Garments, made up of textile fabrics impregnated, coated, covered or laminated with plastics Other men's or boys' garments | Kläder av textilvaror, för män eller pojkar, impregnerade, överdragna eller belagda med gummi eller plast eller andra material |
| 6210 50 00 | Garments, made up of textile fabrics impregnated, coated, covered or laminated with plastics Other women's or girls' garments | Kläder av textilvaror, för kvinnor eller flickor, impregnerade, överdragna eller belagda med gummi eller plast eller andra material |

¹ Text from RAMON, Eurostat's metadata server

http://ec.europa.eu/eurostat/ramon/index.cfm?TargetUrl=DSP_PUB_WELC

² Text in Swedish is downloaded from "Självförklarande texter" <http://www.intrastat.scb.se/knskrivut.asp>

6.3.2 Lifetime

The lifetime of textiles can vary, due to the user and type of garment. Other factors that influence the lifetime are for example if the garment is a fashion or functional type of garment, if the user has many or few garments, washing habits, the quality of the material in the garment etc. The garment can be used by different users during its lifetime. As the type of jacket that is in focus in this study, is a sports jacket, more than a fashion jacket, the estimated lifetime is expected to be longer than for fashion garments in general.

To estimate the lifetime for a waterproof, unlined jacket, impregnated with water repellent substance we contacted Naturkompaniet¹⁶, a Swedish retailer of outdoor equipment. They estimate the average lifetime of an impregnated jacket to 10 years. However, they believe that few jackets are actually thrown away due to that they are worn out. It is more likely that the jackets are put away in the wardrobe due to that the owner wants a new one with new style and functionality.

6.3.3 Net inflow and accumulated amount

Using the CN codes above and an expected lifetime of ten years the net inflow and accumulated amount was calculated using trade statistics. The data on net inflow is based on data from import and export. Data is only available in tonnes for imports and exports on these CN codes. Data on the domestic production is only available for a few years during this period of time. The amount is in these years only given in number of garments and in SEK, and not in tonnes. The amount is also so low that it would probably not affect the result even if added.

The net inflow, for the CN-category that contains waterproof, unlined garments impregnated with water repellent substance has increased from 2.4 to 3.2 thousand tonnes during the period. The accumulated amount of garments is almost 25 thousand tons. This is an overestimation, as the codes include other garments than jackets and garments made from other types of fabrics, lined and unlined, as well.

It is not possible within the trade statistics to distinguish the share of the code that is explicitly unlined jackets made from impregnated fabric, from other types of garments or fabrics included in the codes. One approach for estimation of the share that is solely jackets is to compare with sales on the different products within the CN category. However, in this study we have not gone any further with these calculations.

¹⁶ Our contact person at Naturkompaniet is Lars-Ola Brolinson

Table 15. Net inflow of waterproof, unlined garments impregnated with water repellent substance, 2000-2009, in thousand tones, based on trade statistics (rounded figures).

| Year | Net inflow (1000 tonnes) |
|---------------------------|--------------------------|
| 2000 | 2.4 |
| 2001 | 2.5 |
| 2002 | 2.1 |
| 2003 | 2.4 |
| 2004 | 1.6 |
| 2005 | 2.2 |
| 2006 | 2.9 |
| 2007 | 3.0 |
| 2008 | 3.3 |
| 2009 | 3.2 |
| Accumulated amount | 25 |

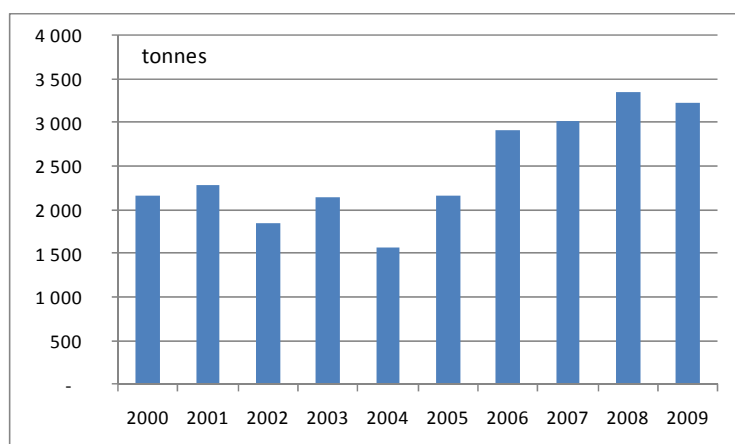


Figure 2. Net inflow of CN codes covering unlined garments impregnated with water repellent substance, Sweden 2000-2009, in tonnes, based on trade statistics.

