



Formal objection against EN 474-1 referring ISO 5006

## **Position Paper:** **What to do with the restriction of harmonised standard EN 474-1:2006 + A4:2013**

March 2016

### Executive Summary

- Machines placed on the EU market before the warning came into effect are presumed compliant with Machinery Directive and should be compliant with the requirements of directive 2009/104/EC on the Use of Work Equipment.
- The technical measures related to visibility from the drivers' position during the restriction should be based on risk assessment, consideration of the state of the art and taking technical measures where appropriate.
- For new machines, manufacturers should consider the 5 ADCO recommendations (Annex 1 of this document) and follow closely the development of ISO 5006 related to visibility.





## Purpose of the position paper

This position paper sets out industry's position in view of the vacuum caused by the formal objection against EN 474-1:2006 + A4:2013. The paper identifies the related issues and gives guidance on how to best deal with these issues.

## Background

The Machinery Directive (2006/42/EC) gives the mandatory legal requirements for the safety of machinery offered for sale in Europe for the first time. It sets out the safety requirements and the procedures which manufacturers must follow in order to ensure that machines are safe at the time they are first placed on the market.

One of the ways to comply with the requirements of the directive is to apply 'harmonised standards'. When a product is manufactured in conformity with such a standard it is presumed to conform to the requirements of the directive. This is the 'presumption of conformity'.

In 2015 the European Commission published a warning in the OJEU against clause 5.8.1 of EN 474-1:2006+A4:2013 Earth-moving machinery - Safety - Part 1: General requirements: The application of this clause (Referring to ISO 5006:2006 Earth-moving machinery -- Operator's field of view -- Test method and performance criteria) does not now confer a presumption of conformity to the essential health and safety requirements 1.2.2 and 3.2.1 of Annex I to Directive 2006/42/EC. All other aspects of the EN standard still provide a presumption of conformity for the machine. The warning came into effect on 28<sup>th</sup> January 2015.

## 'Safeguard action' and 'formal objection'

The withdrawal of the presumption of conformity does not mean that machines have become either dangerous or non-compliant. The Member States of the European Union always have the possibility to take action against a product if they believe it is not safe, even if it complies with a harmonised standard. Such actions are called 'safeguard actions' and none of the market surveillance authorities in Europe have taken such action against earth-moving machinery in relation to visibility. Actually the initiative to remove the presumption of conformity did not come from those market surveillance authorities at all.

The current situation comes from a 'formal objection', with the European Commission deciding that there is a doubt about whether the harmonised standard EN 474-1 entirely satisfies the requirements it aims to cover in relation to the visibility for earth moving machinery. It must be noted that this does not mean that machines are dangerous: it means that manufacturers might need to do more than the minimum required by that standard, as many suppliers have already done for a long time.

## Current situation (machinery placed on the EU market after 28<sup>th</sup> January 2015)

Since 28<sup>th</sup> January 2015 being in conformity with ISO 5006:2006 is not sufficient any more. Manufacturers are now required to assess visibility conformity directly with the requirements of the Machinery Directive. This involves risk assessment, consideration of the state of the art (what is



realistically achievable) and taking technical measures where appropriate, such as providing aids to visibility or providing information to end users about residual risks.

The market surveillance authorities of EU Member States co-operate in a forum known as ADCO and they have been helpful in clarifying the problem areas for visibility which manufacturers should work on in addition to the minimum requirements given in ISO 5006:2006. The points which ADCO recommended manufacturers to consider are given in Annex 1 in their original wording. The following section is to help understanding of the meaning.

1. Direct visibility is preferred. Wherever possible manufacturers should provide direct visibility rather than providing aids such as mirrors or camera systems.
2. Part of the test procedure in the standard is to check that an object 1.5m high can be seen when it is 1m away from the footprint of the machine. ADCO recommend that the test object height should be reduced to 1m. This is not technically feasible for all machines but manufacturers should consider how closely they can approach this target.
3. Visibility assistance devices should be in front of, or beside, the operator, meaning that an operator should not be expected to turn around to see a mirror, however they can be expected to look behind using direct vision, where appropriate.
4. On side boom excavators if visibility aids (such as mirrors) are needed to achieve the near field visibility requirements and if the view to these can sometimes be blocked by the boom then additional aids must be provided in order to maintain visibility.
5. Mirror-to-mirror systems are not permitted. That is, visibility to a risk area should not rely on the operator looking in one mirror to see another mirror to provide a view of that area.

These recommendations have been considered in the Draft International Standard (ISO/DIS 5006) and are expected to form part of the next published edition.

In addition, manufacturers need to inform owners and operators in the operator's manual about any risks which could not be removed by design measures.

All requirements of the European Machinery Directive remain the same after the 28<sup>th</sup> of January, meaning that any machinery placed for the first time on the EU market after that date must be provided with a CE mark, an EU Declaration of Conformity and an operator's manual in the appropriate language.

## Machines placed on the market before the publication of the warning

The warning has no retroactive effect. Machines placed on the EU market before the warning came into effect are presumed compliant with Machinery Directive. That is, they came with a genuine CE mark, Declaration of Conformity and operator's manual in the right language. **The original documentation is valid and no further documents are required.** In any discussion with a market surveillance authority about conformity of such a machine the standard to take into consideration is the one which was in effect at the time it was placed on the market. It should be noted again that none of the European market surveillance authorities have challenged either the standard or machinery manufactured to that standard.



There is no need for machines to be modified unless a particular site risk assessment shows there to be such a need to fulfil the requirements of directive 2009/104/EC on the Use of Work Equipment.

## The addition of 3<sup>rd</sup> party visibility aids

As noted above, there is no need to add further visibility aids to a machine unless a need is identified via a job site risk assessment. This is true regardless of when the machine was built, provided, of course, that genuine documentation was provided with the machine at the time. Before adding on additional visibility aids owners should conduct a full risk assessment covering all the relevant safety aspects of the machine and its planned use.

## Summary

- CE marks and Declarations of Conformity remain valid, regardless of when issued.
- No additional documents are required from manufacturers, either for new machines or older ones.
- Manufacturers continue to ensure conformity with the Machinery Directive, including taking into account the five aspects recommended by ADCO which are expected to form part of the next edition of ISO 5006.

## Annex 1: the ADCO Recommendations

The following are the original recommendations from ADCO which are being developed in the updating of ISO 5006.

1. Direct visibility to be preferred.
2. To improve the near field visibility for machine types and combinations by reducing the test object height from 1.5 to 1.0m where necessary.
3. To enhance the installation of additional devices (e.g. monitors, mirrors) to permit a view to the rear when reversing, positioned in front of the operator (Note Sector A, B, C).
4. Devices for increasing visibility must not be compromised by moving parts.
5. "Mirror to mirror systems" shall not be permitted.