

Joint Action 2011 GPSD Childcare Articles

Agreement No: 2011 82 01

Results, Conclusions & Recommendations Wheeled Child Conveyances



February 2014

This document is a non-binding document, intended to give a brief overview of the results, conclusions and recommendations mainly related to baby bath tubs, which was one of the products-specific activities focused upon by the working group of market surveillance authorities dealing with childcare articles within the joint action JA2011, coordinated by PROSAFE.

Disclaimer:

This report arises from the Joint Market Surveillance Action on GPSD Products - JA 2011, which received funding from the European Union in the framework of the 'Programme of Community Action in the field of Consumer Policy (2007-2013)'.

The report reflects only the views of the author. The Consumers, Health and Food Executive Agency (Chafea), PROSAFE or any individual market surveillance authority cannot be held responsible for any use, which may be made of the information contained therein.

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Abbreviations

ANEC - the European consumer voice in standardisation

BBT - Baby bath tubs

CCA - Child care Articles

CEN - the European Committee for Standardization

Chafea - Consumers, Health and Food Executive Agency

DG-SANCO - Directorate General for Health and Consumers of the European Commission

EEA- European Economic Area

EU - European Union

ENPC - European Nursery Products Confederation

GPSD - General Product Safety Directive

ICSMS - The internet-supported information and communication system for the pan-European market surveillance

JA2011 - Joint Market Surveillance Action 2011

MS - Market Surveillance

NA - Not applicable

NC - Non Conformities

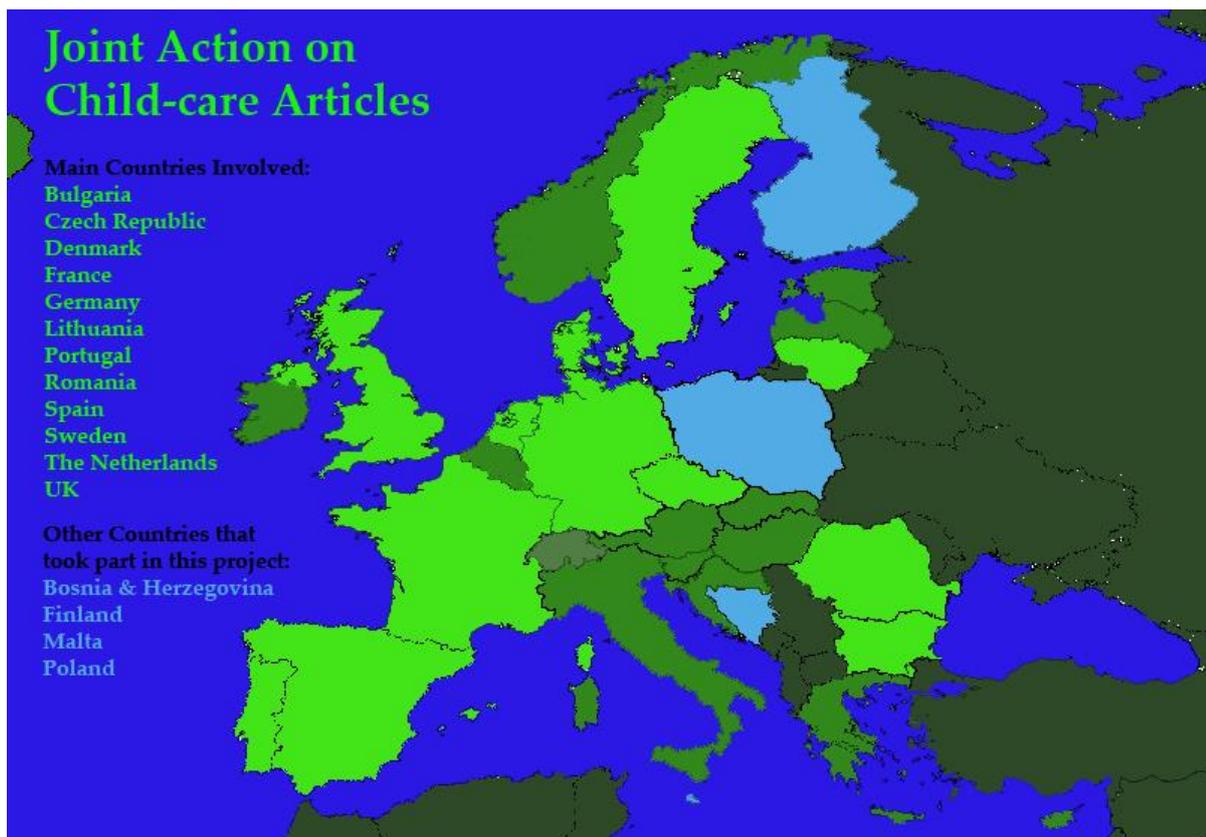
RAPEX - Rapid Alert System for non-food dangerous products

WCC - Wheeled child conveyances

Executive Summary

PROSAFE has coordinated various market surveillance joint actions in the last few years. The joint action called JA2011 dealt with various product sectors, one of which was childcare articles (CCA). A total of twelve different market surveillance authorities from different EU Member States participated in this specific working group on childcare articles. The actual Member States were Bulgaria, Czech Republic, Denmark, France, Germany, Lithuania, The Netherlands, Portugal, Romania, Spain, Sweden and the UK. Additionally, Bosnia & Herzegovina, Finland, Malta and Poland also took part to varying degrees within this project

All CCA activities were task led by the Swedish Consumer Agency. The activities started around February / March 2012 and ended during the first quarter of 2014. PROSAFE also recruited the services of an external consultant to task coordinate and project manage all issues related to this project.



The map shows the 12 Member States directly involved in the CCA working group which form part of JA2011. Additionally, the market surveillance authorities from Finland and Malta took part in the samples sent for testing whereas the market surveillance authorities from Bosnia & Herzegovina and Poland attended some of the CCA meetings.

Childcare articles are an innovative product group in constant development. Therefore, the production of new products on the market does not always go hand in hand with their standardization. However, producers and manufacturers are obliged to know the hazards their products can present, to offer safe products and to provide consumers with information that allows them to evaluate and prevent hazards. Most of the time, these products are intended for children of a very young age, a sector of society which is considered to be a very vulnerable group. Hence, it is even more important that such products are safe.

Two products groups within childcare articles were focused upon by this working group of market surveillance authorities: wheeled child conveyances (WCCs) and baby bath tubs (BBTs). All the samples were tested at the AIJU Technological Centre in Spain.

CCA Main Objectives

The main objectives of this project were:

- To draw up a medium to long-term programme of activities (the product groups with the highest priority will eventually be implemented in future joint actions)
- Market Surveillance Action on two specific product groups:
 - Baby Bathing Products and
 - Wheeled child conveyances

External Stakeholders

This working group tried to establish good contact and effective liaison with various external stakeholders throughout the project. Representatives from ANEC, CEN and ENPC were particularly active in this project.

European Commission and Chafea

Representatives from Unit B3, Product and Services Safety from DG-SANCO also took part in the entire CCA meeting organised by this working group. The whole project was co-funded by the European Union and the grant agreement was managed by Chafea.

Wheeled Child Conveyances

This document focuses on the results, conclusions and recommendations related solely to wheeled child conveyances. A similar document has been developed for baby bath tubs too.

Fifty-one wheeled child conveyances were tested according to the requirements of European standard EN 1888:2012 '*child care articles - wheeled child conveyances - safety requirements and test methods*'.

In view that the period when the samples were extracted from the market (2nd quarter of 2013) was rather close to the end of the transitional period between the new standard and the old one, it was also decided that some additional testing according to EN 1888:2003+A1/A2/A2:2005 had to be applied. If a vehicle failed the test within clause 8.10.6 of EN 1888:2012, which related to the handle strength, the amount of cycles when the failure occurred was also recorded since this determined if the vehicle possibly complied with the old standard.

Additionally, the test for carrying handles according to clause 6.5.5.2 of EN 1466:2004+A1:2007 '*child care articles - carry cots and stands - safety requirements and test methods*' was also carried out on those samples which were classified as prams or combination products which included prams.

Three types of WCC were tested:

- Single prams with chassis (5 samples)
- Single pushchairs /strollers (26 samples)
- Combination products (20 samples)

2 sizes of prams were tested:

- < 800 mm's for children who can only lie down (21)
- > 800 mm's for children who are able to sit up. (4)

All samples were tested under physical-mechanical requirements according to the relevant clauses in the standard. Product information was mainly checked directly by the various inspectors within the market surveillance authorities. However, in the case of the 10 samples from Spain, Malta and the UK, where the official languages are Spanish and English, these were checked directly by AIJU Technological Centre.

TEST RESULTS

Although only 10 samples (around 20 %) met the mechanical requirements of standard EN 1888:2012, and the majority of the samples had non-conformances related to product information, one needs to be cautious on how to interpret any statistics found in this document. This is because the sampling was not carried out on a random basis but rather the market surveillance authorities picked those samples which they considered to already present possible risks. Consequently, any statistics cannot be interpreted as representing the level of safety within the European Single Market.

Although identified non-conformances to a particular standard within a sample are of particular importance to market surveillance authorities, it is much more important for surveillance authorities to

determine the final level of risk through what is called risk assessment. When it came to risk assessment, all the market surveillance authorities utilized the methodology indicated within Commission Decision 2010/15/EU. For this purpose the website of the European Commission was utilized - <http://europa.eu/sanco/rag>.

CONCLUSIONS

16% out of the 51 samples were identified to have a serious risk, 8% had a high risk, 33% had a medium risk and 27% had a low risk. The risk assessment results helped the market surveillance authorities to determine the final actions and measures to be taken from their end. Measures were taken accordingly. The positive note is that 80% of the measures were taken voluntarily in agreement between the market surveillance authorities and economic operators. 53% of the measures taken involved minor measures, 6% involved sales bans and 10% involved sales bans including withdrawal from the market. 10% of the samples were recalled from consumers. RAPEX notifications were also made and processed in accordance with the measures.

RECOMMENDATIONS

Through the experience gathered, the market surveillance authorities involved in this project would like to recommend the following points:

1. With regards to the standard itself, the market surveillance authorities recommend certain points for consideration by the respective technical committee within CEN who are responsible for the development of this standard. Details are shown in chapter 6.1 of this document.
2. Information for consumers to make them aware of the possible risks involved in childcare articles. European Organisations representing consumers should strive to update consumers on the main risks associated with such products. Knowing about certain risks beforehand will certainly help to reduce the possibility of accidents occurring. More information is found within chapter 6.3 of this document.
3. It is important for economic operators to be aware of the applicability of standard EN 1888:2012. Therefore, European organisations representing the business sector should strive to further inform and update their members on the importance of always keeping up to date with the latest standard.
4. Please see chapter 6 as well for summarized recommendations on standardization, customs, market surveillance authorities and consumers.

1. Introduction

Participation in the WCC Working Group

Although 12 Member States participated in all activities pertaining to childcare articles, only 11 market surveillance authorities from 11 separate Member States took an active part in all activities associated with WCC (wheeled child conveyances). The countries involved were: Bulgaria, Czech Republic, Denmark, Germany, Lithuania, The Netherlands, Portugal, Romania, Spain, Sweden, and the UK. The market surveillance authorities from Bosnia Herzegovina, Finland, Malta and Poland also took part to a certain degree in the WCC activities.

Technical Core Group (WCC)

In view that the working group was rather large and a lot of technical work needed to be done, it was agreed that the market surveillance authorities from the following countries (Denmark, Germany, The Netherlands, and Sweden) would form a technical core group which supported the whole group in all technical issues related to the project.

Some General Statistics related to WCC

10 manufacturers and 12 importers from the European Union were inspected. 141 outlets and distributors were also inspected. Therefore, in total, 163 economic operators were inspected. 51 samples tested were tested from 48 different brands.

WCC Definition & Categories

A wheeled child conveyance is defined within EN 1888:2012 as: “A vehicle designed for the carriage of one or more children, consisting of a chassis to which a pram body (bodies) or car seat(s) or seat unit(s) or combination of these is (are) attached, which can be manually steered while being pushed or pulled”.

Examples of such products are single prams, pushchairs with a pram body or carry cot intended to be used from birth, strollers with seat units intended to be used from six months, umbrella strollers and light strollers or combination products (chassis with seat unit, pram body and/or car seat).

The main three types of wheeled child conveyances focused upon by this CCA Working Group were:

- **Single prams with chassis** (internal length may be smaller or greater than 800 mm)
- **Single pushchairs /strollers**
- **Combination Products** - Chassis with car seat(s), pram bodies with internal length smaller or greater than 800mm, seat unit(s) or combinations of these.

