Machinery Directive Guideline

Guideline for the application of the Machinery Directive 2006/42/EC for commercial cleaning machines

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Foreword

With the new Machinery Directive 2006/42/EC which entered into effect on 29th June 2006 and is applicable from 29th December 2009 it became necessary to revise all safety standards for cleaning machines with respect to the Essential health and safety requirements of the Machinery Directive (ESH of the MD). This was done during several meeting of CENELEC Working Group TC61 WG6/J where the most important European manufacturers of commercial cleaning equipment were represented, together with the European consultants for safety of machinery as well as noise, between January 2007 and June 2009. This huge effort of all interested stakeholders resulted in publication of harmonised standards in September 2009 and listing in the Official Journal of the European Union in December 2009.

At the end of or even after this revision process it becomes obvious that there is an additional need for a guideline as interpretation support for manufacturers applying the MD, besides the specification of requirements within relevant safety standards. Due to that, the Technical Committee of EUnted Cleaning decided to collect technical recommendations on all open issues which need to be specified or at least explained. The present document gives therefore these recommendations and might be amended in future where necessary.

Introduction

This document has been prepared by the Technical Committee of the European Cleaning Machines Association EUnted Cleaning, which represents the leading European manufacturer of commercial cleaning machines. I.e., by this Technical Recommendation the European cleaning machines industry defines requirements and recommends measures in addition to existing European and international standards.

For this document, the spirit of all relevant safety standards was considered as well as the state-of-the-art of accordant cleaning machines. Furthermore, the guideline for application of MD as published by the European Commission [2] was taken into consideration as far as applicable. This Technical Recommendation aims at facilitating the interpretation of the Machinery Directive and should be regarded as a reference to help all relevant parties apply this Directive with regard to cleaning machines in a uniform manner.

It is intended to propose the clarification and interpretation guidance to the international standardisation committee IEC SC61J as well as the relevant European standardisation committee CENELEC TC61 WG10. After future revision of the quoted European standards this document may be redundant and therefore cancelled.

1 Annex I of Directive 2006/42/EC.
1 Scope

This document applies to cleaning machines within the scope of international standards of IEC SC 61J ‘Electrical motor-operated cleaning appliances for commercial use’ (see clause 2), for use in residential, commercial, light industry and industrial environments, within the single European market.

2 Normative references

This document refers to European and international standards. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.


EN 60335-2-69:2009, Household and similar electrical appliances – Safety – Part 2-69: Particular requirements for wet and dry vacuum cleaners, including power brush, for commercial use


EN 60335-2-79:2009, Household and similar electrical appliances – Safety – Part 2-79: Particular requirements for high pressure cleaners and steam cleaners

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 60335-2-67, 68, 69, -72, -79, and the following apply.

3.1 Typical Operational Weight (TOW)
Mass of the most usual configuration of a machine ready for use, as specified in Clause 4.1.2.

3.2 Mobile machine
Machine equipped with wheels and which therefore has to be considered as mobile in accordance with Clause 3 of Annex I of the MD.
4 Marking of Machinery

4.1 Weight
The marking of machines in accordance with the Machinery Directive is specified in the relevant European Standards for cleaning machines; in cases where this specification might be not sufficient or mistaken, the following shall be used for the sake of clarification. Declaration of further data, beyond the ones specified below, is not excluded, provided the attribute is unequivocally stated so that data of different manufacturers can be compared.

4.1.1 Floor treatment machines in accordance with EN 60335-2-72
For floor treatment machines the weight shall be given as Gross vehicle weight (GVW) in accordance with EN 60335-2-72.

4.1.2 Other mobile cleaning machines
All other mobile machines shall be marked, in accordance with the Machinery Directive as well as the relevant safety standards EN 60335-2-67, -68, -69, and -79 with the mass of the most usual configuration in kg. In catalogues and/or operating instructions, the attribute shall be designated as TOW, for cordless products as TOW including batteries. The TOW is specified as follows:

Weight of the machine ready for operation in kg, rounded to one decimal place,
- with cable/cord;
- with all standard equipment necessary for normal use;
- if equipment is needed but different options exist, e.g. large/small battery, the version shall be chosen as recommended by the manufacturer.