6.3.4 Company information

According to statistics on Production of commodities and industrial services there are few companies that produce garments within Sweden that are waterproof, unlined and impregnated with water repellent substance. Instead information on two establishments that import this kind of garments to Sweden, are listed in Table 16.

Table 16. Information on companies, from Business Register on Statistics Sweden, 2009.

| Name of establishment | Organization number | Number of establishments | Address of head office | Number of employees | Turnover (thousands SEK) |
|---------------------------|---------------------|--------------------------|-------------------------------|---------------------|--------------------------|
| Naturkompaniet AB | 165564337037 | 22 | Box 177, 891 24 Örnköldsvik | 96 | 100 000-499 999 |
| Stadium Sweden Aktiebolag | 165562364397 | 87 | Stadium AB, 601 60 Norrköping | 1841 | 1 000 000-4 999 999 |

6.4 Bridge foundations made of concrete

6.4.1 CN category

There are no unique CN code(s) that represent the product category “Bridge foundations made of concrete”. If searching on only “concrete” in the CN classification, in all 97 different CN codes are listed. Of these, the largest share are products of different types of sand and gravel to be mixed in the concrete, reinforcing bar to be used in the concrete, machineries for handling concrete, and so on. Some codes that possibly could be of interest are:

- The CN code 3824 40 00 include “*Prepared additives for cements, mortars or concretes*”, however no information on what type of additives.
- Concrete products classified in the CN code of 3824 50 10 “*Non-refractory mortars and concretes*” may be used in construction of bridge foundations but the share of the product category that can be associated with such applications is not possible to identify in the statistics.
- CN 6810 91 90 “*Structural components for building or civil engineering, prefabricated, of cement, concrete or artificial stone, whether or not reinforced (excl. floor components and ceiling components)*” and CN 6810 99 00 “*Articles of cement, concrete or artificial stone, whether or not reinforced (excl. prefabricated structural components for building or civil engineering, tiles, paving, bricks and the like)*” could possibly of interest. However, the statistics doesn’t include further information on the share of the code used in different applications.

Since the information on bridge foundations of concrete in contact with water could not be compiled within the statistical system other sources of information were searched for:

Contact with The Swedish Transport Administration:

The Swedish Transport Administration runs a database on management and maintenance of bridges, in Swedish “Bro och Tunnel Management – BaTMan”. There are about 15 500 bridges of various construction materials in Sweden in the public road network. The bridges are inspected every six year and information is then compiled in BaTMan. We therefore addressed the following questions to the BaTMan database¹⁷.

- The number of bridges made of concrete in Sweden, especially bridges in contact with water.
- Technical specification on those bridges, such as length, width and age.
- Is it possible to account the number of bridge pillar and/or bridge foundations in total, or per bridge?

However, despite the promising concept of a database on bridges this approach did not turn out successful at this stage, see further information in section 6.4.3.

Contact with The Swedish Cement and Concrete Research Institute (CBI):

The Swedish Cement and Concrete Research Institute (CBI www.cbi.se) is a subsidiary of SP Technical Research Institute of Sweden (SP) and runs research in a wide range of fields related to concrete. The institute had no information on quantities of concrete that could be linked to the

¹⁷ Contact per phone and e-mail 2011-01-18 with Robert Ronnebrant, expert on bridges, the Swedish Transport Administration +46 (0) 243-757 72 / +46 (0)771-921 921 www.trafikverket.se

accumulated amount or the annual inflow of bridge foundations made of concrete. Our contact¹⁸ also forwarded the question on total quantities in annual inflow or stock of bridge foundations in concrete to the Division of Structural Design and Bridges Royal Institute of Technology (KTH)¹⁹ - but no such information was available.