PRAM



Push chair with pram body intended to be used from birth

STROLLER



Push chair with seat unit intended to be used from 6 months onwards

COMBINATIONS



Pram body + seat unit + car seat group 0/0+

The following product groups were excluded from testing:

- Joggers
- Twin / double prams
- Twin / double pushchairs/strollers

Main Scope related to WCC

The main scope of the project relating specifically to WCCs was to perform market surveillance by inspecting, sampling and testing a number of WCCs in order to determine the level of safety of the samples tested and also to identify best practices in working jointly at European level. It is important to note that chemical and thermal hazards were not focused upon within this project.

Main Hazards associated with WCCs

One of the main hazards associated with WCC is the ‘falling hazard’. This hazard is particularly important because the main use of these products is outside the home. This means that children are exposed to more hazards, such as traffic, elevators, escalators, etc. The table below (Table 1) outlines the main product hazards and the injuries associated with them.

Table 1 - Main Hazards in Wheeled Child Conveyances

Product hazard	Injury
Shear/compression points	Laceration, cutting, bruising
Hazards from moving parts	Bruising, cuts, fractures, crushing
Structural Integrity / lack of stability / breakage of chassis	Falling, Lacerations, bruising, fractures
Inefficient harnesses / Restraint system	Falling injury, strangulation
Parking brake failure	Falling injury, impact by car, bruising, fractures.
Poor handle strength	Falling injury, impact by car
Suffocation, Choking and ingestion hazards (Small parts)	Suffocation, choking, internal injuries
Inefficient attachment of seat unit or pram body	Falling injury
Openings that allow a child to fall out	Falling injury, strangulation
Entrapment hazards	Asphyxiation, strangulation Limiting blood supply, fractures

Testing of products

All WCC samples were tested at the laboratory of AIJU Technological Centre in Spain, who have more than 25 years of experience in child safety. AIJU complies with the requirements of international standard ISO/IEC 17025. This standard specifies the general requirements for the competence of testing and/or calibrations, including sampling. The management system of quality, administrative and technical operations of AIJU laboratory is based on this standard. In addition, AIJU is an accredited laboratory by ENAC (the National Accreditation Body in Spain) to perform tests according to EN 1888:2012. The only exception to this is tests in relation to clause 8.8.2.6 of the standard

A special CCA meeting was held at the AIJU laboratory in order to discuss sample failures to particular clauses of the standard as well as determining the overall risk associated with the respective samples. All tests were carried out according to the latest standard on wheeled child conveyances - EN 1888:2012. This European Standard specifies the safety requirements and test methods for wheeled child conveyances, designed for the carriage of one or more children, up to 15 kg each and an additional 20 kg on any integrated platform on which a child can stand.

The new standard EN 1888:2012 “Child care articles - Wheeled child conveyances - Safety requirements and test methods” was published in March 2012. CEN agreed to an extension for EN 1888:2003 to be valid at the same time as EN 1888:2012 until July 2013.



Some basic differences between 1888:2003 and EN 1888:2012

Test demonstrations by AIJU Technical Experts to the representatives of the participating market surveillance authorities.

EN

Table 2 below is not exhaustive but just tries to give an indication of some of the main differences between EN 1888:2003 and EN 1888:2012.

Table 2 - Main Differences between EN 1888:2003 and EN 1888:2012

Requirement/Test	EN 1888:2003	EN 1888:2012
Access zone/ protected volume		Changed definition with the purpose to lower different interpretations.
Finger entrapment, holes and openings	5-12 mm	7-12 mm Only circular holes
Stability	A stop up to the height of half the wheel is allowed when testing stability in a 12° slope	A stop up to the height of 25mm is allowed when testing stability in a 12° slope
Handles	No requirements for locking mechanisms on handles Durability of handles 3000 cycles	New requirements on locking mechanism of reversible and telescopic handles. Durability of handles 10 000 cycles
Parking and braking device		More specified requirements to avoid operation by the child
Locking device for the folding mechanism	Two separate actions required either on two parts of the vehicle or two consecutive actions	More options are allowed to make it easier to fold the product with one hand

The tests on wheeled child conveyances were performed in accordance with the general requirements and test conditions of clause 4 of EN 1888:2012 and with the test equipment according to clause 5 of EN 1888:2012.

Additional testing

Further testing for carrying handles according to clause 6.5.5.2 of EN 1466:2004+A1:2007 ‘child care articles - carry cots and stands - safety requirements and test methods’ was also carried out on those samples which were classified as prams or combination products which included prams.

Handle

If a vehicle failed clause 8.10.6 “Handle strength test”, the number of cycles when a failure occurred were recorded Photographs of the damaged sample were also taken and an explanation was provided within the respective test report.

Carry cots handle test

Carrying handles on carry cots and pram bodies is an important issue in a WCC. In the samples that included a carry cot, the test for carrying handles according to 6.5.5.2 “Test for dynamic strength of carry cots” of EN 1466:2004 +A1:2007 was performed after analysis according to EN 1888:2012.

Additionally, if a failure occurred on a tested vehicle, the testing procedure continued unless the failure was so destructive that all further testing was impossible.

Test Results, Conclusions and Recommendations

The final results of all tests carried out are included separately in a spreadsheet showing the individual test results for each sample. A copy of the spreadsheet in pdf format (with no confidential data) can be requested by sending a formal email to PROSAFE on info@prosafe.org . A summary of the test results is also discussed in chapter 4. More importantly, this document has a summary of the conclusions and actions taken by the respective market surveillance authorities in chapter 5. Recommendations to the further improvement of the standard itself, to market surveillance authorities and customs, to economic operators and also to consumers are focused upon in Chapter 6.

2. DESCRIPTION OF THE SAMPLES TESTED

From mid-April until the end of May 2013, a total of 51 samples were sent to the laboratory of AIJU by the market surveillance authorities participating in JA2011. When the samples were received, the staff of AIJU performed an initial visual inspection in order to detect if the samples had potential defects caused by transportation or by other factors. In such cases, the working group was informed accordingly.

The 51 samples can be classified into **three** main product groups according to the type of wheeled child conveyances.

- Single prams with chassis
- Single pushchairs / strollers
- Combinations of chassis with car seat(s), pram body(ies) and seat unit(s)

The respective percentages are shown in Figure 1.

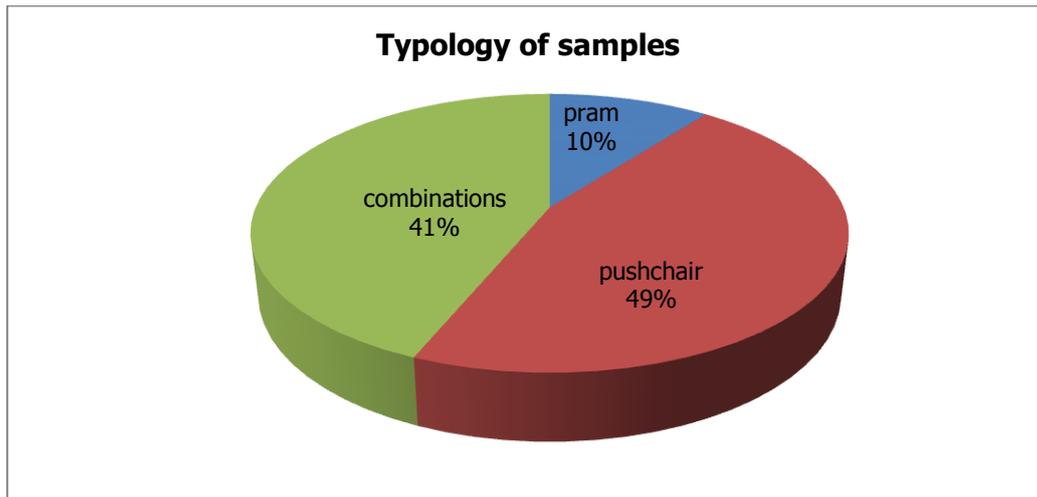


Figure 1 - Groups of WCC received for testing

A substantial amount of various samples were tested. The variety of the samples was due to the origin of the samples, as each country has different habits regarding the use of WCC's. To provide an in depth view of the characteristics the products were tested to, a sub-classification according to their properties is provided below.

PRAMS

Only 5 single prams were received. They were classified according to their internal length: smaller or greater than 800 mm (see Figure 2):

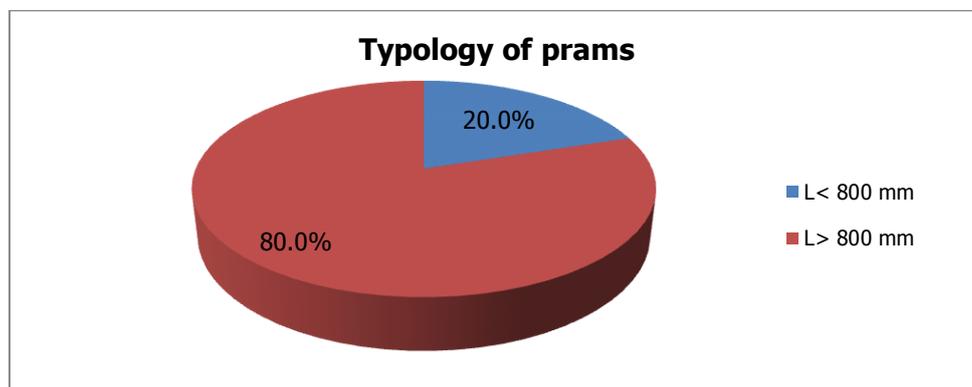


Figure 2 - Typology of single prams

PUSHCHAIRS / STROLLERS

In relation to the 26 pushchairs and strollers tested, these were grouped into three categories taking into consideration if they were an umbrella type or not, and also whether the backrest was reclined or fixed (Refer to Table 3 and Figure 3).

Table 3 - Typology of single pushchairs

Type of pushchair	Number of samples	% of samples
<i>Umbrella-type fixed backrest</i>	6	23%
<i>Umbrella-type, reclined backrest</i>	11	42%
<i>stroller, reclined backrest</i>	9	34%

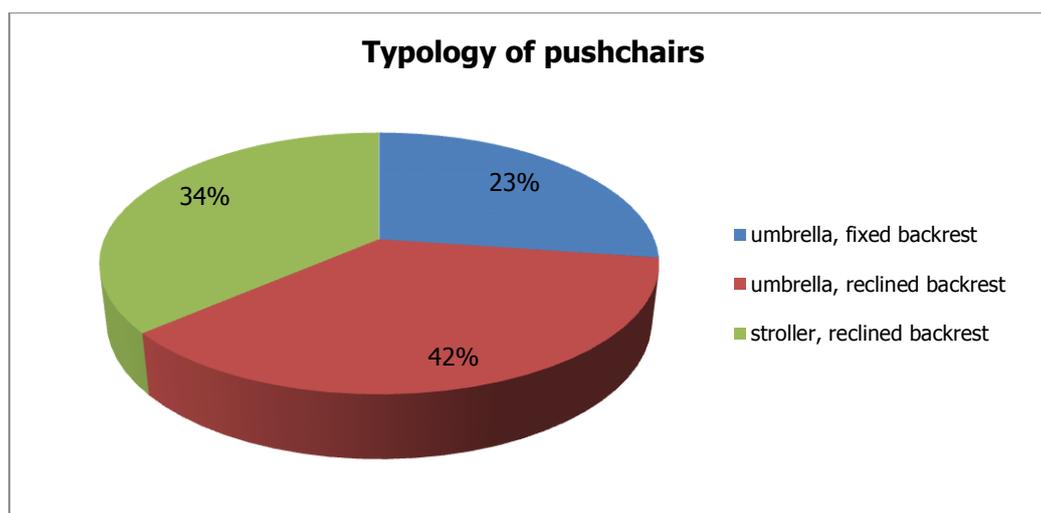


Figure 3 - Typology of single pushchairs

COMBINATION PRODUCTS

20 combination products were received. All of them had a pram body or carry cot (one carry cot without handles), but only 7 of them had a car seat. This fact was taken into account for this classification (see Table 4 and Figure 4).

Table 4: Typology of combinations products

Type of combinations	Number of samples	% of samples
<i>seat unit + carry cot</i>	4	20%
<i>seat unit + pram body</i>	9	45%
<i>seat unit + pram body + car seat</i>	7	35%

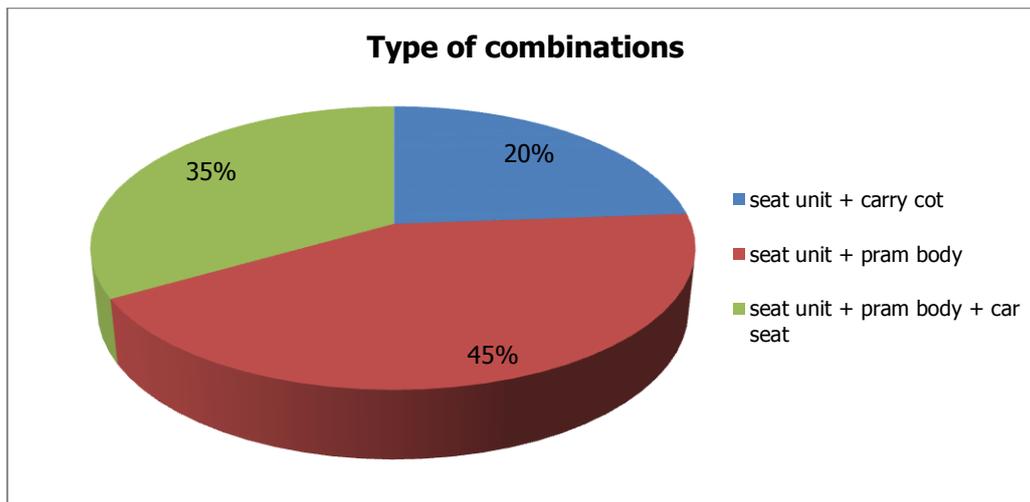


Figure 4 - Typology of combination products.

