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Standards

Irish Standard
I.S. EN 415-9:2009

Safety of packaging machines - Part 9: Noise measurement methods for packaging machines, packaging lines and associated equipment, grade of accuracy 2 and 3

I.S. EN 415-9:2009

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EUROPEAN STANDARD

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English Version

**Safety of packaging machines - Part 9: Noise measurement
methods for packaging machines, packaging lines and
associated equipment, grade of accuracy 2 and 3**

Sécurité des machines d'emballage - Partie 9 : Codes
d'essai bruit pour machines d'emballage, ligne d'emballage
et équipements associés - Méthode de catégorie 2 et 3

Sicherheit von Verpackungsmaschinen - Teil 9: Verfahren
zur Geräuschemessung bei Verpackungsmaschinen,
Verpackungslinien und Hilfseinrichtungen -
Genauigkeitsklassen 2 und 3

This European Standard was approved by CEN on 10 July 2009.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.



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Foreword

This document (EN 415-9:2009) has been prepared by Technical Committee CEN/TC 146 "Packaging machines safety", the secretariat of which is held by UNI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by February 2010, and conflicting national standards shall be withdrawn at the latest by February 2010.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

The standard EN 415 consists of the following parts:

- *Packaging machines safety – Part 1: Terminology and classification of packaging machines and associated equipment*
- *Packaging machines safety – Part 2: Pre-formed rigid container packaging machines*
- *Safety of packaging machines – Part 3: Form, fill and seal machines*
- *Safety of packaging machines – Part 4: Palletisers and depalletisers*
- *Safety of packaging machines – Part 5: Wrapping machines*
- *Safety of packaging machines – Part 6: Pallet wrapping machines*
- *Safety of packaging machines – Part 7: Group and secondary packaging machines*
- *Safety of packaging machines – Part 8: Strapping machines*
- *Safety of packaging machines – Part 9: Noise measurement methods for packaging machines, packaging lines and associated equipment, grade of accuracy 2 and 3.*

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

1 Scope

This standard specifies all the information necessary to carry out efficiently and under defined conditions the determination, information and verification of airborne noise emission from packaging machine covered by EN 415-1.

This measurement method specifies procedures for the determination of emission sound pressure levels at work station, at other specified positions and the sound power level on the basis of both the sound pressure level method and the sound intensity method. It also specifies installation and operating conditions.

This standard applies to machines covered by EN 415-1 as well as for any other packaging machine which are not covered by any other specific noise test code as well as for machines being part of packaging line. In such cases, all information relating to the assembly, installation and to the operating conditions as well as the arrangement of the work station shall be recorded and reported in the test report.

Noise emission characteristics include the following data:

- emission sound pressure level at work station and at other specified positions;
- sound power emitted by machine.

Both can be used:

- to determine the noise emitted by machine;
- to inform on the noise emitted by the machine;
- to verify the noise emitted by the machine.

Noise emission values permit comparison of packaging machines on the market.

The use of this standard ensures the reproducibility of the determination of the characteristic noise emissions values within specific limits which will be determined by the grade of accuracy of the noise emission measuring method used.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 415-1:2000, *Packaging machines safety – Part 1: Terminology and classification of packaging machines and associated equipment*

EN ISO 3740:2000, *Acoustics – Determination of sound power levels of noise sources – Guidelines for the use of basic standards (ISO 3740:2000)*

EN ISO 3744:1995, *Acoustics – Determination of sound power levels of noise sources using sound pressure – Engineering method in an essentially free field over a reflecting plane (ISO 3744:1994)*

EN ISO 3746:1995, *Acoustics – Determination of sound power levels of noise sources using sound pressure – Survey method using an enveloping measurement surface over a reflecting plane (ISO 3746:1995)*

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