



Signal report

CE marking of consumer fireworks is not functioning

Date September 21, 2021

The CE marking system for consumer fireworks is not functioning. The CE marking on fireworks must be the logical consequence of a properly completed conformity assessment procedure (CAP): Does the product comply with the CE marking as described in specific European legislation? However, according to an investigation by the Dutch Human Environment and Transport Inspectorate (ILT), this is not the case. This puts consumers at risk when setting off consumer fireworks.

Introduction

Within the EU, all pyrotechnic articles, such as fireworks, are required by European Directive to be CE marked.¹ One of the aims of this Directive is to harmonise the legislation on pyrotechnic articles in the EU Member States with regard to:

- Performance features.
- Free movement of pyrotechnic articles in the EU internal market: EU Member States may not prohibit, restrict or hinder the making available on the market of pyrotechnic articles.

- Optimal protection of the health and safety of consumers and professional end users of pyrotechnic articles.

CE marking was to improve quality

Since 2007, the Pyrotechnics Directive has required producers of fireworks to improve the quality and safety of fireworks. This so-called 'conformity assessment procedure' (CAP) indicates which certificates and test reports are mandatory for the production of consumer fireworks. Fireworks manufacturers and importers must possess a declaration of conformity, thereby demonstrating that the consumer fireworks meet all requirements and that they take responsibility for the conformity of the product.

Manufacturers following this procedure must place a CE marking on the product. Without a CE marking, the product may not be offered for sale in the EU.

Cause for the investigation

The ILT supervises the product safety of consumer fireworks. On the basis of its annual investigations, the ILT time and again concludes that, on average, 75 percent of the tested

¹ In 2007, the European Union promulgated Directive 2007/23/EC, the Pyrotechnics Directive. This later became Directive 2013/29/EU.

fireworks do not meet the requirements. About a quarter of these fireworks are removed from the market by the ILT due to a high consumer risk. This fact led the ILT to investigate how it is possible that rejected fireworks bear a CE mark.

Well after the mandatory CE marking of consumer fireworks came into force (2010), the quality has still not improved.

The Netherlands Court of Audit in its 'Products on the European market: CE markings untangled' report from 2017 already found that the improvements the CE marking was supposed to bring have not been realised.

Investigation design

Ninety-five per cent of the consumer fireworks destined for the Dutch market originate in China. The ILT investigation has therefore focused on these fireworks. The ILT has investigated whether the conformity assessment procedure was properly performed. To this purpose, 71 batches of rejected pyrotechnics articles from the 2018 and 2020 ILT product safety surveys were selected:

- 23 rejected batches of fountains (Cat. F1).
- 48 rejected batches of single-shot tube batteries (Cat. F2).

The ILT next requested all documents pertaining to these 71 pyrotechnics articles from the manufacturers/importers and compared these with its own test results.

Findings

All 71 pyrotechnics articles investigated had a C, C2 or E certificate belonging to the firing modules. A (batch) test report was found for all 71 pyrotechnics articles.

Seven of the 71 batches of pyrotechnics articles investigated were found to have an incorrect or incomplete type certificate. They were incorrect or incomplete for two reasons:

- The pyrotechnics article had been modified, without a new certificate having been applied for.

- It was wrongly implied that a certificate was issued.

For 42 of the 71 batches investigated, the declaration of conformity was found to be incomplete or incorrect. The declaration of conformity must contain all relevant information, such as the name of the manufacturer, the conformity assessment procedure regulator (the Notified Body, or NoBo), the identification numbers and the batch size.

Most of the test reports that the ILT investigated were prepared by the Fireworks and Firecrackers Inspection Center (FFIC; Chinese state laboratory). Tests were also conducted by other laboratories, including one whose name is missing from the report. These laboratories must be accredited by a NoBo. Of course, the ILT cannot determine whether the laboratory whose name is missing is qualified. The supervision on the working methods of these laboratories is not clear to the ILT.

Test comparisons

All 71 batches examined had been approved by the various Chinese testing laboratories. In only 6 test reports of firework batches had one or more deviations (13 in total) been identified. However, these deviations were not a reason for rejection. They remained within the limits for approval.