With regards to the country of origin, 55% of all the samples were labelled with their country of origin as being China. Another 33% were from the European Economic Area (EEA). Moreover, we should highlight in relation to the country of origin of the samples, that out of the 51 samples received, more than 56% were manufactured outside Europe, mostly in China (26 samples) and only one in Taiwan (see Figure 5).

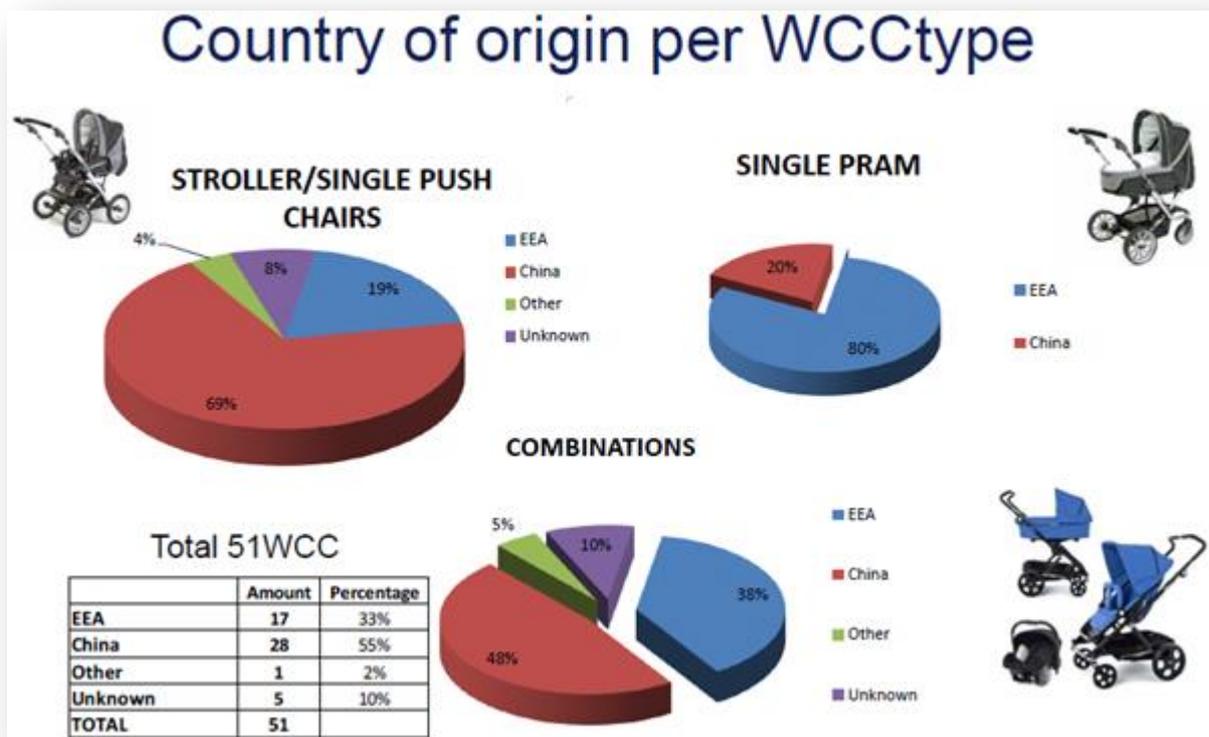


Figure 5 - Origin of the samples

Additionally, as can be seen from figure 5 above, the country of origin within each product group varies too, with strollers/pushchairs having the largest concentration of samples originating from China.

3. TEST PROCEDURE

The tests on the wheeled child conveyances were carried out to the requirements of European standard EN 1888:2012 “Child care articles - Wheeled child conveyances - Safety requirements and test methods” including the general requirements and test conditions in clause 4 of the Standard and with test equipment required by clause 5 of the Standard.

Before performance of the tests, the samples were assembled according to their instructions for use and photographs of all of the marking labels on the products were taken for inclusion in the final test reports.

For vehicles fitted with inflatable tyres, the tyre pressures were adjusted according to manufacturer’s instructions for use before any testing was conducted on them. If any tyres were punctured during the testing procedure, they were replaced and the testing procedure was then continued.

The vehicles were stored at a temperature of $(23 \pm 5) ^\circ\text{C}$ for at least 2 h prior to testing and all tests were carried out at a temperature of $(23 \pm 10) ^\circ\text{C}$.

In parallel, a determination of the protected volume was conducted on each seat unit, car seat, carry-cot and pram body in order to find the volume around a child occupant for which safety requirements were prescribed.

The tests were conducted on one chassis assembled in the position of use and in the order of the clauses given in standard EN 1888:2012. Unless otherwise stated in the standard, each test was conducted with the vehicle in the most onerous condition for that test in terms of:

- the choice and number of seat units and/or pram bodies attached to the chassis;
- the use of test masses;
- the loading (or not) of any receptacle designed to carry additional load(s) allowed in the instructions or 2 kg if nothing is indicated;
- the addition (or not) of any other accessories supplied with the vehicle and with accessories loaded according to the manufacturer’s instructions;
- the adjustment of seat units, handles and any other adjustable features or accessories, or any other optional arrangement of the vehicle allowed in the manufacturer’s instructions.

For tests to clause 8.10 “Structural integrity”, performance during a number of cycles, if a vehicle fails clauses 8.10.3 “Irregular surface test” and 8.10.6 “Handle strength test”, the number of cycles at the time of failure were recorded and photographs were taken of the damaged sample.

To conclude, in cases where a WCC included a carry cot or pram body fitted with handles, tests were carried out the handles according to 6.5.5.2 “Test for dynamic strength of carry cots” of EN 1466:2004 +A1:2007. This test was performed after analysis according to EN 1888:2012.

If a failure occurred on a vehicle during testing, the testing procedure continued unless the failure was so destructive that all further testing was impossible.

Once all tests were finished, AIJU prepared one test report for each sample according to EN 1888:2012 and, if applicable, clause 6.5.5.2 “Test for dynamic strength of carry cots” of EN 1466:2004 +A1:2007.

These test reports included the results obtained from testing the samples, and indicated in each case the non-conformances to particular clauses of the standard. Also included were pictures of any non-conformances, as well as comments or any other relevant clarifications.

PRODUCT INFORMATION

It should be mentioned that given the diversity of the official languages of the countries participating in this CCA working group, the laboratory was only asked to check the product information on the samples which were extracted from Spain, the UK and Malta. This amounted to 10 samples in all (20% of the total received.)

However, all participating authorities were asked to fill in checklists on samples sent for testing. These checklists were used to collect product information from all of the 51 samples sent for testing.

4. OVERALL TEST RESULTS

IMPORTANT NOTE

Statistics and percentages relating purely to test results should not in any way be interpreted as indicating any lack of safety levels within a product. Ultimately, risk assessment needs to be done on each sample to determine the actual level of risk. This is discussed in 'Chapter five - Conclusions', where risk assessment and action / measures taken by market surveillance authorities are discussed.

General Overview

Figure 6 below gives an overview of the non-conformities found with the 51 samples by this CCA working group. Samples tested for hazards relating to moving parts (in line with clause 8.3 of EN 1888:2012) had the highest non-conformity rate, where 41% of all samples tested failed this clause. Suitability of the vehicle (Clause 8.1.1), Choking and ingestion hazards (Clause 8.5), Structural integrity (clause 8.10), the restraint system and fasteners (clause 8.1.3) all had non conformity percentages ranging from 24% to 33% respectively as can be seen within the table. Parking and braking devices (clause 8.8) and durability of marking (clause 9) both showed 14% non-conformity percentage rates. All of the other non-conformities had percentage rates of less than 10%.

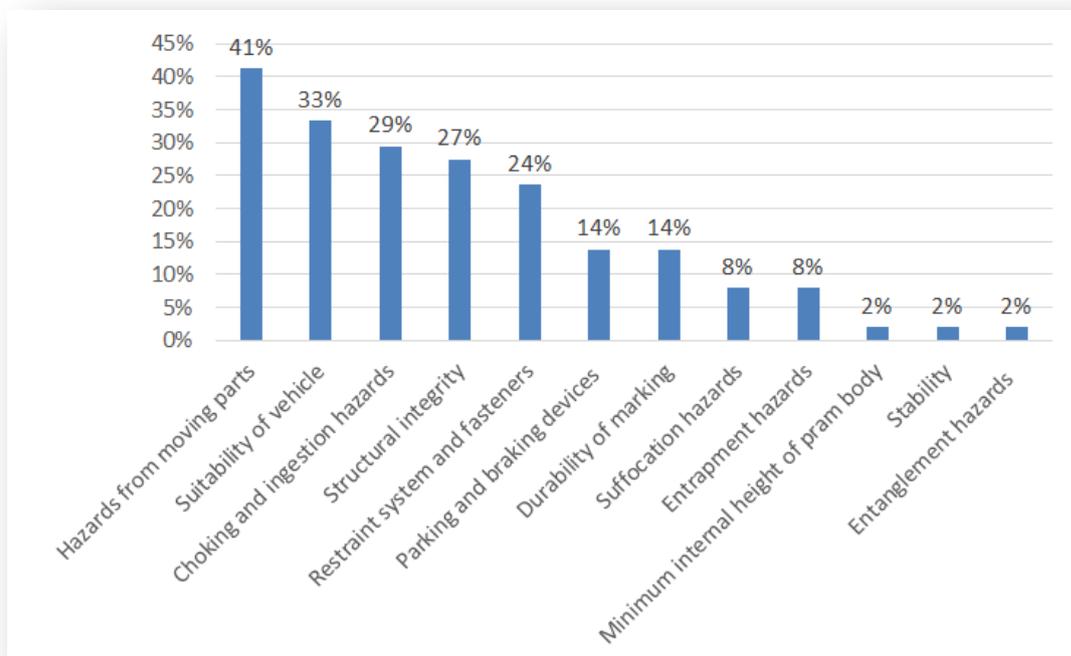


Figure 6 - Percentage Non-conformities found within the 51 samples tested

The core team also carried out a deep dive analysis into the major areas of non-conformities seen within each product type which is reflected in chapter 4.5.

Pushchairs/ strollers

Before going into detail on each clause, figure 7 below shows the percentage of non-conformities in relation to pushchairs / strollers only. Hazards from moving parts, structural stability, and the protective function were the three main areas.

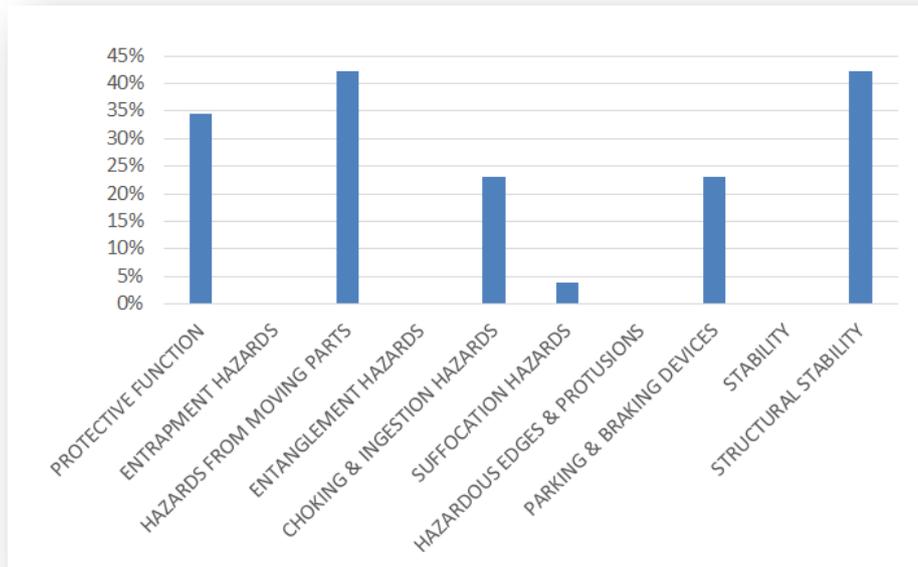


Figure 7 - Percentage Non-conformities related to Pushchairs / strollers (26 samples)

Combinations

In the case of combination products (figure 8), one can see some differences in the non-conformities seen. Although most samples had non-conformities in relation to the protective function and moving parts, there was also a considerable amount of non-conformities seen with potential choking and ingestion hazards.