Contact with Svensk Betong

Svensk Betong is the business organization for companies manufacturing concrete included precast concrete and construction companies. No information on the use of concrete linked with specific applications such as bridge foundations were available at Svensk Betong²⁰. Since the organization handles site specific data related to specific construction projects, there is no compiled information for all construction projects in concrete.

6.4.2 Net inflow and accumulated amount

As discussed above it has not been possible to identify a method based on statistical sources that could respond on the quantities of bridge foundations made of concrete in Sweden. Considering the CN codes that are listed above as of potential interest, it can be concluded that the domestic production (for obvious reasons) are dominating the net inflow. This is exemplified in Table 17 for the net inflow of the product “Non-refractory mortars and concretes”.

Table 17. Net inflow, Import, Domestic Production and Export of the CN code 38245010 (Non-refractory mortars and concretes) 2005-2009, 1000 tonnes (rounded numbers).

| | 2005 | 2006 | 2007 | 2008 | 2009 |
|---------------------|-------|-------|-------|-------|-------|
| Import | 16 | 11 | 20 | 7.4 | 4.9 |
| Domestic Production | 4 900 | 5 000 | 5 800 | 6 000 | 4 900 |
| Export | 5.0 | 4.4 | 4.3 | 4.4 | 3.6 |
| Net inflow | 4 900 | 5 000 | 5 900 | 6 000 | 4 900 |

Since no approach so far on accounting the net inflow of bridge foundations in concrete have been found, the overall accumulated amount (or number of) of this product has not been calculated.

6.4.3 Ways to go forward

It would likely be possible to account for the amount of materials used in some typical examples of bridge foundations by contacting constructors and companies of bridges. However, shortcoming of such a method is that it is not scalable into accounting the net inflow, or the stock of bridge foundation in Sweden. It is hard to generalize from site-specific projects. Another source of information when it comes to site-specific construction projects is the so called Bill of Quantities used for example between the conductors and the Swedish Transport Administration. These are estimations on all materials used and activities performed in construction projects, compiled in order to follow the economic expenses. The Swedish Transport Administration also has technical instructions on the construction and maintenance of bridges. This for example specifies additives that are to be used in the concrete, for example polymers. However, it is not

¹⁸ Phone contact 2011-01-18, Otto During, CBI, otto.during@cbi.se, +46 (0)10 516 68 00. According to CBI the quality of concrete to be used in water contact, as the use in bridge foundations, is today normally C50-60 a concrete with high concentration of cement. (c.f. Swedish Standard, SS-EN 206-1, Former, the quality of K300 was used http://www.sis.se/DesktopDefault.aspx?tabName=%40DocType_1&Doc_ID=29850&DocType=1) This information has not been further used in this project.

¹⁹ http://www.kth.se/abe/om_skolan/organisation/inst/byv/avd/bro

²⁰ Phone contact 2011-01-24, Lena Frick, project manager and information officer, <http://www.svenskbetong.se/> +46 (0)8 762 62 30

possible to link this instruction to any figure on the total quantities or numbers of bridge foundation made of concrete in Sweden²¹.

A new contact with the Swedish Transport Administration is recommended in order to evaluate if the database BaTMan on management of bridges can be used together with a more detailed addressed issue. The Swedish Transport Administration in our contacts expressed that they in the BaTMan database could identify the number of bridges in the Swedish public road network that crosses water. However, they would like to have more information for what purposes the information is gained. The information on number of bridges would not in itself generate information on the amount of bridge foundations in concrete in tonnes. Furthermore, even if the bridges are crossing water, not all bridge foundations are in immediate contact with water. Compiling information on the age of bridges is also possible in the BaTMan system, but taking the step from this site specific information into general information on the average lifetime of bridge foundations made of concrete in contact with water, is an extensive task.