In contrast, in the 71 test reports that the Netherlands Forensic Institute compiled on behalf of the ILT, deviations were identified a total of 195 times. These deviations all led to rejection of the firework batches. Based on these results, the ILT concludes that the CE marking creates an incorrect image of the quality of the fireworks. The CE mark affixed is therefore misleading. The consumer is therefore exposed to a (high) risk.

Roles and responsibilities

- Producers and importers must ensure that the fireworks they offer on the market are safe. They must monitor the quality of products that have been provided with a declaration of

conformity, for example by means of spot checks.

- NoBos have the responsibility to monitor the CAP procedures.
- Regulators are allowed to test fireworks and have them modified or destroyed at the stage where they enter the market.

Conditions

The weather conditions in China vary enormously. It can be very hot (above 40 degrees Celsius) and very wet, with high humidity. Fireworks containing chemical components (gunpowder) easily absorb water and are therefore sensitive to moisture. The paper/cardboard materials used (such as tubes) are also sensitive to moisture. Moreover, transport by sea may affect product safety, for example because the containers may become wet during the journey. The moisture content of fireworks largely determines the quality and safety of the product.

In China, the production of fireworks is largely conducted by hand. Some parts of the fireworks are made at the factory.

Monitoring compliance with the conformity assessment procedure in Europe

National authorities of the individual Member States in the European Union are responsible for the appointment of the Notified Body (NoBo) and for the establishment of the supervision of this party. NoBos must offer their services to the manufacturer or importer of fireworks in an independent and competent manner. If the NoBo establishes that a product is not produced in accordance with the CAP, it must take action against the market party concerned.

Representatives of European Member States, including representatives of the NoBos, regularly discuss market regulator test results in so-called Administrative Co-operation (AdCo) working groups. High-risk products are listed in a common system. This allows the NoBos to become aware of non-compliant pyrotechnics articles. It is unclear to the ILT what the NoBos do with this information and how they provide feedback to the manufacturer or importer

concerned.

Findings

The CE marking system for consumer fireworks is not functioning. The CE marking on consumer fireworks should be the logical consequence of a properly completed conformity assessment procedure. However, this is not the case. The CE marking for consumer fireworks is therefore misleading. The CE marking should give consumers confidence that the pyrotechnics article is safe, but that is not the case. Consumers run unnecessary risks when setting off CE-marked fireworks.

The test reports in particular provide the ILT with cause for concern. There is a significant difference between the observations (commissioned) by the ILT and the reports from the laboratories in China. Chinese test reports give a false impression of the quality of the manufactured batch of fireworks

Relevant data for tracing the product is often missing. This, too, will have to be improved in order to keep a risky product off the market.

Manufacturer responsible for safety.

The production of safe consumer fireworks is the responsibility and duty of the producers and importers, as well as of the NoBos that have to monitor the CAP procedures. More supervision of the final product by the market regulator is not the answer to this problem.

Improving the quality of NoBos

The Member States must fulfil their supervisory role in respect of the NoBos. The European Commission can remind Member States of their responsibilities in this system. Further studies by the AdCo into the application of the conformity assessment procedure may reveal how monitoring can be improved.

Legislation

We find that legislation imposes requirements on the production process by way of the conformity assessment procedure. For example, when applying module E of the CAP, the NoBo is only

involved in the drafting and approval of the quality process, and no longer in the testing of the fireworks themselves. For consumer fireworks, this leaves too much room for error.

Testing in China by manufacturer/importer

We have doubts about the quality of the production of consumer fireworks. The NoBos predominantly have the testing of fireworks carried out in China. The NoBos seem to have insufficient insight into the quality of the laboratories involved. Other factors, such as the conditions during production and transport, can also play a role in the quality of the fireworks.

Market regulation / Cooperation

Effective market regulation requires increased cooperation between European market regulators. At present, the level at which supervision is performed differs from Member State to Member State. By stepping up supervision and joining forces, market regulators will become more effective. The market operators are responsible for the quality of consumer fireworks, and should therefore be given greater incentives to raise the quality of consumer fireworks to a higher level. To this end, the idea of establishing a European testing centre for market regulators has been raised.

Sharing information

Sharing information on consumer fireworks in Europe is important. Notifications of product testing should be made more quickly in warning systems (such as ²Rapex and ICSMS). This is not yet common practice in all EU countries.

² [About European Rapid Alert system for dangerous products \(RAPEX\) | Joinup \(europa.eu\)](#)