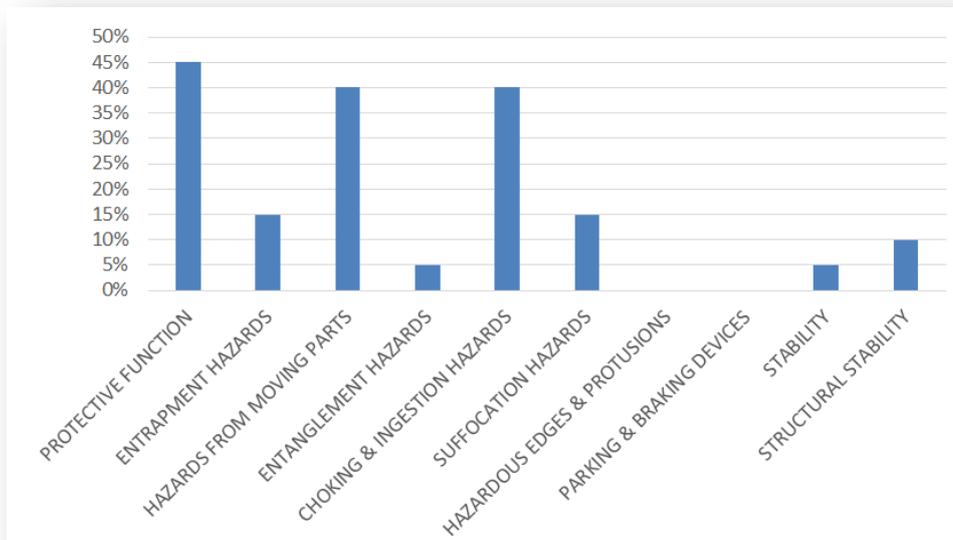


Figure 8 - Percentage Non-conformities related to Combinations (20 samples)

Prams

Unfortunately, not a lot of market surveillance authorities extracted pram samples for testing. This was possibly due to the fact that in the Member States involved in this CCA working group an overall higher percentage of pushchairs/strollers and combination products are sold in their markets (with the exception of Member States from the Nordic area).

It is important to note that these results include all sizes of prams.

In the case of prams tested, (figure 9), you will be able to see that by far the highest rate of non-conformities related to hazards from moving parts. This is followed by entrapment hazards, choking and ingestion hazards, parking and braking devices and structural stability which more or less had the same percentage of non-conformities.

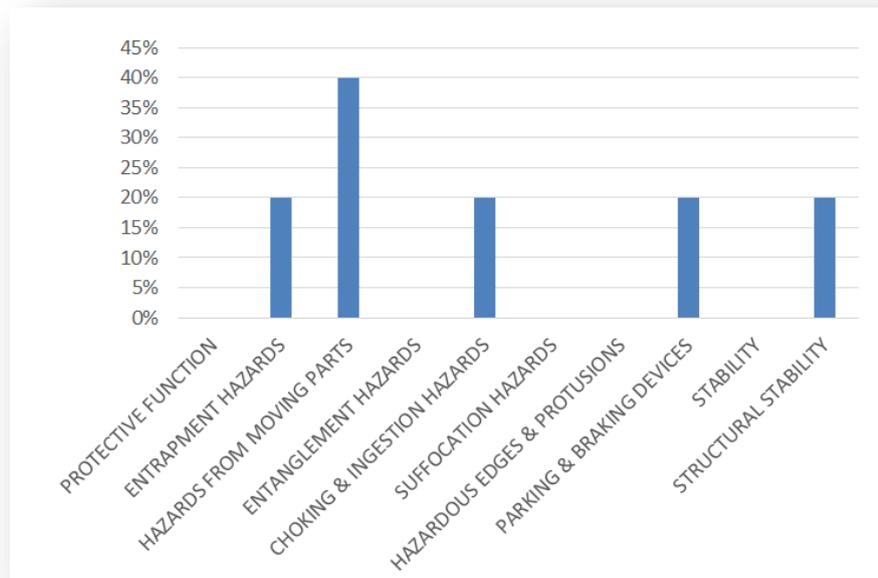


Figure 9 - Percentage Non-conformities related to Prams (5 samples)

4.1 Mechanical Requirements

When one looks at the overall non-conformities related to mechanical requirements (clause 8 of EN 1888:2012), you will immediately notice that the level of the non-conformities is high. Only 10 out of a total of 51 samples (20%) passed all of the test requirements.

Table 5 presents the number of failed samples and percentage of non-conformities related to mechanical hazards (clause 8), including a breakdown of some of the more relevant sub-clauses within the related standard.

Table 5 - Breakdown of Percentage Non-conformities (Mechanical Hazards) according to EN 1888:2012

Clause	Title	Number of Failed samples	% Non-conformities out of 51 samples
8	MECHANICAL HAZARDS	41	80%
8.1.1	Suitability of vehicle	17	33%
8.1.2	Minimum internal height of pram body	1	2%
8.1.3	Restraint system and fasteners	12	24%
8.2	Entrapment hazards	4	8%
8.3	Hazards from moving parts	21	41%
8.4	Entanglement hazards	1	2%
8.5	Choking and ingestion hazards	15	29%
8.6	Suffocation hazards	4	8%
8.7	Hazardous edges and protrusions	0	0%
8.8	Parking and braking devices	7	14%
8.9	Stability	1	2%
8.10	Structural integrity	14	27%
8.10.1	Carrying handles and handle anchorage points of pram bodies and detachable seat units	1	2%
8.10.3	Irregular surface test	12	24%
8.10.6.2.2	Handle strength. Durability test	2	4%

Clause 8.1 Protective function

Within this clause of the standard the results of Suitability of vehicle (8.1.1), Minimum internal height of pram body (8.1.2) and Restraint system (8.1.3) are included; comments appear below.

Suitability of vehicle

WCC can be suitable for children from birth or for children from 6 months of age. Vehicles intended for children from birth shall fulfil one of the following:

- ✓ a pram body with the minimum internal length specified in 8.1.2; or
- ✓ a seat unit where the angle between the backrest and the seat is adjustable to an angle greater than 150° and conforming to 8.1.2: any parts, whose function is essential to comply with 8.1.2, shall not allow the test ball to fall from the seat unit when tested in accordance with 8.1.1.2.2; or
- ✓ a seat unit where the angle between the backrest and the seat is adjustable to an angle greater than 150° and equipped with a restraint system suitable from birth; or
- ✓ a child restraint system suitable from birth conforming to EN 13210

Vehicles intended for children from 6 months of age shall have a restraint system that fulfils the relevant requirements of clause 8.1.3. The seat units intended to be used from 6 months shall be marked with a warning (included in clause 10.2.6), visible during folding, unfolding or adjustment of the vehicle.

RESULTS: 18 of 51 samples tested (35%) did not conform to the requirements mentioned above. Different types of failures were detected, some of which are shown in Table 6 below. Many of these are related to the marking of products.

Table 6 - Non-conformities related to the Protective Function

Clause	Title	Number of failed samples	% Non-conformities out of 51 samples
8.1	PROTECTIVE FUNCTION	18	35%
8.1.1	Suitability of vehicle	17	33%
8.1.1.2.1	Measurement of angle and length of the backrest	6	12%
8.1.2	Minimum internal height of pram body	1	2%
8.1.3	Restraint system and fasteners	12	24%



Figure 10 - Test of Effectiveness of restraint system.

Clause 8.2 Entrapment hazards

Different kinds of entrapments were evaluated by the laboratory in relation to this clause. In relation to the entrapment of fingers, any open ended tubes and completely rounded circular openings within the protective volume were verified with this use of a 7 mm finger probe. Additionally, holes in mesh were tested with a 7 mm conical probe within the protective volume.

In relation to pram bodies with a length greater than 800 mm, the entrapment potential between the handle and the pram body was checked with a hip probe and a large head probe.

RESULTS: 4 of 51 samples tested (8%) did not meet the requirements mentioned above, with various kinds of failure being found. (see Table 7 and Figure 11 and 12).

Table 7 - Results of Entrapment hazards

Clause	Title	Number of failed samples	% Non-conformities out of 51 samples
8.2	Entrapment hazards	4	8%
8.2.1	Holes and openings	4	8%
8.2.2	Entrapment between the handle and the pram body	1	Note only 4 prams tested 25%

Figure 11 - Entrapment hazards



Figure 11 - Examples of entrapments.

Clause 8.3 Hazards from moving parts

As mentioned previously, this clause of the standard had a very high number of Non-conformities

Requirements

The shear and compression points were evaluated between rigid parts moving relative to each other that could close to less than 12 mm. The laboratory did not consider the shear and compression points produced whilst the vehicle was being erected for use or being folded or during adjustments of parts that were locked when in position for use.

There is no test method to evaluate this requirement. The standard states that accessible compression points can only be produced as the result of:

- The mass or movement of the product; or
- The movement of body weight by the child using the product; or
- The application of an external force either by another child, or unintentionally by the carer, or by a powered mechanism.

RESULTS: 21 of 51 samples tested (41%) did not meet this requirement (refer to Figure 13).

The canopies, hoods and footrests were the areas of the WCC which had the most number of test failures. In these parts of the product there were moving parts with a free movement between non-flexible materials and without padding covers.



Figure 12 - Compression point in canopy.

Clause 8.4 Entanglement hazards

In relation to cords, strings and other narrow fabrics, the laboratory measured their free length (requirement: less than 220 mm). For loops the laboratory measured the maximum peripheral dimension (requirement: less than 360 mm).

RESULTS: 1 of 51 samples tested (2%) did not meet this requirement, as cords were present inside the pram body and seat unit.

Clause 8.5 Choking hazards

Within the protected volume, a component that can be removed shall not fit entirely within the small parts cylinder. To evaluate this requirement, the laboratory applied a torque test and a tensile test to small accessible pieces within the product.

Additionally, for the bumper bar, the laboratory applied a “bite test” on the external cover and also on the padding material if the cover could be removed by a child according to the test methods explained in clause 8.5.2.3.



Figure 13 - Small parts test and cylinder

RESULTS: 15 of the 51 samples failed this test (29%).

The small parts that were detected were mainly due to plastic labels, zip pullers, plastic in window canopies, logos and others becoming detached during testing.

Clause 8.6 Suffocation hazards

The plastic packaging included with the product shall fulfil the requirements specified in 8.6.2 of EN 1888:2012.

RESULTS: 4 of the 51 samples tested failed this clause (4%) due to the average thickness of packaging bags being less than 0.038 mm.

Clause 8.7 Hazardous edges

The laboratory checked that edges, surfaces and protrusions within the protected volume were rounded or chamfered and free of burrs.

RESULTS: All samples tested passed this requirement.

Clause 8.8 Parking and braking devices

Before any tests were carried out, the following requirements for parking devices and braking devices were checked:

- The parking device mechanism could be operated by the user standing adjacent to the handle.
- Parking devices on vehicles with swivelling or steering front wheel(s) should engage simultaneously on all rear or front wheels or sets of wheels with a single action.
- If the parking device or its operating mechanism was within the protected volume it should be designed so that it could not be operated by a child sitting within the vehicle (requirements are described in EN 1888:2012).

Then, the test methods described in 8.8.2 of EN 1888:2012 were applied to all WCC. On 3 of the single prams received, the "Abrasion conditioning" requirements were also applicable as the parking devices operated on the tyres.

RESULTS: 7 of 51 samples tested failed these requirements (14%).

Clause 8.9 Stability

In this clause the laboratory evaluated both the stability of the vehicle and the stability of the pram body with handles.

All the vehicles were tested in accordance with clause 8.9.1 to evaluate if they tipped over. The WCC were tested in all of their combinations, if any, in the most onerous conditions.

RESULTS: All samples tested PASSED this requirement.

In relation to pram bodies or carry cots fitted with handles, the laboratory measured the maximum angle of inclination of the pram body towards the head or foot. This angle needed to be less than 10°.

RESULTS: 1 of the 23 pram bodies with carrying handles failed this test with an inclination greater than 10° (refer to figure 15).

