March 2012

DIN EN ISO 1133-1

ICS 83.080.20

Together with
DIN EN ISO 1133-2:2012-03,
supersedes
DIN EN ISO 1133:2005-09

Plastics – Determination of the melt mass-flow rate (MFR) and melt volume-flow rate (MVR) of thermoplastics – Part 1: Standard method (ISO 1133-1:2011) English translation of DIN EN ISO 1133-1:2012-03

Kunststoffe –
Bestimmung der Schmelze-Massefließrate (MFR) und der Schmelze-Volumenfließrate (MVR) von Thermoplasten –
Teil 1: Allgemeines Prüfverfahren (ISO 1133-1:2011)
Englische Übersetzung von DIN EN ISO 1133-1:2012-03

Plastiques –
Détermination de l'indice de fluidité à chaud des thermoplastiques, en masse (MFR) et en volume (MVR) –
Partie 1: Méthode normale (ISO 1133-1:2011)
Traduction anglaise de DIN EN ISO 1133-1:2012-03

Document comprises 32 pages

Translation by DIN-Sprachendienst.
In case of doubt, the German-language original shall be considered authoritative.

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A comma is used as the decimal marker.

National foreword

This standard has been prepared by Technical Committee ISO/TC 61 “Plastics” (Secretariat: SAC, China) in collaboration with Technical Committee CEN/TC 249 “Plastics” (Secretariat: NBN, Belgium).

The responsible German body involved in its preparation was the *Normenausschuss Kunststoffe* (Plastics Standards Committee), Working Committee NA 054-01-03 AA *Physikalische, rheologische und analytische Prüfungen.*

DIN EN ISO 1133 consists of the following two parts:

DIN EN ISO 1133-1, *Plastics — Determination of the melt mass-flow rate (MFR) and melt volume-flow rate (MVR) of thermoplastics — Part 1: Standard method (ISO 1133-1:2011)*

DIN EN ISO 1133-2, *Plastics — Determination of the melt mass-flow rate (MFR) and melt volume-flow rate (MVR) of thermoplastics — Part 2: Method for materials sensitive to time-temperature history and/or moisture (ISO 1133-2:2011)*

This first edition of DIN EN ISO 1133-1, together with the new Part 2 of ISO 1133, cancels and replaces DIN EN ISO 1133:2005-09. In this part of DIN EN ISO 1133, changes have been made to accommodate DIN EN ISO 1133-2. This part of DIN EN ISO 1133 applies to melt flow rate testing broadly equivalent to that of DIN EN ISO 1133:2005-09. DIN EN ISO 1133-2 applies to the testing of polymers that are rheologically sensitive to the time-temperature history to which they are subjected during melt flow rate testing.

Amendments

This standard differs from DIN EN ISO 1133:2005-09 as follows:

a) the standard number has been changed to reflect the fact that it is now in two parts;

b) the standard has been editorially revised;

c) normative references have been updated;

d) Clause 3 now includes further terms and definitions relevant to both parts of DIN EN ISO 1133;

e) Subclause 5.1.3 (formerly 5.1.2) “Piston” now also specifies the lower edge of the piston head;

f) in Subclause 5.1.4 (formerly 5.1.3) “Temperature-control system” temperature tolerances have been updated;

g) Subclause 5.2.1.7 “Preforming device” has been added;

h) in Subclause 5.2.2.2 “Timer” details regarding cut-off timing accuracy have been changed;

i) Subclause 7.3 “Vertical alignment of the instrument” has been added;

j) Subclause 8.3 “Selection of sample mass and charging the cylinder” now provides cut-off time intervals that are consistent with other specifications in this part of DIN EN ISO 1133;

k) Subclauses 8.5.3 and 9.6.3 “Expression of results: half size die” have been included;

l) Subclause 9.2 “Cleaning” has been included;

m) Subclause 9.3 (formerly 9.2) “Minimum piston displacement distance” now provides minimum piston displacements that are consistent with other specifications in this part of DIN EN ISO 1133;

n) Annex B (informative) “Conditions specified in International Standards for the determination of the melt flow rate of thermoplastic materials” has been simplified to avoid inconsistencies between this and the materials specification standards;

o) Annex C (informative) “Device and procedure for preforming a compacted charge of material by compression” has been included;

p) Annex D (informative) “Precision data for polypropylene obtained from an intercomparison of MFR and MVR testing” has been included.

Previous editions

DIN 53735: 1970-08, 1977-11, 1983-01, 1988-02
DIN ISO 1133: 1993-02
DIN EN ISO 1133: 2000-02, 2005-09

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 1133-1

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ICS 83.080.20

Supersedes EN ISO 1133:2005

English Version

Plastics - Determination of the melt mass-flow rate (MFR) and melt volume-flow rate (MVR) of thermoplastics - Part 1: Standard method (ISO 1133-1:2011)

Plastiques - Détermination de l'indice de fluidité à chaud des thermoplastiques, en masse (MFR) et en volume (MVR) - Partie 1: Méthode normale (ISO 1133-1:2011)

Kunststoffe - Bestimmung der Schmelze-Massefließrate (MFR) und der Schmelze-Volumenfließrate (MVR) von Thermoplasten - Teil 1: Allgemeines Prüfverfahren (ISO 1133-1:2011)

This European Standard was approved by CEN on 30 November 2011.

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-CENELEC 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-CENELEC Management Centre has the same status as the official versions.

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