The following specification, in particular with regard to the standard equipment, shall be taken into consideration for the different types of cleaning machines.

a) Single- and multidisc machines in accordance with EN 60335-2-67
The weight of the machine as stated above, including the pad drive and a typical pad and including the suction unit and spray unit without liquids, where applicable.

b) Spray extraction machines in accordance with EN 60335-2-68
The weight of the machine as stated above, including the following:
- Suction hose
- Bend
- Tube
- Floor nozzle, but no further nozzles or brushes
- Filter(s)
- Dirt water tank (empty)
- Filled fresh water tank
- Filled cleaning agent tank, where applicable
c) Vacuum cleaning machines in accordance with EN 60335-2-69

The weight of the machine as stated above, including the following:
- Suction hose
- Bend
- Tube
- Floor nozzle, but no further nozzles or brushes
- Filter(s)
- Dust container (empty)


d) High pressure cleaners in accordance with EN 60335-2-79

The weight of the machine as stated above, including the following:
- Hose
- Spraying device
- Standard nozzle, but no further nozzles
- Machine and hoses completely empty
- Fuel tank filled
- Tank for descaling detergent is filled
- Tank for cleaning agent, where applicable, is not filled

4.2 Information on airborne noise emission

The requirement to inform on airborne noise emission according to the standard series for commercial cleaning machines is necessary on the following condition in accordance with the MD:

The declaration of the emission sound pressure level shall be made where it exceeds 70 dB(A). Where it does not exceed 70 dB(A), this fact must be indicated. The sound power level shall be given where the emission sound pressure level exceeds 80 dB(A).

4.3 Maximum gradeability

Powered ride-on and walk-behind machines in accordance with EN 60335-2-72 shall be marked with the maximum gradient 'x' during normal use, as required in Clause 7.6 of EN 60335-2-72. This maximum gradient 'x' specifies the gradient of the slope\(^2\) on which the machine can be used safely for cleaning purposes and characterises in this spirit the maximum gradeability of the machine. i.e. the machine might be able to drive on a higher gradient (e.g. transportation) which is a matter of performance since the maximum gradeability is a matter of safety. This additional information may be given also in the instructions for use.

\(^2\) A slope is defined within EN 60335-2-72 as an inclined plane with a gradient greater than 2 % but not exceeding 20 %, since the scope of EN 60335-2-72 excludes machines designed for use on slopes with a gradient exceeding 20 %.
5 Safety related issues

5.1 Guards
The MD requires guards or protective devices to protect persons against the hazards generated by moving parts; those guards may be fixed or moveable, depending on their purpose and their design. EN 60335-2-72 as well as EN 60335-2-67 and -79 detail the requirements for guards in a general way. In addition, for cleaning machines, the following specifications shall apply.

5.1.1 Fixed guards
Fixed guards are required where frequent access is not envisaged. Those guards shall be fixed by systems that can be opened or removed only with tools. The guards themselves may be able to be moved or even removed after loosening their fixing systems, and their fixing systems shall remain attached to the guards or to the machine when the guards are removed. In accordance with [2] this requirement does not necessarily apply to fixed guards that are only liable to be removed, for example, when the machine is completely overhauled, is subject to major repairs or is dismantled for transfer to another site. For the same reason, it may not be necessary to apply the requirement to the casings of machinery intended for use by consumers, where the manufacturer’s instructions specify that the repairs requiring removal of these casings are only to be carried out in a specialist repair workshop. In that case, fixing systems should be used that are not easy to remove.

Guards shall be incapable of remaining in place without their fixings, if applicable. A tool in this context shall be an implement such as a key or wrench designed to operate a fastener. An improvised implement such as a coin or nailfile cannot be considered to be a tool [1].

5.1.2 Interlocking moveable guards
Interlocking movable guards are required where frequent access is envisaged. Detailed requirements for interlocking moveable guards are given in Clause 1.4.2.2. of Annex I of the MD.

6 Bibliography
In the preparation of this document, use was made of a number of documents for reference purposes. These informative references are cited at the appropriate places in the text and the publications are listed hereafter.

[1] EN 953, Safety of machinery – Guards – General requirements for the design and construction of fixed and movable guards

3 See Clauses 20.2 and 22.Z102 of EN 60335-2-72