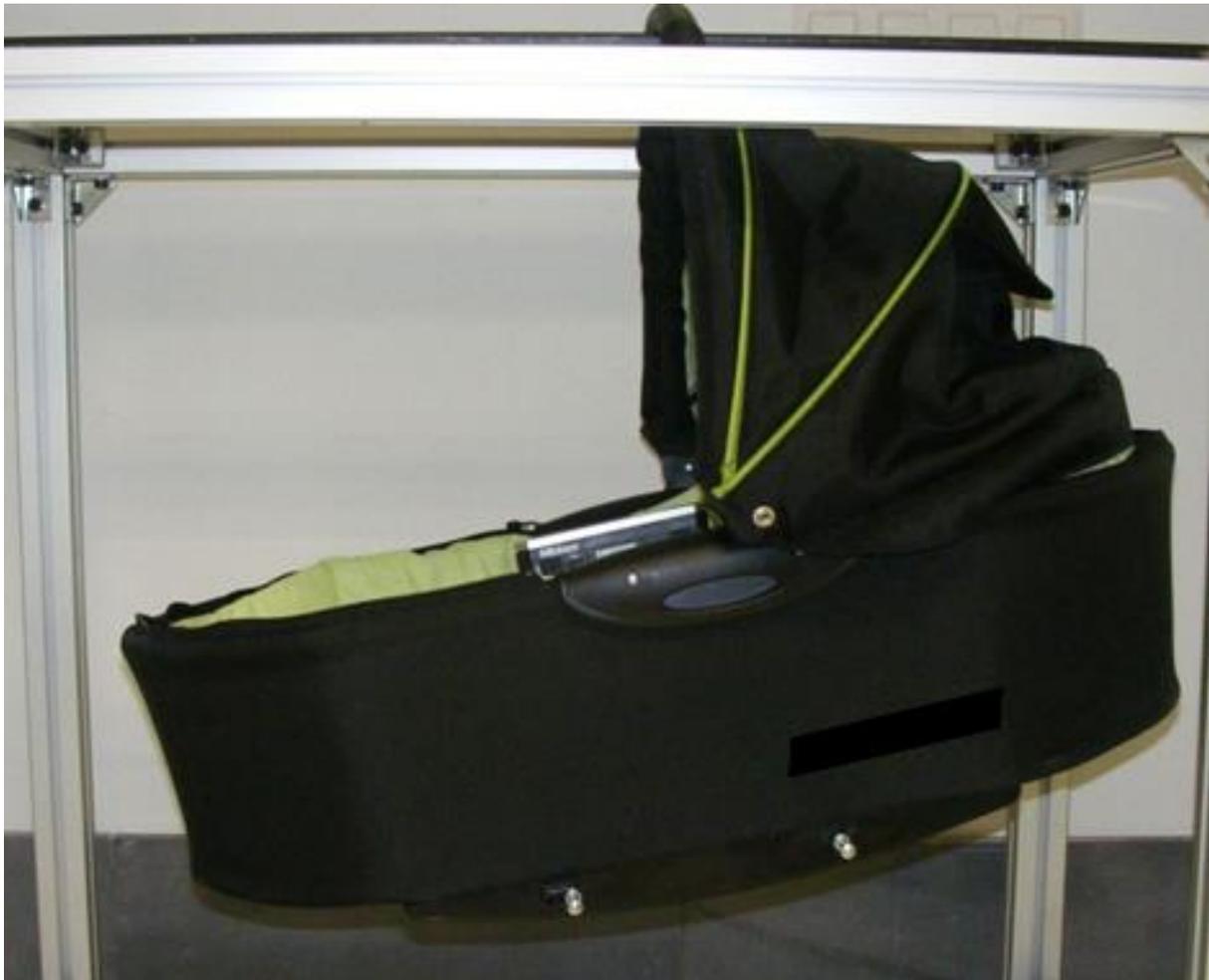


Figure 14 - Stability in a pram body.

Clause 8.10 Structural integrity

In this clause of the standard, the laboratory evaluated the mechanical resistance of the products to prevent collapsing or breaking that could cause injuries. Different tests were included in this section. An explanation is shown below.

Carrying handles and handle anchorage points of pram bodies and detachable seat units

According to this clause the laboratory evaluated the positioning of the attachment and its resistance. After the test the laboratory verified that the anchorage points had not broken or had not been pulled out and that no permanent distortion or damage to any part of the product had been caused.

RESULTS: 1 of the 23 pram bodies with carrying handles failed this test.

Strength and durability of attachment devices for pram bodies or seat units or car seats

This clause of the standard is intended to evaluate the devices used to connect the pram body or the seat unit to the chassis. During the test the laboratory verified that these devices did not become disconnected, loosened or show signs of damage and any carrycot attached to a seat unit did not become detached from the seat unit.

RESULTS: All samples tested passed this requirement.

Irregular surface test

This test is the most important one for evaluating the structural integrity of a product; as it simulates the wear on the product during its lifetime.

After the test in accordance with 8.10.3.2, the laboratory verified the following:

- No visible damage had occurred to the vehicle.
- The vehicle did not collapse.
- The locking mechanisms and attachment devices functioned as intended.
- The devices used to connect the pram body or the seat unit to the chassis did not become disconnected, loosened or damaged.

RESULTS: 11 of 51 samples tested failed this test due to fractures in chassis or rivets (see figure 21).

For each product sample that failed this test, the laboratory registered the number of cycles that there had been before any fractures occurred and they then took photos of the broken areas and the resultant product sample.



Figure 15 - Examples of failures during Irregular surface test

Dynamic strength

This was a further test to verify possible damage to the vehicle during an impact. During the test, the vehicle should not collapse whilst afterwards the locking mechanisms and attachment devices should still function as intended.

During this test the laboratory also evaluated the devices used to attach the pram body or the seat unit to the chassis and whether the pram body or seat unit were displaced during testing or not.

RESULTS: Only 39 samples were tested due to previous damage. All the samples tested passed this requirement.

Wheel strength

With this clause of the standard the laboratory checked the attachment of removable or fixed wheels and verified that wheel assemblies functioned as intended.

RESULTS: Only 46 samples were tested due to previous damage. All the samples tested PASSED this requirement.

Handle strength

These tests are intended to verify the structural strength of the handle or any part of the vehicle. The Durability test was performed on all the samples as described in clause 8.3.2.

Additional tests for adjustable or reversible handles (clause 8.10.6.2.3 'Dynamic resistance of reversible and/or adjustable handles) and telescopic handles (8.10.6.2.4 'Dynamic resistance of telescopic handles) were carried out on WCC fitted with adjustable, reversible and telescopic handles, respectively.

RESULTS: Only 39 samples were tested due to previous damage. 2 samples failed this test.

Table 8 - Results of structural integrity

Clause	Title	Number of failed samples	% Non-Conformities out of the samples tested
8.10	Structural integrity	14	27%
8.10.1	Carrying handles and handle anchorage points of pram bodies and detachable seat units	1	2%
8.10.2	Strength and durability of attachment devices for pram bodies or seat units or car seats	0	0
8.10.3	Irregular surface test	12	24%
8.10.4	Dynamic strength	0	0
8.10.5	Wheel strength	0	0
8.10.6.2.2	Handle strength. Durability test	2	4%

4.2 Durability of Markings

This test was performed by rubbing all labels for 20 seconds with a cotton cloth dampened with water. After this operation, the laboratory verified that the text on the labels was still clearly legible. Three combination products and four pushchairs/strollers failed this particular test. Two of the seven originated from countries within the EEA whilst four originated from China, with the remaining sample having a different origin.

RESULTS: 7 of the 51 samples tested failed this test (14%). The non-conforming labels were paper labels with different product information.

4.3 Dynamic Strength of Carry Cots

4 samples out of the 23 pram bodies/carry cots (fitted with handles) which were tested did not meet clause 6.5.5.2 “Test for dynamic strength of carry cots” of EN 1466:2004 +A1:2007 (see Figure 7).

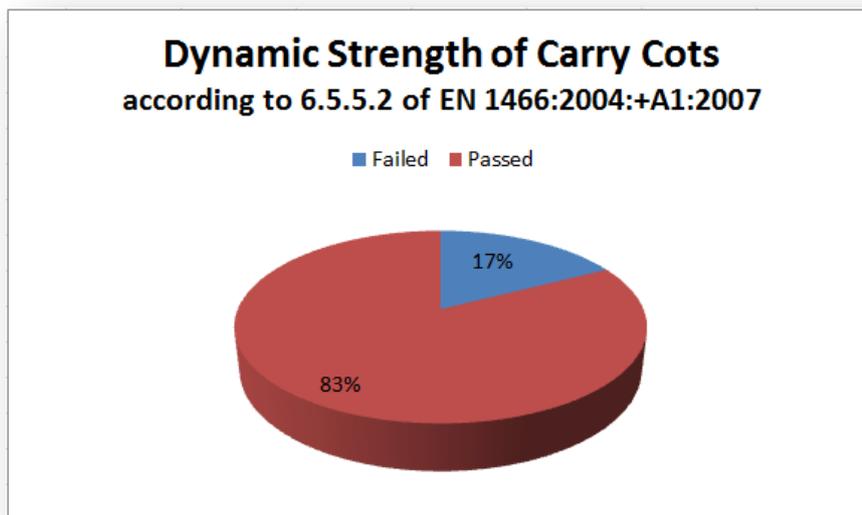


Figure 16 - Overall results of the samples tested

4.4 Product Information

This section focuses primarily on the information gathered from checklists produced centrally by the CCA working group. Although the checklists were relatively clear, certain inspectors may have interpreted certain parts of the checklists in a different way and therefore it was difficult to ascertain the full accuracy of the information gathered. For this reason, it is suggested that the figures given in this section are used only for indicative purposes only.

Table 9 - Non-compliances related to Product Information

10	PRODUCT INFORMATION (AIJU Results)		
10	PRODUCT INFORMATION (Checklist Results)	39	76%
10.1	General: All product info to be provided in official language of the country of sale. (3)	19	42%
10.2	MARKING OF PRODUCT (Checklist Results)	23	46%
10.3	Purchase information (Checklist Results)	22	46%
10.4	Instructions for use (Checklist Results)	22	44%

The last two columns within Table 9 refer to the number of non-compliant samples and the percentage rate of non-compliances when compared to the total number of 51 WCC samples. You will immediately notice the rather high percentages of non-compliances for product information.

Table 10 below gives a breakdown on the non-compliances in relation to clause 10.1, clause 10.2 and clause 10.3 of EN 1888:2012. It may be worth noting that in the case of markings on the products as per clause 10.2, there was rather a high level of non-compliance in relation to the warnings within sub-clause 10.2.3 (WARNING Never leave your child unattended) and sub-clause 10.2.6 (WARNING Always use the restraint system).

10.1	General: All product info to be provided in official language of the country of sale. (3)	19	42%
	- on the packaging	17	38%
	- on the product	13	29%
	- on instructions	6	13%
10.2	MARKING OF PRODUCT (Checklist Results)	23	46%
10.2.1	Name or Trademark of Mfg/ Importer (4.1)	5	10%
10.2.3	WARNING Never leave your child unattended (4.4)	10	26%
10.2.4	WARNING Use a harness as soon as your child can sit unaided (4.7)	5	11%
10.2.5	WARNING this seat unit is not suitable for children under 6 months (4.6)	9	26%
10.2.6	WARNING Always use the restraint system (4.5)	12	32%
10.2.8	Number and date of European Standard (4.8)	6	12%
10.3	Purchase information (Checklist Results)	22	46%
10.3.1	Info on weight, age and/or ability of child for which the vehicle is suitable (up to 15Kg) (5.1)	16	34%
10.3.2	WARNING This product is not suitable for running or skating (5.2)	20	53%

Table 10 - Breakdown of Non-compliances related to Product Information

With regards to clause 10.2.8 of EN 1888:2012, which relates to the indication of the number and date of the relevant European Standard, it may be interesting to take a look at the results shown in Figure 18 below. Although they should only be taken for indicative purposes only, it would seem that the level of percentage compliance to EN 1888:2012 is much higher with samples labelled according to EN 1888:2012.

Even more important is the fact that the level of non-compliances increases substantially with those products which are not at all labelled by the respective manufacturers. This will be particularly useful to market surveillance inspectors when performing their daily inspection routines in outlets or even by Customs officials who may immediately alert the respective market surveillance authority should, for example, no label related to the standard, be found on a product.

		COMPARISON OF STANDARDS		
		NONE	OLD	NEW
8	MECHANICAL	100%	84%	50%
9	Durability of marking	33%	14%	0%
10	Product Information (Based on Checklists)	100%	70%	88%

NO LABEL - 100% non-compliance to Mechanical Aspects & Product Information & 33% non-compliance to “Durability of marking”

OLD Standard – 84% non-compliance to Mechanical Aspects / 14% non-compliance to Durability of Marking & 70% non-compliance to Product Information.

NEW Standard – 50% non-compliance to Mechanical Aspects, 88% non-compliance to Product Information and there were no non-compliances to durability of marking.

Reference to the Number & Date of the European Standard	
OLD Standard	37
Newly Revised Standard EN 1888:2012	8
None quoted	6
TOTAL	51

Figure 17 - Labelling of the Standard Number and Date

To conclude, a number of non-compliances were found in relation to product information. This may be a problem particularly for consumers who may not be aware of the inherent risks within the respective products. Therefore, European organisations representing manufacturers and importers of such products may find it useful to further inform their members about the importance of such product information, in particular, certain warnings which should be present to alert consumers to the respective risks involved with these products. The lack of compliance on the requirements within the standard for warnings and instructions could be an area for market surveillance authorities to consider focussing on in the future. Such a lack of warnings could potentially lead to dangerous situations for consumers.

