

Dit document mag slechts op een stand-alone PC worden geïnstalleerd. Gebruik op een netwerk is alleen toestaan als een aanvullende licentieovereenkomst voor netwerkgebruik met NEN is afgesloten.  
This document may only be used on a stand-alone PC. Use in a network is only permitted when a supplementary license agreement for us in a network with NEN has been concluded.

V  
O  
O  
R  
B  
E  
S  
L  
U  
T

Nederlandse norm

# NEN-ISO 23163

(en)

Nickel and nickel alloys - Refined nickel -  
Sampling (ISO 23163:2019, IDT)

Preview

ICS 77.150.40  
mei 2019

Als Nederlandse norm is aanvaard:

- ISO 23163:2019, IDT

Normcommissie 342001 'Referentiematerialen'



**THIS PUBLICATION IS COPYRIGHT/PROTECTED**

**DEZE PUBLICATIE IS AUTEURSRECHTELIJK BESCHERMD**

Apart from exceptions provided by the law, nothing from this publication may be duplicated and/or published by means of photocopy, microfilm, storage in computer files or otherwise, which also applies to full or partial processing, without the written consent of the Royal Netherlands Standardization Institute.

The Royal Netherlands Standardization Institute shall, with the exclusion of any other beneficiary, collect payments owed by third parties for duplication and/or act in and out of law, where this authority is not transferred or falls by right to the Reproduction Rights Foundation.

Auteursrecht voorbehouden. Behoudens uitzondering door de wet gesteld mag zonder schriftelijke toestemming van het Koninklijk Nederlands Normalisatie-instituut niets uit deze uitgave worden verveelvoudigd en/of openbaar gemaakt door middel van fotokopie, microfilm, opslag in computerbestanden of anderszins, hetgeen ook van toepassing is op gehele of gedeeltelijke bewerking.

Het Koninklijk Nederlands Normalisatie-instituut is met uitsluiting van ieder ander gerechtigd de door derden verschuldigde vergoedingen voor verveelvoudiging te innen en/of daartoe in en buiten rechte op te treden, voor zover deze bevoegdheid niet is overgedragen c.q. rechtens toekomt aan de Stichting Reprorecht.

Although the utmost care has been taken with this publication, errors and omissions cannot be entirely excluded. The Royal Netherlands Standardization Institute and/or the members of the committees therefore accept no liability, not even for direct or indirect damage, occurring due to or in relation with the application of publications issued by the Royal Netherlands Standardization Institute.

Hoewel bij deze uitgave de uiterste zorg is nagestreefd, kunnen fouten en onvolledigheden niet geheel worden uitgesloten. Het Koninklijk Nederlands Normalisatie-instituut en/of de leden van de commissies aanvaarden derhalve geen enkele aansprakelijkheid, ook niet voor directe of indirecte schade, ontstaan door of verband houdend met toepassing van door het Koninklijk Nederlands Normalisatie-instituut gepubliceerde uitgaven.



©2019 Koninklijk Nederlands Normalisatie-instituut  
 Postbus 5059, 2600 GB Delft  
 Telefoon (015) 2 690 390, Fax (015) 2 690 190

Copyright  
Preview

---

---

**Nickel and nickel alloys — Refined  
nickel — Sampling**

*Nickel et alliages de nickel — Nickel raffiné — Échantillonnage*



Copyright  
Preview

**COPYRIGHT PROTECTED DOCUMENT**

© ISO 2019

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office  
CP 401 • Ch. de Blandonnet 8  
CH-1214 Vernier, Geneva  
Phone: +41 22 749 01 11  
Fax: +41 22 749 09 47  
Email: [copyright@iso.org](mailto:copyright@iso.org)  
Website: [www.iso.org](http://www.iso.org)

Published in Switzerland

# Contents

	Page
Foreword.....	iv
Introduction.....	v
<b>1 Scope</b> .....	<b>1</b>
<b>2 Normative references</b> .....	<b>1</b>
<b>3 Terms, definitions and symbols</b> .....	<b>1</b>
3.1 Terms and definitions.....	1
3.2 Symbols.....	1
<b>4 Presentation of the product</b> .....	<b>2</b>
<b>5 Principle of sampling procedure</b> .....	<b>2</b>
<b>6 Sample preparation</b> .....	<b>2</b>
<b>7 Sampling of whole-sheet cathodes</b> .....	<b>3</b>
7.1 Primary sampling.....	3
7.2 Secondary sampling.....	5
<b>8 Sampling of drums containing forms requiring comminution or machining</b> .....	<b>5</b>
8.1 General.....	5
8.2 Primary sampling.....	6
8.3 Secondary sampling.....	8
<b>9 Sampling of drums containing forms not requiring comminution or machining</b> .....	<b>9</b>
9.1 General.....	9
9.2 Primary sampling.....	9
9.3 Secondary sampling.....	9
<b>10 Sampling report</b> .....	<b>9</b>
<b>Annex A (informative) Justification of the number of primary and secondary increments selected</b> .....	<b>10</b>
<b>Annex B (informative) Technical conditions for drilling and milling</b> .....	<b>14</b>
<b>Bibliography</b> .....	<b>16</b>

## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 155, *Nickel and nickel alloys*.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at [www.iso.org/members.html](http://www.iso.org/members.html).

## Introduction

This document describes the sampling procedures previously established by ISO 7156:1991, which was withdrawn during a systematic review in 2016.

The aim of this document is to fill a void for refined nickel for which the specification and the analysis are standardized. The sampling represents the third area to fully cover the standardization of refined nickel.

Forbiede  
Preview

Voorbereid  
Preview



# Nickel and nickel alloys — Refined nickel — Sampling

## 1 Scope

This document specifies sampling procedures for up to 25 tonnes (metric tons) of refined nickel of the same composition, size and shape and manufactured under similar conditions of production.

## 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

ISO 6372, *Nickel and nickel alloys — Terms and definitions*

## 3 Terms, definitions and symbols

### 3.1 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 6372 apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

### 3.2 Symbols

For the purposes of this document, the following symbols apply.

$N$	The number of units which constitute the primary sample. These units are the primary increments.
$n$	The number of increments taken from each of the primary increments.
$N \times n$	The number of secondary increments that constitute the secondary sample.
$U$	The total number of units of packaging in a lot of 25 tonnes or less. These units may be whole-sheet cathodes or drums
$v_1$	Within-lot variance (between primary increments) for a particular impurity.
$v_2$	Within-unit variance (between secondary increments issued from one primary increment) for the same impurity.
$v_e$	Variance attributable to the selection of samples.
$a$	Feed per tooth, in mm/min.
$D$	Diameter of drill or milling cutter, in mm.

# Bestelformulier

## Stuur naar:

NEN Standards Products & Services  
t.a.v. afdeling Klantenservice  
Antwoordnummer 10214  
2600 WB Delft



**NEN** Standards Products & Services

Postbus 5059  
2600 GB Delft

Vlinderweg 6  
2623 AX Delft

T (015) 2 690 390  
F (015) 2 690 271

[www.nen.nl/normshop](http://www.nen.nl/normshop)

## Ja, ik bestel

\_\_ ex. NEN-ISO 23163:2019 en

€ 80.61

**Wilt u deze norm in PDF-formaat? Deze bestelt u eenvoudig via [www.nen.nl/normshop](http://www.nen.nl/normshop)**

### Gratis e-mailnieuwsbrieven

Wilt u op de hoogte blijven van de laatste ontwikkelingen op het gebied van normen, normalisatie en regelgeving? Neem dan een gratis abonnement op een van onze e-mailnieuwsbrieven. [www.nen.nl/nieuwsbrieven](http://www.nen.nl/nieuwsbrieven)

## Gegevens

Bedrijf / Instelling

T.a.v.  O M O V

E-mail

Klantnummer NEN

Uw ordernummer  BTW nummer

Postbus / Adres

Postcode  Plaats

Telefoon  Fax

**Factuuradres** (indien dit afwijkt van bovenstaand adres)

Postbus / Adres

Postcode  Plaats

Datum  Handtekening

### Retourneren

Fax: 015 2 690 271

E-mail: [klantenservice@nen.nl](mailto:klantenservice@nen.nl)

Post: NEN Standards Products & Services,

t.a.v. afdeling Klantenservice  
Antwoordnummer 10214,  
2600 WB Delft

(geen postzegel nodig).

### Voorwaarden

- De prijzen zijn geldig tot 31 december 2018, tenzij anders aangegeven.
- Alle prijzen zijn excl. btw, verzend- en handelingskosten en onder voorbehoud bij o.m. ISO- en IEC-normen.
- Bestelt u via de normshop een pdf, dan betaalt u geen handeling en verzendkosten.
- Meer informatie: telefoon 015 2 690 391, dagelijks van 8.30 tot 17.00 uur.
- Wijzigingen en typfouten in teksten en prijsinformatie voorbehouden.
- U kunt onze algemene voorwaarden terugvinden op: [www.nen.nl/leveringsvoorwaarden](http://www.nen.nl/leveringsvoorwaarden).