



**NSAI**  
Standards

Irish Standard  
I.S. EN ISO 16496:2016

# Laboratory glassware - Vacuum-jacketed vessels for heat insulation (ISO 16496:2016)

## I.S. EN ISO 16496:2016

*Incorporating amendments/corrigenda/National Annexes issued since publication:*

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## National Foreword

I.S. EN ISO 16496:2016 is the adopted Irish version of the European Document EN ISO 16496:2016, Laboratory glassware - Vacuum-jacketed vessels for heat insulation (ISO 16496:2016)

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**EUROPEAN STANDARD**

**EN ISO 16496**

**NORME EUROPÉENNE**

**EUROPÄISCHE NORM**

February 2016

ICS 71.040.20

English Version

## Laboratory glassware - Vacuum-jacketed vessels for heat insulation (ISO 16496:2016)

Verrerie de laboratoire - Récipients à double  
enveloppe à vide pour isolation thermique (ISO  
16496:2016)

Laborgeräte aus Glas - Geräte mit  
Vakuummantelisolierung (ISO 16496:2016)

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**EN ISO 16496:2016 (E)**

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## **European foreword**

This document (EN ISO 16496:2016) has been prepared by Technical Committee ISO/TC 48 "Laboratory equipment" in collaboration with Technical Committee CEN/TC 332 "Laboratory equipment" the secretariat of which is held by DIN.

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of an identical text or by endorsement, at the latest by August 2016, and conflicting national standards shall be withdrawn at the latest by August 2016.

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.

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### **Endorsement notice**

The text of ISO 16496:2016 has been approved by CEN as EN ISO 16496:2016 without any modification.

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# INTERNATIONAL STANDARD

**ISO  
16496**

First edition  
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## **Laboratory glassware — Vacuum-jacketed vessels for heat insulation**

*Verrerie de laboratoire — Récipients à double enveloppe à vide pour isolation thermique*



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## ISO 16496:2016(E)

### Foreword

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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)).

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For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: [Foreword - Supplementary information](#)

The committee responsible for this document is ISO/TC 48, *Laboratory equipment*.

# Laboratory glassware — Vacuum-jacketed vessels for heat insulation

## 1 Scope

This International Standard recommends dimensions and specifies requirements and test methods for laboratory glassware manufactured from borosilicate glass 3.3 and provided with a vacuum jacket for thermal insulation. It covers Dewar vessels, vacuum-jacketed reaction vessels and vacuum-jacketed columns intended for laboratory use and laboratory related applications. Typical dimensions are given in [Tables 1](#) to [5](#).

This International Standard does not apply to large scale production equipment and equipment operated with pressures of more than 0,1 bar above atmospheric pressure.

## 2 Normative references

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

ISO 383, *Laboratory glassware — Interchangeable conical ground joints*

ISO 641, *Laboratory glassware — Interchangeable spherical ground joints*

ISO 718, *Laboratory glassware — Thermal shock and thermal shock endurance — Test methods*

ISO 3585, *Borosilicate glass 3.3 — Properties*

ISO 4803, *Laboratory glassware — Borosilicate glass tubing*

ISO 4790, *Glass-to-glass sealings — Determination of stresses*

## 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

### 3.1

#### **Dewar flask**

glass vessel with vacuum jacket for thermal insulation, designed for keeping substances at a controlled temperature within a range from -200 °C to +200 °C

Note 1 to entry: See [8.1](#) for restrictions on the use of Dewar flasks.

### 3.2

#### **cryo vessel**

vacuum jacketed vessel made of materials other than glass

### 3.3

#### **column**

cylindrical vessel for the thermal separation of substances in a laboratory or pilot plant

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