4.5 Deeper Look at Major Areas of Non-Conformities per Product Type

In order to be able to identify certain trends and preliminary root-causes of non-conformities, an evaluation of non-conformities per product type has been performed in the following areas:

- **Protective function (*Strollers and Combination products*)**
- **Restraint systems and fasteners (*All categories*)**
- **Hazards from moving parts (*All categories*)**
- **Choking and Ingestion hazards (*Combination product and Prams*)**
- **Structural integrity (*Strollers*)**

This Deep Dive analysis is based on the test results according to EN-1888:2012, the observations made by market surveillance authorities and a statistic evaluation of the trends.

8,1	PROTECTIVE FUNCTION	8,5	CHOKING & INGESTION HAZARDS
8.1.1	Suitability of vehicle	8.5.2.1	Torque test
8.1.1.2.1	Measurement of the backrest	8.5.2.2	Tensile test
8.1.2	Min. internal height of pram body	8.5.2.3	Bite test
8.1.3	Restraint system and fasteners		
8,3	HAZARDS FROM MOVING PARTS	8,10	STRUCTURAL INTEGRITY
8.3.1	Requirements (moving parts)	8.10.1	Handles
8.3.2	Wheels	8.10.2	Attachment devices
8.3.3.1	Folding system	8.10.3	Irregular surface test
8.3.3.2	Pushchairs with rotating seat units	8.10.4	Dynamic strength
8.3.3.3	Handle movement	8.10.5	Wheel strength
8.3.3.4	Requirements for attachment to the chassis	8.10.6	Handle strength

Figure 18 - Deep Dive Areas (Reference to EN 1888:2012)

Table 11 shows the percentage level of non-compliances against certain clauses of the standard for all of the total 51 wheeled child conveyances samples.

Table 11 - Overall Summary of Major Areas of Non Conformities

Clause	Title	Number of Non-compliances	% Non-compliance out of the total 51 WCC Samples
8.1.1	Suitability of vehicle	17	33%
8.1.3	Restraint system and fasteners	12	24%
8.3	HAZARDS FROM MOVING PARTS	21	41%
8.5	CHOKING AND INGESTION HAZARDS	15	29%
8.10	STRUCTURAL INTEGRITY	14	27%

STROLLERS / SINGLE PUSHCHAIRS

Table 12 shows the percentage level of non-compliances solely related to strollers / single pushchairs that are being focused upon within this section. In total, there were 26 samples which fell under this category.

Table 12 - Non-conformances related to Strollers/Single pushchairs

Clause	Title	NC	Statistics based on 26WCC
8,1	PROTECTIVE FUNCTION	9	35%
8.1.1	Suitability of vehicle	8	31%
8.1.1.2	Backrest	2	8%
8,1,3	Restraint system and fasteners	5	20%
8,3	HAZARDS FROM MOVING PARTS	11	42%
8,10	STRUCTURAL INTEGRITY	11	42%

Evaluation of Non Compliances related to Clause 8.1 - Protective Function

9 strollers / single pushchairs did not comply with clause 8.1 (Protective Function) of EN 1888:2012. This corresponds to 35% of all 26 strollers / single pushchairs tested within this project. 8 of these samples did not comply with clause 8.1.1 (suitability of vehicle), 2 samples did not comply with clause 8.1.1.2 (backrest) and 5 had non-conformities with their restraint systems.

Out of the 9 strollers / single pushchairs that did not comply with clause 8.1 (Protective Function), non-conformities with their marking/product information were recorded several times under different clauses. 3 of the samples were not marked with the warning “WARNING this seat unit is not suitable for children under 6 months” whilst 2 of them did not indicate in the Product information that they were not suitable for children under 6 month of age.

With regards to Clause 8.1.1 (Suitability of vehicle), out of a total of 8 non-compliant samples, 6 of them also had non-compliances in relation to their marking/product information.

In the case of Clause 8.1.3 (Restraint system and fasteners), out of a total of 5 non-compliant samples, 4 of them also had non-compliances related to marking. In two of these cases, the test samples also had non-compliances related to Clause 8.1.1, meaning that there were multiple non-compliances registered under different areas.

Further detailed information on the non-compliances is found below:

- 2WCC which were recommended as being suitable from birth(marketing) but which could not be adjusted to more than 150°.
- 2WCC where the angle of the backrest was less than 95°.
- 2WCC Warning not to use from birth not visible during adjustment(marketing)
- 2WCC Warning not to use from birth missing(marketing)
- 2WCC Restraint system not suitable from birth(marketing)
- 1WCC Restraint system not suitable
- 1WCC Restraint system released when a force of under 200N was applied.

Evaluation of Non-Compliances related to Clause 8.3 - Hazards from Moving Parts

With regards to non-compliances for moving parts, the main non-compliances related to Clause 8.3.1 and Clause 8.3.3.1, as shown below:

Clause 8.3.1 Requirements: Hazards from Moving Parts (10 Non-Compliant Samples)

- 4NC within the protective volume due to canopies having compression points between rigid parts which could close to less than 12mm
- 5NC within the protective volume for footrests having compression points between rigid parts that could close to less than 12mm
- 1NC within the protective volume which was due to a handle and backrest/canopy having compression points between rigid parts which could close to less than 12mm

Figure 19 below shows examples of the non-conformities found with the samples tested to clause 8.3.



Figure 19 - Examples of Issues related to Hazards from Moving Parts

Clause 8.3.3.1 Folding system for storage or transportation (4 Non-Conforming Samples)

- 8.3.3.1.1.3 Unintentional release, 2WCC with lock did not automatically return to original position/locking device re-engaged.
- 1WCC lock self-released during Irregular surface test (8.10.3)
- 8.3.3.1.1.2 Incomplete deployment on 1WCC of only one locking device



Figure 20 -Examples of Issues related to Folding System for Storage or Transportation

Evaluation of Non-Compliances related to Clause 8.10 - Structural Integrity

In the case of Clause 8.10 (Structural Integrity), the following non-compliances were found:

- 8.10.3 Irregular surface test - 8 Non-conformities on 8 WCC samples
- 8.10.6 Handle strength - 4 Non-conformities on 2 WCC samples

In the case of Clause 8.10.3 (Irregular surface test), the main issues were: rivets broken (<72000cycles) on 4WCC, broken material on 2WCC and 1WCC on which the locking mechanism broke during testing.

In relation to Clause 8.10.6 (Handle Strength), the 4NC on 2WCC were due to the fact that it was not possible to carry out the test. One WCC broke during testing according to 10.8.3 .

SUMMARY OF REFLECTIONS ON IDENTIFIED NON-COMPLIANCES FOR STROLLERS / PUSHCHAIR

- **Protective function**
 - MARKING issues were the main issue in relation to the Suitability of vehicles. It was shown that Non Conformities could be recorded multiple times under different areas. 6 of the NC for “Suitability of vehicle” also related to Marking and Product information.
 - Other issues concerned the angle of backrests being less than 95degrees whilst one stroller was found to have a restraint system that was too weak as it was able to be released with a force of less than 200N.
 - In total, the **restraint systems** on 5 samples were NC. In addition to the one that was too weak, there were 4 NC related to marking
- **Hazards from moving parts**
 - Hazards from moving parts was a major area of NC especially on canopies and footrests within the protective volume. This area needs to be further addressed since this is also one of the most common areas for injuries due to compression and cutting
 - Folding system-unintentional release (8.3.3.1.1.3) There were some issues with strollers not having sufficient locking mechanisms
- **Structural integrity**
 - Rivets breaking during the structural integrity test were quite common. There were also 2 pipe material breakages and 1 locking mechanism breakage. The main conclusion that can be drawn from this is that manufacturers should carry out further investigations on the materials that they choose for rivets and also the dimensions for these kind of joints

SINGLE PRAMS

Table 13 - Non-Compliances related to Prams

		NC	Statistics based on 5WCC
8,1,3	RESTRAINTSYSTEM AND FASTENERS		RA-identified
8,3	HAZARDS FROM MOVING PARTS	2	40%
8,5	CHOKING & INGESTION HAZARDS	1	20%

NOTE: Due to the quantity of samples it is difficult to make any firm conclusions based on these statistics

As indicated in the accompanying note for Table 13, too few prams were tested within the project in order to be able to form any conclusions based on the respective statistics.

2 prams were found to have non-conformances in relation to clause 8.3 (Hazards from moving parts)

1 pram was found to have a non-conformance in relation to clause 8.5 (choking and ingestion hazards).

Note that 1 pram had also non-conformity on breaks (clause 8.8) and 1 pram Non Conformity on Carrying handles (8.10.1)

It has been identified that the standard do not clearly cover cultural different use of prams for example the safety issues of the Nordic way of using a pram for outdoor sleeping children up till the age of 3 years. This issue should be dealt with elsewhere due to the small number of items tested in this project.

8.3: Within the protected Volume, the hood should have no moving parts between rigid parts moving relative to each other that can close to less than 12mm.



Figure 21 - Moving parts between the rigid parts within the protected volume

When it comes to hazards from moving parts, especially within the protective area in canopies and hoods, there could be differences in how the standard is interpreted. There is a need for further clarification in this particular area. The interpretation on the requirement to have a layer of thin fabric on the compression points in order to avoid accidents with rigid parts is a common problem area (see example in Figure 22).

During testing there were certain discussions on the methodology that should be used for measuring <>800mm pram body. Further clarity on the respective methodology to be used in such cases may be needed within the standard.

COMBINATION PRODUCTS

Table 14 - Non-Compliances related to Combination Products

Clause		NC	Statistics based on 20WCC
8,1	PROTECTIVE FUNCTION	8	40%
8,1,3	RESTRAINTSYSTEM AND FASTENERS	5	25%
8,3	HAZARDS FROM MOVING PARTS	8	40%
8,5	CHOKING & INGESTION HAZARDS	8	40%

There were 20 combination products tested within this project. Table 14 above shows the number and percentage of non-compliant samples found within this product-group.

Evaluation of Non-Compliances in Clause 8.1 - Protective Function

The information below gives a breakdown on the number of non-compliances found in relation to Clause 8.1 (Protective Function)

8.1.Protective function (8NC were found)

1NC related to the pram height being too low

2NC related to the Backrest angle<95 (Clause 8.1.1.2)

3 WCC related to products not being marked with the warning: “WARNING this seat unit is not suitable for children under 6 months (4.6)”

2NC related to restraint system NCs which were also NCs under 8.1.3.

Reflection: It was shown that non conformities could be registered multiple times under different areas. With regard to Clause 8.1.1 (Suitability of vehicle), a total of 8NC were found out of which 4NC related to Marking and Product information.

Evaluation of Non-Compliances in Clause 8.1.3 - Restraint System & Fasteners

The information below gives a breakdown of the non-compliances found in relation to Clause 8.1.3 (Restraint system and fasteners)

8.1.3 Restraint system (7NC were found)

2NC related to restraint systems that could be used without a crotch strap. bit say

3NC related to fasteners that came loose at a force of <200N

2NC related to the test where a dummy representing a child under 6 months of age fell out of the restraint system. This meant that the WCC wasn't suitable for children of <6month of age and this information was also missing from the marking/product information

1NC related to the anchorage points for the restraint system in the pram being wrongly placed.

Reflection: 30% (6NC) of the combination WCC had non conformities for mechanical weaknesses in their restraint systems; this can be considered to be quite a high rate. Markings that in 2 cases were also NC against clause 8.1.1 meant that there were multiple NC recorded under different areas.