²¹http://publikationswebbutik.vv.se/upload/3793/1998_102_allman_teknisk_beskrivning_for_broar_forebyggande_underhall.pdf
http://publikationswebbutik.vv.se/upload/3188/2006_146_brounderhall_2006.pdf

7 References

Nordiska Ministerrådet (2009) Method to measure the amount of WEEE generated. Report to the Nordic council's subgroup on EEE waste. Tema Nord 2009:548

SCB, statistical database (2011) <http://www.ssd.scb.se/databaser/makro/start.asp?lang=2>

SCB 2009:3 Läkemedel samt kosmetika och hygienprodukter i Sverige, Metodutveckling för försäljningsstatistik och flödesstudier

SIKA, 2010. Fordon (2009) Tema motorcyklar, mopeder och terrängfordon.

Sörme, L. (2003) Urban heavy metals stocks and flows. The Tema Institute, Department of Water and Environmental Studies, Linköping University, Sweden. ISBN 91-7373-634-1. Dissertation No 270.

Sörme, L. Bergbäck, B., Lohm, U. (2001) Century perspective of heavy metal use in urban areas. A case study in Stockholm. Water Air and Soil Pollution: Focus 1: 197-211.

Sörme, L. And Brolinson, H. (2010) PVC-golv och metodik för varuflöden. Final report for ChEmiTecs in Swedish.

Personal contacts:

Bo Lenander, Trelleborg Wheel Systems Sverige, 0410-51 000, telephone call 2011-01-25

Caisa Bergman, Statistics Sweden, +46 8-506 940 00, telephone call 2001-01-24

Clas Røjterwall, CIT <http://www.chalmers.se/cit/recycling-en/services>, +46 (0)243-217920, telephon call 2011-01-26

Josef Tapper, <http://www.elektronikatervinning.com/> +46 (0)8-51948386 telephone call 2011-01-26

Lars-Ola Brolinson, Naturkompaniet, +46 8 545 18 682, telephone call 2011-01-25

Lena Frick, project manager and information officer, Svensk Betong
<http://www.svenskbetong.se> +46 (0)8 762 62 30, telephone call 2011-01-24

Martin Seger, <http://www.el-kretsen.se/> 08-545 216 88, telephone call 2011-01-24

Otto During, CBI, otto.during@cbi.se, +46 (0)10 516 68 00, telephone call 2011-01-18

Robert Ronnebrant, expert on bridges, the Swedish Transport Administration,
www.trafikverket.se, +46 (0) 243-757 72 / +46 (0)771-921 921, telephone call 2011-01-18

Tobias Gullberg, Elektronikbranschen, <http://www.elektronikbranschen.se/> 08-508 938 00, telephone call 2011-01-24

Torsten Johansson, STRO – Scandinavian Tire and Rim Organization, 018-506 010 55 telephone call 2011-01-18