Evaluation of Non-Compliances in Clause 8.3 - Hazards from Moving Parts

The information below gives a breakdown on the non-compliances found in relation to Clause 8.3 (Hazards from moving parts)

8.3 Hazards from moving parts (8NC found)

6NC related to: Within the protective volume the CANOPY had compression points between rigid parts that could close to less than 12mm

2NC related to: Within the protective volume the FOOTREST had compression points between rigid parts that could close to less than 12mm

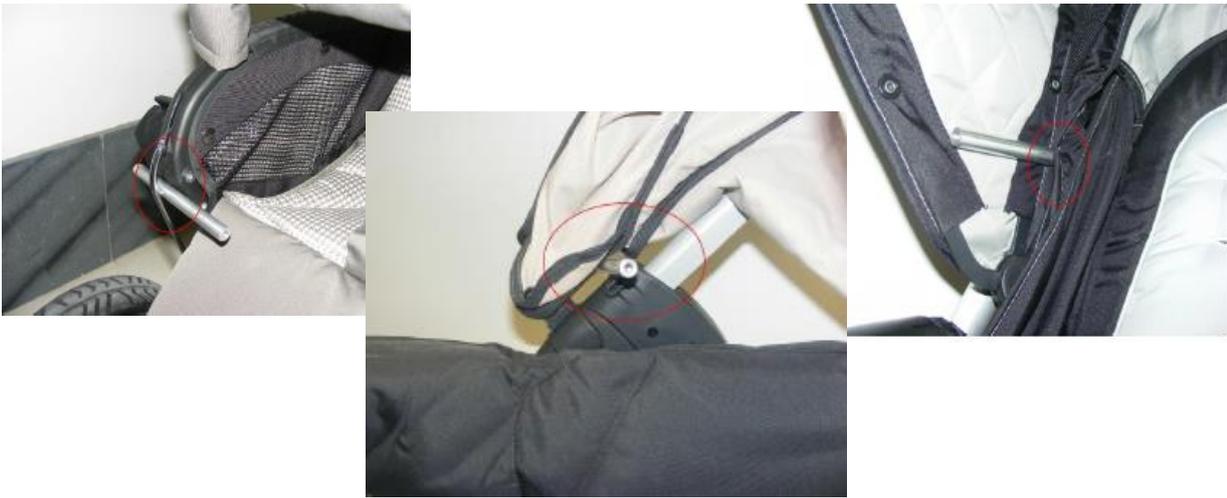


Figure 22 - Examples of Issues related to Hazards from Moving Parts

Evaluation of Non-Compliances in Clause 8.5 - Choking and Ingestion Hazards

The information below gives a breakdown on the non-compliances found in relation to Clause 8.5 (Choking and Ingestion hazards)

8.5.2 Choking and Ingestion hazards (8WCC found with NC)

8.5.2.1 Torque test 2NC. Zip pullers within the protective volume came loose on 2 WCC.

8.5.2.2 Tensile test 5NC. There was 1NC for plastic parts within the protective volume becoming loose, 2NC for bumper bar pieces becoming loose and 2NC for Letters/Labels becoming loose from the chassis.



Figure 23 - Example of a small part detachable which could cause a choking hazard

SUMMARY OF REFLECTIONS ON IDENTIFIED NON-COMPLIANCES FOR COMBINATION PRODUCTS

Protective function

The main issue here related to testing in accordance with clause 8.1.3 (Restraint system and fasteners). Where WCC were intended to be used for children less than 6 months of age, the restraint systems on 2 products were found to be insufficient. The respective markings were also wrong on the seat module/ restraint system.

2NCs related to the angles of backrests being less than 95 degrees whilst a further two WCC had restraint systems with were too weak, breaking at a force of less than 200N. In some cases the markings that were a NC against one clause was also NC against another clause which meant that multiple NC were recorded on the same issue under different areas.

Hazards from moving parts

Hazards from moving parts was another major area of NC on combination products especially in relation to their canopy and footrest mechanisms. This area needs to be further addressed since this is also one of the most common causes of compression and cutting injuries.

Choking and Ingestion hazards

Zipper and labels becoming loose within the protective volume could potentially lead to a choking hazard. NCs with bumper bar padding and plastic pieces becoming loose within the protective volume also occurred. Again this is an area where NC for the same issue were recorded under several different clauses including under the bite test.

5. CONCLUSIONS

As stated earlier on in this document, the test results only show the level of non-compliance / failure rates with certain clauses of the respective European Standard. Ultimately, market surveillance authorities had to perform risk assessment in order to identify the **level of risk found within each product**.

When it came to risk assessment, all market surveillance authorities adopted the same methodology as indicated by the RAPEX Guidelines, Commission Decision 2010/15/EU.

Additionally, all market surveillance authorities were asked to ensure that officers involved in risk assessment updated themselves and took a look at the latest PROSAFE E-learning Portal on risk assessment. This was in order to ensure that everyone had more or less the same basic level of knowledge and understanding when it came to utilizing this methodology.

5.1 Risk Assessment

In September 2013, a special CCA working group meeting was held in Alicante at the laboratory of AIJU in order to discuss the test results and also to analyse and compare risk assessment methodology and results. The participating authorities felt that this was a very useful session since they all had the opportunity to directly discuss certain technical issues with the laboratory whilst looking directly at the respective samples that were tested. Additionally, it was found that it was easier to discuss risk assessment issues as the test samples were physically present during the meeting as well.

Although the risk assessment methodologies used were the same, this did not mean that the results were exactly the same throughout all the participating Member States. Certain risk scenarios developed by the participating authorities could be slightly different to one another. This may have been partly due to cultural differences in how WCCs are actually used within member states.

One thing that needs to be addressed at a European level was the lack of accident data that was available. If such data was available, this would really improve the situation and further ensure that project results were backed up by concrete evidence when assessing the probability factors for accidents happening. Participating authorities and external stakeholders are both totally in agreement on the importance of having an updated European accident database.

In these joint activities it could also be useful to quality assure the separate Risk analysis with a simple cross comparison Risk assessment table/tool (for example FMEA¹), in order to identify where opinions differ such as with the cultural differences of use etc. and thereby learn from each other so that common views can eventually be reached.

Figure 24, on the next page, provides an overview of the risks found within each product group. Please note that certain market surveillance authorities are still working on some samples and therefore the final results / outcomes may change slightly from the percentages shown in the following pie charts.

In relation to the risk assessment results one needs to remember that it is often a single part or certain separate function of the product that provides the level of risk.

¹ FMEA Failure Mode and Effect Analysis used for risk assessment in product, design, process, production analysis and is the official tool for risk assessment according to the Machinery Directive 2006/42/EC.

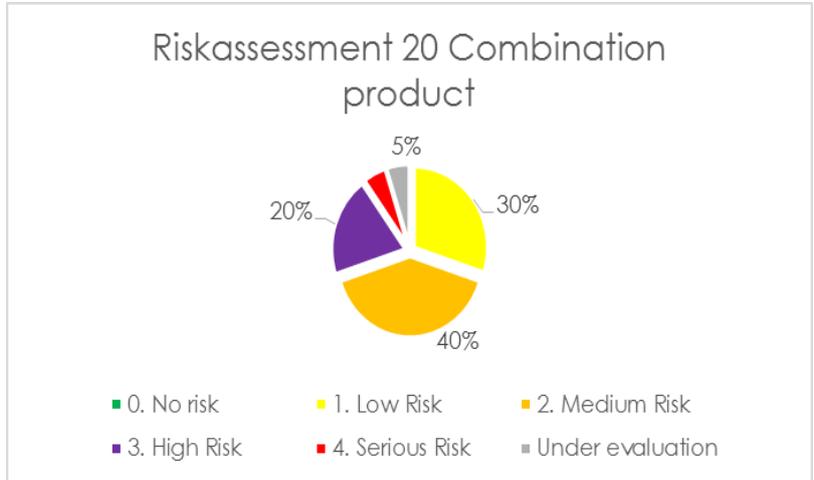
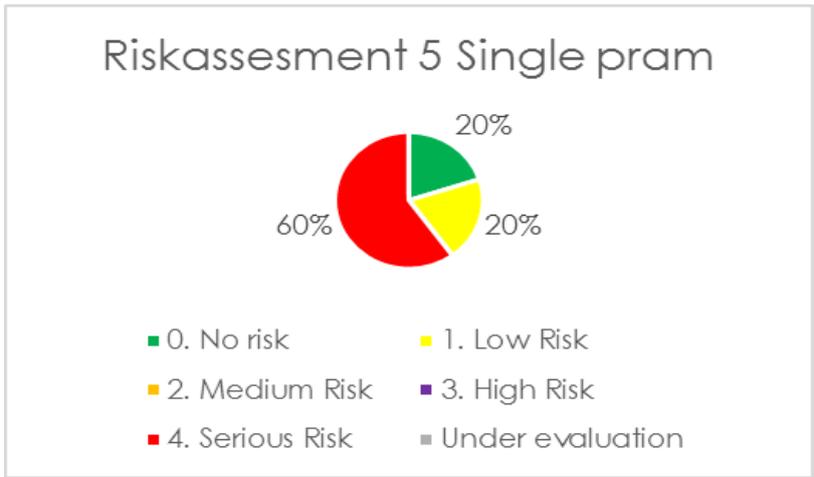
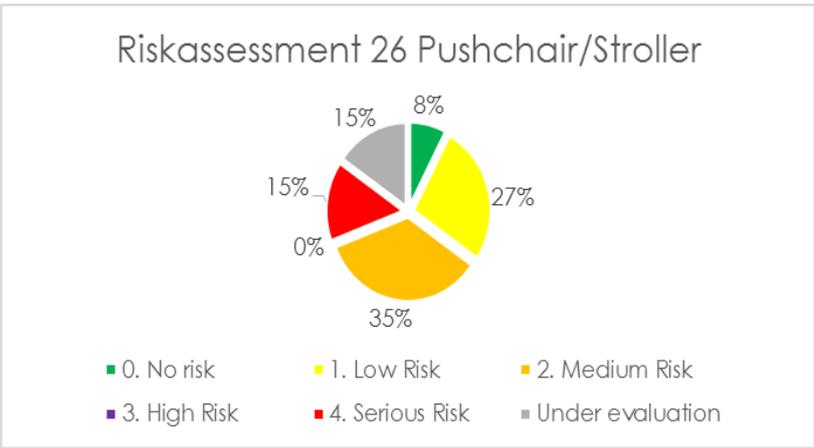


Figure 24 - Breakdown of Risks found with the 51 samples tested

Overall, the majority of products were found to be in low-medium risk area.

0. No risk	4%
1. Low Risk	27%
2. Medium Risk	33%
3. High Risk	8%
4. Serious Risk	16%
<i>Under evaluation</i>	10%

15% of all **pushchairs/ strollers** were found to have a serious risk. This is the highest level of risk that a market surveillance authority can find with a product, utilizing the existing risk assessment methodology.

Another 35% of pushchairs / strollers were found to have a medium risk which meant that overall 50% of all of the pushchairs / strollers tested had either a medium risk or a higher one.

In relation to **combination products**, a total of 65% were found to have either a medium risk or a higher risk, with 5% having a serious risk.

The number of **prams** sampled (5 in all) was rather low and therefore it is difficult to come up with any significant figures / percentages on this sample base. However, it is worthwhile noting that out of the 5 prams tested, 3 of them were found to have a serious risk,

5.2 Actions and Measures taken

It is very positive to see that the cooperation between economic operators and market surveillance authorities in most cases was very solution focused in order to eliminate the risks with products. Overall, 80% of the measures taken were actually taken voluntarily by the economic operators, in coordination with the respective market surveillance authorities. The actions and measures taken for the different products are shown in Figure 25. It is important to note that some product evaluations are still on-going.

Before delving into the measures taken in more detail, it is worth giving a generic explanation of the kinds of measures usually taken by market surveillance authorities:

No action - No action is taken by the respective market surveillance authorities when there are no safety issues found with products or the risk is so minimally low no further action is required at that point in time.

Minor measures - Manufacturer takes measures to eliminate risks posed by products in line with directions provided by the respective market surveillance authority. For example minor design changes, minor changes in production or quality control, minor update of marking etc.

Sales ban - Product is prohibited from sale permanently or during a certain time-frame / period.

Withdrawal - In line with the definition found in Directive 2001/95/EC, this means any measures aimed at preventing the distribution, display and offer of a product which is dangerous to consumers.

Recall - In line with the definition found in Directive 2001/95/EC, this shall mean any measure aimed at achieving the return of a product that has already been supplied or made available to consumers by the producer or distributor.

Table 15 - Summary Table of Measures related to 51 WCC tested:

Summary Total	51	%	Compulsory measures
No action	3	6%	NA
Minor measures / possible minor conditions imposed on economic operator.	27	53%	2
Sales ban	3	6%	1
Withdrawal (incl sales ban)	5	10%	3
Recall	5	10%	1
Under evaluation	8	16%	NA

Table 15 shows a summary of the measures taken on the 51 products that were tested during this project. You will immediately notice that on 27 products (representing 53% of the total number of the samples tested) minor measures were taken on them by economic operators in agreement with their respective market surveillance authorities.

There were sales bans on 3 products and a further 5 had both a sales ban and a withdrawal from sale imposed on them by their respective market surveillance authorities. Out of these 8 products, economic operators took voluntary action on 4 of them directly themselves.

A product recall is considered to be the strongest form of measure that a market surveillance authority can take. This can either be done voluntarily by the economic operator or enforced directly by the market surveillance authority. It is worth to note that in relation to 3 out of the 5 recalls shown in Table 15, not only were the WCC recalled from consumers by the economic operators but they also re-built the products themselves in order to eliminate the respective risks. The most common products for this kind of recall are passenger cars.

RAPEX alerts:

In accordance with the GPSD directive 2001/95/EC dangerous products will or have been notified into the RAPEX system. To date 3prams, 4strollers and 2combination WCC have been notified.

ICSMS

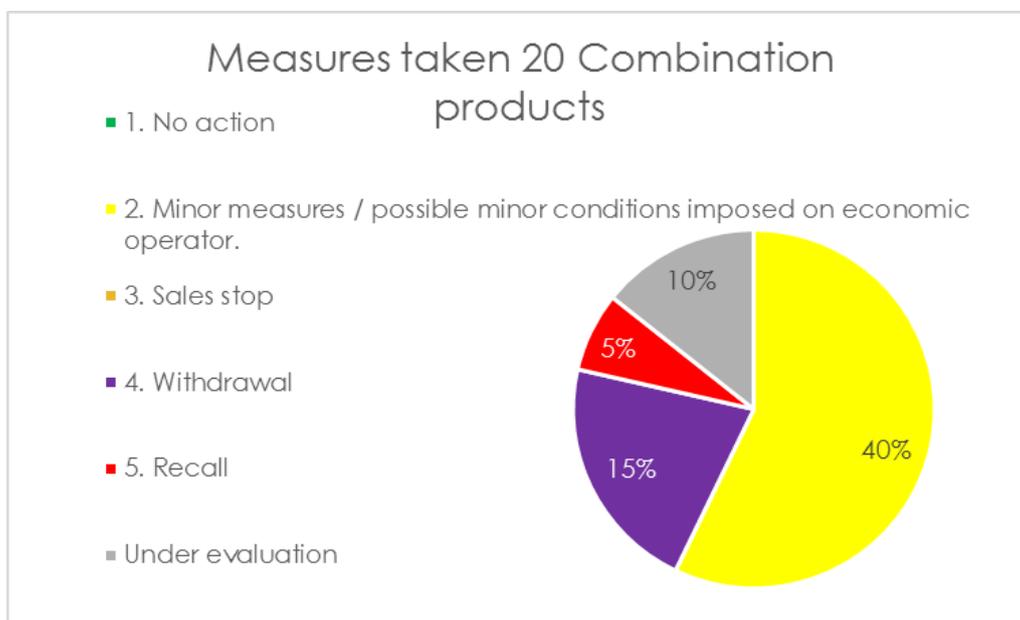
The market surveillance authorities participating in this CCA working group and in particular those having direct access to ICSMS, have agreed to register their results and other information on their respective samples within the ICSMS system.

Additional reflections related to Figure 25:

The three pie charts within Figure 25 represent the measures taken by economic operators after interaction with their respective market surveillance authorities in relation to the three main product groups: combination products / strollers / prams. Although in the case of prams, it would appear that there is a high percentage of recalls (60%), one needs to remember that only 5 prams were tested during this project and therefore care should be taken with interpreting any test results.

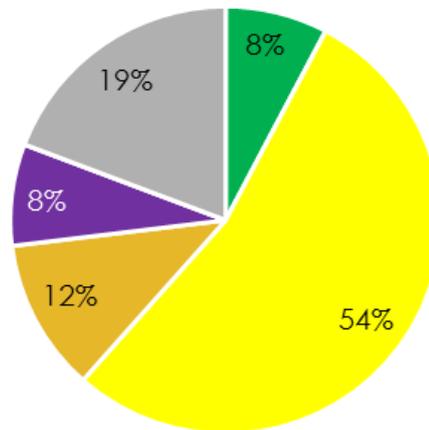
Voluntary action taken by economic operators - In relation to strollers, 15 out of the 19 measures were taken voluntarily by the respective economic operators. In the case of combination products, 16 out of 18 measures were voluntary measures taken by economic operators whilst on prams, 3 out of the 4 measures that were taken were voluntarily undertaken by economic operators. This shows that there has been a high level of interaction and cooperation between market surveillance authorities and economic operators in all three product groups.

Figure 25 - Breakdown of type of Measures



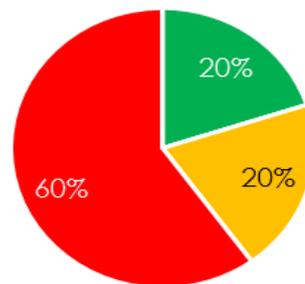
Measures taken 26 Pushchair/Stroller

- 1. No action
- 2. Minor measures / possible minor conditions imposed on economic operator.
- 3. Sales stop
- 4. Withdrawal
- Under evaluation



Measures taken 5 Single Prams

- 1. No action
- 2. Minor measures / possible minor conditions imposed on economic operator.
- 3. Sales stop
- 4. Withdrawal
- 5. Recall
- Under evaluation



6. RECOMMENDATIONS

6.1 Possible Improvement to the European Standard EN 1888:2012 in relation to standardization and testing.

Observation 1:

There are currently no requirements within the standard that detail any test report format or the specific content of test reports. It can sometimes be difficult for Market surveillance authorities to see what has been tested if the laboratory has not clearly indicated what has been done.

Suggestion:

Test reports should include a reference to EN13018:2001-A1/2004 chapter 4.4 or use the content of applicable parts in that clause. The most important thing is that test should clearly identify the test vehicle and its accessories, including batch numbers, and important physical features such as size, weight etc. for traceability reasons. Even though this information might be known by the manufacturer at the time of testing, it is important that the authority gets the information in any test report as it will help when asking for technical documentation afterwards.

This requirement could be connected to clauses 4.1 and 4.2 of the standard.

Observation 2:

The standard should make it clear which type of WCC needs to be tested in accordance with which clauses.

Suggestion:

The standard could be divided into chapters relating to each different kind of vehicle. This would mean one chapter containing the requirements for strollers, one chapter for prams with bodies > 800 mm's, one chapter for prams with bodies < 800 mm's and lastly one chapter for combination products

Observation 3:

If a test report stated a "Pass", there could be some confusion on the actual number of tests performed and/or which test out of several possible tests has actually been performed.

Suggestion:

There should only be one test result listed under each Clause number.

Observation 4:

Some test only stated "Not Pass" in relation to certain clauses. This meant that in some cases there was a lack of information on how close a product had come to fulfilling a pass requirement of a particular clause of the standard. Further information would have been useful as this would have assisted with risk assessment and risk management.

Suggestion:

Test reports should provide information on the size of any deviation from the requirements in the standard. This could be specified in the standard as an actual requirement.

Observation 5:

Different results were obtained when measuring the length of pram bodies, which was possibly due to a lack of clarity of the actual definition used in the standard.

Suggestion:

An accurate method for measuring the length of a pram body should be included in the standard.

Observation 6:

The standard does not cover all hazards from moving parts. Within the protected volume hazardous shear and compression points are accepted, if they occur during adjustments of parts that are locked when in position for use.

The standard is interpreted differently. Some laboratories accept shear and compression points between rigid parts if there is also a textile part in between. This is regardless of whether or not the textile prevents a child from putting its fingers between the rigid parts.

Suggestion:

The standard should be changed so that babies are always secure from having their fingers crushed while sitting or lying in the vehicle.

If there are adjustments that the carer needs to make whilst the vehicle is in use, such as changing the handle position from the front to the back of the vehicle, there should be no possibility of any finger entrapments during this adjustment. The standard should make it clear that textile parts between rigid parts makes no difference to the safety of the vehicle, unless it prevents the child from putting its fingers between the rigid parts.

The overall safety of a vehicle should not rely on warnings and the person handling it having to always keep an eye on the position of their children's fingers whilst adjusting the vehicle.

Observation 7:

The standard does not describe in enough detail the method for carrying out the Bite test. This test is often carried out on bumper bars that have a cover, however the possibility of a child removing the cover is interpreted differently by different laboratories for the same model of WCC. This may give different results from testing carried out on the same WCC model.

Suggestion:

The standard should take children's motor skills for opening covers into consideration and clarify an appropriate test method covering children in the age range between 1½-3½ years. During this age range children reach an age when they begin to have co-ordination skills but they still also have the behaviour to bite new materials in order to examine them.

Observation 8:

The standard currently permits wheels to entangle whilst a WCC is swivelling

Suggestion:

A requirement should be added to the standard should add requirement which does not allow swivelling wheels to be able to become entangled.

6.2 Market Surveillance Authorities & Customs

Customs checklists should be easy to understand and simple to use. As a preliminary investigation by customs officers or even market surveillance officers during inspections at outlets, it may be worth taking a quick look at product labelling / instructions in order to see what standard they refers to. The products with no label whatsoever were found to have almost a 100% chance of having some form of non-compliance. Additionally, from the samples checked and tested, 67% were found to have a serious risk. This therefore could possibly be a good preliminary indicator that something might not be right with the respective product.

With regard to developing checklists for customs, it is important to identify clear and simple and indicators for when to "raise a flag" and inform the market surveillance authorities that further investigations are required on the product rather than making the customs officers experts on the products.

In the last CCA meeting held in December 2013, Customs checklists were drafted. These were made specifically with the intention that they should be very easy to understand and simple to go through. These checklists will eventually be handed over, in coordination with PROSAFE, to the Customs-Market Surveillance Working Group. This Group is coordinated by DG-TAXUD, and they have already developed a number of product safety checklists on a various number of product groups.

The CCA working group has also learnt some lessons which might be useful to market surveillance authorities and future joint market surveillance activities across Europe. Checklists were found to be useful in assisting the respective inspectors on checking and investigating a number of samples which could eventually be acquired for testing purposes. The checklists ensured that market surveillance inspectors were able to perform adequate preliminary investigations before choosing a particular sample for testing.

Tendering for the testing of products at European level was found to be very useful. It not only ensured that all tests were carried out by one laboratory but the economies of scale also ensured that the prices quoted by the laboratories were much more competitive due to the high number of samples to be tested. This usually resulted in the laboratory being able to perform additional tests for the same amount of budget, thereby ensuring efficiency amongst market surveillance authorities across Europe. It is also

important to set up communication- and timeframe plans with the laboratories. This will make their own planning easier with the likelihood that they are much more able to deliver the results on time. The communication plan with the laboratory is also important as participating countries in a joint action activity have the opportunity to get clarifications on their products straight from the laboratory.

When it came to checking product information at European level, it was found to be very difficult to do this via checklists. It is therefore strongly recommended that future joint actions should try to ensure that all such information is checked directly by one source, ideally, the laboratory where the testing will be done. However, close liaison between respective market surveillance authorities also needs to be adopted in order to cross-check and ensure that all information is identified correctly. This will ensure that all checklists are checked independently and also by the originating entity, resulting in data which should be much more reliable in the long run. However it is important that the checks performed are in the language of the place of sale, since a lot of meaning can be lost in translation. Consequently, a careful approach needs to be taken in order to make sure that the main purpose of mandatory warnings and information is not lost.

There are no particular requirements in the Standard which specify the content of test reports and sometimes this makes it difficult to see exactly what has been tested if the laboratory does indicate this itself. Also traceability to a relevant model/series can be difficult. This provides a challenge to market surveillance authorities when reading reports. Test reports should clearly identify the tested vehicle and its accessories, including batch numbers, and important physical features such as size, weight, etc. also need to be stated. It is also important that the market surveillance authority are provided with this sort of information in test reports as this help with asking for additional technical documentation afterwards.

6.3 Consumers

ANEC has been involved in this project from the start providing knowledge and a view from the consumer's perspective. Effective collaboration and cooperation existed throughout the project.

Economic operators always have the full responsibility to supply safe products. However it will also be useful to ensure that consumers are aware, read, understand and follow warning labels and manuals in order to use their WCC in a safe and correct way. It is therefore suggested that market surveillance authorities work jointly with economic operators and consumer organisations at a national level in order to ensure that any particular risks or lack of knowledge on certain risks within WCC are well explained to consumers.

6.4 Economic Operators

With regards to economic operators, it is important that firstly they always try to cooperate with market surveillance authorities in order to reduce any risks present in the market. Consequently, it is strongly suggested that European organisations representing economic operators are encouraged to participate in joint market surveillance activities such as those coordinated by PROSAFE.

ENPC has been quite active in this project and participated directly in a number of the CCA working group meetings. This bodes well for the future and so it is recommended that more European organisations representing businesses, manufacturers, importers and traders in their respective areas continue to cooperate further and take part in such joint actions. Ultimately, healthy dialogue between all of the various stakeholders could help to identify further possible safety issues in this area and also lead to joined up working finding practical solutions on the best way forward.

7. REFERENCES

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2. EN 1466:2004+A1:2007 “Child care articles - Carry cots and stands - safety requirements and test methods”
3. EN 1888:2003 +A1, A2, A3:2005 “Child care articles - Wheeled child conveyances - Safety requirements and test methods”
4. CEN/TR 13387:2004 “Child use and care articles- Safety guidelines”.
5. The General Product Safety Directive 2001/95/EC
6. The RAPEX Guidelines - Commission Decision 2010/15/EU
7. The EC Website on Risk Assessment Guidelines: <http://europa.eu/sanco/rag>
8. Best Practices Techniques in Market Surveillance, PROSAFE
<http://www.prosafe.org/default.asp?itemid=16>
9. PROSAFE’s Online E-Learning Portal on Risk Assessment: <http://elearn.prosafe.org/>