Appendix

7.1 LCD-monitors data on imports, domestic production and export to Sweden, tonnes and numbers, 2000-2009.

| | | CN | CN | CN | CN | CN | CN | CN | CN |
|-------------|---------------------------------------|----------------|--------------|---------------|---------------|---------------|---------------|----------------|------------|
| | | 8471 60 90 | 8528 12 20 | 8528 72 20 | 8528 12 81 | 8528 12 89 | 8528 51 00 | 8528 72 91 | 8528 72 99 |
| 2000 | Import, tonnes | 11638 | 384 | | 0 | 28 | | | |
| | Import, number of products | 1939648 | 23889 | | 197 | 10661 | | | |
| | Export, tonnes | 2427 | 84 | | 0 | 27 | | | |
| | Export, number of products | 914974 | 5445 | | 12 | 1926 | | | |
| | Net inflow, tonnes | 9211 | 300 | | 0 | 1 | | | |
| | Net inflow, number of products | 1024674 | 18444 | | 185 | 8735 | | | |
| 2001 | Import, tonnes | 16632 | 437 | | 3 | 70 | | | |
| | Import, number of products | 2662896 | 23779 | | 864 | 13155 | | | |
| | Export, tonnes | 3657 | 133 | | 0 | 24 | | | |
| | Export, number of products | 850384 | 7481 | | 17 | 3883 | | | |
| | Net inflow, tonnes | 12975 | 304 | | 3 | 46 | | | |
| | Net inflow, number of products | 1812512 | 16298 | | 847 | 9272 | | | |
| 2002 | Import, tonnes | 13637 | 472 | | 19 | 230 | | | |
| | Import, number of products | 2923074 | 29553 | | 1258 | 18878 | | | |
| | Export, tonnes | 4505 | 284 | | 5 | 85 | | | |
| | Export, number of products | 1997528 | 14592 | | 686 | 15261 | | | |
| | Net inflow, tonnes | 9132 | 188 | | 14 | 145 | | | |
| | Net inflow, number of products | 925546 | 14961 | | 572 | 3617 | | | |
| 2003 | Import, tonnes | 12682 | 856 | | 159 | 612 | | | |
| | Import, number of products | 3057526 | 56001 | | 19484 | 31517 | | | |
| | Export, tonnes | 3624 | 563 | | 35 | 320 | | | |
| | Export, number of products | 1423904 | 28407 | | 4649 | 15605 | | | |
| | Net inflow, tonnes | 9058 | 293 | | 124 | 292 | | | |
| | Net inflow, number of products | 1633622 | 27594 | | 14835 | 15912 | | | |
| 2004 | Import, tonnes | 14058 | 1071 | | 899 | 2500 | | | |
| | Import, number of products | 6111717 | 70430 | | 84470 | 133764 | | | |
| | Export, tonnes | 3320 | 265 | | 159 | 1075 | | | |
| | Export, number of products | 3856151 | 16385 | | 17835 | 49933 | | | |
| | Net inflow, tonnes | 10738 | 806 | | 740 | 1425 | | | |
| | Net inflow, number of products | 2255566 | 54045 | | 66635 | 83831 | | | |
| 2005 | Import, tonnes | 13619 | 1299 | | 2055 | 9590 | | | |
| | Import, number of products | 8173705 | 88321 | | 147664 | 425814 | | | |
| | Export, tonnes | 4093 | 209 | | 666 | 4506 | | | |
| | Export, number of products | 5193114 | 14779 | | 49624 | 217704 | | | |
| | Net inflow, tonnes | 9526 | 1090 | | 1389 | 5084 | | | |
| | Net inflow, number of products | 2980591 | 73542 | | 98040 | 208110 | | | |
| 2006 | Import, tonnes | 0 | 1198 | | 4320 | 19299 | | | |
| | Import, number of products | 0 | 77199 | | 226026 | 927004 | | | |
| | Export, tonnes | 0 | 166 | | 1262 | 10115 | | | |
| | Export, number of products | 0 | 11221 | | 70266 | 490538 | | | |
| | Net inflow, tonnes | | 1032 | | 3058 | 9184 | | | |
| | Net inflow, number of products | | 65978 | | 155760 | 436466 | | | |
| 2007 | Import, tonnes | | | 820 | | 2602 | 2627 | 34569 | |
| | Import, number of products | | | 82512 | | 448529 | 169894 | 1639675 | |
| | Export, tonnes | | | 193 | | 1742 | 1304 | 19684 | |
| | Export, number of products | | | 18968 | | 239894 | 91993 | 935350 | |
| | Net inflow, tonnes | | | 627 | | 860 | 1323 | 14885 | |
| | Net inflow, number of products | | | 63544 | | 208635 | 77901 | 704325 | |
| 2008 | Import, tonnes | | | 516 | | 3357 | 2680 | 32629 | |
| | Import, number of products | | | 72207 | | 1042468 | 273955 | 1566988 | |
| | Export, tonnes | | | 196 | | 2787 | 1263 | 17828 | |
| | Export, number of products | | | 129935 | | 366164 | 109722 | 840839 | |
| | Net inflow, tonnes | | | 320 | | 570 | 1417 | 14801 | |
| | Net inflow, number of products | | | -57728 | | 676304 | 164233 | 726149 | |
| 2009 | Import, tonnes | | | 654 | | 2406 | 545 | 37590 | |
| | Import, number of products | | | 91949 | | 387809 | 78858 | 2010656 | |
| | Export, tonnes | | | 164 | | 2062 | 396 | 19372 | |
| | Export, number of products | | | 24283 | | 287272 | 47594 | 987444 | |
| | Net inflow, tonnes | | | 490 | | 344 | 149 | 18218 | |
| | Net inflow, number of products | | | 67666 | | 100537 | 31264 | 1023212 | |

7.2 Tires for road vehicles

7.2.1 Tires for cars

| CN code | Net inflow (tonnes) | Net inflow (number items) | Import (tonnes) | Import (1000 st) | Export (tonnes) | Export (1000 items) | Domestic Production (1000 items) |
|-------------|---------------------|---------------------------|-----------------|------------------|-----------------|---------------------|----------------------------------|
| 2006 | | | | | | | |
| 40111000 | 71 072 | 8 007 469 | 88291 | 9840776 | 17219 | 1833307 | 0 |
| 40121100 | -570 | 5 767 | 50 | 4418 | 620 | 67651 | 69 |
| 2007 | | | | | | | |
| 40111000 | 75 184 | 9 496 582 | 90010 | 11071071 | 14826 | 1574489 | 0 |
| 40121100 | -575 | 13 236 | 75 | 6766 | 650 | 70130 | 76,6 |
| 2008 | | | | | | | |
| 40111000 | 65 427 | 6 201 154 | 79130 | 8530490 | 13703 | 2329336 | 0 |
| 40121100 | -241 | -34 953 | 57 | 3116 | 298 | 38069 | .. |
| 2009 | | | | | | | |
| 40111000 | 47 817 | 5 039 338 | 62377 | 6687923 | 14560 | 1648585 | 0 |
| 40121100 | -247 | -31 273 | 53 | 4606 | 300 | 35879 | 0 |

7.2.2 Tires for buses and lorries

| CN code | Net inflow (tonnes) | Net inflow (number of items) | Import (tonnes) | Import (1000 st) | Export (tonnes) | Export (1000 items) | Domestic Production (1000 items) |
|-------------|---------------------|------------------------------|-----------------|------------------|-----------------|---------------------|----------------------------------|
| 2000 | | | | | | | |
| 40112010 | 3 741 | 381 511 | 6382 | 463756 | 2641 | 82245 | .. |
| 40112090 | 30 594 | 403 058 | 40885 | 666024 | 10291 | 262966 | .. |
| 40121050 | 1 103 | 60 372 | 2187 | 35883 | 1084 | 17711 | 42,2 |
| 2001 | | | | | | | |
| 40112010 | 5 422 | 391 349 | 8203 | 574896 | 2781 | 183547 | .. |
| 40112090 | 30 858 | 495 472 | 37921 | 617892 | 7063 | 122420 | .. |
| 40121050 | 1 624 | 99 516 | 2407 | 39722 | 783 | 13906 | 73,7 |
| 2002 | | | | | | | |
| 40112010 | 5 112 | 327 153 | 7468 | 478473 | 2356 | 151320 | 0 |
| 40112090 | 31 572 | 507 998 | 38340 | 629168 | 6768 | 121170 | 0 |
| 40121200 | 1 476 | 27 081 | 2073 | 39201 | 597 | 12120 | .. |
| 2003 | | | | | | | |
| 40112010 | 4 765 | 314 426 | 7536 | 510250 | 2771 | 195824 | 0 |
| 40112090 | 32 380 | 525 982 | 38936 | 644561 | 6556 | 118579 | 0 |
| 40121200 | 1 832 | 118 938 | 2375 | 40490 | 543 | 8452 | 86,9 |
| 2004 | | | | | | | |
| 40112010 | 4 915 | 312 546 | 7073 | 456455 | 2158 | 143909 | 0 |
| 40112090 | 35 766 | 562 010 | 42333 | 687405 | 6567 | 125395 | 0 |
| 40121200 | 1 896 | 25 525 | 2219 | 38098 | 323 | 12573 | .. |
| 2005 | | | | | | | |
| 40112010 | 6 346 | 411 683 | 9030 | 602666 | 2684 | 190983 | 0 |
| 40112090 | 41 382 | 650 162 | 48972 | 791087 | 7590 | 140925 | 0 |
| 40121200 | 3 572 | 60 374 | 3917 | 67527 | 345 | 7153 | .. |
| 2006 | | | | | | | |
| 40112010 | 6 343 | 414 883 | 8638 | 579202 | 2295 | 164319 | 0 |
| 40112090 | 44 444 | 738 432 | 50942 | 856667 | 6498 | 118235 | 0 |
| 40121200 | 3 652 | 140 480 | 4608 | 156474 | 956 | 15994 | .. |
| 2007 | | | | | | | |
| 40112010 | 6 380 | 405 372 | 7937 | 485479 | 1557 | 80107 | 0 |
| 40112090 | 46 466 | 773 450 | 51628 | 861665 | 5162 | 88215 | 0 |
| 40121200 | 4 002 | 124 213 | 4902 | 140636 | 900 | 16423 | .. |
| 2008 | | | | | | | |
| 40112010 | 6 420 | 379 246 | 7861 | 465149 | 1441 | 85903 | 0 |
| 40112090 | 49 284 | 803 597 | 52959 | 863025 | 3675 | 59428 | 0 |
| 40121200 | 3 805 | 125 979 | 4920 | 147727 | 1115 | 21748 | .. |
| 2009 | | | | | | | |
| 40112010 | 4 177 | 271 926 | 6071 | 388014 | 1894 | 116088 | 0 |
| 40112090 | 29 113 | 469 053 | 32017 | 521988 | 2904 | 52935 | 0 |
| 40121200 | 3 351 | 107 477 | 4047 | 121220 | 696 | 13743 | 0 |

7.2.3 Tires for tractors

| | CN code | Net inflow (tonnes) | Net inflow (number of items) | Import (tonnes) | Import (number of items) | Export (tonnes) | Export (number of items) |
|----------|----------|---------------------|------------------------------|-----------------|--------------------------|-----------------|--------------------------|
| 2006 | 40116100 | 7467 | 97962 | 10127 | 117966 | 2660 | 20004 |
| | 40116200 | 1669 | 21711 | 1981 | 27594 | 312 | 5883 |
| | 40116300 | 26758 | 73409 | 28810 | 79179 | 2052 | 5770 |
| | 40116900 | 128 | 22213 | 144 | 22556 | 16 | 343 |
| | 40119200 | -727 | -34990 | 2801 | 61892 | 3528 | 96882 |
| | 40119300 | 453 | 13839 | 662 | 16411 | 209 | 2572 |
| | 40119400 | 2022 | 7588 | 3106 | 13311 | 1084 | 5723 |
| | 40119900 | 2064 | 279894 | 2194 | 297567 | 130 | 17673 |
| | 2007 | 40116100 | 12201 | 122190 | 14456 | 143320 | 2255 |
| 40116200 | | 1681 | 23441 | 1970 | 28375 | 289 | 4934 |
| 40116300 | | 28869 | 88648 | 30803 | 94228 | 1934 | 5580 |
| 40116900 | | 174 | 18973 | 191 | 19938 | 17 | 965 |
| 40119200 | | -1128 | -31337 | 2526 | 61999 | 3654 | 93336 |
| 40119300 | | 435 | 13112 | 672 | 15692 | 237 | 2580 |
| 40119400 | | 1789 | 5680 | 3541 | 12729 | 1752 | 7049 |
| 40119900 | | 2529 | 453579 | 2565 | 463778 | 36 | 10199 |
| 2008 | | 40116100 | 11764 | 115945 | 13684 | 132116 | 1920 |
| | 40116200 | 1825 | 23592 | 2002 | 27444 | 177 | 3852 |
| | 40116300 | 42092 | 112830 | 44000 | 122828 | 1908 | 9998 |
| | 40116900 | 173 | 14495 | 189 | 15606 | 16 | 1111 |
| | 40119200 | -1168 | -25086 | 3145 | 89013 | 4313 | 114099 |
| | 40119300 | 665 | 22272 | 827 | 24780 | 162 | 2508 |
| | 40119400 | 3300 | 11509 | 4294 | 14855 | 994 | 3346 |
| | 40119900 | 2471 | 403457 | 2537 | 414681 | 66 | 11224 |
| | 2009 | 40116100 | 5441 | 54630 | 6626 | 65195 | 1185 |
| 40116200 | | 906 | 13155 | 1059 | 16680 | 153 | 3525 |
| 40116300 | | 6256 | 11262 | 7699 | 16980 | 1443 | 5718 |
| 40116900 | | 157 | 11572 | 167 | 12244 | 10 | 672 |
| 40119200 | | -337 | -14345 | 1908 | 65296 | 2245 | 79641 |
| 40119300 | | 307 | 13661 | 383 | 15345 | 76 | 1684 |
| 40119400 | | 1892 | 7896 | 2563 | 10264 | 671 | 2368 |
| 40119900 | | 1544 | 296878 | 1659 | 305735 | 115 | 8857 |

7.3 Waterproof, unlined, jackets impregnated with water repellent substance

| CN code | Net inflow (tonnes) | Import (tonnes) | Import (number of items) | Export (tonnes) | Export (number of items items) | Domestic Production (1000 items) |
|-------------|---------------------|-----------------|--------------------------|-----------------|--------------------------------|----------------------------------|
| 2000 | 2289 | | | | | |
| 62104000 | 1504 | 1819 | 0 | 315 | 0 | .. |
| 62105000 | 652 | 760 | 0 | 108 | 0 | 51,1 |
| 2001 | | | | | | |
| 62104000 | 1554 | 1866 | 0 | 312 | 0 | 97,1 |
| 62105000 | 735 | 818 | 0 | 83 | 0 | 44,4 |
| 2002 | | | | | | |
| 62104000 | 1418 | 1741 | 0 | 323 | 0 | .. |
| 62105000 | 433 | 795 | 0 | 362 | 0 | 33,3 |
| 2003 | | | | | | |
| 62104000 | 1299 | 1671 | 0 | 372 | 0 | .. |
| 62105000 | 853 | 1078 | 0 | 225 | 0 | .. |
| 2004 | | | | | | |
| 62104000 | 924 | 1367 | 0 | 443 | 0 | .. |
| 62105000 | 641 | 804 | 0 | 163 | 0 | .. |
| 2005 | | | | | | |
| 62104000 | 1451 | 1955 | 0 | 504 | 0 | .. |
| 62105000 | 712 | 928 | 0 | 216 | 0 | .. |
| 2006 | | | | | | |
| 62104000 | 1613 | 2148 | 0 | 535 | 0 | .. |
| 62105000 | 1296 | 1623 | 0 | 327 | 0 | .. |
| 2007 | | | | | | |
| 62104000 | 1728 | 2316 | 0 | 588 | 0 | .. |
| 62105000 | 1289 | 1691 | 0 | 402 | 0 | .. |
| 2008 | | | | | | |
| 62104000 | 1758 | 2386 | 0 | 628 | 0 | .. |
| 62105000 | 1590 | 2048 | 0 | 458 | 0 | .. |
| 2009 | | | | | | |
| 62104000 | 1518 | 2123 | 0 | 605 | 0 | .. |
| 62105000 | 1705 | 2083 | 0 | 378 | 0 | .. |

7.4 Bridge foundations made of concrete

| CN 3824 40 00 | 2005 | 2006 | 2007 | 2008 | 2009 |
|----------------------|-------------|-------------|-------------|-------------|-------------|
| Import | 15 900 | 10 800 | 19 600 | 7400 | 4 900 |
| Domestic Production | 4 939 000 | 5 014 000 | 5 836 900 | 6 007 200 | 4 912 900 |
| Export | 5000 | 4 400 | 4 300 | 4 400 | 3 600 |
| Net inflow | 4 949 900 | 5 020 400 | 5852232 | 6 010 200 | 4 914 300 |